FINAL SITE PLAN

| PRUPERTY | <u>INFORM</u> | <u>//A 110N:</u> | | | | | | | | | | | |
|---|---|---|--|---|---|--|--|--|--|--|--|--|--|
| OWNER - | HYUNDAI 10550 1 FOUNTAI TELEPHO FAX: (` | MOTOR AMERIC FALBERT AVE N VALLEY, CA 9 DNE: (714) 965 714) 965–3816 | CA 12708 | | | | | | | | | | |
| APPLICANT - | HYUNDA 6800 GI SUPERIC TELEPHC | YUNDAI AMERICA TECHNICAL CENTER, INC 800 GEDDES RD UPERIOR CHARTER TWP, MI 48198 ELEPHONE: (734) 337–2500 | | | | | | | | | | | |
| PARCEL ID - | #J−10− #J−10− | 32–100–003 32–100–007 | | | | | | | | | | | |
| ZONING - | PM — P Deed Ri | LANNED MANUF | ACTURING IONE | | | | | | | | | | |
| SETBACKS – | 50' FRO 50' FRO 10' SIDE 35' REA | NT (ALONG GED NT (ALONG LEF : (WEST) R (SOUTH) | DES ROAD) ORGE ROAD) | | | | | | | | | | |
| BUFFERS - | 100' WIE & LEFOR | DE YARD REQUIF RGE | RED ALONG GEDDE | ES | | | | | | | | | |
| LAND USF | SUMM | ARY | | | | | | | | | | | |
| Net Site Area | <u></u> | | | 5.698.853 sf | 130.83 ac | | | | | | | | |
| Proposed R.O.W. A | rea | | | 22.160 sf | 0.51 ac | | | | | | | | |
| Setbacks Area | | | | 402.574 sf | 9.24 ac | | | | | | | | |
| Net Site Area | | | | , 5,274,119 sf | 121.08 ac | | | | | | | | |
| Open Area | | | | 4,092,273 sf | 93.95 ac | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | Existing | Impacted | Remaining | Total | | | | | | | | |
| Natural Fetures | | Existing (sf) | Impacted (sf) | Remaining (sf) | Total (ac) | | | | | | | | |
| Natural Fetures Wooded Areas | | Existing (sf) 1,431,359 sf | Impacted (sf) 177,769 sf | Remaining (sf) 1,253,590 sf | Total (ac) 28.78 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands | | Existing (sf) 1,431,359 sf 287,898 sf | Impacted (sf) 177,769 sf 0 sf | Remaining (sf) 1,253,590 sf 287,898 sf | Total (ac) 28.78 ac 6.61 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 | 3%) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf | Impacted (sf) 177,769 sf 0 sf 0 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 | 3%) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf | Impacted (sf) 177,769 sf 0 sf 0 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 | 3%) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing | Impacted (sf) 177,769 sf O sf O sf Proposed | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total | Total (ac) 28.78 ac 6.61 ac 0.80 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag | 9%) ement | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds | 3%) ement | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones | 3%) ement | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (V | ement | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E | 8%) ement West) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL | 8%) ement Nest) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf 70tal (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL | ement Nest) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf 70tal (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 17,020 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL | 8%) ement Nest) ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" | 8%) ement West) (ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf 98,734 sf | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf (sf) | Total (ac) 28.78 ac 6.61 ac 0.80 ac 70tal (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac 4.52 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B | ement Nest) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf Total (sf) 195,961 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac Total (ac) 3.49 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B Ex Support Building | ement Nest) ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf 1,349 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 31,714 sf 50,000 sf 17,020 sf 17,020 sf 196,966 sf 196,966 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac Total (ac) 3.49 ac 0.03 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B Ex Support Building Ex Support Building | ement West) ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf 1,349 sf 1,834 sf | Impacted (sf) 177,769 sf 0 sf 0 sf 98,734 sf 98,734 sf (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf 70tal (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf 152,091 sf 1,349 sf 1,834 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac 70tal (ac) 2.26 ac 0.73 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac 70tal (ac) 3.49 ac 0.03 ac 0.03 ac 0.04 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B Ex Support Building Ex Support Building Ex Support Building Ex Water Tower | ement Nest) ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf 1,349 sf 1,834 sf 2,530 sf | Impacted (sf) 177,769 sf 0 sf 0 sf 98,734 sf 98,734 sf (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 31,714 sf 50,000 sf 17,020 sf 17,020 sf 17,020 sf 196,966 sf 134,951 1,349 sf 1,349 sf 1,834 sf 2,530 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac 70tal (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac 4.52 ac 3.49 ac 0.03 ac 0.03 ac 0.04 ac 0.04 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B Ex Support Building Ex Support Building Ex Water Tower | ement Nest) ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf 1,349 sf 1,349 sf 1,834 sf 2,530 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 196,966 sf 152,091 sf 1,834 sf 2,530 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac Total (ac) 3.49 ac 0.03 ac 0.03 ac 0.04 ac 0.06 ac | | | | | | | | |
| Natural Fetures Wooded Areas Wetlands Steep Slopes (12-18 Stormwater Manag Existing Ponds Infiltration Zones Proposed Pond A (W Proposed Pond B (E TOTAL Buildings Max Height: 35'-0" Ex Manufacturing B Ex Support Building Ex Support Building Ex Support Building Ex Water Tower STIL Building ECIL Crash Test Build | ement Nest) (ast) | Existing (sf) 1,431,359 sf 287,898 sf 34,651 sf Existing (sf) 98,232 sf 98,232 sf Existing (sf) 152,091 sf 1,349 sf 1,834 sf 2,530 sf | Impacted (sf) 177,769 sf 0 sf 0 sf Proposed (sf) 31,714 sf 50,000 sf 17,020 sf 98,734 sf Proposed (sf) Proposed (sf) | Remaining (sf) 1,253,590 sf 287,898 sf 34,651 sf Total (sf) 98,232 sf 31,714 sf 50,000 sf 17,020 sf 17,020 sf 17,020 sf 17,020 sf 1349 sf 1,349 sf 1,349 sf 1,349 sf 1,349 sf 1,349 sf 1,349 sf 2,530 sf 57,998 sf 38 307 sf | Total (ac) 28.78 ac 6.61 ac 0.80 ac Total (ac) 2.26 ac 0.73 ac 1.15 ac 0.73 ac 1.15 ac 0.39 ac 4.52 ac Total (ac) 3.49 ac 0.03 ac 0.04 ac 0.04 ac 0.06 ac | | | | | | | | |

4.446 sf

(2.37 ac)

3.650 sf

(8.64 ac)

Acutal F.A.R. = Total F. A./Net Site Area = 4.95%

Acutal G.F.C. = Total G.F.C./Net Site Area = 4.95%

Acutal D.A. = Total D.A./Net Site Area = 22.41%

ACCESSIBLE

Proposed

(sf)

157,804 sf

(3.62 ac)

Existing

(sf)

329,266 sf

25,945 sf

-7,366 sf

347,845 sf

(7.99 ac)

Max F.A.R=

Max G.F.C=

Max D.A.=

PARKING

STANDARD

72

68

140

PARKING PROVIDED EMPLOYEE = 160 SPACES

PARKING REQUIRED INDUSTRIAL, RESEARCH AND LABORATORY USES

Substation House

Battery Lab TOTAL

Pavement

Existing Pavement

Existing Sidewalk Ex Pavement Removed

Proposed Asphalt

Proposed Concrete

Proposed Sidewalk

Total Impervous Area

Floor Area Ratio (Max 40%)

Ground Floor Coverage (Max 20%)

Total Developed Area (Max 50%)

PARKING CALCULATIONS

PARKING AREA:

____-

TOTAL

EMPLOYEE LOT (EAST)

EMPLOYEE LOT (CENTER)

Gravel Boneyard

TOTAL

4,446 sf

2,285 sf 2,285 sf 0.05 ac

103,036 sf 260,840 sf 5.99 ac

Total

(sf)

311,300 sf 311,300 sf 7.15 ac

37,724 sf 37,724 sf 0.87 ac

23,521 sf 23,521 sf 0.54 ac

376,195 sf 724,040 sf 16.62 ac

Site Percent Impervous = 18.7%

Net Site Area x 40% = 48.43 ac

Net Site Area x 20% = 24.22 ac

Net Site Area x 50% = 14.39 ac

Total Developed Area= 27.13 ac

EMPLOYEE = 146 SPACES (FIVE (5), PLUS ONE (1) PER ON-DUTY EMPLOYEE)

Total Floor Area= 5.99 ac

Total G.F.C.= 5.99 ac

LANDBANKED

TESTING = 161+ SPACES (REQUIRED PARKING FOR ANY ACCESSORY OFFICE OR OTHER USES)

TOTAL

91

70

161

0.10 a

Total

(ac)

329,266 sf 7.56 ac

25,945 sf 0.60 ac

-7,366 sf -0.17 ac

3,650 sf 0.08 ac

984,880 sf 22.61 ac

| BUIL | DING | <u>DESCRI</u> | PTION | <u>IS</u> | | | |
|--------|----------|---------------|--------|-----------|---------|------------|-------|
| 'STIL' | BUILDING | CONTAIN | OFFICE | SPACE. | VEHICLE | WORKSHOPS. | CRASH |

LABS, AND ELECTRONICS LABS WITH A MAX HEIGHT OF 31'-0". THE 'FCIL' TEST BUILDING WILL CONTAIN OFFICE SPACE, ELECTRICAL

TOW-MOTOR POWERED CRASH HALL, OBSERVATION LAB, CONTROL LAB, AND ANALYSIS LAB WITH A MAX HEIGHT OF 27'-3". SUPPORT STRUCTURES:

SUBSTATION HOUSE (MAX. HEIGHT 16'-0") ISOLATED BATTERY LAB (MAX HEIGHT 20'-0")



| <u>OPERATIONAL P</u> PARKING AREA: | <u>ARKI</u> | <u>NG:</u> <u>PARKING</u> testing | <u>TYPE</u> LAB |
|---|------------------|---|--------------------|
| TESTING LOT (WEST) TESTING LOT (SOUTH) TESTING LOT (BONEYAR | RD) | 72 57 36 | 9 - - |
| TOTAL | | 165 | 9 |
| PARKING REQUIRED | testin Fcil 1 | NG = 161+ TECH = 8 S | SPACE |

OTHER USES)

(REQUIRED PARKING FOR ANY ACCESSORY OFFICE OR

TESTING = 173 SPACES ADA SPACES REQUIRED = 6 SPACES (151–200 EMPLOYEE/VISITOR SPACES-ULTIMATE) VAN ACCESSIBLE SPACES REQUIRED = 1

ULTIMATE = 161 SPACES

= 2 VAN SPACES PROVIDED

CHARTER TOWNSHIP OF SUPERIOR PARKING NOTES: TYPICAL PARKING SPACING & AISLE DIMENSIONS MEET OR EXCEED THOSE REQUIRED IN THE CHARTER TOWNSHIP OF SUPERIOR ORDINANCE (ARTICLE 8) SITE LIGHTING - EXTERIOR LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 14.11

LANDSCAPING, SCREENING & BUFFERS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 14 (SEE LANDSCAPE PLAN FOR ADDITIONAL INFORMATION)

SITE BUILDINGS

- (PER SECTION B OF SECTION 10.03) SCALE, NORTH ARROW AND DATE OF PLAN - PROVIDED
- PROPERTY OWNERS NAME AND ADDRESS PROVIDED LOCATION AND DESCRIPTION OF THE SITE; DIMENSIONS AND AREA - PROVIDED
- 4. GENERAL TOPOGRAPHY AND SOIL INFORMATION PROVIDED. SEE SOIL REPORT FOR SOILS INFORMATION
- 5. PROPOSED BUILDINGS AND/OR STRUCTURES PROVIDED 5. OPEN AREAS AND RECREATION AREAS - ALL AREAS NOT USED FOR BUILDINGS, PARKING OR VEHICLE CIRCULATION IS OPEN/RECREATION AREA FOR EMPLOYEES.
- EXISTING NATURAL AND MAN-MADE FEATURES TO BE PRESERVED PROVIDED 3. DELINEATION OF THE 100-YEAR FLOODPLAIN - FLOODPLAIN MAP PROVIDED, SITE IS ZONE X 9. DELINEATION OF ANY WETLANDS OR WATERCOURSE SETBACKS - PROVIDED 10. DELINEATION OF ALL VEGETATION WITH 25' OF ALL ONSITE AND OFF-SITE SURFACE WATER FEATURES -
- PROVIDED 11. DESCRIPTION OF GROUNDWATER RECHARGE AREAS - NONE EXIST ON THE SITE. 12. PROPOSED AND EXISTING STREETS/DRIVES - PROVIDED. ALL DRIVES/PARKING TO BE PRIVATE.
- 13. PROPOSED PARKING PROVIDED. MINIMUM PARKING SPACE IS 9'x20' WITH 20' ISLES. 14. AREAS OF INTENDED FILLING OR CUTTING - PROVIDED. 15. OUTLINE OF EXISTING BUILDINGS, STRUCTURES OR DRIVES - PROVIDED.
- 16. EXISTING ZONING CLASSIFICATION ZONING IS PM 17. DELINEATION OF REQUIRED YARDS - PROVIDED (50' FRONT, 10' SIDE, 35' REAR)
- 18. DWELLING UNIT SCHEDULE NOT REQUIRED NO DWELLING UNITS 19. LOT COVERAGE AND FLOOR AREA RATIO - SEE INFORMATION TO LEFT 20. LOCATION AND SIZE OF REQUIRED TRANSITION AND LANDSCAPE STRIPS - 20' ALONG ROAD FRONTAGES.
- 21. ADJACENT LAND USES PROVIDED LOCATION AND AREA OF DEVELOPMENT PHASES - THE PROJECT WILL BE CONSTRUCTED IN ONE PHASE. 23. LOCATION, WIDTH AND PURPOSE OF ALL EXISTING AND PROPOSED EASEMENTS - PROVIDED. 24. GENERAL DESCRIPTION OF PROPOSED WATER, SANITARY SEWER AND STORM DRAINAGE SYSTEM -PRELIMINARY LAYOUTS ARE PROVIDED ON THE PLANS (CU-400 AND CU-401). PLEASE NOTE THAT THE UTILITIES INDICATED ARE PRELIMINARY IN NATURE AND WILL CHANGE AS ENGINEERING PROGRESS. 25. COPIES OF ALL PERMITS OBTAINED TO DATE - NO PERMITS HAVE BEEN APPLIED FOR YET.

<u>SITE ANALYSIS</u>

- (PER SECTION B OF SECTION 7.08) ALL INFORMATION REQUIRED FOR PRÉLIMINARY SITE PLAN - SEE DRAWINGS AND BELOW.
- LOCATION, TYPE, AND LAND AREA OF EACH PROPOSED LAND USE. 130.83 ACRES, ALL TO BE USED FOR RESEARCH AND DEVELOPMENT BY HATCI GENERAL DESCRIPTION OF THE ORGANIZATION THAT WILL OWN AND MAINTAIN THE COMMON SPACE. -
- SINGLE OWNER NO COMMON SPACE. GENERAL DESCRIPTION OF COVENANTS, EASEMENTS OR OTHER RESTRICTIONS TO BE IMPOSED UPON D. LAND. - EASEMENTS FOR PUBLIC UTILITIES AS REQUIRED TO SERVICE THIS SITE. NO OTHERS ANTICIPATED.
- E. DESCRIPTION OF PETITIONER'S INTENTION REGARDING SELLING OR LEASING. PETITIONER WILL USE ALL OF THE FACILITY, NO SELLING OR LEASING IS ANTICIPATED. DESCRIPTION OF ALL PROPOSED USES. - FACILITY WILL BE USED AS AN AUTOMOTIVE DESIGN AND RESEARCH CENTER. THE 'STIL' BUILDING WILL CONTAIN OFFICE SPACE, VEHICLE WORKSHOPS, CRASH
- LABS, AND ELECTRONICS LABS. THE 'FCIL' BUILDING WILL CONTAIN WORKPLACE, ELECTRICAL TOW-MOTOR POWERED CRASH HALL, OBSERVATION LAB, CONTROL LAB, AND ANALYSIS LAB. SITE WILL CONTAIN A 45 MPH STRAIGHT TRACK WITH VEHICLE DYNAMICS ASSESSMENT PAD FOR VEHICLE STEERING AND BREAKING TESTS BY SAFETY ENGINEERS. SITE WILL ALSO CONTAIN A BATTERY LAB AND BATTERY TEST PAD. GENERAL LANDSCAPE CONCEPTS PLANTINGS, MOUNDS AND BERMS. - PER LANDSCAPE PLANS.
- DELINEATION OF AREAS TO BE SUBDIVIDED. PARCEL WILL NOT BE SUBDIVIDED. INITIAL SELLING PRICE - PARCEL WILL BE RETAINED BY OWNER.

CONSTRUCTION SEQUENCE AND PHASING

THIS CONSTRUCTION PROJECT IS TO BE EXECUTED UNDER ONE GENERAL CONTRACT, WITH NO PART OF THE SITE OR FACILITY BEING DEPENDENT ON THE COMPLETION OF SUBSEQUENT PROJECT PHASE OR ADEQUATE ACCESS, UTILITY SERVICE, EROSION CONTROL, DRAINAGE OR FIRE PROTECTION.



CIVIL GENERAL NOTES

- ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS AND STANDARD DETAILS OF SUPERIOR TOWNSHIP AND WASHTENAW COUNTY UNLESS OTHERWISE SPECIFIED. IN ADDITION, THE SANITARY SEWER AND WATER MAIN SYSTEMS SHALL MEET DWSD SANITARY SEWER AND WATER DESIGN STANDARDS MOST RECENT EDITION. ALL PAVING MATERIAL FOR NON-PUBLIC STREETS, SIDEWALKS, AND PATHS SHALL CONFORM TO THE CURRENT M.D.O.T. STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION SAFETY STANDARDS AND THE OCCUPATIONAL SAFETY STANDARDS (OSHA) AS ISSUED BY THE U.S. DEPARTMENT OF LABOR AND THE MICHIGAN DEPARTMENT OF LABOR (MIOSHA) ALONG WITH THE REQUIREMENTS OF HYUNDAI.
- ALL NECESSARY PERMITS AND LICENSES SHALL BE OBTAINED AND THE CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE SITE, INCLUDING ALL TESTING AND CLOSE OUT REQUIREMENTS, PRIOR TO THE START OF CONSTRUCTION: -SANITARY SEWER: SUPERIOR TOWNSHIP, WASHTENAW COUNTY WATER RESOURCES COMMISSIONER (WCWRC) & DETROIT WATER & SEWERAGE DEPT (DWSD) -POTABLE WATER: SUPERIOR TOWNSHIP, WCWRC, DWSD, EGLE
 - -STORM WATER MANAGEMENT: SUPERIOR TOWNSHIP, WCWRC, EGLE -LAFORGE RIGHT-OF-WAY: WASHTENAW COUNTY ROAD COMMISSION (WCRC)
 - -SOIL EROSION: SUPERIOR TOWNSHIP, WCWRC, EGLE
- SITE BOUNDARY INFORMATION IS PER LIVINGSTON ENGINEERING SURVEY DATED 10/20/2021. THE INFORMATION HAS NOT BEEN FIELD VERIFIED BY IBI GROUP. CONTRACTOR TO FIELD VERIFY LOCATION OF SITE BOUNDARY/MARKERS PRIOR TO THE START OF CONSTRUCTION.
- TOPOGRAPHIC INFORMATION: HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING DATED 10/20/2021. REFER TO THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AND THE ENGINEER ASSUMES NO RESPONSIBILITY AS TO 46. MAINTAIN A MINIMUM 10'-0" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN SANITARY, WATER, AND STORM UTILITY THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL VERIFY THE CONSTRUCTION BENCHMARK(S) AND EXISTING FIELD CONDITIONS INCLUDING THE SIZES, LOCATIONS, AND ELEVATIONS OF ITEMS THAT AFFECT THE WORK AND NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY DISCREPANCIES OR INTERFERENCES.
- PRIOR TO CONSTRUCTION, EXISTING UTILITIES AT PROPOSED CONNECTIONS AND CROSSINGS SHALL BE FIELD EXCAVATED TO 47. WHERE 18 INCH VERTICAL SEPARATION BETWEEN [PRESSURE UTILITIES/WATER OR FIRE MAINS] AND OTHER SEWERS IS NOT VERIFY LOCATIONS, ELEVATION AND SIZE. THE OWNER'S REPRESENTATIVE MAY CONFIRM, ADJUST OR REVISE DESIGN ELEVATIONS OF THE PROPOSED UTILITIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER IN WRITING PRIOR TO THE REMOVAL OF ANY SUBSURFACE STRUCTURES NOT DESIGNATED OR SHOWN ON THE CONSTRUCTION PLANS.
- PRIOR TO CONSTRUCTION, IT IS RECOMMENDED ADDITIONAL BENCHMARKS BE SET AROUND THE WORK SITE TO INSURE AN ACCURATE BENCHMARK WILL REMAIN AT ALL TIMES.
- REFER TO REPORT OF GEOTECHNICAL EXPLORATION PREPARED BY SME FOR INFORMATION FOR SOIL BORINGS SUBSURFACE CONDITIONS AND RECOMMENDATIONS REGARDING SITE PREPARATION, TEMPORARY GROUNDWATER CONTROL, BACKFILLING, AND PAVEMENT. THE GEOTECHNICAL EXPLORATION AND ENGINEERING REPORT LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.
- FOR LOCATION AND PROTECTION OF UNDERGROUND UTILITIES THE CONTRACTOR SHALL CALL "MISS DIG" AT 800-482-7171 52. STORM SEWER PIPE: PROVIDE CLASS III MINIMUM FOR ALL REINFORCED CONCRETE PIPE, EXCEPT AS INDICATED. OR 811, A MINIMUM OF THREE DAYS PRIOR TO EXCAVATION ON THE SITE. ALL "MISS DIG" PARTICIPATING MEMBERS WILL 53. UNDERDRAIN: ALL MANHOLES, CATCH BASINS, INLETS OR SIMILAR DRAINAGE STRUCTURES IN PAVED AREAS TO HAVE 4" THUS ROUTINELY BE NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF NOTIFYING UTILITY OWNER'S WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.
- THE CONTRACTOR SHALL INSURE THAT ALL UTILITY COMPANY, SUPERIOR TOWNSHIP, AND COUNTY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE AHJS & VARIOUS UTILITY COMPANIES AND SHALL PAY ALL FEES FOR DEMOLITION, CONNECTION/DISCONNECTION, RELOCATION'S & INSPECTIONS
- . DIFFERENTIAL OF EXCAVATION AROUND EXISTING MANHOLES SHALL NOT EXCEED SIX (6) FEET.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION PRIOR TO MAKING CHANGES TO, OR INTERRUPTIONS OF UTILITIES AND SHALL COMPLY WITH SPECIAL INSTRUCTIONS FROM HATCI TO MINIMIZE THE EFFECT ON THEIR OPERATIONS. PRIOR TO ANY EXCAVATION, EARTH MOVING WORK OR REMOVAL OR REMOVAL OF ANY PIPE FROM SERVICE, THE CONTRACTOR SHALL REVIEW 56. WATER MAIN RESTRAINTS: "MEGA LUGS" OR "FIELD LOCK GASKETS" SHALL BE USED FOR JOINT RESTRAINTS; INSTALL PER WITH THE OWNER'S REPRESENTATIVE THE LOCATION OF THE UNDERGROUND UTILITIES. SERVICE AND STRUCTURES IN THE AREA WHERE THE WORK IS BEING PERFORMED. PROVIDE FULL TIME SUPERVISION DURING ALL EXCAVATION AND EARTH MOVING OPERATIONS AND TAKE ALL RESPONSIBLE PRECAUTIONS TO SUPPORT AND PROTECT EXISTING UTILITIES, STRUCTURES, DRAINS, SERVICES AND OPERATIONS TO REMAIN FROM DAMAGE OR DISRUPTION.
- PROVIDE SOIL EROSION AND SEDIMENTATION MEASURES AS REQUIRED BY LOCAL AND FEDERAL STANDARDS AT NEW CONSTRUCTION. PROVIDE PROTECTION OF ENTRANCE DRIVES, EXTERIOR MANHOLES, INLETS, WETLANDS, ETC.
- GREAT CARE SHALL BE TAKEN BY CONTRACTOR'S TO TO MINIMIZE EARTH DISTURBANCE AND AVOID DAMAGE TO VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION AND TO KEEP THE CONSTRUCTION AREAS TO A MINIMUM. CONSTRUCTION TRAFFIC 54. REFER TO EL-SERIES DRAWINGS FOR UNDERGROUND ELECTRICAL SITE WORK AND LIGHT POLE LOCATIONS; SITE LIGHTING SHALL NOT BE PERMITTED OUTSIDE THE LIMITS OF CONSTRUCTION.
- TREES NOT INDICATED TO BE REMOVED OR TRANSPLANTED SHALL BE PROTECTED WITH 4' HIGH ORANGE CONSTRUCTION 55. THE CONTRACTOR SHALL COORDINATE WITH AFFECTED UTILITY COMPANIES FOR THE REMOVAL OR RELOCATION OF UTILITY FENCE SET 10' FROM THE DRIP LINE OF THE TREE.
- 3. SAW CUT PAVEMENT/CURB TO FULL DEPTH AT ALL PAVEMENT REMOVAL LIMITS, PROVIDE SMOOTH EDGE AT PAVEMENT/CURB EXPANSION(S). REMOVE PAVEMENT TO THE EXTENT NECESSARY TO ALLOW FOR PROPER JOINTING METHOD TO PROPOSED 56. ALL ROAD/CURB DIMENSIONS ARE TO THE GUTTER/FLOW LINE OF CURB UNLESS NOTED OTHERWISE. PAVEMENT (PER DETAILS).
- . ASPHALT AND CONCRETE PAVEMENTS REMOVED DURING THIS PROJECT SHALL BE SEPARATED AND DISPOSED OF AT AN APPROVED RECYCLER.
- EXISTING UTILITIES AND STRUCTURES TO BE ABANDONED IN PLACE SHALL BE COMPLETELY REMOVED TO A MINIMUM DEPTH OF TWO (2) FEET BELOW PROPOSED SUBGRADE, FILLED AND COMPACTED WITH CONTROLLED LOW STRENGTH MATERIAL 58. DETECTABLE WARNINGS SHALL BE PLACED ALONG ALL PEDESTRIAN ROUTES WHERE THERE IS AN UNGUARDED GRADE DROP (CLSM) FLOWABLE CONCRETE. BULKHEAD/GROUT PIPE ENDS PER AHJ/M.D.O.T. STANDARDS. CONTRACTOR TO FIELD OF MORE THAN 6". VERIFY AND NOTE LOCATIONS AND ELEVATIONS OF ANY ABANDONED UTILITY ENDS ON THE PROJECT RED LINES.
- . UTILITIES TO BE ABANDONED IN PLACE SHALL BE FILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) FLOWABLE FILL. CEMENT MATERIAL SHALL BE ASTM C 150 TYPE I WITH MIX DESIGN OF 28 DAY STRENGTH OF 110-150 (MAX) PSI 60. PAVEMENT STRIPING: TYPICAL SPACES SHALL BE 9'x20' (90' PARKING) WITH 4-INCH WIDE BLUE PAINT STRIPING FOR ADA FOR "DIGABLE" FILL (REFER TO PROJECT SPECS. FOR MIX DESIGN).
- THE CONTRACTOR SHALL NOTIFY THE AFFECTED ADJACENT LANDOWNER(S) PRIOR TO THE REMOVAL OF ANY PERIMETER FENCING AND/OR ENCROACHING ITEMS.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY FEDERAL, STATE, AND LOCAL AUTHORITIES, ENSURING TRAFFIC AND PEDESTRIAN SAFETY AT ALL TIMES. PROVIDE BARRIER PROTECTION FOR VEHICULAR AND PEDESTRIAN TRAFFIC AT EXCAVATIONS. TEMPORARY FENCING, BARRICADING AND PEDESTRIAN ROUTING SHALL BE COORDINATED WITH AND 62. PROVIDE 6" INCHES OF TOPSOIL, SEED AND MULCH [SOD] AT DISTURBED AREAS TO BE VEGETATED, EXCEPT AS NOTED APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- 4. TEMPORARY ACCESS ROADS: ACCESS ROADS SHALL BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS 63. FINAL SITE STABILIZATION IS ACHIEVED WHEN ALL PROPOSED IMPERVIOUS SURFACES HAVE BEEN COMPLETED AND A (MIN. 75,000 POUNDS DESIGN) WITH A MINIMUM VERTICAL CLEARANCE OF 13'-6". TEMPORARY STABILIZED DRIVES MEETING THIS CRITERIA MUST BE IN PLACE PRIOR TO BRINGING COMBUSTIBLE MATERIALS ON-SITE. ACCESS POINT TO BE AT LEAST 100' FROM ANY PERMANENT BUILDING].
- D. CONSTRUCTION DRAINAGE: USE PUMPS, TEMPORARY DITCHES, SLOPES TO MAINTAIN A WELL DRAINED SITE, FREE OF CONSIDERATIONS (SUCH AS HEAVY-DUTY PAVEMENT, CLEARANCES, TEMPORARY EASEMENTS, ETC.) TO ALLOW FOR STANDING WATER AND WATER SOFTENED SOILS. EFFLUENT FROM DE-WATERING ACTIVITIES SHALL BE FILTERED THROUGH A DANDY BAG OR OTHER APPROPRIATE FILTRATION DEVICE PRIOR TO BEING DISCHARGED FROM THE SITE.
- . ANY WELL, WELL POINT, PIT, OR OTHER DEVICE INSTALLED FOR THE PURPOSE OF LOWERING THE GROUNDWATER LEVEL TO FACILITATE CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY ABANDONED AS DIRECTED BY THE LOCAL AUTHORITIES. CONTRACTOR SHALL OBTAIN APPROPRIATE PERMIT(S) FOR ANY WELLS PRIOR TO CONSTRUCTION FROM THE [AHJ - LOCAL HEALTH DEPARTMENT].
- 7. A 1" EXPANSION JOINT SHALL BE PLACED WHERE PROPOSED CONCRETE CURB MEETS EXISTING. A 1/2" EXPANSION JOINT SHALL BE PLACED WHERE PROPOSED CONCRETE SIDEWALK MEETS EXISTING.
- B. PLACE ISOLATION JOINTS WHERE SITE CONCRETE ABUTS STRUCTURES SUCH AS BUILDINGS, DRAINS, MANHOLES, TRENCH DRAINS, LIGHT POLE FOUNDATIONS AND WATER VALVES. 9. WHERE SLABS OF DIFFERENT THICKNESS OF CONCRETE MEET, PROVIDE A GRADUAL THICKNESS TRANSITION (FROM THIN TO
- 30. SLOPE SMOOTHLY BETWEEN INDICATED ELEVATIONS. SLOPE ALL EARTH BANKS 4:1 OR FLATTER. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER UNTIL A HEALTHY STAND OF GRASS (85% COVERAGE) IS OBTAINED.
- . A 5' WIDE GRAVEL WEED/RODENT BARRIER SHALL BE PROVIDED AT ALL AREAS OF THE BUILDING ADJACENT TO NON-PAVED SURFACES. IN THESE AREAS. PROVIDE A MINIMUM ELEVATION DROP OF 6 INCHES FROM THE FINISH FLOOR OF THE BUILDING TO THE EXTERIOR SURFACE GRADES 10'-0" (MINIMUM) FROM THE BUILDING LIMITS.
- . NEW GRADES SHOWN ARE FINISHED GRADES AND INCLUDES TOP OF TOPSOIL OR SURFACES SUCH AS PAVEMENTS AND WALKS.
- . THE CONTRACTOR SHALL VERIFY POSITIVE DRAINAGE (MIN. 1% ASPHALT, 0.5% CONCRETE/GUTTER LINE) IS PROVIDED WITHIN THE PROPOSED PAVEMENT AREAS TO THE FLOW LINE OF THE APPROPRIATE DRAINAGE STRUCTURE AS SHOWN ON THE GRADING PLANS. FINISHED AREAS SHALL BE INSPECTED BY THE CONTRACTOR FOR "BIRD BATH" DEPRESSIONS; AREAS HOLDING SURFACE RUNOFF SHALL BE REMOVED AND RE-PAVED ACCORDINGLY UNLESS OTHERWISE NOTED.
- 34. A MAX. 2% CROSS SLOPE SHALL BE PROVIDED IN PAVED AREAS WHERE A DESIGNATED PEDESTRIAN CROSS-WALK IS PRESENT AND/OR PAVEMENT IS DESIGNATED AS AN ADA WALKWAY ON THE PLANS. CONTRACTOR TO VERIFY SLOPES IN FIFI
- . INCREASE CONCRETE SIDEWALK THICKNESS TO MATCH SITE CONCRETE CROSS-SECTION [OR TO MIN. 8"] AT ACCESS DRIVES/CROSS-WALKS.
- 36. ELEVATION OF STRUCTURES ARE AS FOLLOWS: -MANHOLE/CLEANOUT/VALVE BOX: CENTER OF RIM -CATCH BASIN/INLET/END SECTION: FLOW LINE -HYDRANT/PIV: BARREL GROUND LINE

THICK) OVER A DISTANCE OF 4 FEET.

- 7. STRUCTURE TOPS SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO MEET FINAL SURFACE GRADES. ADJUST THE FRAME AND COVER OF CATCH BASINS AND MANHOLES AS WELL AS ALL VALVE AND CURB BOXES THAT ARE NOT INDICATED TO BE ABANDONED OR REMOVED, TO FINISH GRADE ELEVATION. FRAME AND COVER ADJUSTMENTS SHALL BE MADE USING PRECAST GRADE RINGS WITH A MAXIMUM 0.3' RELIEF ACROSS MANHOLES.
- 38. PROVIDE A 4'x4' "LEVEL AREA" (MAX 5% SLOPE) AT STRUCTURE RIMS LOCATED WITHIN VEGETATED SIDE SLOPES.
- . ALL SANITARY & STORM (NON-SUMP) STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED CONCRETE INVERT FROM INVERT(S) IN TO INVERT OUT.
- 40. ALL EXISTING/PROPOSED STRUCTURES AND UTILITY PIPES WITHIN THE INFLUENCE OF PROPOSED PAVED SURFACES SHALL

MEET HEAVY DUTY TRAFFIC (H20) LOADING AND SHALL BE INSTALLED/RECONSTRUCTED ACCORDINGLY. 41. MINIMUM COVER OF UNDERGROUND LITUTIES

| | O HEIHES. | |
|--------------|------------|----------|
| ER/FIRE | 5.5 (MIN)/ | 8.5 (MA) |
| | 2.5 FT | |
| URAL GAS | 2.5 FT | |
| ITARY SEWERS | 4.0 FT | |
| RM SEWER | 3.0 FT | |
| LLED WATER | 5.5 FT | |
| OTHERS | 2.5 FT | |

- 42. UNDERGROUND UTILITIES, CONDUITS, AND/OR CABLES MUST BE LOCATED BELOW ANY PAVING AND AGGREGATE BASE (IN THE SUBGRADE) OR BELOW FROST DEPTH WHEN APPLICABLE. DEPTH AND HORIZONTAL SPACING MUST CONFORM TO LOCAL UTILITY AND CODE REQUIREMENTS.
- 43. STUB UTILITY LEADS 5' FROM BUILDING, SITE CONTRACTOR TO LEAVE ENOUGH "LINE" TO ALLOW FOR UTILITIES CONNECTIONS WITHIN THE BUILDING (IF APPLICABLE). SEE MECHANICAL PLANS FOR UTILITY CONTINUATION IN BUILDING.
- 44. PRESSURE UTILITIES MAY BE LAID APPROXIMATELY PARALLEL TO FINISH GRADE, EXCEPT AS INDICATED, WITH LOCAL DEEPENING TO AVOID OTHER UTILITIES OR OBSTRUCTIONS. 45. MAINTAIN COVER BELOW DITCHES AND SURFACE DEPRESSIONS. PROVIDE TEMPORARY PROTECTION AS REQUIRED UNTIL COVER
- IS COMPLETED. INFORM OWNER'S REPRESENTATIVE IF AVAILABLE COVER, AT INDICATED ELEVATIONS, IS LESS THAN MINIMUM NOTED ABOVE.
- LINES AND A MINIMUM 18" VERTICAL SEPARATION FOR FRANCHISE UTILITIES. MEASUREMENTS SHALL BE TAKEN FROM THE NEAREST EDGE OF THE UTILITY IN QUESTION. SHOULD ADDITIONAL PROTECTION MEASURES BE REQUIRED, A CONCRETE ENCASEMENT SHALL BE INSTALLED. CENTER ONE LENGTH OF PIPE AT CROSSING, WHERE APPLICABLE.
- FEASIBLE, THE [WATER OR FIRE MAIN] SHALL BE DEFLECTED VERTICALLY AS SHOWN ON THE PROJECT DETAILS, OR THE SEWER SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION AND SHALL BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS [AND ENCASED IN CONCRETE] PRIOR TO BACKFILLING
- 48. WHERE UTILITIES CROSS, PROVIDE POROUS BACKFILL TAMPED IN 12" LAYERS TO THE UNDERSIDE OF THE HIGHER UTILITY. A 18" MIN. SAND CUSHION SHALL BE PROVIDED BETWEEN CROSSING UTILITIES.
- 49. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR DETERMINING DEFLECTION ANGLES AND LOCATION OF ALL VERTICAL BENDS IN THE WATER MAIN IN ACCORDANCE WITH AHJ-WATER STANDARDS FOR WATER MAIN CONSTRUCTION. ANY QUESTIONS OR CONFLICTS WITH OTHER UTILITIES IN THE CONSTRUCTION PLANS MUST BE PROVIDED TO THE DESIGN ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION.
- 50. PIPE LENGTHS SHOWN ON PLANS ARE LINER, MEASURED TO THE CENTER OF CONNECTING STRUCTURES.
- 51. COORDINATES SHOWN ARE TO CENTER OF STRUCTURES

C - 651

- DIA-20FT LONG PERFORATED UNDERDRAIN PIPES WRAPPED IN FILTER FABRIC IN THREE TO FOUR DIRECTIONS AND RECESSED BENEATH THE AGGREGATE BASE LAYER. UNDERDRAIN SHALL HAVE A MINIMUM OF 2'-6" COVER AND A MINIMUM SLOPE OF 0.5% UNLESS NOTED OTHERWISE.
- 54. WATER MAIN: CLASS 54 D.I.P. (C-151) WITH CEMENT LINING AND BITUMINOUS SEAL COAT PER AWWA C-104. JOINTS SHALL BE PUSH-ON TYPE WITH RUBBER GASTKET PER AWWA C-111. CONSTRUCTION METHODS SHALL CONFORM TO THE INSTALLATION OF DUCTILE-IRON WATER MAINS AND THEIR APPURTENANCES, AWWA C-600; DISINFECTING WATER MAINS AWWA
- 55. FIRE HYDRANTS: MUELLER A-425 SUPER CENTURION 250 OR EJIW MODEL 5BR WITH STORZ FITTING AND CAST IRON VALVE & BOX PER TOWNSHIP STANDARDS.
- TOWNSHIP STANDARDS AND MANUFACTURES RECOMMENDATIONS. CONCRETE THRUST BLOCKS MAY ONLY BE USED WITH SPECIFIC WRITTEN PERMISSION OF THE TOWNSHIP UTILITY DEPARTMENT. ANCHORAGE AS INDICATED AND AS REQUIRED TO RESTRAIN PIPING AND APPURTENANCES DURING PRESSURE TEST AND SERVICE.
- 57. HYDRANTS SHALL BE PLACED A TYPICAL 4-0" (MINIMUM 3', MAXIMUM 10') OFF THE BACK OF CURB/EDGE OF PAVEMENT. A VALVE AND BOX SHALL BE PROVIDED ON FIRE HYDRANT ASSEMBLIES.
- 53. PROVIDE CATHODIC PROTECTION FOR METAL PIPES/SURFACES IN CONTACT WITH BARE SOILS
- SHALL CONFORM TO SECTION 14.09 (EXTERIOR LIGHTING)
- AND LIGHT POLES AND SUPPORTING STRUCTURES. CONTRACTOR COORDINATE WITH OWNING UTILITY COMPANY(S) TO DETERMINE IF ASSOCIATED GUY WIRES, BOXES, ETC. ARE TO BE RELOCATED ON POLES/STRUCTURES TO REMAIN.
- 57. ALL PEDESTRIAN RAMPS AND DESIGNATED WALKWAYS TO MEET CURRENT ADA CODE. CONTRACTOR TO FIELD VERIFY MAX. 2% CROSS-SLOPES, 5% TRAVERSE SLOPE, 8.33% RAMP SLOPES AND MINIMUM 36" CLEARANCES FOR ALL ADA SIDEWALKS. DETECTABLE WARNINGS SHALL BE PLACED AT THE EDGE OF THE SIDEWALK AT ALL LOCATIONS WHERE PEDESTRIAN TRAFFIC MEETS POTENTIAL VEHICULAR ROUTES.
- 59. TRAFFIC SIGNS SHALL BE ACCORDING TO THE MUTCD 2009 EDITION.
- SPACES AND 4-INCH WIDE TRAFFIC YELLOW FOR ALL OTHER PARKING SPACES. ASSOCIATED MANEUVERING AISLES SHALL BE MIN. 20' WIDE WITH DIRECTION OF TRAFFIC (ARROW) CLEARLY MARKED ON THE PAVEMENT.
- TO THEIR ORIGINAL CONDITION OR BETTER INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, PAVEMENTS, SIDEWALKS, GRASS AREAS AND LANDSCAPING.
- OTHERWISE
- HEALTHY. UNIFORM. CLOSE STAND OF GRASS/VEGETATION HAS BEEN ESTABLISHED FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90% OVER ANY 10 SQ. FT. AND BARE SPOTS NOT EXCEEDING 5"x5".
- 64. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY SITE WORK OPERATIONS THAT REQUIRE ADDITIONAL DESIGN CONSTRUCTION EQUIPMENT ACCESS AND OPERATION.

61. SURFACE RESTORATION: CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED DUE THE PROJECT WORK SHALL BE RESTORED



ARTICLE 3 DIMENSIONAL STANDARDS

Section 3.101 Table of Dimensional Standards by District.

| | | | | 3 | | | | | | | | D | istricts | 5 | | | | | | | | | |
|--------|--|--------------------------|---------------------------|--------------|--------------|--------------|--------------|---------------|--------|----------------|------------|--------|----------|---------|--------|--------|---------|--------------|--------|---------|--------------|---------|-------------------|
| | | Dimensi | onal | | Rural | | Ru Reside | ral ential | F | Urba Reside | an ntia | ıl | E | Busines | S | Other | | | Speci | al | | | itional ndards |
| | Standards | | ras | R-C | A-1 | A-2 | R-1 | R-2 | R-3 | R-4 | R-6 | R-7 | C-1 | C-2 | 0-1 | PSP | РС | NSC | VC | MS | ΡM | OSP | Add Star |
| | Maximum Feet | | 35 | 40 | 40 | 35 | 35 | 35 | 35 | 0 | 35 | 35 | 35 | 35 | 35 | | 30 | 35 | | 35 | | Section | |
| Bu | ildiı | ng Height | Stories | 2.5 | 3.0 | 3.0 | 2.5 | 2.5 | 2.5 | 2.5 | ards | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | | 2.0 | 2.5 | | 3.0 | | 3.201 |
| | ds | Minimum | Width (feet) | 225 | 225 | 225 | 200 | 150 | 100 | 60 | and | 125 | 150 | 150 | 100 | 150 | 6 | 250 | 100 | () | 150 | (; | |
| j t | dar | Minimum | Depth (feet) | | | | | | 150 | 120 | < St | | | | | | lon | | | lons | | ions | Section |
| | Minimum Area (acres or square-feet) | | um Area square-feet) | 5.0 acres | 5.0 acres | 2.0 acres | 2.0 acres | 1.0 acre | 21,780 | 7,200 | ig Parl | 21,780 | 10,500 | 20,000 | 20,000 | 20,000 | egulat | 3.0 acres | 20,000 | egulat | 2.0 acres | egulat | 3.202 |
| | | Front | Minimum | 60 | 75 | 75 | 60 | 50 | 35 | 25 | usir | 35 | 20 | 35 | 20 | 20 | Ct R | 50 | 20 | Ct R | 50 | ct R | |
| ack | feet | Yard | Maximum | | | | | | | | H | | | | | | istri | | 35 | istri | | istri | |
| /Setba | ards (| Minimum | One Side Yard | 30 | 30 | 30 | 20 | 15 | 10 | 6 | cturec | 15 | 15 | 20 | 10 | 20 | cial D | 25 | 10 | cial D | 10 | cial D | Section |
| Yard/ | standa | Yard | Total of Two | 60 | 60 | 60 | 60 | 50 | 25 | 16 | anufa | 35 | 30 | 40 | 20 | 40 |) (Spe | 50 | 20 |) (Spe | 20 |) (Spe | 5.205 |
| | 0, | Minimum | Rear Yard | 50 | 50 | 50 | 50 | 50 | 50 | 35 | M) 9 | 35 | 35 | 35 | 35 | 35 | 7.0 | 25 | 35 | 7.0 | 35 | 7.0 | |
| | Maximum Ground Floor Coverage (GFC) | | Ground ge (GFC) | 5% | 5% | 5% | 10% | 15% | 20% | 25% | 5.205 | 20% | 20% | 25% | 25% | 25% | Article | 20% | 25% | Article | 20% | Article | Section 3.203E |
| | | Maximum Area Ratio | Floor (FAR) | 0.05 | 0.05 | 0.05 | 0.10 | 0.15 | 0.25 | 0.40 | Sectior | 0.30 | 0.30 | 0.50 | 0.50 | 0.50 | see | 0.20 | 0.50 | see | 0.40 | see | Section 3.203E |
| Ma | nxim Der | um Net Du sity (units | welling Unit per acre) | 0.2 | 0.2 | 0.5 | 0.5 | 1.0 | 2.0 | 4.0 | see | 8.0 | | | | | | | | | | | Section 3.204 |







SOILS LEGEND

| JUILJ L | | | , |
|-----------------------------|--|--------------|----------------|
| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
| FoB HYD SOIL GROUP: B | Fox sandy loam, till plain, 2 to 6 percent slopes | 12.1 | 4.1% |
| FoC HYD SOIL GROUP: B | Fox sandy loam, Huron Lobe, 6 to 12 percent slopes | 4.8 | 1.6% |
| GIF HYD SOIL GROUP: A/D | Gilford sandy loam, till plain, 0 to 2 percent slopes | 12.6 | 4.3% |
| Gp HYD SOIL GROUP: N/A | Gravel pit | 12.1 | 4.1% |
| HO HYD SOIL GROUP: C/D | Hoytville silty clay loam | 56.3 | 19.0% |
| Keb Hyd Soil group: C | Kendallville loam, 2 to 6 percent slopes | 58.6 | 19.8% |
| KeC HYD SOIL GROUP: C | Kendallville loam, 6 to 12 percent slopes | 0.6 | 0.2% |
| Kina Hyd Soil group: B/D | Kibble fine sandy loam, 0 to 4 percent slopes | 1.3 | 0.4% |
| NaB HYD SOIL GROUP: C/D | Nappanee silty clay loam, 2 to 6 percent slopes | 66.9 | 22.6% |
| StB HYD SOIL GROUP: D | St. Clair clay loam, 2 to 6 percent slopes | 40.3 | 13.6% |
| SIC HYD SOIL GROUP: D | St. Clair clay loam, 6 to 12 percent slopes | 30.2 | 10.2% |
| Totals for Area of Interest | | 295.8 | 100.0% |

(NO SCALE)

Zoning Districts

| | Ne - Necreatio |
|------------------|-----------------|
| | A1 - Agricultu |
| | A2 - Agricultu |
| | R1 - Single-Fai |
| | R2 - Single-Fai |
| | R3 - Single-Fai |
| | R4 - Single-Fa |
| | R6 - Manufact |
| | R7 - Multiple- |
| | C1 - Neighbor |
| | C2 - General C |
| | O1 - Office Dis |
| | PSP - Public/ S |
| | PC - Planned (|
| | NSC - Neighbo |
| | VC - Village Ce |
| | MS - Medical |
| | PM - Planned |
| $\sim \sim \sim$ | |

RC - Recreation-Conservation District

- ral District
- Iral District
- mily Residential District
- mily Residential District
- mily Residential District
- amily Residential District
- ctured Housing Park District
- -Family Residential District
- rhood Commercial
- Commercial District
- istrict
- Semi Public Services District
- Community District
- orhood Shopping Center District
- Center District
- Services District
- d Manufacturing District
- 🔆 🔆 OSP Open Space Preservation Overlay District



FIMA NATIONAL FLOOD HAZARD MAF (NO SCALE)

FLOODPLAIN ACCORDING TO THE CURRENT FLOOD INSURANCE RATE MAP (FIRM) BY FEMA (MAP NO. 26161C0269E & 26161C0288E, EFFECTIVE DATE 04/03/12) TOWNSHIP OF SUPERIOR, WASHTENAW COUNTY, MI THE SITE LIES WITHIN "ZONE X" WHICH IS AN AREA OF MINIMAL FLOODING.

> INVENTORY MAP (NO SCALE)

| | VAV | |
|-------------------------------------|--|--|
| | HATCI MICHIGAN R&D SUPERIOR TOWNSHIP, I | CENTER MICHIGAN |
| COPY | RIGHT This drawing has been prepared solely for the inter reduction or distribution for any purpose other than a | nded use, thus any |
| for Co the ji con | bidden. Written dimensions shall have precedence or ntractors shall verify and be responsible for all dimer ob, and IBI Group shall be informed of any variations ditions shown on the drawing. Shop drawings shall b for general conformance before proceeding w | viver scaled dimensions. sions and conditions on from the dimensions and e submitted to IBI Group ith fabrication. |
| ISSUE | IBI Group Professional Services is a member of the IBI Group of comp | (USA) Inc. anies |
| No. A | DESCRIPTION AREA PLAN | DATE 2021-10-27 |
| B C D | AREA PLAN AMENDMENT PRELIMINARY SITE DESIGN 30% OWNER REVIEW | 2021-11-29 2022-01-26 2022-02-18 |
| E 0 | 60% OWNER REVIEW ISSUED FOR BIDS | 2022-03-18 2022-04-01 |
| | NOT FOICT | <u>'</u> 0'. |
| PLEAS | SE CONFIRM KEYPLAN BOX | |
| | | |
| | | |
| CONS | SULTANTS | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| SEAL | E CONSULTANT | |
| SEAL | CONSULTANT IBI GROUP 25200 Telegraph Road - Southfield ML 49000 LC | Suite 300 |
| SEAL PRIME | E CONSULTANT BI GROUP 25200 Telegraph Road - Southfield MI 48033 US tel 248 936 8000 fax 244 ibigroup.com | Suite 300 A 3 936 8111 |
| SEAL PRIME | ECT | Suite 300 A 3 936 8111 |
| SEAL PRIME | ECT ECNSULTANT BI BI BI BI BI BI BI BI BI BI BI BI BI | Suite 300 A 3 936 8111 |
| SEAL PRIME | ECT BOU Geddes Rd Superior O MI 48198 | Suite 300 A 3 936 8111 |
| SEAL PRIME PROJ 68 PROJ | ECT NO: 94 | Suite 300 A 3 936 8111 |
| | ECT NO: 94 South Section 24 BID BID BID BID BID BID BID BID | Suite 300 A 3 936 8111 L Charter Twp, ED BY: |
| | ECT NO: 94 VN BY: CHECKE VNAR ECT MGR: APPROV | Suite 300 A 3 936 8111 L Charter Twp, ED BY: /ED BY: |
| | ECT NO: 94 VN BY: VN BY: V | Suite 300 A 3 936 8111 L Charter Twp, ED BY: /ED BY: |







| / 784.25 × | EXISTING SITE & DEMOLITION | N LEGEND | CLIENT | |
|---|--|---|---|---|
| | EXISTING UTILITY TO BE REMOV | 'ED | | $\lesssim ($ |
| | X existing item to be removed |) | | |
| 783.69 × V82 | ×805.15 SPOT ELEVATION | | | N R&D CENTER |
| 784.56 | SOIL BORING | | | |
| | TREE TAG NUMBER | TO BE REMOVED | COPYRIGHI This drawing has been prepared s reproduction or distribution for any purp forbidden. Written dimensions shall ha | olely for the intended use, thus any se other than authorized by IBI Group is re precedence over scaled dimensions. |
| | | IOTAL) | Contractors shall verify and be respons the job, and IBI Group shall be informed of conditions shown on the drawing. Shop for general conformance befo | ble for all dimensions and conditions on of any variations from the dimensions and drawings shall be submitted to IBI Group e proceeding with fabrication. |
| × 785.95 | | | IBI Group Profession is a member of the IB | al Services (USA) Inc. |
| 0 () ¹⁹⁷⁴ | | | ISSUES No. DESCRIPT | ON DATE |
| | DRAINAGE TRIBUTARY LIMITS | | A AREA PLAN B AREA PLAN AMENDME | 2021-10-27 NT 2021-11-29 |
| × 7.92.78 | | | C PRELIMINARY SITE DE D 30% OWNER REVIEW | SIGN 2022-01-26 2022-02-18 |
| TIT | SOIL TYPE LIMITS/UNIT N | АМЕ | E 60% OWNER REVIEW 0 ISSUED FOR BIDS | 2022-03-18 2022-04-01 |
| | | /BUILDING | C | ORION |
| | | | | UCIL |
| | EXISTING WOODLAND TO BE RE | MOVED | NST | K - |
| | | 1276 | COL | |
| | | | PLEASE CONFIRM KEYPL | AN BOX |
| | | | | |
| | | | | |
| | DEMOLITION NOTES 1. ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCOR SECULICATIONS AND STANDARD DETAILS UNLESS OTHERN | DANCE WITH CURRENT | | |
| | THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS B/ | LOCATION AND/OR ELEVATION ASED ON RECORDS OF THE | | |
| | VARIOUS UTILITY COMPANIES, AS-BUILT DRAWINGS AND V MEASUREMENTS TAKEN IN THE FIELD. THE ENGINEER AS THEIR ACCURACY. THE INFORMATION IS NOT TO BE RELI | WHERE POSSIBLE, SUMES NO RESPONSIBILITY FOR ED ON AS BEING EXACT OR | CONSULTANTS | |
| | COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CON EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED PLANS. | NTRACTOR TO RELOCATE ALL IMPROVEMENTS SHOWN ON THE | | |
| | 3. ALL NECESSARY PERMITS AND LICENSES SHALL BE OBTAI SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HA | NED AND THE CONTRACTOR VING JURISDICTION OVER THE | | |
| | CONSTRUCTION. 4. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMIT | 'S AND NOTIFY ALL AFFECTED | | |
| 814.63 | UTILITY COMPANIES PRIOR TO THE DEMOLITION OF ANY I EXISTING UTILITIES TO BE DEMOLISHED/ABANDONED SHAL SO AS NOT TO INTERFERE WITH THE CONSTRUCTION PRO- | EXISTING STRUCTURES. ALL L BE CAPPED OFF OR REMOVED JECT. | | |
| | 5. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND O REMOVAL OF ANY SUBSURFACE STRUCTURES NOT DESIGN | WNER IN WRITING PRIOR TO THE ATED OR SHOWN ON THE | | |
| 8 N.05 8 10.74 × | THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ON S VEGETATION, FENCES, CONCRETE, PAVEMENT, ETC., WITH | ITE EXISTING STRUCTURES, IN THE LIMITS OF DISRUPTION | | |
| | UNLESS NOTED "TO REMAIN" ON THE CONSTRUCTION PLA BY THE OWNER. | NS, AT A LOCATION APPROVED | | |
| 0.09.8: | WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY EXPENSE. WHENEVER SUCH UTILITIES, WATERCOURSES AN DESTROYED DURING THE PROSECUTION OF THE WORK THE | THE CONTRACTOR AT HIS OWN ND DRAINS ARE DISTURBED OR | | |
| | CONTRACTOR AT HIS OWN COST AND EXPENSE, UNLESS S WITHIN THE PLANS. DAMAGED ITEMS SHALL BE REPLACE | D WITH THE SAME QUALITY | | |
| / × 909.77 | DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQU SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE | AS EXISTING. REPLACED AL IN DENSITY TO AT THE TIME OF THE BACKFILL | | |
| × 810.12/ | CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMA(DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, | E DONE TO ANY EXISTING ITEM DRAINAGE, UTILITIES, PAVEMENT, | SEAL | |
| | STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT REPAIRS. | BETTER THAN, EXISTING ALL EXISTING DAMAGE AND | | |
| | SAWCUT THE EDGE OF EXISTING PAVEMENT AND CURB TO WHERE EXISTING IS TO MEET PROPOSED TO PROVIDE A S PAVEMENT TO THE EXTENT NECESSARY TO ALLOW FOR P |) FULL DEPTH AT LOCATIONS MOOTH EDGE. REMOVE ROPER JOINTING METHOD TO | | |
| | PROPOSED PAVEMENT (PER DETAILS). 10. SEE ELECTRICAL DRAWINGS FOR DETAILS ABOUT ELECTRIC | CAL AND COMMUNICATION POLES | | |
| B206 @ 18.0 | 11. ALL EXISTING UTILITIES OUTSIDE OF DISTURBANCE LIMITS | TO REMAIN. | | |
| | | | | |
| HOH X 81E | | BENCHMARKS | | |
| 64 701 | | BENCHMARK #330 | | |
| | | E. OF WALK ELEVATION= 807.61 (NAVD88) | | |
|) [] [] [] [] [] [] [] [] [] [] [] [] [] | | BENCHMARK #331 | | |
| SHE | | CHISELED X ON THE S. SIDE OF CONCRETE LIGHT POLE BASE AT S. SIDE | PRIME CONSULTANT | |
| SETRACK | | OF EXIST. DRIVE ELEVATION= 812.02 (NAVD88) | IBI 25200 Telegi Southfield MI tel 248 936 8 | aph Road - Suite 300 48033 USA 000 fax 248 936 8111 |
| | | BENCHMARK #332 CHISELED ''X'' ON THE E. | ibigroup.cor | 1 |
| ² - ⁸⁷ × 819.98 | | SIDE OF CONCRETE LIGHT POLE BASE ALONG THE S. SIDE OF SCREENED | PROJECT Hvunda | ai STIL |
| | | FENCE ELEVATION= 809.15 (NAVD88) | y | |
| | | л., | 6800 Geddes Rd Su MI 4 | iperior Charter Twp, 3198 |
| | TRUE PLANT | WHEN DIGGING | PROJECT NO: | |
| × 878.35 | NUKIH NUKIH | NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL | DRAWN BY: | CHECKED BY: |
| × 817.55 | \wedge | MISS DIG | G TANNAR PROJECT MGR: | APPROVED BY: |
| FENCE | | 3 WORKING DAYS BEFORE STARTING YOUR PROJECT | D KASSAB | |
| | | 1-800-482-7171 (toll free) | EXICTING | |
| | HORIZONTAL SC | ALE | | CINDILIONS |
| | 0 FT 25 FT 50 FT 100 FT | 200 FT | SHEET NUMBER | ISSUE |
| 15.2 M | 1 inch EQ fact (Q411-2 | 61.0 M | CD-10 | 1 |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CD-101 Existing Conditions.dwg



| | EXISTING SITE & DEMOLITIO | N LEGEND | CLIENT | |
|--|--|---|--|--|
| | ······ EXISTING UTILITY TO BE REMO | VED | | $\lesssim 0$ |
| | X EXISTING ITEM TO BE REMOVE | D | | |
| | ×805.15 SPOT ELEVATION | | | N R&D CENTER |
| | SOIL BORING | | | SHIP, MICHIGAN |
| | $\begin{array}{c} \begin{array}{c} & & \\ & \end{array} \end{array}^{1590} \text{ TAG NUMBER} \\ & & \\ & & \\ & & \\ \end{array} \text{ TREE} \end{array} \qquad $ | TO BE REMOVED | COPYRIGHT This drawing has been prepared s reproduction or distribution for any purpo | olely for the intended use, thus any ose other than authorized by IBI Group is |
| -815- | | TOTAL) | Contractors shall verify and be respons the job, and IBI Group shall be informed conditions shown on the drawing. Shop | ve precedence over scaled dimensions. ible for all dimensions and conditions on of any variations from the dimensions and drawings shall be submitted to IBI Group represending with fortunation |
| | | | IBI Group Profession | al Services (USA) Inc. |
| -814 | DRAINAGE FLOW | | | |
| -813 | | | A AREA PLAN | 2021-10-27 |
| -812 | | | C PRELIMINARY SITE DE | N1 2021-11-29 SIGN 2022-01-26 2002 02 18 |
| 811 | | JAME | E 60% OWNER REVIEW | 2022-02-10 2022-03-18 2022-04-01 |
| 810 | FoC | | | of an |
| , | EXISTING IMPERVIOUS SURFACE TO BE REMOVED | E/BUILDING | 1 AF | |
| 209 | EXISTING WOODLAND TO BE RE | EMOVED | NOT | 805 |
| 0 | EXISTING SLOPES STEEPER TH | AN 12% | CONS | |
| | LIMITS OF DISTURBANCE | | | |
| 200 200 | | | | |
| | | | | |
| 807 | DEMOLITION NOTES | | | |
| 806 | ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCO SPECIFICATIONS AND STANDARD DETAILS UNLESS OTHER THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE | RDANCE WITH CURRENT WISE SPECIFIED. E LOCATION AND OR ELEVATION | | |
| 305 | OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS E VARIOUS UTILITY COMPANIES, AS-BUILT DRAWINGS AND MEASUREMENTS TAKEN IN THE FIELD. THE ENCINEER | WHERE POSSIBLE, | CONSULTANTS | |
| 204 | THEIR ACCURACY. THE INFORMATION IS NOT TO BE REL COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CO | LIED ON AS BEING EXACT OR DNTRACTOR TO RELOCATE ALL | | |
| 501 | PLANS. 3. ALL NECESSARY PERMITS AND LICENSES SHALL BE OBT/ | AINED AND THE CONTRACTOR | | |
| -10-33-200- | SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES H SITE, INCLUDING ALL TESTING AND CLOSE OUT REQUIREN CONSTRUCTION. | AVING JURISDICTION OVER THE IENTS, PRIOR TO THE START OF | | |
| 566 GEDDES RI | 4. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMI UTILITY COMPANIES PRIOR TO THE DEMOLITION OF ANY EVISION UTILITIES TO BE DEMOLISED (ARANDONED SHA | ITS AND NOTIFY ALL AFFECTED EXISTING STRUCTURES. ALL | | |
| 301— | SO AS NOT TO INTERFERE WITH THE CONSTRUCTION PRO | DJECT. DWNER IN WRITING PRIOR TO THE | | |
| ,00 | REMOVAL OF ANY SUBSURFACE STRUCTURES NOT DESIG CONSTRUCTION PLANS. 6 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ON | NATED OR SHOWN ON THE | | |
| | VEGETATION, FENCES, CONCRETE, PAVEMENT, ETC., WIT UNLESS NOTED "TO REMAIN" ON THE CONSTRUCTION PL | HIN THE LIMITS OF DISRUPTION ANS, AT A LOCATION APPROVED | | |
| | THE OWNER. THE FLOW IN ALL DRAIN TILE, SANITARY & STORM SEWE WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED B' | ERS, DRAINS, WATERMAINS AND Y THE CONTRACTOR AT HIS OWN | | |
| | EXPENSE. WHENEVER SUCH UTILITIES, WATERCOURSES A DESTROYED DURING THE PROSECUTION OF THE WORK, T CONTRACTOR AT HIS OWN COST AND EXPENSE, UNLESS | AND DRAINS ARE DISTURBED OR HEY SHALL BE RESTORED BY THE SPECIFIC PROVISION IS MADE | | |
| | WITHIN THE PLANS. DAMAGED ITEMS SHALL BE REPLAC MATERIALS OR BETTER, MAINTAINING THE SAME GRADIEN DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQ | ED WITH THE SAME QUALITY IT AS EXISTING. REPLACED UAL IN DENSITY TO | | |
| NaR | SURROUNDING STRATUM. REPLACEMENT SHALL BE DONI OPERATION. | E AT THE TIME OF THE BACKFILL | SEAL | |
| | DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OF | DRAINAGE, UTILITIES, PAVEMENT, R BETTER THAN, EXISTING | | |
| 98 | REPAIRS. 9. SAWCUT THE EDGE OF EXISTING PAVEMENT AND CURB 1 | O FULL DEPTH AT LOCATIONS | | |
| | WHERE EXISTING IS TO MEET PROPOSED TO PROVIDE A PAVEMENT TO THE EXTENT NECESSARY TO ALLOW FOR PROPOSED PAVEMENT (PER DETAILS). | SMOOTH EDGE. REMOVE PROPER JOINTING METHOD TO | | |
| | 10. SEE ELECTRICAL DRAWINGS FOR DETAILS ABOUT ELECTRI AND LINES REMOVAL AND RELOCATION. | ICAL AND COMMUNICATION POLES | | |
| | 11. ALL EXISTING UTILITIES OUTSIDE OF DISTURBANCE LIMITS | TO REMAIN. | | |
| | | | | |
| | | BENCHMARKS | | |
| 5 | | BENCHMARK #330 ARROW ON HYDRANT 5' E. OF WALK | | |
| | | ELEVATION= 807.61 (NAVD88) | | |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | BENCHMARK #331 CHISELED "X" ON THE S. | PRIME CONSULTANT | |
| | | POLE BASE AT S. SIDE OF EXIST. DRIVE | IBI GROUP 25200 Telegi | aph Road - Suite 300 |
| 191 | | ELEVATION= 812.02 (NAVD88) | Southfield MI tel 248 936 8 ibigroup.cor | 48033 USA 000 fax 248 936 8111 n |
| × ~ — | | BENCHMARK #332 CHISELED "X" ON THE E. SIDE OF CONCRETE LIGHT | PROJECT | |
| ⁹ 6 | | POLE BASE ALONG THE S. SIDE OF SCREENED FENCE | Hyunda | ai STIL |
| | | ELEVATION= 809.15 (NAVD88) | 6800 Goddos Pd Si | uporior Chartor Two |
| | | Ling | MI 4 | 8198 |
| L Z / | IKUL PLANI North North | WHEN DICCING OR WORKING NEAR OVERHEAD | PROJECT NO: 134894 | |
| | | | DRAWN BY: G TANNAR | CHECKED BY: |
| | | C MISS DIG | | APPROVED BY: |
| | | 3 WORKING DAYS BEFORE STARTING YOUR PROJECT | SHEET TITLE | |
| | | I-0UU-482-/1/1 (TOLL FREE) | EXISTING C | ONDITIONS |
| | | CALE | | |
| | | 200 F | SHEET NUMBER | ISSUE |
| 15.2 1 | A 0M 7.6M 15.2M 30.5M | 61.0 l | CD-102 | 2 |

1 inch = 50 feet (24"x36")

| 70.05 | TR | REE SURVEY SCHE | EDULE | | 70.0 | | <u>TR</u> | REE SURV | <u>/EY_SCHEDULE</u> | | 70.05 | | TR | EE SURVEY SCHE | <u>DULE</u> | 1 | CLIENT |
|--|------------------------------|---|--|--------------|------------------------------|---|-----------------------------------|-----------------------|--|---|-------------------------------|--|--|--------------------------------------|--|---------------------------|--|
| <u>TO BE</u> TAG NO. <u>REMOVED</u> <u>SCIENTIFIC NAME</u> | COMMON NAME | <u>dbh height</u> <u>(Inches)</u> (feet) | <u>REPLACEMENT</u> <u>CONDITION LANDMARK SOVEREIGN REQUIRED NOT</u> | <u>TES T</u> | <u>TO BI</u> AG NO. REMOV | <u>.</u> E <u>D</u> <u>Scientific name</u> | COMMON NAME | <u>DBH</u> (INCHES | <u>Heighi</u> 5) <u>(Feet)</u> <u>Condition</u> | <u>REPLACEMENT</u> LANDMARK SOVEREIGN REQUIRED NOTES | <u>TAG NO.</u> <u>REMOVED</u> | <u>) Scientific Name</u> | COMMON NAME | <u>dbh height</u> (inches) (feet) | <u>REPLACEMEN</u> <u>CONDITION</u> <u>LANDMARK</u> <u>SOVEREIGN</u> <u>REQUIRED</u> | <u>II</u> <u>NOTES</u> | |
| 63 Thuja occidentalis | white cedar | 2.8 in 10 ft | fair - | | 165 | Acer negundo | box elder | 10.5 in | dead or dying | | 267 | Prunus serotina | wild black cherry | 11.1 in | fair - | | |
| 64Thuja occidentalis65Thuja occidentalis | white cedar white cedar | 2.7 in 11 ft 3.0 in 13 ft | good | | 165 | Juglans nigra | black walnut | 30.9 in 17.7 in | good good | Y - | 269 | Juglans nigra Juglans nigra | black walnut black walnut | 17.5 in 11.3 in | good - | | HATCI MICHIGAN R&D CENTER |
| 66 Thuja occidentalis 67 Thuja occidentalis | white cedar white cedar | 2.6 in 13 ft 2.6 in 13 ft | good | | 168 169 | Morus alba Acer negundo | white mulberry box elder | 9.8 in 12.4 in | fair poor | | 270 | Juglans nigra Juglans nigra | black walnut black walnut | 20.6 in 10.2 in | good Y - | | SUPERIOR TOWNSHIP, MICHIGAN |
| 68 Thuja occidentalis | white cedar | 2.2 in 11 ft | good - | | 170 | Acer negundo | box elder | 10.8 in | poor | - | 272 | Juglans nigra | black walnut | 14.0 in | good - | | COPYRIGHT This drawing has been prepared solely for the intended use, thus any |
| 69Inuja occidentalis70Thuja occidentalis | white cedar white cedar | 2.9 in 14 ft 3.0 in 13 ft | good | | 171 | Juglans nigra | black walnut | 9.8 in 17.3 in | good | | 273 | Juglans nigra Juglans nigra | black walnut black walnut | 12.2 in 8.3 in | excellent - | | reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the bar and IBI Creur, bell be informed of any unditions for the dimensione and |
| 71Thuja occidentalis72Thuja occidentalis | white cedar white cedar | 1.9 in 11 ft 3.6 in 15 ft | good | | 173 174 | Acer negundo Prunus serotina | box elder wild black cherry | 9.0 in 12.8 in | poor poor | | 275 276 | Ulmus rubra Juglans nigra | slippery elm black walnut | 8.0 in 33.2 in | good - good Y - | | conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. |
| 73 Thuja occidentalis | white cedar | 2.1 in 11 ft | good - | | 175 | Acer negundo | box elder | 20.5 in | fair | Y - | 277 | Ulmus rubra | slippery elm | 11.8 in | good - | | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| 74 Thuja occidentalis 75 Thuja occidentalis | white cedar | 2.0 in 14 ft | good - | | 177 | Juglans nigra | black walnut | 11.6 in | excellent | | 278 | Jugians nigra Jugians nigra | black walnut black walnut | 24.6 in | good Y - | | ISSUES No. DESCRIPTION DATE |
| 76Thuja occidentalis77Thuja occidentalis | white cedar white cedar | 2.4 in 10 ft 2.0 in 12 ft | good | | 178 179 | Acer negundo Celtis occidentalis | box elder hackberry | 8.7 in 14.1 in | fair excellent | | 280 | Ulmus rubra Juglans nigra | slippery elm black walnut | 9.6 in 22.6 in | good - good Y - | | A AREA PLAN 2021-10-27 B AREA PLAN AMENDMENT 2021-11-29 |
| 78 Thuja occidentalis | white cedar | 2.4 in 12 ft | good - | | 180 | Ulmus americana | American elm | 8.0 in | good | - | 282 | Celtis occidentalis | hackberry | 10.3 in | excellent - | | C PRELIMINARY SITE DESIGN 2022-01-26 |
| 79 Inuja occidentalis 80 Thuja occidentalis | white cedar white cedar | 2.5 in 10 ft | good | | 181 | Juglans nigra | black walnut | 22.2 in | excellent | Y - | 283 | Juglans nigra | black walnut black walnut | 13.6 in | excellent - | | B 60% OWNER REVIEW 2022-02-10 E 60% OWNER REVIEW 2022-03-18 0 1000 JED FOD DIDD 0000-04-04 |
| 81 Thuja occidentalis 82 Thuja occidentalis | white cedar white cedar | 3.4 in 14 ft 2.6 in 11 ft | good | | 183 184 | Juglans nigra Juglans nigra | black walnut black walnut | 10.7 in 8.3 in | excellent excellent | | 285 | Juglans nigra Juglans nigra | black walnut black walnut | 11.1 in 16.1 in | excellent - excellent - | | 0 ISSUED FOR BIDS 2022-04-01 |
| 83 Thuja occidentalis | white cedar | 3.5 in 12 ft | good - | | 185 | Juglans nigra | black walnut | 11.1 in | good | <u> </u> | 287 | Ulmus rubra | slippery elm | 8.6 in | excellent - | | FOLTION |
| 84Thuja occidentalis85Thuja occidentalis | white cedar white cedar | 2.9 in 13 ft 2.6 in 12 ft | good | | 186 | Juglans nigra | black walnut | 11.4 in 10.6 in | good good | | 288 | Prunus serotina Prunus serotina | wild black cherry wild black cherry | 18.3 in 23.6 in | fair Y - fair Y - | | NOLOU |
| 86 Thuja occidentalis | white cedar | 2.9 in 11 ft 3.0 in 13 ft | good - | | 188 189 | Juglans nigra Juglans nigra | black walnut black walnut | 10.2 in 9.3 in | good | | 290 | Prunus serotina | wild black cherry | 30.7 in | fair Y - | | institution of the second s |
| 88 Thuja occidentalis | white cedar | 2.8 in 11 ft | good - | | 190 | Juglans nigra | black walnut | 11.1 in | fair | | 292 | Quercus coccinea | scarlet oak | 20.4 in | excellent Y - | | |
| 89 Thuja occidentalis 90 Thuja occidentalis | white cedar white cedar | 2.8 in 11 ft 2.4 in 12 ft | good | | 191 192 | Juglans nigra Juglans nigra | black walnut black walnut | 17.0 in 11.5 in | excellent good | | 293 294 | Quercus rubra Prunus serotina | red oak wild black cherry | 10.6 in 29.5 in | excellent - poor Y - | | PLEASE CONFIRM KEYPLAN BOX |
| 91 Thuja occidentalis | white cedar | 3.2 in 12 ft | good - | | 193 194 | Juglans nigra | black walnut | 10.2 in | good | | 295 | Ulmus americana Brunus sorotina | American elm | 8.7 in | good - | | |
| 93 Thuja occidentalis | white cedar | 3.5 in 10 ft | good - | | 195 | Ulmus pumila | Siberian elm | 10.7 in | fair | | 297 | Juglans nigra | black walnut | 16.2 in | fair - | | |
| 94Thuja occidentalis95Thuja occidentalis | white cedar white cedar | 3.0 in 10 ft 3.5 in 12 ft | good | | 196 197 | Juglans nigra Juglans nigra | black walnut black walnut | <u> </u> | excellent excellent | | 298 299 | Juglans nigra Fraxinus americana | black walnut white ash | 14.9 in 8.3 in | excellent - fair - | | |
| 96 Thuja occidentalis | white cedar | 3.0 in 11 ft | good - | | 198 | Juglans nigra | black walnut | 13.8 in | excellent | - | 300 | Ulmus rubra | slippery elm | 19.6 in | good - | | |
| 98 Thuja occidentalis | white cedar white cedar | 3.2 in 11 ft 3.0 in 11 ft | good | | 200 | Ulmus americana | American elm | 8.1 in | good | | 301 | Prunus serotina | wild black cherry | 10.6 in | fair Y - | | |
| 99 Thuja occidentalis 100 Thuja occidentalis | white cedar white cedar | 3.4 in 12 ft 2.4 in 10 ft | good | | 201 202 | Juglans nigra Juglans nigra | black walnut black walnut | 8.5 in 14.7 in | excellent excellent | | 303 | Prunus serotina Carva glabra | wild black cherry | 10.4 in 8.0 in | fair - excellent - | | CONSULTANTS |
| 101 Thuja occidentalis | white cedar | 3.5 in 12 ft | good - | | 203 | Juglans nigra | black walnut | 12.6 in | excellent | | 305 | Carya glabra | pignut hickory | 16.3 in | excellent Y - | | |
| 102Thuja occidentalis103Thuja occidentalis | white cedar white cedar | 3.6 in 11 ft 3.5 in 12 ft | good | | 204 205 | Juglans nigra | black walnut | 8.6 in | good | | 306 307 | Prunus serotina Carya glabra | wild black cherry pignut hickory | 8.0 in 26.3 in | excellent Y - | | |
| 104 Thuja occidentalis | white cedar white cedar | 3.0 in 12 ft | good - | | 206 207 | Juglans nigra Ulmus americana | black walnut American elm | 15.7 in 8.3 in | excellent excellent | | 308 | Prunus serotina Carva glabra | wild black cherry | 10.9 in | good - | | |
| 106 Thuja occidentalis | white cedar | 2.9 in 13 ft | good - | | 208 | Juglans nigra | black walnut | 14.6 in | good | <u> </u> | 310 | Carya glabra | pignut hickory | 8.1 in | excellent - | | |
| 107Thuja occidentalis108Thuja occidentalis | white cedar white cedar | 2.7 in 12 ft 2.0 in 13 ft | good | | 209 210 | Juglans nigra Juglans nigra | black walnut black walnut | 13.3 in 18.8 in | excellent excellent | Y - | <u>311</u> 312 | Quercus rubra Quercus coccinea | red oak scarlet oak | 9.8 in 8.3 in | excellent - excellent - | | |
| 109 Thuja occidentalis | white cedar | 3.0 in 10 ft | good - | | 211 | Juglans nigra | black walnut | 10.8 in | excellent | | 313 | Quercus rubra | red oak | 11.5 in | excellent - | | |
| 110 Indja occidentalis 111 Thuja occidentalis | white cedar | 2.2 in 12 ft | good - | | 212 | Acer negundo | box elder | 9.6 in | fair | | 315 | Ulmus americana | American elm | 14.4 in | good - | | |
| 112Thuja occidentalis113Thuja occidentalis | white cedar white cedar | 2.3 in 10 ft 2.8 in 11 ft | good | | 214 215 | Ulmus rubra Juglans nigra | slippery elm black walnut | 16.5 in 8.7 in | good excellent | | 316 317 | Ulmus americana Juniperus virginiana | American elm red cedar | 9.3 in 7.1 in 20 ft | good - excellent - | | |
| 114 Thuja occidentalis | white cedar | 2.8 in 13 ft | good - | | 216 | Juglans nigra | black walnut | 22.4 in | good | Υ - | 318 | Fraxinus americana | white ash | 8.3 in | fair - | | |
| 115Indja occidentalis116Thuja occidentalis | white cedar | 2.3 in 10 ft | good - | | 218 | Juglans nigra | black walnut | 19.9 in | excellent | Y - | 319 | Quercus coccinea | scarlet oak | 15.0 in | excellent - | | |
| 117Thuja occidentalis118Thuja occidentalis | white cedar white cedar | 2.5 in 14 ft 2.4 in 13 ft | good | | 219 220 | Juglans nigra Juglans nigra | black walnut black walnut | 8.0 in 20.0 in | good good | Y - | <u> </u> | Carya glabra Carya glabra | pignut hickory pignut hickory | 8.2 in 14.6 in | excellent - excellent - | | |
| 119 Thuja occidentalis | white cedar | 4.6 in 11 ft | good - | | 221 | Salix nigra | black willow | 21.3 in | good | | 323 | Quercus coccinea | scarlet oak | 9.3 in | excellent - | | SEAL |
| 120 Acer negundo 121 Acer negundo | box elder | 9.7 in | poor - | | 222 | Juglans nigra | black walnut | 28.3 in | good | Y - | 324 325 | Quercus coccinea | scarlet oak | 9.3 in 12.7 in | excellent - | | |
| 122 Acer negundo 123 Juglans nigra | box elder black walnut | 19.9 in 16.0 in | excellent Y - good - | | 224 225 | Fraxinus american Juglans nigra | a white ash black walnut | 8.3 in 9.1 in | fair good | | 326 327 | Quercus coccinea Fraxinus americana | scarlet oak white ash | 11.3 in 8.6 in | excellent - fair - | | |
| 124 Fraxinus americana | white ash | 8.3 in | good - | | 226 | Juglans nigra | black walnut | 16.4 in | good | - | 328 | Quercus coccinea | scarlet oak | 16.3 in | excellent Y - | | |
| 125 Jugians nigra 126 Salix nigra | black walnut black willow | 17.4 in | fair - | | 227 | Juglans nigra | black walnut | 8.5 in | good good | | 329 | Acer rubrum | red maple | 9.4 in | poor - | | |
| 127 Salix nigra 128 Salix nigra | black willow black willow | 16.2 in 14.3 in | good | | 229 230 | Juglans nigra Juglans nigra | black walnut black walnut | 9.5 in 9.1 in | good | | 331 | Quercus coccinea | scarlet oak scarlet oak | 11.9 in 10.1 in | excellent - excellent - | | |
| 129 Populus deltoides | cottonwood | 9.4 in | excellent - | | 231 | Juglans nigra | black walnut | 17.6 in | good | | 333 | Juglans nigra | black walnut | 16.3 in | excellent - | | |
| 130 Acer negundo 131 Juglans nigra | black walnut | 9.8 in | good - | | 232 | Juglans nigra | black walnut | 9.4 in | excellent | Y - | 334 335 | Juglans nigra | black walnut black walnut | 8.3 in | excellent - | | |
| 132 Fraxinus americana 133 Juglans nigra | white ash black walnut | 8.5 in 8.9 in | good | | 234 235 | Juglans nigra Juglans nigra | black walnut black walnut | 9.1 in 13.1 in | excellent fair | | 336 | Juglans nigra | black walnut black walnut | 15.6 in 8.5 in | excellent - | | |
| 134 Acer negundo | box elder | 9.0 in | poor - | | 236 | Juglans nigra | black walnut | 23.8 in | excellent | Y - | 338 | Juglans nigra | black walnut | 11.4 in | good - | | |
| 135Acer negundo136Juglans nigra | box elder black walnut | 9.0 in 23.7 in | dead or dying - excellent Y | | 237 | Juglans nigra | black walnut | 18.1 in 12.5 in | good fair | Y - | 339 340 | Juglans nigra Juglans nigra | black walnut black walnut | 15.0 in 10.8 in | excellent - good - | | |
| 137 Acer negundo 138 Ulmus rubra | box elder slipperv elm | 15.2 in | dead or dying - | | 239 240 | Juglans nigra | black walnut | 22.9 in | good good | Y - | 341 | Ulmus americana | American elm | 17.4 in | good - | | |
| 139 Acer negundo | box elder | 9.4 in | poor - | | 241 | Juglans nigra | black walnut | 11.6 in | good | <u> </u> | 343 | Juglans nigra | black walnut | 15.6 in | good - | | |
| 140 Juglans nigra 141 Acer negundo | black walnut box elder | 8.9 in 10.7 in | good - dead or dying - | | 242 243 | Juglans nigra Juglans nigra | black walnut black walnut | 25.6 in 10.4 in | good good | Y - | 344 345 | Juglans nigra Fraxinus americana | black walnut white ash | 11.0 in 8.9 in | good - fair - | | 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA |
| 142 Salix nigra | black willow | 12.4 in | fair - | | 244 | Juglans nigra | black walnut | 24.8 in | excellent | Y - | 346 | Fraxinus americana | white ash | 8.1 in | fair - | | tel 248 936 8000 fax 248 936 8111 ibigroup.com |
| 145 Salix nigra 144 Salix nigra | black willow | 10.4 in | poor - | | 246 | Juglans nigra | black walnut | 8.1 in | good | | 347 | Juglans nigra | black walnut | 14.8 in | excellent - | | PROJECT |
| 145 Salix nigra 146 Salix nigra | black willow black willow | 13.9 in 13.8 in | fair - good - | | 247 248 | Ulmus rubra Juglans nigra | slippery elm black walnut | 12.5 in 14.6 in | good excellent | | 349 | Ulmus americana Juglans nigra | American elm black walnut | 8.3 in 9.4 in | good - excellent - | | Hyundai STIL |
| 147 Salix nigra | black willow | 10.8in | fair - | | 249 | Juglans nigra | black walnut | 9.4 in | good | - | 351 | Juglans nigra | black walnut | 10.7 in | good - | | |
| 140 Fraxinus americana 149 Juglans nigra | black walnut | 8.0 in | fair - | | 251 | Jugians nigra | black walnut | 15.6 in | excellent | | 352 | Fraxinus americana | white ash | 8.9 in | poor - | | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| 150Crataegus sp.151Fraxinus americana | hawthorn white ash | 9.1 in 8.9 in | fair - | - | 252 253 | Juglans nigra Tilia americana | black walnut basswood | 20.1 in 11.0 in | good excellent | Y | 354 | Fraxinus americana Fraxinus americana | white ash white ash | 8.5 in 9.4 in | fair - | | PROJECT NO: |
| 152 Juglans nigra | black walnut | 24.1 in | excellent Y - | | 254 | Juglans nigra | black walnut | 12.1 in | fair | | 356 | Juglans nigra | black walnut | 12.3 in | excellent - | | |
| 153 Ulmus americana 154 Juglans nigra | American elm black walnut | 17.3 in 12.1 in | good | | 255 256 | Jugians nigra Jugians nigra | ріаск walnut black walnut | 24.9 in 8.9 in | excellent fair | Т — — — — — — — — — — — — — — — — — — — | 357 358 | Juglans nigra Fraxinus americana | black walnut white ash | 13.7 in 10.0 in | excellent - fair - | | G TANNAR |
| 155 Juglans nigra | black walnut | 8.5 in | good - | | 257 258 | Tilia americana Juglans nigra | basswood black walnut | 21.0 in | good fair | Y | 359 | Fraxinus americana | white ash | 8.0 in | fair - | | PROJECT MGR: APPROVED BY: D KASSAB |
| 157 Juglans nigra | black walnut | 21.4 in | excellent Y - | | 259 | Juglans nigra | black walnut | 22.9 in | excellent | Y - | 361 | Quercus coccinea | scarlet oak | 9.2 in | excellent - | | SHEET TITLE |
| 158 Acer negundo 159 Juglans nigra | box elder black walnut | 15.2 in 16.7 in | dead or dying - fair - | | 260 261 | Juglans nigra Carya cordiformis | black walnut bitternut hickory | 25.0 in 9.5 in | good | Y | 362 363 | Prunus serotina Fraxinus americana | wild black cherry white ash | 9.3 in 8.3 in | good - dead or dying - | | TREE SURVEY SCHEDUI |
| 160 Juglans nigra | black walnut | 21.8in | excellent Y - | | 262 | Juglans nigra | black walnut | 8.4 in | good | | 364 | Prunus serotina | wild black cherry | 9.4 in | fair - | | |
| 161 Carya corditormis 162 Morus alba | white mulberry | 9.4 in | fair - | | 264 | Ulmus rubra | slippery elm | 11.2 in | | | 366 | Quercus coccinea | scarlet oak | 18.5 in | excellent Y - | | |
| 163 Salix nigra 164 Juglans nigra | black willow black walnut | 20.8 in 12.2 in | good | | 265 266 | Juglans nigra Juglans nigra | black walnut black walnut | 13.6 in 11.8 in | good fair | | <u>367</u> 368 | Ulmus americana Fraxinus americana | American elm white ash | 12.4 in 11.9 in | good - poor - | | |
| | | · · · · · | | | | | | | | · · · | i | | | · · · · · | | | |

| | | TRE | E SURVEY SCHE | DULE | | | | | | TRE | E SURVEY SCH | EDULE | | | | |
|--------------------------------|--|--------------------------------|---|------------------------|--|-----------------------|--------------------|-------------------------|--------------------------------------|-------------------------------------|---|------------------------|---|------------------|------------------------------------|-----------------|
| <u>TO BE</u> TAG NO REMOVED | SCIENTIFIC NAME | COMMON NAME | <u>DBH</u> <u>HEIGHT</u> (INCHES) (FEFT) | CONDITION LANDMAR | <u>REPLACEMENT</u> K SOVEREIGN REQUIRED | [NOTES | TAG NO | <u>to be</u> Removed | scientific name | COMMON NAME | <u>DBH</u> <u>HEIGHT</u> (INCHES) (FEET) | | <u>REPLACEMENT</u> MARK SOVEREIGN REQUIRED NOTES | TAG NO REMOVED | SCIENTIFIC NAME | 00 |
| 369 | Quercus coccinea | scarlet oak | 9.4 in | excellent | | | 782 | | Prunus serotina | wild black cherry | 9.1 in | fair | | 923 Y | Ulmus americana | Amer |
| 501 | Picea pungens | Colorado blue spruce | e 8.7 in 20 ft | good | - | | 783 | | Prunus avium | bird cherry | 10.9 in | fair | - | 924 Y | Prunus serotina | wild |
| 502 | Picea pungens Picea pungens | Colorado blue spruce | e 5.7 in 16 ft | excellent | - | | 784 | | Quercus rubra | red oak | 16.9 in 20 5 in | good Y | Y | 925 | Tilia americana Quercus rubra | bassv red o |
| 504 | Picea pungens | Colorado blue spruce | e 5.5 in 14 ft | good | - | | 786 | | Quercus rubra | red oak | 13.4 in | excellent | · · · · · · · · · · · · · · · · · · · | 927 | Prunus serotina | wild |
| 505 | Quercus bicolor | swamp white oak | 9.3 in | good | - | | 787 | | Quercus rubra | red oak | 10.6 in | good | | 928 | Ulmus americana | Amer |
| 507 | Quercus rubra | red oak | 8.1 in | excellent | - | | 789 | | Tilia americana | basswood | 16.1 in | good | - | 930 | Ulmus americana | Ame |
| 508 | Populus deltoides | cottonwood | 8.8 in | excellent | - | | 790 | Y | Carya cordiformis | bitternut hickory | 15.0 in | excellent | 3 | 931 Y | Ulmus americana | Amer |
| 510 | Ulmus americana | American elm | 9.6 in | good | - | | 791 792 | Y Y | Jugians nigra Jugians nigra | black walnut | 9.1 in 9.1 in | good | | 932 | Tilia americana | bassv |
| 511 | Carya ovata | shagbark hickory | 24.0 in | good Y | | | 793 | Y | Acer negundo | box elder | 8.5 in | poor | 0 N/A per Sec. 14.05F.5 | 934 | Tilia americana | bassv |
| 512 | Carya ovata Carya ovata | shagbark hickory | 9.8 in 9.0 in | excellent excellent | - | | 794 795 | <u>ү</u> Ү | Juglans nigra Juglans nigra | black walnut black walnut | 9.5 in 10.7 in | excellent excellent | | 935 | Quercus rubra Prunus serotina | red o wild ' |
| 514 | Carya ovata | shagbark hickory | 8.9 in | excellent | - | | 796 | Y | Acer negundo | box elder | 8.5 in | poor | 0 N/A per Sec. 14.05F.5 | 937 | Quercus alba | white |
| 515 | Carya ovata | shagbark hickory | 8.2 in | excellent fair | | | 797 798 | Y Y | Prunus serotina Carva cordiformis | wild black cherry | 18.7 in 10.0 in | fair Y | Y 19 1 | 938 939 Y | Carya glabra Carya oyata | pignu |
| 517 | Juglans nigra | black walnut | 18.3 in | good Y | | | 799 | Ŷ | Tilia americana | basswood | 18.2 in | excellent | Y 18 | 940 | Carya glabra | pignu |
| 518 | Ulmus americana | American elm | 8.5 in | good | - | | 800 | Y V | Quercus rubra | red oak | 12.5 in | good | 3 | 941 | Carya glabra | pignu |
| 520 | Juglans nigra | black walnut | 8.2 in | good | <u> </u> | | 802 | Y | Ulmus americana | American elm | 8.5 in | good | 1 | 943 | Carya glabra | pignu |
| 521 | Rhamnus cathartica | common buckthorn | 9.6 in | good | - | | 803 | Y | Carya glabra | pignut hickory | 13.5 in | good | 3 | 944 Y | Carya ovata | shagt |
| 523 | Acer negundo | box elder | 8.5 in | poor | - | | 805 | <u> </u> | Prunus serotina | wild black cherry | 8.2 in | dead or dying | - | 945 Y | Carya glabra | pigni |
| 524 | Juglans nigra | black walnut | 9.6 in | fair | - | | 806 | | Ulmus americana | American elm | 8.5 in | good | | 947 Y | Prunus serotina | wild |
| 525 | Cercis canadensis Juglans nigra | leack walnut | 8.1 in 12.2 in | fair fair | - | | 807 | Y | Carya glabra Prunus serotina | wild black cherry | 9.0 in | poor | Y 1/ | 948 Y 949 Y | Acer saccharum | sugar |
| 527 | Prunus serotina | wild black cherry | 13.5 in | poor | - | | 814 | | Quercus alba | white oak | 17.5 in | good | Y - | 950 Y | Quercus rubra | red o |
| 528 | Juglans nigra Ulmus numila | black walnut Siberian elm | 15.2 in | fair fair | - | | 837 839 | | Carya glabra Prunus serotina | pignut hickory wild black cherry | 8.4 in 8.0 in | excellent good | | 951 Y 952 Y | Tilia americana Prunus serotina | bassv wild |
| 530 | Morus alba | white mulberry | 12.0 in | fair | - | | 840 | | Quercus rubra | red oak | 18.8 in | good ` | Y - | 953 Y | Tilia americana | bassv |
| 531 | Rhamnus cathartica | common buckthorn | 8.3 in | fair | | | 841 842 | | Prunus serotina | wild black cherry | 13.0 in | dead or dying | Y | 954 Y | Tilia americana | bassy |
| 533 | Juglans nigra | black walnut | 8.0 in | fair | - | | 843 | | Prunus serotina | wild black cherry | 10.5 in | poor | · · · | 956 Y | Prunus serotina | wild |
| 534 | Quercus macrocarpa | burr oak | 12.8in | fair | - | | 844 | | Quercus rubra | red oak | 17.5 in | good | Y - | 957 Y | Ulmus americana | Amer |
| 535 | Quercus macrocarpa Rhamnus cathartica | burr oak common buckthorn | 19.9 in 15.7 in | excellent Y fair | | | 845 | | Quercus rubra | American elm red oak | 9.7 in | poor fair | | 958 Y 959 | Quercus rubra Ulmus americana | Amer |
| 537 | Quercus macrocarpa | burr oak | 21.1 in | good Y | - | | 847 | | Quercus rubra | red oak | 12.2 in | good | <u> </u> | 960 Y | Quercus alba | white |
| 538 | Ulmus americana Quercus macrocarna | American elm | 12.5 in 16 1 in | fair good Y | - | | 848 849 | | Quercus rubra Carva glabra | red oak | 8.4 in 8.2 in | good fair | | 961 Y 962 Y | Carya glabra Ulmus americana | pignu |
| 540 | Quercus macrocarpa | burr oak | 57.1 in | excellent | Y - | | 850 | | Prunus serotina | wild black cherry | 14.5 in | poor | | 963 Y | Tilia americana | bassv |
| 541 | Carya cordiformis | bitternut hickory | 11.3 in | excellent | - | | 851 | | Carya cordiformis | bitternut hickory | 9.2 in | good | - | 964 Y | Tilia americana | bassy |
| 543 | Ulmus americana | American elm | 8.2 in | fair | <u> </u> | | 853 | | Quercus rubra | red oak | 20.1 in | excellent | Y - | 966 Y | Tilia americana | bassv |
| 544 | Acer negundo | box elder | 16.5 in | poor Y | - | | 854 | | Tilia americana | basswood | 9.1 in | excellent | | 967 | Ostrya virginiana | ironw |
| 546 | Populus deltoides | cottonwood | 16.3 in | good | - | | 857 | | Quercus rubra | red oak | 17.2 in | good | Y - | 969 | Quercus rubra | red o |
| 547 | Carya cordiformis | bitternut hickory | 14.6in | good | - | | 858 | | Quercus rubra | red oak | 17.1 in | excellent | Y - | 970 Y | Quercus alba | white |
| 548 | Populus deltoides Acer negundo | cottonwood box elder | 9.4 in 8.9 in | good fair | | | 859 | | Quercus rubra Quercus rubra | red oak red oak | 21.0 in | good y | Y - Y - | 971 Y 972 Y | Carya cordiformis Carya glabra | pigni |
| 550 | Acer negundo | box elder | 8.3 in | fair | - | | 861 | | Quercus rubra | red oak | 12.8 in | poor | - | 973 Y | Quercus alba | white |
| 551 | Acer negundo | box elder American elm | 10.5 in 8 3 in | fair | - | | 862 863 | | Quercus rubra | red oak | 11.2 in | good | | 974 Y 975 Y | Quercus alba | white |
| 553 | Populus deltoides | cottonwood | 19.6 in | good | - | | 864 | | Ulmus americana | American elm | 17.4 in | good | - | 976 Y | Quercus rubra | red o |
| 568 | Acer negundo | box elder | 13.3 in | poor | - | | 865 | Y Y | Ulmus americana | American elm | 10.5 in | fair | | 977 Y | Quercus rubra | red o |
| 629 Y | Juglans nigra | black walnut | 11.5 in | excellent | 1 | | 867 | Y | Ulmus americana | American elm | 9.5 in | fair | | 979 Y | Carya ovata | shagt |
| 630 Y | Juglans nigra | black walnut | 17.9 in | excellent | 6 | | 868 | | Carya cordiformis | bitternut hickory | 8.4 in | good | - | 980 Y | Ulmus americana | Amer |
| 631 Y | Acer negundo Morus alba | white mulberry | 12.4 in 10.4 in | fair | | N/A per Sec. 14.05F.5 | 869 | | Ulmus americana | American elm | 12.3 in | fair | | 981 Y 982 | Quercus rubra Quercus rubra | red o |
| 633 Y | Ulmus americana | American elm | 13.7 in | excellent | 3 | | 871 | | Carya ovata | shagbark hickory | 9.1 in | excellent | <u> </u> | 983 | Quercus alba | white |
| 634 Y | Prunus serotina Acer negundo | wild black cherry | 9.9 in 8.2 in | fair fair | | N/A per Sec. 14.05E.5 | 872 873 | | Quercus rubra Quercus rubra | red oak red oak | 17.2 in 16.3 in | excellent v | Y | 984 | Tilia americana Quercus rubra | bassv red o |
| 636 Y | Ulmus americana | American elm | 11.1 in | good | 1 | | 874 | | Quercus rubra | red oak | 17.1 in | excellent | Y - | 986 | Quercus rubra | red o |
| 637 638 Y | Acer negundo Prupus serotina | box elder wild black cherry | 14.0 in 9.8 in | fair fair | - 1 | | 876 880 | | Quercus rubra Ouercus rubra | red oak red oak | 9.4 in 39.3 in | excellent | | 987 988 Y | Quercus alba Quercus rubra | |
| 639 Y | Prunus serotina | wild black cherry | 26.4 in | fair Y | 26 | | 881 | | Quercus rubra | red oak | 33.4 in | excellent | Y - | 989 Y | Quercus rubra | red o |
| 640 Y | Ulmus americana Prupus serotina | American elm | 8.5 in | good V | 1 20 | | 882 883 | | Acer saccharum | sugar maple | 12.5 in | excellent | | 990 Y | Tilia americana | bassy |
| 642 Y | Morus alba | white mulberry | 12.7 in | fair | 3 | | 884 | | Tilia americana | basswood | 11.8 in | excellent | · | 992 Y | Quercus alba | white |
| 643 Y | Rhamnus cathartica | common buckthorn | 8.6 in | fair | | | 885 | | Carya glabra | pignut hickory | 18.6 in | good | Y | 993 Y | Tilia americana | bassv |
| 645 Y | Ulmus americana | American elm | 8.0 in | good | | | 888 | | Tilia americana | basswood | 18.9 in | excellent | Y - | 995 Y | Tilia americana | bassv |
| 702 | Carya glabra | pignut hickory | 14.0 in | excellent | - | | 891 | | Sassafras albidum | sassafras | 8.4 in | good | - | 996 Y | Carya glabra | pignu |
| 703 | Carya glabra Quercus alba | pignut nickory white oak | 27.2 in | good Y good Y | | | 892 893 | | ormus americana Tilia americana | American elm basswood | 17.0 in | excellent | | 998 Y | Titia americana Carya ovata | bassv shagi |
| 705 | Quercus coccinea | scarlet oak | 8.9 in | good | - | | 894 | | Prunus serotina | wild black cherry | 8.8 in | good | - | 999 Y | Tilia americana | bassv |
| 706 | Quercus alba | white oak red oak | 21.8in 14.2in | good Y excellent | | | 895 896 | | ∟arya ovata Ulmus americana | shagbark hickory American elm | 22.5 in 10.4 in | excellent good | Y - | 1000 Y 1302 | Titia americana Carya ovata | bassv shaøl |
| 708 | Prunus serotina | wild black cherry | 12.0in | poor | - | | 897 | | Carya ovata | shagbark hickory | 16.1 in | good Y | Υ - | 1303 | Tilia americana | bassv |
| 709 | Prunus serotina Carva glabra | wild black cherry | 12.6 in | fair fair | | | 898 899 | | Carya ovata Carva ovata | shagbark hickory | 12.8 in 15.3 in | excellent | | 1304 Y | Acer saccharum | sugar |
| 711 | Carya glabra | pignut hickory | 10.6 in | excellent | - | | 900 | | Acer saccharum | sugar maple | 8.7 in | excellent | | 1306 | Tilia americana | bassy |
| 712 | Ulmus americana | American elm | 8.2 in | excellent | - | | 901 | | Carya ovata | shagbark hickory | 15.5 in | excellent | | 1307 | Acer saccharum | sugar |
| 713 | Quercus rubra | red oak | 10.6 in | excellent | - | | 903 | | Quercus alba | white oak | 20.0 in | excellent | Y - | 1309 | Prunus serotina | wild |
| 715 | Quercus rubra | red oak | 10.3 in | excellent | - | | 904 | | Tilia americana | basswood | 9.6 in | good | | 1310 | Tilia americana | bassv |
| 715 | Quercus rubra | red oak | 9.5 IN 19.9 in | excellent Y | | | 905 | Υ | Tilia americana | basswood | <u>29.9 in</u> | excellent | Y 30 | 1311 | Ulmus americana | Dassv |
| 718 | Quercus rubra | red oak | 12.0in | excellent | | | 907 | | Prunus serotina | wild black cherry | 15.5 in | fair | | 1313 | Tilia americana | bassv |
| 719 720 | Prunus serotina Prunus serotina | wild black cherry | 11.3 in 9.3 in | good good | | | 908 909 | | Prunus serotina Tilia americana | wild black cherry basswood | 11.6 in 11.2 in | good good | | 1314 1315 | Prunus serotina Prunus serotina | wild |
| 759 | Juglans nigra | black walnut | 18.9 in | excellent Y | - | | 912 | | Prunus serotina | wild black cherry | 9.8 in | good | | 1316 Y | Carya cordiformis | bitte |
| 760 | Ulmus rubra | slippery elm | 15.3 in | fair fair | | | 913 91 <i>4</i> | Υ γ | Prunus avium Ulmus americana | bird cherry American elm | 14.0 in 8.0 in | poor fair | Y 14 14 1 | 1317 | Tilia americana | bassy |
| 762 | Prunus serotina | wild black cherry | 11.3 in | good | | | 915 | Ŷ | Carya glabra | pignut hickory | 17.8 in | excellent | Y 18 | 1319 | Tilia americana | bassy |
| 763 | Juglans nigra | black walnut | 27.8in | good Y | - | | 916 | | Carya glabra | pignut hickory | 22.0 in | excellent | Y | 1320 | Carya glabra | pignu |
| 765 | Jugians nigra Jugians nigra | black walnut | 21.9 in | fair Y | | | 918 | Υ | Ulmus americana | American elm | 8.5 in | poor | | 1321 Y 1322 Y | Tilia americana | bassv |
| 767 | Juglans nigra | black walnut | 10.0 in | excellent | - | | 919 | Ŷ | Carya ovata | shagbark hickory | 21.0 in | excellent | Y 21 | 1323 Y | Carya glabra | pignu |
| 769 769 | Jugians nigra Jugians nigra | black walnut | 9.0 in | good | | | 920 | <u>т</u> Ү | onnus americana Carya ovata | shagbark hickory | 0.∠ IN 16.0 in | good | Y 16 | 1324 Y 1325 Y | Quercus rubra | red o |
| 770 | Juglans nigra | black walnut | 11.7 in | fair | - | | 922 | | Carya cordiformis | bitternut hickory | 11.5 in | excellent | - | 1326 Y | Quercus rubra | red o |

| тл | | | | | | | CLIENT | | | |
|---------------------------------------|----------------------|-------------------|--------|-----------|------------|-----------------------|-------------------|--|---|--|
| | <u>RESURVEY SCHE</u> | DULL | | F | | IT | | AT | | |
| COMMON NAME | (INCHES) (FEFT) | CONDITION | | SOVERFIGN | REQUIRED | notes | | (AC | $\leq \cap$ | |
| | | | | | | | | | 711 | |
| wild black cherry | 13.0 in | good | | | 3 | | | and a second | | |
| basswood | 22.0 in | excellent | Y | | - | | | | | FR |
| red oak | 19.5 in | excellent | Y | | - | | s | UPERIOR TOWN | NSHIP, MICH | IGAN |
| wild black cherry | 13.4 in | poor | | | - | | | | | |
| American elm | 16.0 in | good | v | | - | | COPYR | IGHT This drawing has been prepared s | olely for the intended use, | thus any |
| American elm | 10.5 in | good | T | | - | | repro forbi | duction or distribution for any purpo dden. Written dimensions shall ha | ose other than authorized b ve precedence over scaled ible for all dimensions and | y IBI Group is dimensions. conditions on |
| American elm | 8.2 in | good | | | 1 | | the job condit | , and IBI Group shall be informed on shown on the drawing. Shop | of any variations from the d drawings shall be submitte | to IBI Group |
| black walnut | 10.3 in | good | | | - | | | IPI Group Profession | | |
| basswood | 16.2 in | excellent | | | - | | | is a member of the IB | I Group of companies | inc. |
| basswood | 10.2 in | excellent | V | | - | | ISSUES | 3 | | |
| wild black cherry | 9.5 in | good | I | | - | | No. | | | DATE 2021-10-27 |
| white oak | 18.2 in | excellent | Y | | - | | В | AREA PLAN AMENDME | NT | 2021-11-29 |
| pignut hickory | 15.0 in | excellent | | | - | | С | PRELIMINARY SITE DE | SIGN | 2022-01-26 |
| shagbark hickory | 12.5 in | good | | | 3 | | D F | 30% OWNER REVIEW | | 2022-02-18 |
| pignut hickory | 23.5 in | excellent | Y | | - | | 0 | ISSUED FOR BIDS | | 2022-04-01 |
| American elm | 10.9 in | good | I | | - | | | | 2 1 | 7 |
| pignut hickory | 16.3 in | good | Y | | - | | | C. | 0'~~\0' | |
| shagbark hickory | 18.2 in | good | Y | | 18 | | | <u>(</u>) | | |
| red oak | 10.2 in | good | | | - | | | NO A | 20 - | |
| pignut hickory wild black cherry | 15.5 in 8 5 in | good | | | 3 | | | JS' | | |
| bird cherry | 14.0 in | excellent | Y | | 14 | | | $c_{0}^{\prime\prime}$ | | |
| , sugar maple | 18.5 in | good | Y | | 0 | N/A per Sec. 14.05F.5 | | v | | |
| red oak | 11.3 in | excellent | | | 1 | | PLEAS | E CONFIRM KEYPL | AN BOX | |
| basswood | 8.1 in | excellent | | | 1 | | | | | |
| wild black cherry | 15.8in | fair excellent | v v | | 3 | | | | | |
| basswood | 15.5 in | good | r I | | 3 | | | | | |
| basswood | 16.5 in | good | | | 6 | | | | | |
| wild black cherry | 9.7 in | fair | | | 1 | | | | | |
| American elm | 10.0 in | fair | | | 1 | | | | | |
| red oak | 9.0 in | good | | | | | CONICI | | | |
| white oak | 12.810 16.8in | excellent | Y | | - 17 | | CONSU | ILTANTS | | |
| pignut hickory | 23.5 in | excellent | Y | | 24 | | | | | |
| American elm | 14.6in | good | | | 3 | | | | | |
| basswood | 13.2 in | excellent | | | 3 | | | | | |
| basswood | 12.0in | excellent | | | 1 | | | | | |
| basswood | 9.3 in | excellent | | | 1 | | | | | |
| ironwood | 8.0 in | excellent | | | - | | | | | |
| American elm | 9.2 in | good | | | 1 | | | | | |
| red oak | 17.5 in | excellent | Y | | - | | | | | |
| white oak | 11.9 in | excellent | | | 1 | | | | | |
| nignut hickory | 82 in | excellent | | | 1 | | | | | |
| white oak | 8.2 in | excellent | | | 1 | | | | | |
| white oak | 19.3 in | good | Y | | 19 | | | | | |
| red oak | 14.5 in | good | | | 3 | | | | | |
| red oak | 15.3 in | excellent | N N | | 3 | | | | | |
| red oak shaghark hickory | 81in | excellent | Ŷ | | 18 | | | | | |
| shagbark hickory | 8.8 in | excellent | | | 1 | | | | | |
| American elm | 9.2 in | good | | | 1 | | SEAL | | | |
| red oak | 15.9 in | good | | | 3 | | | | | |
| red oak | 9.7 in | good | V | | - | | | | | |
| white oak basswood | 27.91n 83in | excellent | Ŷ | | - | | | | | |
| red oak | 13.0 in | good | | | - | | | | | |
| red oak | 11.0in | excellent | | | - | | | | | |
| white oak | 16.8in | good | Y | | - | | | | | |
| red oak | 9.0 in | good | | | 1 | | | | | |
| basswood | 15.4 in | excellent | Υ | | 3 2 | | | | | |
| basswood | 12.0in | excellent | | | 1 | | | | | |
| white oak | 16.2 in | good | Y | | 17 | | | | | |
| basswood | 15.5 in | excellent | | | 3 | | | | | |
| basswood | 18.0 in | good | Y | | 18 | | | | | |
| pignut hickory | 9.0 in | good | | | 1 <u>1</u> | | | | | |
| basswood | 12.5 in | excellent | | | 3 | | | | | |
| shagbark hickory | 8.0 in | good | | | 1 | | | | | |
| basswood | 9.0 in | good | | | 1 | | PRIME | | | |
| basswood | 8.0 in | excellent | | | 1 | | 'ı | 25200 Telegr | raph Road - Suite 3 | 00 |
| snaguark nickory basswood | 9.2 in | good | | | - | | | tel 248 936 8 | | 111 |
| sugar maple | 9.2 in | excellent | | | 0 | N/A per Sec. 14.05F.5 | ╽┏ | ibigroup.com | п | |
| basswood | 10.4 in | good | | | - | | PROJE | СТ | | |
| basswood | 11.0 in | good | | | - |] | | Hvund | ai STIL | |
| sugar maple | 9.5 in | excellent | | | - | | | , joir each | | |
| wild black cherry | 9.5 in | poor | | | - | | 604 |)() Geddae Dd Si | | ar Two |
| basswood | 8.5 in | fair | | | - | | 000 | MI 4 | apenur unarte 8198 | νιννμ, |
| basswood | 16.5 in | good | | | - | | DD C | | - | |
| American elm | 9.5 in | fair | | | - | | PROJE | u nu: 4 | | |
| passwood | 15.2 in | excellent | | | - | | DRAW/ | NBY: | | |
| who black cherry wild black cherry | 8.5 in | good | | | - | | G TAN | NAR | | |
| bitternut hickory | <u>9.8</u> in | good | | | 1 | | PROJE | CT MGR: | APPROVED B | Y: |
| basswood | 11.8 in | good | | | - | | D KAS | SAB | | |
| basswood | 10.3 in | fair | | | - | | SHEET | TITLE | | _ |
| basswood | 10.8in | good | | | - | | │ ┯┍┍ | | ע פרט יד | |
| pignut nickory hackberry | 17.3 in | good | Υ | | 6 | | | | I SCHE | |
| <u>basswood</u> | 10.8 in | excellent | | | 1 | | | | | |
| pignut hickory | 15.6 in | good | | | 3 | | 01177- | | | 100115 |
| red oak | 11.3 in | excellent | | | 1 | | SHEET | NUMBER | | ISSUE |
| red oak | 8.5 in | excellent | | | 1 | | | CD-104 | 4 | |
| i cu UdK | 17.0111 | excellent | l l | 1 | 10 | | | | | |

| | | | TRE | E SURVEY SCHE | DULE | | | | - | | | | TR | EE SURVEY SCHE | DULE | | | Ŧ | | | | |
|----------------|--------------------------------|--------------------------------------|----------------------------------|--------------------------------------|------------------------|----------|------------------------------|-------------------------------------|--|----------------|--------------------------------|--|--|--------------------------------------|------------------------|--------------------|--|---------------------------|---------------------|---|---------------------------------|-----------------|
| <u>TAG NO.</u> | <u>to be</u> <u>Removed</u> | SCIENTIFIC NAME | COMMON NAME | <u>dbh height</u> (Inches) (feet) | <u>CONDITION</u> | LANDMARK | <u>R</u> <u>Sovereign</u> | <u>-PLACEMEN</u> <u>REQUIRED</u> | <u>II</u> <u>NOTES</u> | <u>TAG NO.</u> | <u>to be</u> <u>removed</u> | SCIENTIFIC NAME | COMMON NAME | <u>dbh height</u> (Inches) (feet) | <u>CONDITION</u> | LANDMARK SOVEREIGN | <u>REPLACEMEN</u> I <u>REQUIRED</u> | <u>IT</u> <u>NOTES</u> | TAG NO. | <u>to be</u> <u>Removed</u> <u>S</u> e | <u>CIENTIFIC NAME</u> | <u>CO</u> |
| 1326 | Y | Quercus rubra | red oak | 17.6 in | excellent | Y | | 18 | | 1432 | Y | Tilia americana | basswood | 16.2 in | fair | | 6 | | 1535 | Car | ya ovata | shagt |
| 1327 | Y | Ulmus americana | American elm | 9.5 in | good | 1 | | 1 | | 1433 | Y | Ulmus americana | American elm | 8.5 in | fair | | 1 | | 1536 | Tilia | a americana | bassv |
| 1329 1330 | Y Y | Ulmus americana Ulmus americana | American elm American elm | 8.0 in 9.5 in | poor fair | | | <u>1</u> 1 | | 1435 1436 | Y Y | Quercus rubra Juglans nigra | red oak black walnut | 13.0 in 12.0 in | good good | | 3 | | 1538 1539 | Car Car | ya glabra va cordiformis | pignu bitter |
| 1331 | Ŷ | Ulmus americana | American elm | 11.0 in | good | | | 1 | | 1437 | Ŷ | Fraxinus pennsylvanica | green ash | 9.0 in | poor | | 1 | | 1540 | Car | ya cordiformis | bitter |
| 1332 1333 | Y Y | Morus alba Morus alba | white mulberry white mulberry | 8.5 in 8.5 in | good good | | | <u>1</u> 1 | | 1438 1439 | Y Y | Juglans nigra Juglans nigra | black walnut black walnut | 9.5 in 11.0 in | fair good | | 1 | | 1541 | Pru Tilia | nus serotina a americana | bassv |
| 1334 | Y | Morus alba | white mulberry | 9.3 in | good | | | 1 | | 1440 | Y | Ulmus americana | American elm | 9.0 in | good | | 1 | | 1543 | Que | ercus rubra | red o |
| 1335 | Y Y | Ulmus americana | American elm | 15.2 in | good | | | 3 | | 1441 1442 | Y Y | Carya cordiformis Carya cordiformis | bitternut hickory bitternut hickory | 9.0 in 9.0 in | good good | | 1 | | 1544 | Tilia | a americana a americana | bassv |
| 1337 | Y | Quercus rubra | red oak wild black cherry | 12.0 in | fair fair | | | 1 | | 1443 | Y | Carya cordiformis | bitternut hickory | 8.1 in | good | | 1 | | 1546 | Pru | nus serotina | wild I |
| 1339 | Y | Prunus serotina | wild black cherry | 10.8 in | poor | | | 1 | | 1444 | Y | Ulmus americana | American elm | 11.6 in | fair | | 1 | | 1547 | Tilia | a americana | bassv |
| 1340 1341 | Y Y | Quercus rubra Prunus serotina | red oak wild black cherry | 9.5 in 24.0 in | fair poor | Y | | <u> </u> | | 1446 1447 | Y Y | Prunus serotina Tilia americana | wild black cherry basswood | 16.3 in 16.2 in | good fair | | 6 | | 1549 | Tilia Car | a americana va cordiformis | bassv |
| 1342 | Ŷ | Tilia americana | basswood | 15.2 in | excellent | | | 3 | | 1448 | Ŷ | Tilia americana | basswood | 11.0 in | fair | | 1 | | 1550 | Que | ercus alba | white |
| 1343 1344 | Y Y | Tilia americana Prunus serotina | basswood wild black cherry | 16.5 in 8.2 in | excellent poor | | | 6 1 | | 1449 1450 | Y Y | Carya glabra Quercus rubra | pignut hickory red oak | 20.0 in 8.0 in | excellent excellent | Y | 20 | | 1552 1553 | Tilia Que | a americana ercus macrocarpa | bassv burr (|
| 1345 | Y | Quercus alba | white oak | 20.8 in | excellent | Y | | 21 | | 1451 | Y | Quercus rubra | red oak | 14.0 in | good | | 3 | | 1554 | Tilia | americana | bassv |
| 1346 | Y Y | Carya cordiformis Carya glabra | pignut hickory | 15.5 in 15.2 in | good | | | 3 | | 1452 1453 | Y Y | Quercus rubra Tilia americana | red oak basswood | 14.5 in 14.5 in | good good | | 3 | | 1555 | Tilia | a americana a americana | bassv |
| 1348 | v | Tilia americana | basswood | 10.0 in | good | V | | - | | 1454 | Y | Ulmus americana | American elm | 10.1 in | good | | 1 | | 1557 | Tilia | a americana | bassy |
| 1349 | Y Y | Prunus serotina | wild black cherry | 18.41n 10.0in | poor | ř | | 18 | | 1455 1456 | Y Y | Jugians nigra | black walnut | 13.1 in | good good | | 3 | | 1558 | Car | a americana ya glabra | pignu |
| 1351 | Y | Carya cordiformis | bitternut hickory | 9.3 in | excellent | | | 1 | | 1457 | Y | Tilia americana | basswood | 17.5 in | good fair | v | 6 | | 1560 | Que | ercus alba | white |
| 1353 | · | Prunus serotina | wild black cherry | 8.8 in | fair | | | - | | 1459 | Y | Carya ovata | shagbark hickory | 20.5 in | excellent | Y | 21 | | 1561 | Car | ya glabra | pignu |
| 1354 1355 | | Prunus serotina Prunus serotina | wild black cherry | 8.3 in | fair fair | | | - | | 1460 1461 | Y | Carya ovata Tilia americana | shagbark hickory | 17.6 in | excellent good | Y | 18 | | 1563 | Tilia V Tilia | a americana | bassy |
| 1356 | | Ulmus americana | American elm | 8.7 in | fair | | | - | | 1462 | Y | Carya ovata | shagbark hickory | 17.0 in | excellent | Y | 6 | | 1565 | Y Que | ercus rubra | red o |
| 1357 1358 | | Acer saccharum | sugar maple basswood | 16.7 in 11 5 in | excellent good | Y | | - | | 1463 1464 | Y | Tilia americana Tilia americana | basswood basswood | 13.8 in | good good | | 3 | | 1566 | Y Tilia | a americana | bassv red o |
| 1359 | Y | Tilia americana | basswood | 17.8 in | good | | | 6 | | 1465 | Ŷ | Tilia americana | basswood basswood | 8.0 in | good | | 1 | | 1568 | Y Tilia | americana | bassv |
| 1360 1361 | Y | Carya ovata Tilia americana | shagbark hickory basswood | 25.0 in 21.5 in | excellent excellent | Y Y | | 25 22 | | 1466 1467 | Y Y | Tilia americana Tilia americana | basswood basswood | 11.6 in 15 5 in | good | | 1 | | 1569 1570 | Y Tilia V Tilia | a americana | bassy |
| 1362 | | Tilia americana | basswood | 16.3 in | excellent | | | - | | 1468 | Ŷ | Ulmus americana | American elm | 15.0 in | good | | 3 | | 1570 | Y Tilia | americana | bassv |
| 1363 1364 | | Tilia americana Carva glabra | basswood pignut hickory | 9.0 in 18.9 in | excellent excellent | Y | | - | | 1469 1470 | Y Y | Tilia americana Tilia americana | basswood basswood | 25.0 in 12.8 in | good good | Y | 25 | | 1572 1573 | Y Car Y Tilia | ya ovata a americana | shage bassy |
| 1365 | | Ulmus americana | American elm | 12.5 in | excellent | | | - | | 1471 | Ŷ | Tilia americana | basswood | 12.9 in | good | | 3 | | 1574 | Y Que | ercus rubra | red o |
| 1366 1367 | Y | Carya cordiformis Tilia americana | bitternut hickory basswood | 17.5 in 19.5 in | excellent good | Y Y | | - 18 | | 1472 1473 | Y Y | Tilia americana Acer rubrum | basswood red maple | 17.0 in 13.8 in | good good | | 6 | | 1575 1576 | Y Tilia Y Tilia | a americana a americana | bassv bassv |
| 1368 | | Acer rubrum | red maple | 8.5 in | excellent | | | - | | 1474 | Ŷ | Acer rubrum | red maple | 8.2 in | good | | 1 | | 1577 | Y Car | ya ovata | shagt |
| 1369 1370 | Y | Tilia americana Tilia americana | basswood basswood | 14.5 in 15.0 in | excellent excellent | | | - 3 | | 1475 1476 | Y Y | Tilia americana Prunus serotina | basswood wild black cherry | 15.0 in 17.5 in | good fair | | 3 18 | | 1578 1579 | Y Car Y Tilia | ya cordiformis a americana | bitter bassv |
| 1371 | | Carya cordiformis | bitternut hickory | 10.0 in | excellent | | | - | | 1477 | Ŷ | Tilia americana | basswood | 15.1 in | fair | | 3 | | 1580 | Y Tilia | a americana | bassv |
| 1372 1373 | | Tilia americana Quercus rubra | basswood red oak | 8.8 in 13.7 in | good | | | - | | 1478 1479 | Y Y | Tilia americana Tilia americana | basswood basswood | 11.3 in 17.2 in | good good | | 1 6 | | <u>1581</u> 1582 | Y Ulm Y Tilia | nus rubra a americana | slippe bassv |
| 1374 | | Quercus rubra | red oak | 14.9 in | excellent | | | - | | 1480 | Ŷ | Acer nigrum | black maple | 8.0 in | good | | 1 | | 1583 | Y Tilia | a americana | bassv |
| 1375 1376 | | Quercus rubra Quercus rubra | red oak red oak | 16.7 in 16.7 in | good | Y Y | | - | | 1481 1482 | Y Y | Prunus serotina Prunus serotina | wild black cherry wild black cherry | 10.5 in 8.5 in | good good | | 1 | | 1584 | Y Car Y Tilia | ya cordiformis a americana | bitter bassv |
| 1377 | | Quercus rubra | red oak | 23.0 in | excellent | Y | | - | | 1483 | Ŷ | Acer rubrum | red maple | 14.0 in | fair | | 3 | | 1586 | Y Car | ya ovata | shagt |
| 1378 | | Acer saccharum Quercus rubra | sugar maple red oak | 14.8 in 28.0 in | excellent excellent | Y | | - | | 1484 1485 | Y Y | Tilia americana Prunus serotina | basswood wild black cherry | 9.0 in | good | | 1 | | 1587 1588 | Y Tilia Y Ulm | a americana nus rubra | slipp |
| 1380 | | Carya cordiformis | bitternut hickory | 11.5 in | fair | | | - | | 1486 | Ŷ | Ulmus americana | American elm | 9.5 in | good | | 1 | | 1589 | Y Car | ya cordiformis | bitter |
| 1381 | | Carya cordiformis | bitternut hickory | 11.5 m 15.0 in | poor | | | - | | 1487 | Y Y | Tilia americana | basswood | 15.7 in | good good | | 3 | | 1590 | Y Tilia Y Tilia | a americana a americana | bassv |
| 1383 | | Ulmus americana | American elm | 21.0 in | fair | Y | | - | | 1489 | Y | Carya cordiformis | bitternut hickory | 12.2 in | good | | 3 | | 1592 | Y Tilia | a americana | bassy |
| 1385 | | Quercus alba | white oak | 31.8 in | excellent | Y | | - | | 1490 1491 | Y Y | Acer rubrum | red maple | 15.0 in | good | | 3 | | 1593 | Y Frax | kinus americana | white |
| 1386 | | Ulmus americana Carva glabra | American elm | 8.0 in | excellent | | | - | | 1492 | Y | Acer rubrum | red maple | 9.2 in | excellent | | 1 | | 1595 | Y Jug | lans nigra | black |
| 1388 | | Quercus rubra | red oak | 9.0 in | excellent | | | - | | 1494 | Y | Carya cordiformis | bitternut hickory | 10.0 in | excellent | | 1 | | 1597 | Y UIm | nus americana | Amer |
| 1389 1390 | | Tilia americana Ouercus rubra | basswood red oak | 19.0 in 20.2 in | good excellent | Y Y | | - | | 1495 1496 | Y Y | Tilia americana Carva cordiformis | basswood bitternut hickory | 8.8 in 9.9 in | good good | | 1 | | 1598 | Y Tilia Y Por | a americana Julus deltoides | bassv |
| 1391 | | Prunus serotina | wild black cherry | 10.2 in | poor | | | - | | 1497 | Ŷ | Tilia americana | basswood | 11.2 in | good | | 1 | | 1600 | Y Car | ya cordiformis | bitter |
| 1392 1393 | | Quercus rubra Tilia americana | red oak basswood | 14.2 in 11.5 in | good excellent | | | - | | 1498 1499 | Y Y | Tilia americana Tilia americana | basswood basswood | 11.1 in 10.2 in | good good | | 1 | | 1601 | Y Que Y Ulm | ercus rubra nus americana | red o |
| 1395 | | Carya cordiformis | bitternut hickory | 10.5 in | good | | | - | | 1501 | Ŷ | Tilia americana | basswood | 12.0 in | good | | 1 | | 1603 | Y Que | ercus rubra | red o |
| 1396 1397 | | Tilia americana | bitternut hickory basswood | 10.2 in 8.2 in | good fair | | | - | | 1502 1503 | Y Y | lilia americana Quercus alba | basswood white oak | 16.2 in 13.1 in | good good | | 6 3 | | 1604 1605 | Y Car Y Que | ya cordiformis ercus rubra | red o |
| 1401 | | Tilia americana | basswood | 15.8 in | fair | | | - | | 1504 | Y | Tilia americana | basswood | 12.8 in | good | | 3 | | 1606 | Y Car | ya glabra | pignu |
| 1402 | | Tilia americana Tilia americana | basswood | 9.0 in | good good | | | - | | 1505 1506 | | Tilia americana | basswood basswood | 13.3 in 13.5 in | good good | | - | | 1607 | Y Jug Y Tilia | ans nigra a americana | biack bassv |
| 1404 | | Ulmus americana | American elm | 8.0 in | fair | | | - | | 1507 | Y | Tilia americana | basswood | 13.6 in | good | | 3 | | 1609 | Y Tilia | a americana | bassy |
| 1405 | | Carya ovata | shagbark hickory | 21.6 in | excellent | Y | | - | | 1508 | | Carya cordiformis | bitternut hickory | 8.0 in | good | | - | | 1610 | r Tilia Y Tilia | a americana | bassv |
| 1407 | | Tilia americana | basswood | 17.0in 8.5 in | excellent | | | - | | 1510 | | Tilia americana | basswood | 10.4 in | good | | - | | 1612 | Y Tilia | a americana | bassy |
| 1409 | Y | Tilia americana | basswood | 15.8 in | good | | | 3 | | 1512 | | Tilia americana | basswood basswood | 14.2 in | good | | - | | 1613 | Y UIm | nus rubra | slipp |
| 1410 | Y Y | Acer saccharum | sugar maple basswood | 11.0 in 11 5 in | excellent good | | | 0 | N/A per Sec. 14.05F.5 | 1513 1514 | | Tilia americana Quercus alba | basswood white oak | 12.6 in | fair excellent | v | - | | 1615 | Y Tilia V Tilia | a americana | bassy |
| 1412 | Y | Acer saccharum | sugar maple | 8.1 in | good | | | 1 | | 1515 | | Carya ovata | shagbark hickory | 13.2 in | excellent | | - | | 1617 | Y Car | ya cordiformis | bitter |
| 1413 1414 | Y Y | Tilia americana Tilia americana | basswood basswood | 12.6 in 13.7 in | fair good | | | 3 | | 1516 1517 | | Quercus alba Tilia americana | white oak basswood | 17.0 in 11.5 in | excellent good | Y | - | | 1618 1619 | Y Tilia Y Tilia | a americana a americana | bassv bassv |
| 1415 | Y | Prunus serotina | wild black cherry | 10.5 in | fair | | | 1 | | 1518 | | Tilia americana | basswood | 17.8 in | good | | - | | 1620 | Y Car | ya glabra | pignu |
| 1416 1417 | Y Y | Acer saccharum | sugar maple sugar maple | 9.8 in 10.3 in | excellent good | | | 0 0 | N/A per Sec. 14.05F.5 N/A per Sec. 14.05F.5 | 1519 1520 | | lilia americana Tilia americana | basswood basswood | 8.8 in 8.7 in | good fair | | | | 1621 1622 | Y Car Y Tiliz | ya ovata a americana | shage bassy |
| 1418 | Y | Acer saccharum | sugar maple | 9.5 in | excellent | | | 0 | N/A per Sec. 14.05F.5 | 1521 | | Quercus macrocarpa | burr oak | 23.5 in | excellent | Υ | - | | 1623 | Y Tilia | a americana | bassv |
| 1419 1420 | Y Y | Acer rubrum Acer rubrum | red maple red maple | 16.8 in 8.2 in | good excellent | Y | | <u>17</u> 1 | | 1522 1523 | | Quercus macrocarpa Quercus macrocarpa | burr oak burr oak | 34.0 in 13.1 in | excellent good | Y | | | 1624 1625 | Y Que Y Ulm | ercus rubra nus americana | red o Ame |
| 1421 | Y | Tilia americana | basswood | 13.5 in | poor | | | 3 | | 1524 | | Quercus macrocarpa | burr oak | 25.6 in | fair | Υ | - | | 1626 | Y Car | ya ovata | shagt |
| 1422 1423 | Y Y | IIIIa americana Tilia americana | basswood basswood | 17.3 in 15.5 in | good good | | | 6 3 | | 1525 1526 | | Iilia americana Tilia americana | basswood basswood | 16.0 in 9.9 in | good poor | | - | | 1627 1628 | Y Tilia | a americana ercus alba | bassv white |
| 1424 | Y | Tilia americana | basswood | 9.8 in | good | | | 1 | | 1527 | | Tilia americana | basswood | 9.5 in | fair | | - | | 1629 | Car | ya ovata | shagt |
| 1425 1426 | Y Y | IIIIa americana Quercus rubra | basswood red oak | 10.8 in 14.3 in | good good | | | <u>1</u> 3 | | 1528 1529 | | Ulmus americana Ulmus americana | American elm American elm | 13.7 in 19.8 in | poor excellent | γ | - | | 1630 1631 | Tilia Tilia | a americana a americana | bassv bassv |
| 1427 | Y | Prunus serotina | wild black cherry | 8.8 in | good | | | 1 | | 1530 | | Tilia americana | basswood | 18.0 in | good | Y | - | | 1632 | Tilia | americana | bassv |
| 1428 1429 | Y Y | Carya giabra Carya cordiformis | bitternut hickory | 21.3 IN 13.8 in | excellent good | Y | | 3 | | 1531 1532 | | IIIIa americana Prunus serotina | passwood wild black cherry | 8.0 in | tair fair | | - | | 1633 1634 | Tilia Tilia | a americana a americana | bassv bassv |
| 1430 | Y | Quercus rubra | red oak | 10.0 in | good | | | 1 | | 1533 | | Carya cordiformis | bitternut hickory | 21.5 in | good | Y | - | | 1635 | Tilia | americana | bassv |
| 1431 | l I | | וובט טמג | 14.010 | l hoor | 1 | | 3 | I | 1534 | | Iquercus rubra | пеа оак | 23.1 IN | excellent | <u>т</u> | - | | 1030 | l'ilia | americana | lnassn |

| <u>TR</u> | EE SURVEY SCHE | DULE | | | | CLIENT | | |
|----------------------------|--------------------------------------|------------------------|--------|---------------------------------|-----------------------|---|--|--|
| MON NAME | <u>DBH HEIGHT</u> (INCHES) (FEET) | CONDITION | | REPLACEME SOVEREIGN REQUIRED | <u>NT</u> NOTES | | \mathcal{Q} | |
| ark hickory | 8.0 in | excellent | | | | | | |
| oak | 12.7 in | good | | - | | | | |
| ood : hickorv | 9.0 in 11.2 in | fair good | | - | | HATCI MIC | HIGAN R&D CEN TOWNSHIP MICH | TER IIGAN |
| nut hickory | 11.3 in | good | | - | | | | |
| nut hickory lack cherry | 9.4 in 12.4 in | fair good | | - | | COPYRIGHT This drawing has been | prepared solely for the intended use | thus any |
| , ood | 11.0 in | good | | - | | forbidden. Written dimensio Contractors shall verify and the job, and IBI Group shall b | ons shall have precedence over scale be responsible for all dimensions and e informed of any variations from the | d dimensions. I conditions on dimensions and |
| ik ood | 23.5 in 14.1 in | good good | Y | | | conditions shown on the draw for general conforr | ving. Shop drawings shall be submitt mance before proceeding with fabrica | ed to IBI Group tion. |
| ood | 22.2 in | fair | Y | - | | IBI Group Pro is a memb | ofessional Services (USA) per of the IBI Group of companies | Inc. |
| lack cherry hut hickory | 10.0 in 10.7 in | poor excellent | | | | ISSUES | CRIPTION | DATE |
| ood | 9.8 in | good | | - | | A AREA PLAN | | 2021-10-27 |
| ood hut hickory | 12.8 in 17.9 in | excellent excellent | Y | - | | C PRELIMINARY | IENDMENT SITE DESIGN | 2021-11-29 2022-01-26 |
| oak | 28.1in | good | Y | - | | D 30% OWNER R | EVIEW | 2022-02-18 2022-03-18 |
| ood ak | 9.6 in 11.3 in | good good | | | | 0 ISSUED FOR BI | IDS | 2022-04-01 |
| ood | 15.2 in | good | | - | | | , 0R . 0 | 4 |
| ood ood | 9.7 in 11.4 in | good fair | | - | | | JE CTIO | |
| ood | 13.7 in | excellent | | - | | 4 | J'RUS | |
| ood : hickory | 9.9 in 20.1 in | good good | Y | - | | | Nel. | |
| oak | 14.8in | excellent | | - | | | • | |
| ooa hickory | 9.4 in 14.3 in | good poor | | | | PLEASE CONFIRM | EYPLAN BOX | |
| ood | 8.1 in | good | | | | | | |
| ood Ik | 9.9 in 20.2 in | excellent good | Y | 22 | | | | |
| ood | 8.0 in | good | | | | | | |
| ood | 16.9 in 8.7 in | good poor | Y | 17 | | | | |
| ood | 20.1 in | good | Y | 20 | | | | |
| ood ood | 14.3 in 10.1 in | poor fair | | 3 | | CONSULTANTS | | |
| ark hickory | 22.8in | excellent | Y | 23 | | | | |
| ood Ik | 16.9 in 25.6 in | good | Y | 6 26 | | | | |
| ood | 10.2 in | good | | 1 | | | | |
| ood ark hickory | 11.3 in 20.5 in | good good | Y | 1 21 | | | | |
| nut hickory | 13.4 in | excellent | | 3 | | - | | |
| ood ood | 11.3 in 10.5 in | good | | | | | | |
| ry elm | 8.7 in | fair | | 1 | | - | | |
| ood ood | 8.3 in 8.6 in | fair fair | | | | | | |
| nut hickory | 10.6 in | excellent | | 1 | | - | | |
| ood ark hickory | 8.7 in 19.3 in | good excellent | Y | 20 | | | | |
| ood | 9.7 in | good | | 1 | | | | |
| ry elm hut hickory | 16.9 in 15.0 in | excellent excellent | | 6 | | | | |
| ood | 28.0 in | good | Y | 28 | | | | |
| ood ood | 10.6 in 12.2 in | poor fair | | 3 | | SEAL | | |
| ood | 16.4 in | good | | 6 | | | | |
| asn walnut | 9.1 in 12.0 in | good good | | | | | | |
| ood | 8.0 in | fair | | 1 | | | | |
| ood | 9.3 in | excellent | | 1 | | | | |
| wood | 41.3 in | excellent | | 0 | N/A per Sec. 14.05F.5 | | | |
| ik | 25.2 in | good | Y | 25 | | | | |
| can elm | 9.8 in | good | v | 1 | | | | |
| nut hickory | 10.9 in | good good | Y | 17 1 | | | | |
| k | 9.2 in | good | | 1 | | | | |
| walnut | 10.0 in | good excellent | | 3 | | | | |
| ood | 9.4 in | good | | 1 | | | | |
| ood | 11.3 in | fair | | | | | і т | |
| ood | 12.6 in | fair | | 3 | | | ROUP | |
| hickory | 17.7 in | excellent | Y | 18 | | IB Sout | 0 Telegraph Road - Suite 3 hfield MI 48033 USA | 300 |
| ry elm | 9.8 in | good | | 1 | | ibigr | oup.com | 111 |
| ood | 8.9 in | good | | 1 | | PROJECT | | |
| nut hickory | 14.2 in | good | | 3 | | Hy | rundai STIL | |
| ood | 13.0 in | good | | 3 | | | | |
| hickory ark hickory | 16.9 in | good | Y V | 17 | | 6800 Geddes | Rd Superior Chart | er Twp, |
| ood | 10.4 in | fair | | 1 | | | | |
| ood k | 12.2 in | excellent | | 3 | | PROJECT NO: 134894 | | |
| can elm | 11.1 in | good | | | | DRAWN BY: | CHECKED BY | ′ : |
| ark hickory | 21.3 in | excellent | Y | 21 | | PROJECT MGR | | SY: |
| oak | 12.8 in | excellent | | - | | D KASSAB | | |
| ark hickory | 20.9 in | excellent | Y V | - | | SHEET TITLE | | |
| ood | 10.2 in | good | | - | | TREE SUF | RVEY SCHE | EDULE |
| ood ood | 13.1 in 10.8 in | excellent | | - | | | | _ |
| ood | 15.0 in | excellent | | - | | | | |
| ood ood | 8.6 in 14.4 in | good excellent | | | | | 105 | ISOUE |
| | 1 1 | | | ı l | | I CD- | CUI | |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CD-103 Tree Schedule.dwg

| | | TRI | | UI II E | | | | | | | | TRI | | | | | | | | | |
|------------------|------------------------------------|------------------------------|--------------------------|---------------------------|-----------------|--------------|--------------------|-----------|--------------|--------------|------------------------------------|-----------------------------|--------------------|-------------------|--------------------|------------|--------------|---------|----------------|-----------------------------------|-----------|
| <u>TO BE</u> | | <u>111</u> | <u>DBH</u> <u>HEIGHT</u> | <u>.DULL</u> | | REP | ACEMENT | | | <u>TO BE</u> | | <u>11\</u> | <u>DBH HEIGHT</u> | DOLL | Ē | REPLACEMEN | NT | | <u>TO BE</u> | | |
| TAG NO. REMOVED | SCIENTIFIC NAME | COMMON NAME | (INCHES) (FEET) | <u>CONDITION</u> <u>L</u> | <u>_ANDMARK</u> | SOVEREIGN RE | <u>QUIRED</u> NOTE | <u>-S</u> | TAG NO. | REMOVED | SCIENTIFIC NAME | COMMON NAME | (INCHES) (FEET) | <u>CONDITION</u> | LANDMARK SOVEREIGN | REQUIRED | <u>Notes</u> | TAG NO. | REMOVED S | SCIENTIFIC NAME | <u>C0</u> |
| 1637 | Tilia americana | basswood | 25.3 in | good | Y | | - | | 1739 | Y | Tilia americana | basswood | 10.4 in | excellent | | 1 | | 1841 | Y Qu | uercus rubra | red o |
| 1638 | Tilia americana | basswood | 9.4 in | good | | | - | | 1740 | Y | Tilia americana | basswood | 10.8 in | fair | | 1 | | 1842 | Y Ac | er rubrum | red n |
| 1639 | Tilia americana | basswood | 11.0 in | fair | | | - | | 1741 | | Carya ovata | shagbark hickory | 18.9 in | excellent | Υ | - | | 1843 | Y Qu | iercus rubra | red o |
| 1641 | Tilia americana | basswood | 8.6 in | good | | | - | | 1742 | | Ostrya virginiana | ironwood | 8.2 in | excellent | | - | | 1844 | Y Ca | irya ovata | shagt |
| 1642 | Tilia americana | basswood | 12.8 in | excellent | | | - | | 1744 | | Tilia americana | basswood | 10.7 in | excellent | | - | | 1846 | Y Ca | rya cordiformis | bitte |
| 1643 | Quercus rubra | red oak | 15.6 in | excellent | V | | - | | 1745 | | Carya glabra | pignut hickory | 13.4 in | excellent | | - | | 1847 | Y Ca | rya ovata | shage |
| 1644 | Tilia americana | basswood | 18.1 in 15.9 in | fair | Y | | - | | 1746 | | Ostrya virginiana | ironwood | 8.3 in 9.9 in | excellent | | - | | 1848 | Y AC Y Til | er rubrum ia americana | bassv |
| 1646 | Ulmus americana | American elm | 9.3 in | good | | | - | | 1748 | | Acer rubrum | red maple | 13.9 in | good | | - | | 1850 | Pru | unus serotina | wild |
| 1647 | Ulmus americana | American elm | 21.1 in | good | Y | | - | | 1749 | | Tilia americana | basswood | 11.9 in | good | | - | | 1851 | Ulr | mus americana | Amer |
| 1648 | Carya cordiformis | bitternut hickory | 8.0 in | good | v | | - | | 1750 | | Tilia americana | basswood | 8.5 in | good | | - | | 1852 | Y Qu | iercus rubra | red o |
| 1649 | Carva glabra | pignut hickory | 9.7 in | good | ř | | - | | 1751 | | Prunus serotina | wild black cherry | 9.4 in 17.3 in | excellent | | - | | 1855 | Y Qu | iercus macrocarpa | burr |
| 1651 | Tilia americana | basswood | 13.5 in | good | | | - | | 1753 | | Quercus rubra | red oak | 20.2 in | excellent | Y | - | | 1855 | Y Qu | iercus rubra | red o |
| 1652 | Carya ovata | shagbark hickory | 13.2 in | good | | | - | | 1754 | | Prunus serotina | wild black cherry | 10.3 in | good | | - | | 1856 | Ca | rya cordiformis | bitte |
| 1653 | Carya glabra | pignut hickory | 10.4 in | good | v | | - | | 1755 | | Tilia americana | basswood | 14.8 in | excellent | | - | | 1857 | Qu | iercus rubra | a red o |
| 1655 | Ulmus americana | American elm | 11.4 in | fair | | | - | | 1757 | | Tilia americana | basswood | 10.5 in | excellent | | - | | 1858 | Qu | iercus rubra | red o |
| 1656 | Prunus serotina | wild black cherry | 10.6 in | fair | | | - | | 1758 | | Sassafras albidum | sassafras | 19.3 in | good | | - | | 1860 | Qu | iercus macrocarpa | burr (|
| 1657 | Quercus rubra | red oak | 11.1 in | good | | | - | | 1759 | | Tilia americana | basswood | 16.7 in | excellent | N N | - | | 1861 | | mus americana | Amer |
| 1658 | Tilia americana Tilia americana | basswood | 14.3 in 18.0 in | good | Y | | - | | 1760 | | Tilia americana | basswood | 19.2 in 10.8 in | good excellent | Y | - | | 1862 | Ju | glans nigra | black |
| 1660 | Carya cordiformis | bitternut hickory | 9.7 in | excellent | - | | - | | 1762 | | Quercus rubra | red oak | 18.5 in | excellent | Y | - | | 1864 | Ju | glans nigra | black |
| 1661 | Tilia americana | basswood | 19.3 in | excellent | Y | | - | | 1763 | | Tilia americana | basswood | 8.9 in | good | | - | | 1865 | Ju | glans nigra | black |
| 1662 | Tilia americana | basswood | 16.7 in | excellent | | | - | | 1764 | | Quercus rubra | red oak | 23.4 in | excellent good | Y | - | | 1866 | IUL AC | niperus virginiana | hox e |
| 1664 | Tilia americana | basswood | 9.1 in | excellent | | | - | | 1766 | | Tilia americana | basswood | 29.5 in | good | Y | - | | 1868 | Uli | mus americana | Ame |
| 1665 | Tilia americana | basswood | 14.2 in | excellent | | | - | | 1767 | | Quercus rubra | red oak | 13.4 in | good | | - | | 1869 | Jul | niperus virginiana | red c |
| 1666 | Tilia americana | basswood | 9.1 in | poor | | | - | | 1768 | | Tilia americana | basswood | 9.8 in | good | | - | | 1870 | <u>۽</u> ال | glans nigra | black |
| 1668 | Tilia americana Tilia americana | basswood | 15.6 in | excellent | | | - | | 1769 | | Ouercus rubra | red oak | 12.2 in 12.2 in | good good | | - | | 1871 | inr inr | niperus virginiana | red c |
| 1669 | Tilia americana | basswood | 11.0 in | good | | | - | | 1771 | | Prunus serotina | wild black cherry | 15.3 in | poor | | - | | 1873 | Ju | glans nigra | black |
| 1670 | Prunus serotina | wild black cherry | 9.2 in | fair | | | - | | 1772 | | Quercus rubra | red oak | 14.3 in | excellent | | - | | 1874 | Ju | glans nigra | black |
| 1671 | Prunus serotina | wild black cherry | 9.0 in | excellent | v | | - | | 1773 | | Prunus serotina Prunus serotina | wild black cherry | 8.1 in | excellent | | - | | 1875 | Mo | orus alba mus rubra | white |
| 1673 | Tilia americana | basswood | 17.8 in | excellent | | | - | | 1775 | | Tilia americana | basswood | 8.5 in | good | | - | | 1877 | Ac | er negundo | box e |
| 1674 | Tilia americana | basswood | 8.6 in | fair | | | - | | 1776 | | Tilia americana | basswood | 8.8 in | good | | - | | 1878 | Ac | ernegundo | box e |
| 1675 | Ostrya virginiana | ironwood | 9.1 in | good | | | - | | 1777 | | Quercus rubra | red oak | 25.2 in | good | Y | - | | 1879 | Pru | unus serotina | wild |
| 1676 | Tilia americana | basswood | 9.6 in 16 9 in | good | | | - | | 1779 | | Quercus rubra | red oak | 9.1 in 18 8 in | excellent | Y | - | | 1880 | Cra Ac | ataegus sp. ær negundo | box e |
| 1678 | Tilia americana | basswood | 11.0 in | good | | | - | | 1780 | | Tilia americana | basswood | 15.1 in | good | | - | | 1882 | Pri | unus serotina | wild |
| 1679 Y | Tilia americana | basswood | 9.8 in | excellent | | | 1 | | 1781 | | Tilia americana | basswood | 9.4 in | good | | - | | 1883 | Ma | orus alba | white |
| 1680 Y | Carya cordiformis | bitternut hickory | 11.7 in | excellent | | | 1 | | 1782 | | Tilia americana | basswood | 21.5 in | excellent | Y | - | | 1884 | jug | glans nigra | black |
| 1681 Y | Prunus serotina | wild black cherry | 8.3 in | poor | | | <u> </u> | | 1783 | | Tilia americana | basswood | 16.5 in 11.0 in | good | Y | - | | 1885 | Iu | er negundo | box e |
| 1683 Y | Ulmus americana | American elm | 8.5 in | good | | | 1 | | 1785 | | Carya glabra | pignut hickory | 12.8 in | excellent | | - | | 1887 | Pri | unus serotina | wild |
| 1684 Y | Quercus rubra | red oak | 10.1 in | excellent | | | 1 | | 1786 | | Quercus rubra | red oak | 22.2 in | good | Y | - | | 1888 | Ac | er negundo | box e |
| 1685 Y | Tilia americana | basswood shagbark bickory | 12.3 in | good | | | 3 | | 1787 | | Tilia americana | basswood | 17.6 in | good | v | - | | 1889 | Fra | axinus americana | black |
| 1687 Y | Quercus alba | white oak | 15.9 in | good | | | 3 | | 1788 | | Ulmus americana | American elm | 20.3 in | poor | Y | - | | 1890 |]u | glans nigra | black |
| 1688 Y | Quercus rubra | red oak | 10.9 in | good | | | 1 | | 1790 | | Tilia americana | basswood | 12.7 in | excellent | | - | | 1892 | Ac | er negundo | box e |
| 1689 Y | Ulmus americana | American elm | 14.1 in | excellent | N | | 3 | | 1791 | | Quercus rubra | red oak | 9.6 in | good | | - | | 1893 | Pru | unus serotina | wild |
| 1690 Y | Juglans nigra | black walnut | 19.0 in | excellent | Y | | 19 | | 1792 | | Tilia americana | basswood | 10.7 in | good | | - | | 1894 | jui | glans nigra glans nigra | black |
| 1691 Y | Carya cordiformis | bitternut hickory | 17.4 in | excellent | Y | | 17 | | 1794 | | Prunus serotina | wild black cherry | 8.3 in | good | | - | | 1896 | Fra | axinus americana | white |
| 1693 Y | Carya ovata | shagbark hickory | 10.6 in | good | | | 1 | | 1795 | | Tilia americana | basswood | 15.0 in | good | | - | | 1897 | Ju | glans nigra | black |
| 1694 Y | Quercus rubra | red oak | 16.7 in | excellent | Y | | 17 | | 1796 | | Tilia americana | basswood | 16.6 in | excellent | | - | | 1898 | Ac | er negundo | box e |
| 1695 Y | Quercus macrocarpa | basswood burr oak | 9.5 in | good | | | <u> </u> | | 1797 | | Tilia americana | basswood | 8.0 in 17.4 in | good excellent | | - | | 1899 | Jui Ac | er negundo | box e |
| 1697 Y | Carya cordiformis | bitternut hickory | 11.8 in | excellent | | | 1 | | 1799 | | Tilia americana | basswood | 21.8 in | excellent | Υ | - | | 1901 | Cra | ataegus sp. | hawt |
| 1698 Y | Quercus rubra | red oak | 9.3 in | excellent | | | 1 | | 1800 | | Ulmus americana | American elm | 10.0 in | good | | - | | 1902 | Ce | Itis occidentalis | hackt |
| 1699 Y | Juglans nigra | black walnut | 15.6 in 24.3 in | excellent | v | | 3 | | 1801 | | Tilia americana | basswood | 9.6 in | excellent | | - | | 1903 | Ju | glans nigra glans nigra | black |
| 1700 T | Ulmus americana | American elm | 8.1 in | good | | | 1 | | 1803 | | Acer negundo | box elder | 11.7 in | poor | | - | | 1905 | Til | ia americana | bassv |
| 1702 Y | Quercus rubra | red oak | 18.3 in | good | Y | | 18 | | 1804 | | Tilia americana | basswood | 9.8 in | excellent | | - | | 1906 | Ac | ernegundo | box e |
| 1703 Y | Quercus rubra | red oak | 14.8 in | excellent | | | 3 | | 1805 | | Tilia americana | basswood | 11.7 in | fair | X | - | | 1907 | Ac | er negundo | box e |
| 1704 Y | Juglans nigra | black walnut | 11.8 m | good | | | 1 | | 1806 | | Tilia americana | basswood | 13.4 in | excellent | Y I | - | | 1908 | Ca | rya cordiformis | bitte |
| 1706 Y | Quercus rubra | red oak | 20.9 in | good | Y | | 21 | | 1808 | | Acer rubrum | red maple | 33.5 in | poor | Y | - | | 1910 | Ju | glans nigra | black |
| 1707 Y | Quercus rubra | red oak | 11.2 in | excellent | | | 1 | | 1809 | Y | Tilia americana | basswood | 23.8 in | good | Y | 24 | | 1911 | Ac | er negundo | box e |
| 1708 Y 1709 Y | Quercus rubra | red oak | <u>8.7 In</u> 12.8 in | excellent excellent | | | 3 | | 1810 | Y Y | Tilia americana | basswood basswood | 11.4 in | fair fair | Y | 19 | | 1912 | | er negundo glans nigra | black |
| 1710 Y | Quercus macrocarpa | burr oak | 11.7 in | excellent | | | <u> </u> | | 1812 | | Tilia americana | basswood | 14.2 in | good | | - | | 1914 | Ju | glans nigra | black |
| 1711 Y | Juglans nigra | black walnut | 12.1 in | excellent | | | 3 | | 1813 | Y | Acer rubrum | red maple | 8.4 in | excellent | | 1 | | 1915 | Ca | rya cordiformis | bitter |
| 1712 Y 1713 V | Carva cordiformis | bitternut hickory | 11.8 in | excellent | | | 1 | | 1814 1915 | | IIIia americana | basswood | 13.5 in | good | | - | | 1916 | | mus americana | Amer |
| 1713 Y 1714 Y | Quercus macrocarpa | burr oak | 18.4 in | excellent | Y | | 18 | | 1816 | Y | Tilia americana | basswood | 11.4 in | excellent | | 1 | | 1917 | Ca | rya cordiformis | bitter |
| 1715 Y | Tilia americana | basswood | 22.8 in | good | Y | | 23 | | 1817 | Y | Tilia americana | basswood | 9.9 in | good | | 1 | | 1919 | Ju | glans nigra | black |
| 1716 Y | Tilia americana | basswood | 10.6 in | good | | | 1 | | 1818 | Y | Tilia americana | basswood | 8.7 in | excellent | | 1 | | 1920 | Til | ia americana | bassy |
| 1717 Y 1718 V | Carva cordiformis | bitternut hickory | 9.2 IN 10.8 in | excellent | | | <u> </u> | | 1819 | Y V | Tilia americana | boowssea | 8.3 in | good good | | 1 1 | | 1921 | jui Jui | grans nigra glans nigra | black |
| 1719 Y | Quercus macrocarpa | burr oak | 9.8 in | good | | | 1 | | 1821 | Y | Ulmus americana | American elm | 21.2 in | good | Y | 21 | | 1923 | Ju | glans nigra | black |
| 1720 Y | Tilia americana | basswood | 14.1 in | good | | | 3 | | 1822 | Y | Quercus rubra | red oak | 9.6 in | excellent | | 1 | | 1924 | Ju | glans nigra | black |
| 1721 Y | Ulmus americana | American elm | 8.5 in | good | | | 1 | | 1823 | Y V | Quercus rubra | red oak | 22.4 in | good | Y | 22 | | 1925 | Y Jug | glans nigra niperus virginiana | black |
| 1723 Y | Carya cordiformis | bitternut hickory | 9.1 in | excellent | | | 1 | | 1825 | Υ Υ | Tilia americana | basswood | 12.1 in | good | | 3 | | 1927 | Jui | niperus virginiana | red c |
| 1724 Y | Carya cordiformis | , bitternut hickory | 10.0 in | good | | | 1 | | 1826 | Y | Quercus rubra | red oak | 15.5 in | good | | 3 | | 1928 | Jui | niperus virginiana | red c |
| 1725 Y | Ulmus americana | American elm | 10.5 in | excellent | | | 1 | | 1827 | Y | Quercus rubra | red oak | 16.2 in | excellent | Y | 16 | | 1929 | Jui V | niperus virginiana | red ce |
| 1726 Y | Carva glabra | American elm | 8.3 IN 18.3 in | excellent good | Y | | | | 1828 1829 | | Quercus rubra | red oak | 15.61N 17.7 in | good excellent | Y | 3 18 | | 1930 | Y Pir Y Iur | nus sylvestris glans nigra | black |
| 1728 | Carya glabra | pignut hickory | 11.9 in | excellent | · | | | | 1830 | Y | Tilia americana | basswood | 9.1 in | excellent | | 1 | | 1932 | YJu | glans nigra | black |
| 1729 | Quercus rubra | red oak | 9.1 in | excellent | | | - | | 1831 | Y | Tilia americana | basswood | 8.0 in | excellent | | 1 | | 1933 | Y Ju | glans nigra | black |
| 1730 | Carya ovata | shagbark hickory | 22.4 in 22.4 in | excellent | Y v | | - | | 1832 | v | Acer rubrum | red maple | 10.5 in | fair | <u> </u> | - 1 | | 1934 | Y Jug | glans nigra glans nigra | black |
| 1732 | Ulmus americana | American elm | 15.4 in | excellent | I | | - | | 1834 | Υ Υ | Ulmus americana | American elm | 8.0 in | good | | | | 1936 | Y Ju | glans nigra | black |
| 1733 | Carya ovata | shagbark hickory | 17.7 in | good | Y | | - | | 1835 | | Prunus serotina | wild black cherry | 8.8 in | good | | - | | 1937 | Y Ju | glans nigra | black |
| 1734 Y | Carya ovata | shagbark hickory | 13.5 in | excellent | | | 3 | | 1836 | Y | Quercus coccinea | scarlet oak | 13.0 in | good | | 3 | | 1938 | Y Jug | glans nigra | black |
| 1735 Y 1736 Y | Tilia americana Tilia americana | basswood basswood | 13.8 IN 12.8 in | good | | | 3 | | 1837 | Y Y | Quercus rubra Carva ovata | rea oak shagbark hickory | 10.9 in | good excellent | Y | 19 | | 1939 | y Jug | grans nigra glans nigra | black |
| 1737 Y | Carya ovata | shagbark hickory | 21.8 in | excellent | Y | | 22 | | 1839 | Y | Quercus rubra | red oak | 10.2 in | excellent | | 1 | | 1941 | Y Ju | glans nigra | black |
| 1738 Y | Tilia americana | basswood | 9.9 in | fair | | | 1 | | 1840 | Y | Quercus rubra | red oak | 24.0 in | good | Υ | 24 | | 1942 | Y Ju | glans nigra | black |

| TDE | | | | | | | | CLIENT | |
|--------------------------------|--------------------------------|---------------------------------|-------------------|-----------------|-----------|------------|--------------|--|--------------|
| IKE | <u>.c Sukve</u> <u>D</u> BH | <u>i suhe</u> <u>Heig</u> ht | DULL | | F | REPLACEMEN | Π | | |
| COMMON NAME | (INCHES) | (FEET) | <u>CONDITION</u> | <u>LANDMARK</u> | SOVEREIGN | REQUIRED | <u>NOTES</u> | | |
| ed oak | 12.8 in | | good | | | 3 | | | |
| ed maple | 10.2 in | | good | | | 1 | | | |
| ed oak | 10.2 in | | good | | | 1 | | HATCI MICHIGAN R&D CENTER | |
| eu oak shagbark hickorv | 10.0 in | | excellent | | | <u> </u> | | | |
| pitternut hickory | 9.8 in | | excellent | | | 1 | | COPYRIGHT | |
| hagbark hickory | 12.7 in | | good | | | 3 | | This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Grou forbidden. Written dimensions shall have precedence over scaled dimension | p is ns. |
| ed maple | 8.9 in 8 5 in | | poor | | | 1 | | Contractors shall verify and be responsible for all dimensions and conditions the job, and IBI Group shall be informed of any variations from the dimensions conditions shown on the drawing. Shon drawings shall be submitted to IBI Gr | on and |
| wild black cherry | 12.1 in | | good | | | - | | for general conformance before proceeding with fabrication. | oup |
| American elm | 12.4 in | | fair | | | - | | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies | |
| ed oak | 16.5 in | | excellent | Y | | 17 | | ISSUES | |
| oitternut hickory | 13.0 in | | excellent | | | 6 | | No. DESCRIPTION DAT | E |
| ed oak | 8.1 in | | excellent | | | 1 | | A AREA PLAN 2021-1 B AREA PLAN AMENDMENT 2021-1 | 1-29 |
| oitternut hickory | 12.0 in | | excellent | | | - | | C PRELIMINARY SITE DESIGN 2022-0 | 1-26 |
| ed oak | 22.5in | | excellent | Y | | - | | D 30% OWNER REVIEW 2022-0 E 60% OWNER REVIEW 2022-0 | 2-18 3-18 |
| ed oak | 12.2 m 12.6 in | | excellent | | | - | | 0 ISSUED FOR BIDS 2022-0- | 4-01 |
| ourr oak | 13.1 in | | excellent | | | - | | An Sn | |
| American elm | 8.5 in | | good | | | - | | | |
| nagbark hickory | 11.0 in 8 1 in | | good | | | - | | | |
| plack walnut | 12.0 in | | good | | | _ | | - Recthe | |
| olack walnut | 9.1 in | | good | | | - | | Ma | |
| ed cedar | 2.4 in | 12 ft | good | | | - | | | |
| American elm | 13.8 in | | good | | | - | | PLEASE CONFIRM KEYPLAN BOX | |
| ed cedar | 2.6 in | 14 ft | good | = | | | | | |
| black walnut | 13.4 in | | good | | | - | | - | |
| black walnut | 8.2 in | 1 <i>4</i> f+ | good | | | - | | | |
| black walnut | 9.5 in | 14 L | good | | | - | | | |
| olack walnut | 9.1 in | | good | | | - | | | |
| white mulberry | 9.6 in | | fair | | | - | | | |
| suppery elm box elder | 10.7 in 80 in | | good | | | - | | CONSULTANTS | |
| <u>pox el</u> der | 13.4 in | | poor | | | | | | |
| wild black cherry | 11.1 in | | good | | | - | | | |
| nawthorn | 8.3 in | | good | | | - | | _ | |
| oox elder wild black cherry | 9.1 in 10.9 in | | poor excellent | | | - | | - | |
| white mulberry | 14.6 in | | fair | | | - | | - | |
| olack walnut | 8.7 in | | good | | | - | | - | |
| olack walnut | 8.6 in | | good | | | - | | _ | |
| oox elder wild black cherry | 11.0 in 8 7 in | | tair excellent | | | - | | - | |
| pox elder | 9.5 in | | dead or dying | | | - | | | |
| white ash | 10.8 in | | good | | | - | | | |
| olack walnut | 10.0 in | | good | | | - | | - | |
| biack wainut box elder | 8.3 in | | good poor | | | - | | - | |
| wild black cherry | 10.6 in | | fair | | | _ | | - | |
| olack walnut | 12.2 in | | good | | | - | | | |
| olack walnut | 8.9 in | | good | | | - | | _ | |
| plack walnut | 9.1 m 15.9 in | | good | | | - | | | |
| oox elder | 9.1 in | | poor | | | - | | SEAL | |
| black walnut | 21.1 in | | excellent | Y | | - | | _ | |
| oox elder | 15.2 in 14.4 in | | poor fair | | | - | | _ | |
| nackberry | 14.4 m | | good | | | _ | | - | |
| olack walnut | 34.2 in | | good | Y | | - | | | |
| olack walnut | 13.5 in | | excellent | | | - | | _ | |
| basswood box elder | 11.5 in | | good fair | | | - | | | |
| <u>pox elde</u> r | 8.5 in | | dead or dying | | | - | | | |
| box elder | 9.8 in | | dead or dying | | | - | | _ | |
| bitternut hickory | 9.4 in | | excellent | | | - | | | |
| box elder | o./in 15.4 in | | good poor | | | - | | - | |
| oox elder | 13.3 in | | poor | | | - | | | |
| black walnut | 18.9 in | | excellent | Y | | - | | | |
| piack walnut | 16.7 in | | excellent | v | | - | | | |
| <u>American elm</u> | 11.0 in | | good | - | | - | | | |
| box elder | 9.3 in | | poor | _ | | - | | | |
| bitternut hickory | 15.2 in | | excellent | | | - | | 25200 Telegraph Road - Suite 300 | |
| ласк wainut basswood | 15.01n 8.01n | | good | | | - | | - D I Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 | |
| plack walnut | 9.9 in | | excellent | | | - | | ibigroup.com | |
| black walnut | 9.1 in | | good | | | - | | PROJECT | |
| black walnut | 15.2 in | | good | | | - | | Hyundai STIL | |
| black walnut | 9.2 in 31.9 in | | fair | Y | | 32 | | - | |
| ed cedar | 4.0 in | 13 ft | good | | | - | | 6800 Geddes Rd Superior Charter Tw | р, |
| ed cedar | 1.8 in | 12 ft | good | | | _ | | MI 48198 | • ′ |
| ed cedar | 2.9 in | 12 ft | good | | | - | | PROJECT NO: | |
| eu ceuar Scotch pine | 5.9 in 11.5 in | 32 ft | excellent | | | 6 | | 134894 | |
| plack walnut | 17.9 in | | good | | | 6 | | DRAWN BY: CHECKED BY: | |
| black walnut | 17.0 in | | good | | | 6 | | G TANNAR | |
| black walnut | 8.9 in | | good | | | 1 | | APPROVED BY: | |
| black walnut | 8.1 in | | good | | | 1 | | | |
| olack walnut | 10.4 in | | good_ | | | 1 | | | |
| black walnut | 19.1 in | | good | Y | | 19 | | TREE SURVEY SCHEDL | JLE |
| black walnut | 26.8in | | fair | Y | | 27 | | | |
| black walnut | 12.6 in | | fair | | | 3 | | | |
| olack walnut | 21.3 in | | fair | Y | | 21 | | SHEET NUMBER ISSU | E |
| olack walnut | 15.5 in | | good | | | 3 | | CD-106 | |

| | | | TREE | E SURVE | Y SCHE | DULE | | D | | г |
|---------|---------|--------------------|---------------------|----------|--------|---------------|----------|-----------|----------|--------------|
| TAG NO. | REMOVED | SCIENTIFIC NAME | COMMON NAME | (INCHES) | (FEET) | CONDITION | LANDMARK | SOVEREIGN | REQUIRED | <u>notes</u> |
| 1943 | | Morus alba | white mulberry | 8.0 in | | good | | | 1 | |
| 1944 | | Juglans nigra | black walnut | 12.7 in | | fair | | | - | |
| 1945 | | Juglans nigra | black walnut | 8.1 in | | fair | | | - | |
| 1946 | | Acer negundo | box elder | 9.3 in | | dead or dying | | | - | |
| 1947 | | Acer negundo | box elder | 9.0 in | | fair | | | - | |
| 1948 | | Juglans nigra | black walnut | 10.9 in | | good | | | - | |
| 1949 | | Acer negundo | box elder | 13.6 in | | fair | | | - | |
| 1950 | | Salix nigra | black willow | 8.6 in | | good | | | - | |
| 1951 | | Acer negundo | box elder | 9.3 in | | poor | | | - | |
| 1952 | | Juglans nigra | black walnut | 20.9 in | | fair | Y | | - | |
| 1953 | | Acer negundo | box elder | 10.0 in | | poor | | | - | |
| 1954 | | Juglans nigra | black walnut | 9.1 in | | excellent | | | - | |
| 1955 | | Acer negundo | box elder | 8.2 in | | poor | | | - | |
| 1956 | | Juglans nigra | black walnut | 10.2 in | | excellent | | | - | |
| 1957 | | Salix nigra | black willow | 17.1 in | | fair | | | - | |
| 1958 | | Salix nigra | black willow | 15.6 in | | good | | | - | |
| 1959 | | Juglans nigra | black walnut | 23.1 in | | fair | Y | | - | |
| 1960 | | Populus deltoides | cottonwood | 17.7 in | | good | | | - | |
| 1961 | | Juglans nigra | black walnut | 8.1 in | | good | | | - | |
| 1962 | | Populus deltoides | cottonwood | 42.1 in | | good | | | - | |
| 1963 | | Juglans nigra | black walnut | 8.0 in | | good | | | - | |
| 1964 | | Juglans nigra | black walnut | 9.0 in | | excellent | | | - | |
| 1965 | | Juglans nigra | black walnut | 11.5 in | | excellent | | | - | |
| 1966 | | Juglans nigra | black walnut | 9.1 in | | good | | | - | |
| 1967 | | Juglans nigra | black walnut | 8.3 in | | excellent | | | - | |
| 1968 | | Acer negundo | box elder | 8.3 in | | poor | | | - | |
| 1969 | | Juglans nigra | black walnut | 11.7 in | | good | | | - | |
| 1970 | | Juglans nigra | black walnut | 8.8 in | | excellent | | | - | |
| 1971 | | Juglans nigra | black walnut | 13.9 in | | good | | | - | |
| 1972 | | Juglans nigra | black walnut | 16.6 in | | excellent | | | - | |
| 1973 | | Juglans nigra | black walnut | 11.7 in | | excellent | | | - | |
| 1974 | | Morus alba | white mulberry | 8.0 in | | fair | | | - | |
| 1975 | | Juglans nigra | black walnut | 10.3 in | | excellent | | | 1 | |
| 1976 | | Prunus serotina | wild black cherry | 19.7 in | | fair | Y | | - | |
| 1977 | | Prunus serotina | wild black cherry | 8.4 in | | excellent | | | - | |
| 1978 | | Juglans nigra | black walnut | 12.0 in | | good | | | - | |
| 1979 | | Juglans nigra | black walnut | 9.5 in | | good | | | - | |
| 1980 | | Ulmus americana | American elm | 10.7 in | | excellent | | | - | |
| 1981 | | Juglans nigra | black walnut | 8.0 in | | excellent | | | - | |
| 1982 | | Juglans nigra | black walnut | 8.5 in | | good | | | - | |
| 1983 | | Populus deltoides | cottonwood | 32.8 in | | excellent | | | - | |
| 1984 | | Juglans nigra | black walnut | 15.2 in | | good | | | - | |
| 1985 | | Salix amygdaloides | peach-leaved willow | 8.5 in | | good | | | - | |
| 1986 | | Juglans nigra | black walnut | 10.1 in | | excellent | | | - | |
| 1987 | | Juglans nigra | black walnut | 15.2 in | | excellent | | | - | |
| 1988 | | Ulmus americana | American elm | 11.2 in | | excellent | | | - | |
| 1989 | | Ulmus americana | American elm | 9.4 in | | good | | | - | |
| 1990 | | Ulmus americana | American elm | 8.4 in | | good | | | - | |
| 1991 | | Ulmus americana | American elm | 9.0 in | | excellent | | | - | |
| 1992 | | Juglans nigra | black walnut | 15.9 in | | excellent | | | - | |
| 1993 | | Juglans nigra | black walnut | 17.8in | | excellent | | | - | |
| 1994 | | Acer negundo | box elder | 8.2 in | | poor | | | - | |
| 1995 | | Juglans nigra | black walnut | 11.0 in | | excellent | | | - | |
| 1996 | | Juglans nigra | black walnut | 8.7 in | | excellent | | | - | |
| 1997 | | Juglans nigra | black walnut | 16.7 in | | excellent | | | - | |
| 1998 | | Juglans nigra | black walnut | 15.6 in | | good | | | - | |
| 1999 | | Acer negundo | pox elder | 8./in | | poor | | | - | |
| 2000 | | jugians nigra | plack walnut | 8.1 in | | good | | | - | |

TOTAL REPLACEMENT TREES: 2,109

| CLIEN | т | AT | | | | | | |
|---|---|---|---|--|--|--|--|--|
| | C | Z | | | | | | |
| | ľ | | 71/ | | | | | |
| | | | | | | | | |
| HATCI MICHIGAN R&D CENTER SUPERIOR TOWNSHIP, MICHIGAN | | | | | | | | |
| | | | | | | | | |
| repro | This drawing had | as been prepared s bution for any purpo | olely for the intended use, ose other than authorized | thus any by IBI Group is d dimonsions | | | | |
| Cor the jo cond | htractors shall ve b, and IBI Group itions shown on | rify and be respons shall be informed the drawing. Shop | ible for all dimensions and of any variations from the drawings shall be submitte | conditions on dimensions and ed to IBI Group | | | | |
| | for genera | I conformance befo | re proceeding with fabrica | tion. | | | | |
| | | a member of the IB | I Group of companies | inc. | | | | |
| No. | 5 | DESCRIPT | ION | DATE | | | | |
| A B | AREA PLA | AN AN AMENDME | INT | 2021-10-27 2021-11-29 | | | | |
| С | PRELIMIN | IARY SITE DE | SIGN | 2022-01-26 | | | | |
| D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 | | | | | | | | |
| 0 ISSUED FOR BIDS 2022-03-10 | | | | | | | | |
| | | L | 08,01 | 4 | | | | |
| | | A X | | | | | | |
| | • | MO T | <i>20</i> | | | | | |
| | | MS' | • | | | | | |
| | C | ju. | | | | | | |
| PLEAS | | RM KEYPL | AN BOX | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| CONS | υίταντς | | | | | | | |
| 110 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| SEAL | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| PRIME | | | | | | | | |
| | | иы GROUP 25200 Telegi | raph Road - Suite 3 | 800 | | | | |
| | ВI | Southfield MI tel 248 936 8 | 48033 USA 000 fax 248 936 8 | 111 | | | | |
| ╵┖ | | ibigroup.cor | n | | | | | |
| PROJE | ECT | | | | | | | |
| | | Hyund | ai STIL | | | | | |
| | | , | _ | | | | | |
| 68 | 00 Ged | des Rd Si | uperior Chart | er Twp. | | | | |
| | | MI 4 | 8198 | | | | | |
| PROJE | | | | | | | | |
| 134894 | | | | | | | | |
| DRAWN BY: CHECKED BY: | | | | | | | | |
| | | | | | | | | |
| PROJECT MGR: APPROVED BY: D KASSAB | | | | | | | | |
| SHEET TITLE | | | | | | | | |
| | | | | | | | | |
| TRE | EE SI | URVE | Y SCHE | EDULE | | | | |
| | | | | | | | | |
| 011000 | | D | | | | | | |
| SHEET | | | - | ISSUE | | | | |
| | С | D-107 | 7 | | | | | |
| | | | | 1 | | | | |



| AVEMENT) | SWSL/4" 4" WIDE SINGLE WHITE SOLID LINE (TYP FOR PARKING) | |
|--|---|---|
| SPHALT PJ | SBSL/4" 4" WIDE SINGLE BLUE SOLID LINE (TYP FOR ADA) | |
| e mdth a | SYSL/4" 4" WIDE SINGLE YELLOW SOLID LINE | HATCI MICHIGAN R&D CENTER SUPERIOR TOWNSHIP, MICHIGAN |
| (variabu | DETECTABLE WARNING STRIP PER ADA STANDARDS | COPYRIGHT |
| | | This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall varify and be removes the for all dimensions are the use the second |
| | NEW BUILDING OUTLINE | Contractors shall verify and be responsible for all dimensions and conditions on the job, and IB Group shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. |
| | PARKING LOT/STANDARD DUTY ASPHALT PAVEMENT | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| | TESTING FACILITY ASPHALT PAVEMENT | ISSUES No. DESCRIPTION DATE |
| | HEAVY DUTY CONCRETE PAVEMENT - IAW DETAIL SHEET CT-606 | A AREA PLAN 2021-10-27 B AREA PLAN AMENDMENT 2021-11-29 |
| | CONCRETE SIDEWALK- IAW DETAIL SHEET CT-606 | C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 |
| | AGGREGATE SURFACE- IAW DETAIL SHEET CT-606 | E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01 |
| 6-1 22.73 | PATIO SEATING | OR ON |
| | LANDSCAPE VEGETATION | in the crite |
| | LIGHT POLE - SEE ELECTRICAL PLANS | NUSTRO |
| | XX 8' HIGH WILDLIFE/SECURITY FENCE- IAW DETAIL SHEET CT-606 CENTER OF SWALE | CONS |
| | E E E E E LIMITS OF DISTURBANCE | PLEASE CONFIRM KEYPLAN BOX |
| | | |
| | | |
| ANN=119.77 CAS NSER | | |
| | | |
| | | CONSULTANTS |
| | | |
| LEF | | |
| ORGE F | | |
| RD. | | |
| 4' DUA, PRECAST 12" RCV 803.57 5 12" RCV 803.55 N | | |
| | | |
| | | |
| 1©I | | |
| (m).4 | | |
| 1555.7 | | |
| TH ASPHALT PL | | SEAL |
| 6 ¹⁷ E (vvrale w the east | | |
| 4' DIA PRECAST 12" PVD 797.56 N 12" PVD 797.56 S | | |
| 20S | | |
| | | |
| | | |
| A | | |
| | | |
| | | |
| | | |
| | | |
| 4 ⁴ 04.786265 17 ²¹ * 7869 5 12 ²⁴ * 7669 N (² UNABE TO VERFY) | | IBI GROUP 25200 Telegraph Road - Suite 300 |
| 369.5 | | B Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 ibigroup com |
| | | |
| | | Hyundai STIL |
| | | |
| | A | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| (M), oc | TRUE PLANT WHEN DIGGING | PROJECT NO: |
| 4' DA. PREDAT | NUKIH NUKIH | DRAWN BY: CHECKED BY: |
| E 1/4 COR. SEC. 32 | MISS DIG | G TANNAR PROJECT MGR: APPROVED BY: |
| izs− R 7E | S WORKING DAYS BEFORE STARTING YOUR PROJECT | D KASSAB |
| | 1-800-482-7171 (TOLL FREE) | |
| | HORIZONTAL SCALE | OVERALL SITE PLAN |
| | 100 FT 0 FT 50 FT 100 FT 200 FT 400 FT 400 FT | |
| | 30.5 M 0 M 15.2 M 30.5 M 61.0 M 122.0 M | |
| | $1 \text{ inch} = 100 \text{ feet} (24" \times 36")$ | |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CS-200 Overall Site Plan.dwg



J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CS-201 Site Plan.dwg



| | | CLIENT |
|--|---|--|
| 4' DIA. PRECAST 12" RCP 803.37 S 12" RCP 803.55 N MH SAN PT #1888 RIM B18.35 | CIVIL LEGEND – SITE SWSL/4" 4" WIDE SINGLE WHITE SOLID LINE (TYP FOR PARKING) SBSL/4" 4" WIDE SINGLE BLUE SOLID LINE (TYP FOR ADA) SYSL/4" 4" WIDE SINGLE YELLOW SOLID LINE ACCESSIBLE PARKING SPACE AND ACCESS AISLE DETECTABLE WARNING STRIP PER ADA STANDARDS NEW BUILDING OUTLINE PARKING LOT/STANDARD DUTY ASPHALT PAVEMENT TESTING FACILITY ASPHALT PAVEMENT | CLIENT Image: Constraint of the second s |
| SPHALT PAVEMENT) | IAW DETAIL SHEET CT-606 IAND SCAPE VEGETATION IIGHT POLE – SEE ELECTRICAL PLANS IAW DETAIL SHEET CT-606 IAW DETAIL SHEET CT-606 </td <td>A AREA PLAN 2021-00-21 B AREA PLAN AMENDMENT 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01</td> | A AREA PLAN 2021-00-21 B AREA PLAN AMENDMENT 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01 |
| HLCIM JIRVIN 4' DIA, PRECAST 12" PVC 797.86 N 12" PVC 797.86 S MH SAN PT #1821 RIM 810.76 | | CONSULTANTS |
| SAN - | | SEAL |
| MH SAN PT # 1727 RIM 800.44 4' DIA. PRECAST 12" * 786.69 S 12" * 786.69 N (* UNABLE TO VERIFY) (93', ROW, 120' 100' 1 | | PRIME CONSULTANT Image: Book of the system of the |
| MH SAN PT # 695 RIM. 797.73 4 DD. PT # 695 RIM. 797.73 12" * 785.61 N | TRUE PLANT WIEN DIGGNG NORTH NORRTH WIEN DIGGNG NORTH NORRTH WIEN DIGGNG NORTH NORRTH WIEN DIGGNG NORTH NORRTH WIEN DIGGNG NORTH NORTH NORTH NORTH NORTH NORTH <td>PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: G TANNAR PROJECT MGR: D KASSAB SHEET TITLE SITE PLAN</td> | PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: G TANNAR PROJECT MGR: D KASSAB SHEET TITLE SITE PLAN |
| * UNABLE TO VERIENT 50 FT 15.2 M | 0 FT 25 FT 50 FT 100 FT 200 FT 0 M 7.6 M 15.2 M 30.5 M 61.0 M 1 inch = 50 feet (24"x36") | SHEET NUMBER ISSUE |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CS-201 Site Plan.dwg



Hyundai STIL

6800 Geddes Rd Superior Charter Twp,

APPROVED BY:

ISSUE

DATE

2021-10-27

2021-11-29

2022-01-26

2022-02-18

2022-03-18

2022-04-01

FIRE PROTECTION PLAN

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CS-203 Fire Protection Plan.dwg



J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-300 Overall Grading Plan.dwg

| / | | . <u> </u> | |
|----------------------|--|---|---|
| ~ | | CLIENT | |
| | 1. FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL | | |
| | 2. EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND | | |
| / | (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED. | | |
| | 4. REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. | HATCI MICHIGAN R&D CENT SUPERIOR TOWNSHIP, MICHI | ⊑ĸ GAN |
| | WHERE PROP. ASPHALT MEETS EXISTING. | | |
| | TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1' REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB | This drawing has been prepared solely for the intended use, the reproduction or distribution for any purpose other than authorized by | hus any y IBI Group is |
| | 7. REMOVE CONCRETE COLLAR ADJUST RIM ELEVATION TO -0.2' BELOW LOWEST ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR | Contractors shall verify and be responsible for all dimensions and c the job, and IBI Group shall be informed of any variations from the di conditions shown on the drawing. Shop drawings shall be submitted | conditions on mensions and d to IBI Group |
| \sim | UPON COMPLETION 8. ADJUST STRUCTURE PER MECHANICAL PLAN | for general conformance before proceeding with fabrication | on. nc. |
| | | is a member of the IBI Group of companies | |
| | CIVIL LEGEND - GRADING & DRAINAGE | No. DESCRIPTION | DATE |
| | MH ## MAN HOLE | B AREA PLAN AMENDMENT | 2021-10-27 2021-11-29 |
| | CB ## CATCH BASIN | C PRELIMINARY SITE DESIGN 2 D 30% OWNER REVIEW 2 | 2022-01-26 2022-02-18 |
| | ST-STORM DRAINAGE PIPE | E 60% OWNER REVIEW | 2022-03-18 2022-04-01 |
| | PROP. UNDERDRAIN | n Ro | |
| 179 | | 5 FO' 510' | |
| 796 ₇₉₇₇₉ | <i>sol 890</i> × EXISTING SPOT GRADE | NO'QUU | |
| | 65 EXISTING CONTOUR | institution of the second s | |
| | RIDGE LINE | CO/- | |
| | x123.15 PROP. GRADE SPOT ELEVATION RIM: STRUCTURE RIM/FLOW LINE | PLEASE CONFIRM KEYPLAN BOX | |
| | HYD: HYDRANT, VLV: VALVE | | |
| (FFE: | → SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING | | |
| | ← ← ← CENTER OF SWALE | | |
| | -1.1% SLOPE AND SLOPE DIRECTION | | |
| DELIVERY | LIMITS OF DISTURBANCE | | |
| ARE | | CONSULTANTS | |
| | | | |
| KING | | | |
| | | | |
| | <u>GRADING & DRAINAGE NOTES</u> : 1. UNLESS NOTED OTHERWISE, ALL SPOTS/DIMENSIONS PROVIDED ARE TO: | | |
| | -TOP OF PAVEMENT/WALK/TOPSOIL -FACE/FLOW LINE OF CURB/DITCH | | |
| | -FLOW LINE OF STORM INLET/END SECTION -CENTER OF MANHOLE RIM -BASE FLANCE CRADE OF HYDRANT/PIV | | |
| | SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM | | |
| | DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS. 4. PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS | | |
| | CONTACT ENGINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE PROPOSED DESIGN OPERATION OF THE UTILITY. | | |
| DE IVERY/STAG | 5. HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING, REFER TO THE | | |
| | ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION. | | |
| | | | |
| | | SEAL | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 815 | | | |
| 818 5 S | | | |
| H | | 25200 Telegraph Road - Suite 30 Southfield MI 48033 USA tel 248 936 8000 for 248 936 84 |)0 11 |
| | | ibigroup.com | |
| | | PROJECT | |
| | | Hyundai STIL | |
| REA: SETBACK | | 6800 Geddes Rd Superior Charts | er Two |
| | An | MI 48198 | νινν μ , |
| | TRUE PLANT | PROJECT NO: | |
| | NORIH NORIH | DRAWN BY: CHECKED BY: | |
| | | G TANNAR | , |
| | MISS DIG 3 WORKING DAYS | PROJECT MGR: APPROVED BY | (: |
| | BEFORE STARTING YOUR PROJECT $1 - 800 - 482 - 7171$ | SHEET TITLE | |
| | | GRADING PI AN | 1 |
| | HORIZONTAL SCALE | | - |
| 50 FT | | | |
| – 15.2 M | 0 M 7.6 M 15.2 M 30.5 M 61.0 M | | IJJUE |
| | 1 inch = 50 feet (24"x36") | 00-301 | |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-301 Grading Plan.dwg

| 4' DIA. PRECAST 12" RCP 803.37 S 12" RCP 803.55 N MH SAN PT #1888 RIM 818.35 -815- B14- EFORGE 814- EFORGE 814- 81 | KEYNOTES: FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED. SLOPE TO STORM INLET REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. PLACE 1" EXPANSION JOINT WHERE PROP. CURB MEETS EXISTING, BUTT JOINT WHERE PROP. ASPHALT MEETS EXISTING. TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1" REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REPLACE CUBB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REPLACE CUBB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REPLACE CUBB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REPLACE CUBB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REPLACE CUBB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB REMOVE CONCRETE COLLAR ADJUST RIM ELEVATION TO -0.2" BELOW LOWEST ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR UPON COMPLETION ADJUST STRUCTURE PER MECHANICAL PLAN CIVIL LEGEND — GRADING & DRAINAGE FORP. UNDERDRAIN F FIRE MAIN F FORP. CONTOUR \$20,000 \$20,000 FORP. GRADE SPOT GRADE F ROP. GRADE SPOT GRADE F SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING CONTOUR C SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING C CONTER OF SWALE | <image/> |
|--|--|---|
| VaRIAB | -1.1% SLOPE AND SLOPE DIRECTION | |
| A DIA PRECAST | LIMITS OF DISTURBANCE | |
| MH SAN | | CONSULTANTS |
| NYS NYS MH SAN PT #1727 RIM 800.44 4' DIA. PRECAST 12" * 786.69 N (*' UNABLE TO VERIFY) NYS S | GRADING & DRAINAGE NOTES: UNLESS NOTED OTHERWISE, ALL SPOTS/DIMENSIONS PROVIDED ARE TO: -TOP OF PAVEMENT/WALK/TOPSOIL -FACE/FLOW LINE OF CURB/DITCH -FLOW LINE OF STORM INLET/END SECTION -CENTER OF MANHOLE RIM BASE FLANGE GRADE OF HYDRANT/PIV SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED. GENERAL CONTRACTOR SHALL COORDINATE ALL STE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS. PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BULDING CONNECTIONS WITH MECH. PLANS. CONTACT ENGINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE PROPOSED DESIGN OPERATION OF THE UTILITY. HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING, REFER TO THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION. | SEAL |
| (93' ROW, 120' FUTURE NYS | Image: State of the state | PRIME CONSULTANT BI GROUP 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 ibigroup.com PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: CHECKED BY: G TANNAR PROJECT MGR: APPROVED BY: CHECKED BY: GRADING PLAN |
| | | SHEET NUMBER ISSUE |
| 15.2 M | 0^{M} 7.6 M 15.2 M 30.5 M 61.0 M 1 inch = 50 feet (24"x36") | CG-302 |
| | | |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-301 Grading Plan.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-303 Test Track Profile.dwg

| | | CLIENT |
|------------|---|---|
| | <u>KEYNOTES</u> : \checkmark 1. FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL | |
| 807.5 | EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED. | |
| 807.77 | SLOPE TO STORM INLET REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. PLACE 1" EXPANSION JOINT WHERE PROP CURB MEETS EXISTING BUTT JOINT | HATCI MICHIGAN R&D CENTER SUPERIOR TOWNSHIP, MICHIGAN |
| 807.90 | WHERE PROP. ASPHALT MEETS EXISTING. 5. TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1' | COPYRIGHT |
| 803 | 6. REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB | This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on |
| 805 806 | ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR UPON COMPLETION | the job, and IBI Group shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. |
| 807 | 8. ADJUST STRUCTURE PER MECHANICAL PLAN | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| | civil legend – grading & drainage | No. DESCRIPTION DATE A AREA PLAN 2021-10-27 |
| | MH ## MAN HOLE | BAREA PLAN AMENDMENT2021-11-29CPRELIMINARY SITE DESIGN2022-01-26 |
| | CB ## CATCH BASIN | D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 |
| | PROP. UNDERDRAIN | 0 ISSUED FOR BIDS 2022-04-01 |
| | FIRE MAIN | TFOR TION |
| | * 30.890X EXISTING SPOT GRADE | NO RUU |
| | | cons. |
| | *123.15 PROP. GRADE SPOT ELEVATION | |
| | HP: HIGH POINT HYD: HYDRANT, VLV: VALVE | FLEASE CONFIRM RETFLAN BOX |
| | SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING DRAINAGE FLOW ARROW | |
| | | |
| | -1.1% SLOPE AND SLOPE DIRECTION | |
| | LIMITS OF DISTURBANCE | CONSULTANTS |
| - | | |
| | | |
| | <u>GRADING & DRAINAGE NOTES:</u> | |
| 807.90 | UNLESS NOTED OTHERWISE, ALL SPOTS/DIMENSIONS PROVIDED ARE TO: -TOP OF PAVEMENT/WALK/TOPSOIL -EACE /ELOW LINE OF CLUBB /DITCH | |
| | -FLOW LINE OF STORM INLET/END SECTION -CENTER OF MANHOLE RIM | |
| 807.67 | BASE FLANGE GRADE OF HIDRANI/PIV SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM | |
| | PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS. CONTACT ENCINE AND OWNED WITH ANY CONFLICTS THAT MAY INDACT THE | |
| 3 | PROPOSED DESIGN OPERATION OF THE UTILITY. 5. HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE | |
| 807.15 | TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING, REFER TO THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION. | |
| 807.22 | | |
| | | SEAL |
| | | |
| | | |
| | | |
| / | | |
| | | |
| BATTERY | | |
| 80f | | |
| | | |
| | | |
| 808.50 | | IBI GROUP 25200 Telegraph Road - Suite 300 |
| 809.50 | | B Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 ibigroup.com |
| | | PROJECT |
| | | Hyundai STIL |
| | | 6800 Geddes Rd Superior Charter Twp. |
| 8.25 | | MI 48198 |
| 809.50 | NORTH NORTH | PROJECT NO: 134894 |
| /809.00 | | DRAWN BY: CHECKED BY: G TANNAR |
| | MISS DIG 3 WORKING DAYS | PROJECT MGR: APPROVED BY: DKASSAB |
| | BEFORE STARTING YOUR PROJECT 1-800-482-7171 | |
| 811 | (TOLL FREE) | PLAN |
| 60 F1 | 0 FT 30 FT 60 FT 120 FT 240 FT 240 FT | |
| | M 0 M 9.1 M 18.3 M 36.6 M 73.2 M | SHEET NUMBER ISSUE |
| | 1 inch = 30 feet (24"x36") | CG-310 |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-310 Detailed Grading Plan.dwg

| | KEYNOTES: | CLIENT |
|---------------------|---|---|
| | 1. FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL | |
| | 2. EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED. | |
| | SLOPE TO STORM INLET REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. | HATCI MICHIGAN R&D CENTER SUPERIOR TOWNSHIP, MICHIGAN |
| | WHERE PROP. ASPHALT MEETS EXISTING. 5. TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1' | COPYRIGHT |
| | 6. REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB 7. REMOVE CONCRETE COLLAR ADJUST RIM ELEVATION TO −0.2' BELOW LOWEST | reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and |
| | ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR UPON COMPLETION | conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. IBI Group Professional Services (USA) Inc. |
| | 8. ADJUST STRUCTURE PER MECHANICAL PLAN | is a member of the IBI Group of companies |
| | <u>CIVIL LEGEND – GRADING & DRAINAGE</u> | No. DESCRIPTION DATE A AREA PLAN 2021-10-27 |
| | MH ## MAN HOLE | B AREA PLAN AMENDMEN I 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 |
| | ■ [©] ^{CB} ## CATCH BASIN ST STORM DRAINAGE PIPE | E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01 |
| | PROP. UNDERDRAIN | OR ON |
| | FIRE MAIN 65 FIRE MAIN PROP. CONTOUR | 10T FUICTIO |
| 823 - | [*] ^δ ³ . ^d ^g ² ⁴ EXISTING SPOT GRADE | Nestro |
| 824 | | COL |
| | *123.15 PROP. GRADE SPOT ELEVATION RIM: STRUCTURE RIM/FLOW LINE HP: HIGH POINT | PLEASE CONFIRM KEYPLAN BOX |
| | HYD: HYDRANT, VLV: VALVE SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING | |
| | DRAINAGE FLOW ARROW | |
| W5A / PEM ~ | -1.1% SLOPE AND SLOPE DIRECTION | |
| | LIMITS OF DISTURBANCE | CONSULTANTS |
| AIED | | |
| | | |
| | GRADING & DRAINAGE NOTES | |
| | 1. UNLESS NOTED OTHERWISE, ALL SPOTS/DIMENSIONS PROVIDED ARE TO: -TOP OF PAVEMENT/WALK/TOPSOIL | |
| | -FACE/FLOW LINE OF CURB/DITCH -FLOW LINE OF STORM INLET/END SECTION -CENTER OF MANHOLE RIM | |
| | -BASE FLANGE GRADE OF HYDRANT/PIV 2. SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED. 3. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DATING INSTALLATION SOLIFICIUM FOR TO AVAIL DATING AND FLATE | |
| | DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS. PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS. CONTACT ENCINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE | |
| | PROPOSED DESIGN OPERATION OF THE UTILITY. 5. HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOCRAPHICAL SURVEY BY LIVINGSTON ENGINEERING REFER TO THE | |
| | ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION. | |
| ,3 | | |
| all | | SEAL |
| 0 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 10' BASIN ¬ | | |
| GREENBELT BUFFER | | |
| 1- | | B I 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 |
| | | ibigroup.com |
| | | PROJECT Hyundai STIL |
| | | |
| | La | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| | TRUE PLANT WHEN DIGGING NORTH NORTH WHEN DIGGING OR WORKING NEAR OVERHEAD | PROJECT NO: 134894 |
| | | DRAWN BY: CHECKED BY: G TANNAR |
| | MISS DIG | PROJECT MGR: APPROVED BY: D KASSAB |
| | BEFORE STARTING YOUR PROJECT 1-800-482-7171 | |
| | | PI AN |
| | | |
| 18.3 M | 0 M 9.1 M 18.3 M 36.6 M 73.2 M | SHEET NUMBER ISSUE |
| | 1 inch = 30 feet (24"x36") | UG-311 |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-310 Detailed Grading Plan.dwg

| `` | | | | | CLIENT | | |
|---|---|----------------------------------|----------------------|--|--|--|--|
| | Name CB R2B | Area 0.91 ac | C Factor | CN 90 | | $\langle \rangle$ | |
| ASPHALT PAN | CB R3A CB R3B CB R5 | 0.85 ac 0.44 ac 0.31 ac | 0.91 0.95 0.67 | 96 98 86 | | | |
| HLIOM THE CALL IN THE CALL INTERCE. | CB R6 CB R7 CB R7A | 0.72 ac 0.25 ac 0.16 ac | 0.66 0.89 0.89 | 95 95 | HATCI MICHIGA SUPERIOR TOWI | N R&D CEN NSHIP, MICH | IGAN |
| С С С С С | CB R8 CB R9 EAST BASIN | 0.62 ac 0.55 ac 0.73 ac | 0.70 0.68 0.55 | 87 86 80 | COPYRIGHT This drawing has been prepared s reproduction or distribution for any purp forbidden. Written dimensions shall ha | olely for the intended use, ose other than authorized b ve precedence over scaled | thus any by IBI Group is I dimensions. |
| EFORG | FCIL NORTH FCIL SOUTH FCIL WEST | 1.07 ac 0.94 ac 0.83 ac | 0.68 0.67 0.81 | 83 86 91 | Contractors shall verify and be respons the job, and IBI Group shall be informed conditions shown on the drawing. Shop for general conformance befo | ible for all dimensions and of any variations from the c drawings shall be submitte re proceeding with fabricat | conditions on limensions and ed to IBI Group ion. |
| E E | INLET R2C INLET R4A INLET R4B | 0.88 ac 0.40 ac 0.55 ac | 0.71 0.92 0.88 | 88 97 95 | IBI Group Profession is a member of the IE ISSUES | al Services (USA) Il Group of companies | Inc. |
| | INLET R7B INLET R10 ROOF AB | 0.04 ac 0.25 ac 0.67 ac | 0.89 0.56 0.95 | 95 81 98 | No. DESCRIPT A AREA PLAN B AREA PLAN AMENDME | | DATE 2021-10-27 2021-11-29 |
| | ROOF CD SOUTH SWALE TEST TRACK CDS | 0.67 ac 0.45 ac 0.11 ac | 0.95 0.49 0.77 | 98 78 90 | C PRELIMINARY SITE DE D 30% OWNER REVIEW E 60% OWNER REVIEW | SIGN | 2022-01-26 2022-02-18 2022-03-18 |
| | TEST TRACK EAST TEST TRACK WEST VDA | 0.76 ac 4.75 ac 4.65 ac | 0.61 0.48 0.77 | 83 76 90 | 0 ISSUED FOR BIDS | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | 2022-04-01 |
| | WEST BASIN WEST SWALE WETLAND W4A | 1.90 ac 2.98 ac 0.71 ac | 0.43 0.48 0.57 | 69 73 81 | JOTE | | |
| | Total Name | 28.14 ac Area | 0.65 C Factor | 84 CN | NST | K | |
| | East Basin West Basin | 6.13 ac 20.84 ac | 0.72 0.64 | 88 83 | | AN BOX | |
| | | | | | | ~ | |
| Ru-613.77 005 005 005 | | | | | | | |
| | | | | | | | |
| | | | | | CONSULTANTS | | |
| 68 (9) | | | | | | | |
| FORGE RI | | | | | | | |
| 12 D. 12 DA PECAST 12 Ref 803.37 5 12 Ref 803.37 5 | | | | | | | |
| RIM 818.35 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| SAN | | | | | SEAL | | |
| A DA PRECEST 12 PRO 791.764 H | | | | | | | |
| 12 14 1021 12 14 1621 12 14 1621 12 14 1621 10 176 10 176 10 176 10 176 10 176 10 176 10 176 | | | | | | | |
| NS / 804 - ~ ~ | | | | | | | |
| 12" CON INV 804.93 | | | | | | | |
| - 800 - / | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| R.M. 5 J. 44 | | | | | PRIME CONSULTANT IBI GROUP 25200 Telegi Southfield M | raph Road - Suite 3 | 00 |
| | | | | | tel 248 936 8 ibigroup.cor | 146033 03A 1000 fax 248 936 8 n | 111 |
| | | | | | PROJECT Hyund | ai STIL | |
| | | | | | 6800 Geddes Rd St | uperior Charte | er Twp, |
| С18 ^{**} СМР ЛУУ. 792.56 | TRUF I | PLAN | Т | WHEN DICCINC | MI 4 PROJECT NO: | 8198 | |
| 92.64 Mh ShN F # 695 RIM cc7 97.73 | NORTH | NÖRT | Η | OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL | 134894 DRAWN BY: | CHECKED BY | : |
| | | RI RI | | MISS DIG | PROJECT MGR: D KASSAB | APPROVED B | Y: |
| ×******* | | | | before starting your project 1-800-482-7171 (toll free) | SHEET TITLE OVERALL | | AGE |
| | HORI | | | NLE | PL | AN | |
| | | 100 FT | 200 FT | 400 FT | SHEET NUMBER | | ISSUE |
| 30.5 M | ом 15.2 M 1 inc | ^{30.5} M h = 100 fee | et (24"x36 | 122.0 M | CG-33 | C | |

<u>STORM SEWEI</u>

| FROM | TO |
|------------|--------|
| STR | STR |
| INPUT | |
| | |
| INLET R10 | CB R9 |
| CB R9 | CB R8 |
| CB R8 | CB R7 |
| INLET R7B | CB R7A |
| CB R7A | CB R7 |
| | |
| CB R7 | CB R6 |
| CB R6 | CB R5 |
| CB R5 | MH R4 |
| | |
| | |
| INLE I K4D | |
| MH R4 | MH R3 |
| ROOF AB | CB R3B |
| CB R3B | CB R3A |
| ROOF CD | CB R3A |
| CB R3A | MH R3 |
| MH R3 | MH R2 |
| INLET R2C | CB R2B |
| CB R2B | MH R2A |
| MH R2A | MH R2 |
| | |
| MH R2 | ES R1 |

| Central Inflitration Area | |
|-------------------------------|------------|
| Top of Blorectiontion Area | 8,036 sf |
| Bottom of Bioretention Area | 6,410 sf |
| Infiltration Area (Average) - | 7,223 sf |
| Average Design Water Depth - | 8.00 In |
| Inflitration Rate - | 0.10 In/hr |
| Soll Storage Volume - | 0 c1 |
| Soli Vold Ratio - | 0.00% |

INFILTRATION AREAS

| Surface Stora ge Volume - | 4,815 cf |
|-------------------------------|------------|
| Soll Storage Volume - | Oct |
| infitiation Volume - | 361 cf |
| Bibletention System Volume - | 5,176 cf |
| West Inflitration Area | |
| Top of Biorectiontion Area | 47,481 sf |
| Bottom of Bioretention Area | 42,731 sf |
| Inflitration Area (Average) - | 45,106 sf |
| Average Design Water Depth - | 8.00 In |
| Inflitration Rate - | 0.10 In/hr |
| Soli Storage Volume - | 0 c1 |
| Soll Vold Ratio - | 0.00% |
| Surface Storage Volume - | 30,071 cf |
| Soli Storage Volume - | Ocf |
| Infitiation Volume - | 2,255 cf |
| Bingstention System Volume = | 32 326 cf |

| D Dieternion Sy sient Volume - 32,326 Cl | Dietenden sy sienn volume = 32,326 ct | Discrimination Currison Mahama - | 20200 44 | |
|--|---------------------------------------|--------------------------------------|-----------|--|
| | | Bibletention System volume • | 32,325 CT | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| WEST | BASIN | PRE-DEVELOPMEN | t areas |
|------|-------|----------------|---------|
| | | | |

| Pre-Development | Areas | CN | Area (sf) | Area (ac) |
|-----------------|-------------------------|----|------------|-----------|
| Impervious | | | | |
| | | 98 | 0 sf | 0.00 ac |
| Brush - | | | | |
| | Hydrologic Soil Group B | 56 | 66,467 sf | 1.53 ac |
| | Hydrologic Soil Group C | 70 | 93,335 sf | 2.14 ac |
| | Hydrologic Soil Group D | 77 | 63,780 sf | 1.46 ac |
| Woods - | | | | |
| | Hydrologic Soil Group B | 60 | 45,904 sf | 1.05 ac |
| | Hydrologic Soil Group C | 73 | 376,141 sf | 8.64 ac |
| | Hydrologic Soil Group D | 79 | 193,081 sf | 4.43 ac |
| | | 72 | 838,708 sf | 19.25 ac |

| R | CALCULA | <u>TIONS</u> | | | | | | | | | | | | | | | | | | | CLIENT |
|-----------------------------|---|----------------------------------|---|---|---|-------------------------------------|----------------------------------|--|---|-------------------------|---|--|--|----------------------------------|----------------------------|----------------------------|---|---|--|---|---|
| | Tributary Area | Runoff Coef | Eqivalent Impervious | Sum of Equivalent | Intensity | Time of Conc. | Flow Rate | Length of | Dia. of | Min HG Per Q | Design Slope | Velocity In Pipe | Time of | Pipe Capacity | HYDRAUL UP | IC GRADE DOWN | Rim Ele Upper | vation Lower | Invert El Upper | evation Lower | |
| 3 | A (Acres) | С | Acres C x A | Imp. Areas Sum C x A | i (in/hr) | Tc (min) | Q (cfs) | Pipe (ft) | Pipe (in) | <mark>(</mark> %) | of Pipe (%) | (Flowing Full) (fps) | Flow (min) | (cfs) | STREAM | STREAM | End | End | End | End | HATCI MICHIGAN R&D CENTER |
| 9 B 7 | 0.25 0.55 0.62 | 0.56 0.68 0.70 | 0.14 ac-imp 0.37 ac-imp 0.43 ac-imp | 0.14 ac-imp 0.51 ac-imp 0.95 ac-imp | 5.00 in/hr 4.93 in/hr 4.83 in/hr | 10.00 min 10.53 min 11.24 min | 0.70 cfs 2.54 cfs 4.57 cfs | 84.84 ft 138.22 ft 145.57 ft | 12 in 12 in 15 in | 0.04% 0.50% 0.50% | 0.35% 0.51% | 2.68 ft/s 3.24 ft/s 3.76 ft/s | 0.53 min 0.71 min 0.65 min | 2.11 cfs 2.54 cfs 4.61 cfs | 807.31 806.90 806.03 | 807.01 806.19 805.29 | 805.60 806.50 806.70 | 806.50 806.70 807.40 | 801.424 801.027 800.122 | 801.127 800.322 799.380 | COPYRIGHT |
| A | 0.02 | 0.89 | 0.04 ac-imp | 0.04 ac-imp | 5.00 in/hr | 10.00 min | 0.19 cfs | 34.97 ft | 12 in | 0.00% | 0.35% | 2.68 ft/s | 0.22 min | 2.11 cfs | 803.79 | 803.67 | 805.05 | 805.05 | 800.851 | 800.728 | reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for caperal conformance before proceeding with fabrication |
| 7 | 0.16 | 0.89 | 0.14 ac-imp | 0.18 ac-imp | 4.97 in/hr | 10.22 min | 0.88 cfs | 99.50 ft | 12 in | 0.06% | 0.35% | 2.68 ft/s | 0.62 min | 2.11 cfs | 803.55 | 803.21 | 805.05 | 806.20 | 800.628 | 800.280 | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| 5 4 | 0.72 | 0.66 | 0.22 ac-imp 0.48 ac-imp 0.21 ac-imp | 1.82 ac-imp 2.03 ac-imp | 4.70 in/hr 4.65 in/hr | 12.20 min 12.62 min | 8.57 cfs 9.44 cfs | 124.79 ft 210.11 ft | 18 in 18 in | 0.66% | 0.98% 0.67% 0.81% | 4.87 ft/s | 0.43 min 0.65 min | 8.60 cfs 9.45 cfs | 799.68 805.64 | 798.85 803.94 | 806.00 806.00 | 806.00 807.40 | 798.115 797.179 | 798.315 797.279 795.477 | ISSUESNo.DESCRIPTIONAAREA PLAN2021-10-27 |
| 4 | 0.40 | 0.92 | 0.37 ac-imp | 0.37 ac-imp | 5.00 in/hr | 10.00 min | 1.85 cfs | 55.84 ft | 12 in | 0.27% | 0.35% | 2.68 ft/s | 0.35 min | 2.11 cfs | 803.50 | 803.30 | 806.20 | 807.40 | 802.022 | 801.827 | B AREA PLAN AMENDMENT 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 |
| 4 3 | 0.00 | 0.88 | 0.49 ac-imp 0.00 ac-imp | 2.89 ac-imp | 5.00 in/hr 7.00 in/hr 4.57 in/hr | 10.00 mn 13.28 min | 2.43 cts 13.20 cfs | 55.84 π 245.52 ft | 12 in 24 in | 0.46% | 0.47% | 3.11 T/s 4.26 ft/s | 0.30 min | 2.44 crs 13.38 cfs | 803.19 | 802.93 | 805.44 | 807.40 | 795.077 | 794.218 | E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01 |
| B | 0.67 | 0.95 | 0.63 ac-imp | 0.63 ac-imp | 5.00 in/hr | 10.00 min | 3.16 cfs | 152.87 ft | 10 in | 0.99% | 2.50% | 9.18 ft/s | 0.28 min | 5.00 cfs | 809.48 | 805.66 | 807.90 | 807.90 | 803.297 | 799.476 | OT FORTION |
| A | 0.44 | 0.95 | 0.42 ac-imp | 1.05 ac-imp | 4.96 in/hr | 10.28 min | 5.20 cfs | 76.50 ft | 15 in 10 in | 0.64% | 0.65% | 4.25 ft/s | 0.30 min | 5.21 cfs | 805.13 | 804.63 799.88 | 803.60 | 807.90 | 799.142 803.450 | 798.645 | NO TRU |
| 3 | 0.85 | 0.91 | 0.77 ac-imp | 2.45 ac-imp | 4.92 in/hr | 10.58 min | 12.04 cfs | 70.25 ft | 18 in | 1.31% | 1.32% | 6.83 ft/s | 0.17 min | 12.07 cfs | 799.75 | 798.83 | 804.35 | 806.45 | 798.445 | 797.518 | |
| 2 | 0.00 | 0.00 | 0.00 ac-imp | 5.33 ac-imp | 4.46 in/hr | 14.24 min | 23.79 cfs | 236.75 ft | 36 in | 0.13% | 0.13% | 3.40 ft/s | 1.16 min | 24.05 cfs | 796.00 | 795.69 | 806.45 | 807.90 | 793.418 | 793.110 | PLEASE CONFIRM RETPLAN BOX |
| B | 0.88 0.91 | 0.71 0.77 | 0.63 ac-imp 0.70 ac-imp | 0.63 ac-imp 1.33 ac-imp | 5.00 in/hr 4.85 in/hr | 10.00 min 11.08 min | 3.13 cfs 6.45 cfs | 259.42 ft 244.56 ft | 12 in 15 in | 0.77% 0.99% | 0.78% 1.00% | 4.01 ft/s 5.27 ft/s | 1.08 min 0.77 min | 3.15 cfs 6.46 cfs | 802.93 800.66 | 800.91 798.21 | 805.60 806.50 | 806.50 806.70 | 801.450 799.226 | 799.426 796.781 | |
| 2 | 0.00 | 0.00 | 0.00 ac-imp | 1.33 ac-imp | 4.75 in/hr | 11.85 min | 6.31 cfs | 200.08 ft | 15 in | 0.95% | 0.96% | 5.16 ft/s | 0.65 min | 6.33 cfs | 797.74 | 795.82 | 806.70 | 809.00 | 796.681 | 794.760 | |
| | 0.00 | 0.00 | 0.00 ac-imp | 0.00 ac-imp | Final Tc = | 16.11 min | 20.07 CIS | 1/9.901 | 30 111 | 0.19% | | | | 29.03 015 | 192.00 | 192.20 | | | | 789.200 | CONSULTANTS |
| | | | | | | | | | | EAS Re-Deck | DI BA | SIN PRE | <u>DEVE</u> | | <u>ni are</u> | <u>45</u> <u>E</u> | ASI SIU | | <u>JIN</u> Total Drainage Area = 3.2 | 33 a cres | |
| | | | | | | | | | | Impervious Brush- | Hydro Hydro | logic Sall Group B 56 logic Sall Group C 70 | 8 0 st 5 0 st 0 181,424 st | 0.00 ac 0.00 ac 4.15 ac | | | Total | Site Area Excluding "Se Allouble O | Self-Crediting BMP Existing Woodlands Infituation Areas = 0.1 AfCrediting* BMPs (A) = 3.2 utlet R ate = 0.15 x Area = 0.2 | 12 scres 21 scres 45 cfs | |
| | | | | | | | | | | Woods - | Hydro Hydro Hydro Hydro | logic Sall Group D 77 logic Sall Group B 60 logic Sall Group C 73 logic Sall Group D 79 | 7 98,176 sf 0 0 sf 3 14,490 sf 9 3,329 sf | 0.00 ac 0.33 ac 0.68 ac | | - | r - Buch Values (W7) | Ra | Pre -Compound CN = 72 Post -Compound CN = 87 fiound Post -Compound C = 0. | 156 795 72 | |
| | | | | | | | | | | | | 73 | 3 <u>297,419</u> g | 6.83 BC | | in Pre 2 y | E LAUGE Von me (W2) Runoff Over Watershed Are - Development Bank full F gr/24 hr Storm Event | a ban off V≈tarv (W3) | $V_{H} = 1^{n} x A x C = 8$ $P = 2$ | 405 cf 35 in | |
| | 18'(M) | | | W4A PEM WELL | H4A FEM AND W4A 0.27 AC.± AREA: 90.307 s1 (2.09 gc) | | TITUT | | | | | | | | n | | | Total Site Area Excluding | Pre-Compound CN = 73 S = (1000/CN) - 10 = 3. Q = 0. "Self Crediting" BMPs (A) = 13 Vritem = Q x (1/12) Area = 54 | 5 75 in 19,763 sf 502 cf | |
| / /f' | 8.18(M) | | 790 | PERMO GROU | /1005: 5,415 st (0,12 cc) /US: 85,492 st (1,96 cc) P ⊂ 33,795 st (9,78 cc) P ∙D: 51,697 st (1,19 cc) | | 802 304 | | B | | | | | Shot | SAN | Pos | s t-De velopm ent Bankfall : | Resoff Vid-point (W4) | P = 2 Post-Compound CN = 88 | 35 in | |
| 1- | 21 | | | 94 196- | | | | RIM 804.9+ RIM 80 | | T | RIM 81 | | NT SETB/ | 914.91 | | | | Total Site Area Excluding | S = (1000/CN) - 10 = 1.2 Q = 1.2 "SelfCrediting" BM Ps (A) = 13 Vhrport = Q x (1/12) Area = 14 | 37 in 25 in 19.763 sf 1.567 cf | |
| | SOL GOUP: D | | | 804 ENTRANCE - | | | | | | | | 820 | 50 ¹ FRO | Rep 1 | SAN | Poz | s t-De velopm ent 100-vear | Infibration Requirements | ni = Max. Vffvs Delta Vbf = 9,0 ns View-post | 065 af | SEAL |
| | 802.13 | SUBSTATION HOUSE (HFE: 807.9) | | | | | | n | | | .826 | | | E.G. | | | | | P = 5. Post-Compound CN = 88 S = (1000/CN) - 10 = 1.2 Q 100 = 3.2 Total Site Area = 13 | 11 un 8 37 in 77 in 90,763 sf | |
| | | ST ST | H2/03 | -816 | | | 812-2 | 814-816-818 82C 87 HERVIOUS 81,88 82C 87 HERVIOUS 81,89 82 0000 PC: 67,984 st GROUP D: 20,387 st | 2 8 2 4 0.55 ac) (1.56 ac) (0.47 ac) | | UNRE NUTE | B | PH 812.39 | | | 113 | 9 Runoff Summary & Outs | vite Infiltration Requirem | 100-po e = Q x (1/12) Area = 43 en t First Flash Volume V _H = 8, | 405 cf | |
| | 51 | | PROP | STIL BUILDING | | | TRIBUT | | | -826- | <u>soil grợu</u> | | | | | | | Tot Total Pre Developr Ba O as | al Bankfull Volume V tr-post = 14 100-year Volume V tot-post = 43 nent Bankful Runoff Vnt-post = 5, unkfull Volume Difference = 9, ite Infiltration Requirement = 9. | 4,567 ef 4,892 ef 502 ef 065 ef 065 ef | |
| | | | | | | | \$ \$ \$ \$ \$ | | | 824 | B 116- 114- | | F.G. 8 | 07.6 | | WI | 10 Decention Requiremen | t Peak of the Unit Hydrogra | Tc = 0.2 phQp = 2.38.6 x Tc ^(-0.32) = 76 | 24 hour: 58.07 | |
| | | 57-57 | | | | | N87:93'35"E | 1140.10 | D'(M) | | 8 ¹² | PROP. 50' SETBAC | | 307.84 | SAN SAN | | | | Total Site Asea = 3. Q 100 = 3. Peak Flow (PF) = 15 Deta = PF - 0.15 x Asea = 14 Vdet = 42 | 33 a cret 77 in 5.05 cfs 1.667 cfs 1.488 cf | |
| | | NB | <u>; 03'35"E</u> | | | | XX- | 814 | <u>808</u> | X | | /PROP. LA FORGE/ 60' 1/2 R | RD. ROW | | | | 11 Applicable BMP: and V | folume Credits | Rain Garden = 5, | 176 cf | |
| DG ³²⁰⁵ / | | | | | | | | | / | | | 0 ⁶ 04 <u>-</u> | | F.G. 1997 | Lank AN | <i>w</i> | 12 Natural Feature: Inven | 0 as | ie Infiltration Requirement = 9,0 Runoff Volume Credit = 4,3 None = 0,0 | 065 cf 815 cf | PRIME CONSULTANT |
| | | GRAVEL BOMEYARD | | | | CENTRAL INFILTRATION | | | 310 | | | 802 | | | | | 13 Summary | Ons Desig/P | te Infiltration Requirement = 9,0 to vided Infiltration Volume = 5,0 | 065 cf 176 cf | IBI GROUP 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 |
| 57- | <u>\$555555555555555555555555555555555555</u> | | | | | | | | | | | DETENTION POND SOLIS SIDEPSLOPES | | | | Det | tention Volume Increase | % of M mman Ra Total Calculated Net R | equired Infiltation Provided = 57 I Detention Volume (Vdet) = 42 equired Detention Volume = 37 Infiltration NOT Provided = 42 | 2.488 cf 7,311 cf 2.9% | ibigroup.com |
| 810- | -812 -814 -816- | 818 ,820 | | | | | | | | A ROT | | G | | STORY OUTLET TO WEJEANDS | | | | Total Required Detention Sedime Volume of F | Net % Penalty = 8.0 Volume , including penalty = 40 nt Forebay = 0.05 x V100 = 2,0 ermanent Pool = 2.5 x Vff = 21 | 0% 0,512 cf 026 cf 1.013 cf | Hyundai STIL |
| | | | 22 22 20 20 20 20 20 20 20 20 20 20 20 2 | 813 | 808 | | | | | | | | | | | | | | | Л | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| | | D REAR SETB | ACK XX | | | | SIS-P201 | | - *** | BE | | 25' OPEN SPACE SE FROM WE | ETBACK | | | - | | | | WHEN DIGGING OR WORKING NFAR OVERLIEAD | PROJECT NO: 134894 |
| | | | | | | | 208 | ->1 | | 18 ⁸⁴ | | - 792 | wert | AND LIMITS | 1 - 79 | IN | | | | | DRAWN BY: CHECKED BY: G TANNAR |
| άδ' \ | | | | | \$ 30 X | % R | × × | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | - 198 - | | | | N | 3 WORKING DAYS BEFORE STARTING YOUR PROJECT | PROJECT MGR: APPROVED BY: D KASSAB |
| L 7 | \ | × | | | | | SOIL GROUN | | | | , , , , , , , , , , , , , , , , , , , | | | | نہ ' | | | | | 1-800-482-7171 (TOLL FREE) | STORMWATER |
| | | | | | · · · · · · · · · · · · · · · · · · · | | | | / - | | X | | | ۲´ () – | | 100 FT | | | 200 FT | | |
| | | | | | | } | | | 1 | | , | | FoC | | | 30.5 M | 0 M | 15.2 M 30.5 M | 61.0 M | 122.01 | SHEET NUMBER ISSUE CG-331 |
| | | | | | | 1 | | | | | | | | | | | | 1 inch = | 100 feet (24") | ແວວ") | |

| _ | | | | | | | | | | | | CLIENT |
|---------------------|----------------------------|---|---|--|------------------|------------------|----------------------------|--|--|--|--------------|--|
| n HG | Design | Velocity | Time | Pipe | HYDRAUL | IC GRADE | Rim Ele | evation | Invert E | levation |] | |
| er Q | Slope of | In Pipe (Flowing Full) | of Flow | Capacity | UP STREAM | DOWN STREAM | Upper End | Lower End | Upper End | Lower End | - | |
| %) | Pipe (%) | (fps) | (min) | (cfs) | | | | | | | - | HATCI MICHIGAN R&D CENTER |
| 50% | 0.35% 0.51% | 2.68 ft/s 3.24 ft/s | 0.53 min 0.71 min | 2.11 cts 2.54 cfs | 807.31 806.90 | 807.01 | 805.60 806.50 | 806.50 806.70 | 801.424 801.027 | 801.127 800.322 | - | |
| 50% | 0.51% | 3.76 ft/s | 0.65 min | 4.61 cfs | 806.03 | 805.29 | 806.70 | 807.40 | 800.122 | 799.380 | - | This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. |
| 00% 06% | 0.35% 0.35% | 2.68 ft/s 2.68 ft/s | 0.22 min 0.62 min | 2.11 cfs 2.11 cfs | 803.79 803.55 | 803.67 803.21 | 805.05 805.05 | 805.05 806.20 | 800.851 800.628 | 800.728 800.280 | - | Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and conditions hown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. IBI Group Professional Services (USA) Inc. |
| 97% | 0.98% | 5.21 ft/s | 0.31 min | 6.39 cfs | 800.34 | 799.38 | 806.20 | 806.00 | 799.280 | 798.315 | | is a member of the IBI Group of companies |
| 36% 30% | 0.67% 0.81% | 4.87 ft/s 5.35 ft/s | 0.43 min 0.65 min | 8.60 cfs | 799.68 805.64 | 798.85 803.94 | 806.00 806.00 | 806.00 807.40 | 798.115 797.179 | 797.279 795.477 | | No.DESCRIPTIONDATEAAREA PLAN2021-10-27 |
| 270/ | | 0.00.01 | 0.05 | | 000 50 | 000.00 | | 007.40 | 000.000 | 004 007 | - | BAREA PLAN AMENDMENT2021-11-29CPRELIMINARY SITE DESIGN2022-01-26 |
| 27% 46% | 0.35% 0.47% | 2.68 ft/s 3.11 ft/s | 0.35 min 0.30 min | 2.11 cfs 2.44 cfs | 803.50 | 803.30 | 806.20 806.44 | 807.40 807.40 | 802.022 802.239 | 801.827 801.977 | - | D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 |
| 34% | 0.35% | 4.26 ft/s | 0.96 min | 13.38 cfs | 805.25 | 804.39 | 807.40 | 807.90 | 795.077 | 794.218 | - | 0 ISSUED FOR BIDS 2022-04-01 |
| 99% | 2.50% | 9.18 ft/s | 0.28 min | 5.00 cfs | 809.48 | 805.66 | 807.90 | 807.90 | 803.297 | 799.476 | - | I I I I I I I I I I I I I I I I I I I |
| 0470 | 0.00% | 4.23 1/5 | 0.50 mm | 5.21 CIS | 000.15 | 004.00 | 803.00 | 007.90 | 799.142 | 198.045 | | NUSTRO |
| 99% 31% | 3.00% | 10.06 ft/s | 0.25 min | 5.48 cfs | 804.35 | 799.88 | 807.90 | 804.35 | 803.450 | 798.978 | - | cons |
| 5170 | | 0.00 110 | | | | 100.00 | | 000.10 | | | - | PLEASE CONFIRM KEYPLAN BOX |
| 13% | 0.13% | 3.40 ft/s | 1.16 min | 24.05 cfs | 796.00 | /95.69 | 806.45 | 807.90 | 793.418 | 793.110 | | |
| 77% | 0.78% | 4.01 ft/s | 1.08 min | 3.15 cfs | 802.93 | 800.91 | 805.60 | 806.50 | 801.450 | 799.426 | - | |
| 95% | 0.96% | 5.16 ft/s | 0.65 min | 6.33 cfs | 797.74 | 795.82 | 806.70 | 809.00 | 796.681 | 794.760 | - | |
| 19% | 0.20% | 4.22 ft/s | 0.71 min | 29.83 cfs | 792.56 | 792.20 | 809.00 | 792.20 | 789.560 | 789.200 | | |
| EAS | ST BAS | SIN PRE | -DEVE | ELOPMEN | NT AREA | ns <u>E</u> | EAST ST(| DRM BA | SIN | |] | CONSULTANTS |
| Re-Devel | opment Areas | CN | Area (st | Area (ac) | | E | est Basin Drainage Area | | Total Drainave Area = 3 | .33 sicres | | |
| mpervious Brush- | Hvarol | 98 Rolt Soll Group B 55 | 05 05 | 0.00 ac | | | | | Self-Crediting BMP Existing Woodlands Infitration Areas = 0 | .12 a knes | | |
| Woods - | Hydrol Hydrol | logic Sali Graup C 70 logic Sali Graup D 77 | 181,424 st 98,176 st | 4.15 ac 2.25 ac | | | 1615 | Allounble O | butlet Rate = 0.15 x Area = 0 Pre -Compound CN = 7 Post -Compound CN = 8 | 21 scres U48 cfs 2.56 7.95 | | |
| | Hydrol Hydrol Hydrol | logic Sall Group B 60 logic Sall Group C 73 logic Sall Group D 79 73 | 0 st 14,490 st 3,329 st 297,419 st | 0.00 ac 0.33 ac 0.08 ac 6.63 ac | | F | rs t Flush Volume (W2) | Ra | nional Post-Compound C = 0 | .72 | | |
| | | | | | | i" Pr | Runoff Over Watershed Are | a Smooff VM-are (W3) | V# = 1" x A x C = 8 | ,405 cf | | |
| | H / / . | | / "i | | | 2 | yr/24 hr Storm Event | | P = 2 Pie-Compound CN = 7 S = (1000/CN) - 10 = 3 | 135 in 3 .78 in | | |
| A) | FUTURE PARKING | | Ji Chi | | 10 | | | Total Site Area Excluding | $\label{eq:constraint} \begin{split} Q &= 0 \\ \text{"SelfCarediting" BM Ps} (A) &= 1 \\ V_{\text{bf-pns}} &= Q \; x \; (1/12) \; \text{Area} = 5 \end{split}$ | (47 in 39,763 sf (502 cf | | |
| ϕ'' | | | | | SAN | Pe | s t-De velopm ent Bankfull | Rumoff Vat-post (W4) | P = 2 | .35 in | | |
| T | | | | | | | | | Post-Compound CN = 8 S = (1000/CN) - 10 = 1 Q = 1 | 8 .37 in .25 in | | |
| | RIM 81 | | | 814.9 | | | | Total Site Area Excluding Bankful Volume Diff | "SelfCæditing" BM Ps (A) = 1 V _{IFport} = Q x (1/12) Aæa = 1 ference Vb F.post - Vb F.pre = 9 | 39,763 sf 4,567 cf 9065 cf | | |
| | | 500 | | | 24M | | | Infibration Requirement | nt = Max. V ff vs Delta Vof = 9 | ,065 cf | | SEAL |
| | * | | | | Ĩ | P | s t-De velopm ent 100-year | Storm Run off Calculation | P = 5 Post-Compound CN = 8 | attin 8 | | |
| | -826 | | | | | | | | S = (1000/CN) - 10 = 1 Q 100 = 3 Total Site Area = 1 | .37 in .77 in 39,763 sf | | |
| | NSA PEL | b F | BH 812.39 | | | W | 9 Runoff Summary & Ous | v ite Infiltration Requireme | /100-post = Q x (1/12) Area = 4 | 3,892 cf | | |
| | CUNRE NUTER | | | | SAN | | | Tot Total | First Flash Volume V _{III} = 8 tal Bankfull Volume V _{III} -post = 1 100-year Volume V _{100-post} = 4 | ,405 cf 4,567 cf 3,892 cf | | |
| 5- — — — 824 — | | EXISTING SI TO REMAIN | UB-STATION | | | | | Pre Developin Ba Ousi | nent Bankhi Rubott Visene = 5 ankfull Volume Difference = 5 ite Infibration Requirement = 5 | ,502 df ,065 df ,065 df | | |
| -822 | 8 | | F.G. 8 | 307.6 B | | w | 10 Detention Requiremen | | $T_{c} = 0$ | 24 hours | | |
| | 814 | PROP 50' SETRACK | | 807.84 | SAN | | | Peak of the thin Hydrogra | Total Site Area = 3 Q 100 = 3 | 33 a cres .77 in | | |
| 2 | 812 | BER | | | | | | | Dela = PF - 0.15 x Azea = 1 Vdet = 4 | 4.567 cfs 2.488 cf | | |
| | | PROP. LA FORGE R | | | | W | 11 Applicable BMP: and ' | Volume Credit: | Rain Garden = 5 | ,176 cf | | |
| / | | | | H Long | FAN | | TotalVe | have Reduction Credit by I Onsi | Proposed Structural BM Ps = 5 ite Infiltration Requirement = 9 Runoff Volume Credit = 4 | ,176 cf ,065 cf ,815 cf | | |
| | A P | 0604 802 | | | | W | 12 Natural Features Inver | ib IY | None = 0 | .00 a cres | | |
| | | | | | | W | 13 Summary | O na Desig/P | ite Infiltration Requirement = 9 wovided Infiltration Volume = 5 | 1,065 cf | | 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA |
| | | NoR | | | | | | % of M inimum Ra Total Calculated Net R | equired Infitution Provided = 5 d Detention Volume (Vdet) = 4 Required Detention Volume = 3 | 7.1% 2,488 cf 7, 311 cf | | tel 248 936 8000 fax 248 936 8111 ibigroup.com |
| | | | | (Ch | | D | stention Volume Increase | % of | f Infituation NOT Provided = 4 Net % Penalty = 8 | 2.9% | | PROJECT |
| \$00 | | | | - STORM OUTLET TO | | | | Total Required Detention Sedimer Volume of P | Volume , including penalty = 4 at Forebay = 0.05 x V 100 = 2 Permanent Pool = 2.5 x Vff = 2 | 0,512 đ ,026 đ 1.013 đ | | Hyundai STIL |
| | | | | ра оканнало | | | | | | | L_ | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| B | | 25' OPEN SPACE SE FROM WE | ILAND | | 5 | | TRUE | PL | ANT | WHEN DIG | Sing (| PROJECT NO: |
| | | | WETL | AND LIMITS | | | IORTH | H NC |) R T H | OR WORKII NEAR OVE ELECTRIC MICHIGAN, | | 134894 DRAWN BY: CHECKED BY: |
| 18 ⁵⁰ | | // | | | | | | | | | MISS DIG | |
| i i | | | 1 51 | | - 798 - | | | | | BFFORE ST | WORKING DAYS | D KASSAB |
| | | | Ţ, | | | | | | | 1-800 |)-482-7171 | |
| | 5,5 | | | ~~~/// | | | | | NTAI C | | (TOLL FREE) | MANAGEMENT PLAN |
| | \mathcal{A} | | | ∠`(´`)= | | 100 FT | 0 FT | 50 FT 100 FT | | | 400 FT | |
| | | 1 | | | | | | | | | | SHEET NUMBER ISSUE |
| | 1 | | FoC | | | 30.5 M | 0 M | 15.2 M 30.5 M | 61.0 M | | 122.0 M | CG-331 |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CG-331 Stormwater Management Plan.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CU-400 Overall Utility Plan.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CU-401 Utility Plan.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CU-401 Utility Plan.dwg

| | | CLIENT |
|--|--|---|
| | | |
| | | |
| | SEDIMENT IF VISIBLE AND AT THE END OF EACH WORK DAY. | |
| | PROVIDE 5' EXISTING VEGETATION BUFFER BETWEEN SILT FENCE & GRADING ACTIVITIES WHERE AVAILABLE. | |
| | 3. PROVIDE DOUBLE LAYER OF SILT FENCE WHERE GRADING ACTIVITIES ARE | SUPERIOR TOWNSHIP, MICHIGAN |
| | 4. UTILIZE EXISTING PAVEMENT (TO BE REMOVED) OR INSTALL STABILIZED | |
| | 5. PROPOSED BUILDING FOOTPRINT, NO SPOILS TO BE PLACED WITHIN 10' OF | This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is |
| | BUILDING LIMITS | forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and |
| | 6. INSTALL SILT FENCE ALONG RIDGE OF EXCAVATED BASINS | for general conformance before proceeding with fabrication. |
| | <u>CIVIL LEGEND - ERUSION CONROL</u> | IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| | SF SF SILT FENCE | ISSUES |
| | TF TREE PROTECTION/CONSTRUCTION FENCE | A AREA PLAN 2021-10-27 |
| | | B AREA PLAN AMENDMENT 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 |
| (| | D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022 02 18 |
| | - CURB/PAVED INLETS | 0 ISSUED FOR BIDS 2022-04-01 |
| | (P) (D) - YARD INLETS/VEGETATED AREAS | No. 30 |
| $\langle \langle \rangle$ | O PERMANENT RIP RAP APRON - IAW | TFU CTIU |
| | (RR) TOWNSHIP DETAIL (SHEET CT-602) | NO'RUU |
| | CONCRETE WASHOUT -CONTRACTOR TO DESIGNATE | NSI |
| | (CE) STABILIZED CONSTRUCTION ENTRANCE | <u> </u> |
| | | PLEASE CONFIRM KEYPLAN BOX |
| \mathbf{X} | | |
| | | |
| © 243 RSEP | | |
| | ERUSION CONTROL BLANKET | |
| | (TS) TEMPORARY SEEDING | |
| | (PS) PERMANENT SEEDING – INSTALL IAW DETAIL C/xxx. | CONSULTANTS |
| | (LS) LANDSCAPING – INSTALL IAW LANDSCAPING DRAWINGS. | |
| | TOTAL DISTURBED AREA: 21.9 ac | |
| 815 | | |
| | SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: | SEAL |
| VARIABLE LAST | NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL | |
| PRECAST P7 797.66 N 797.56 S DAN | AN BE CLEARLY VISIBLE FROM THE ROAD. | |
| 1821 HDPE (807 | SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES. | |
| 800 • | EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. | |
| 804 | DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITIES. | |
| 803 • • CONC 802 - | OUTLETS OF DETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS | |
| 804.93 801 | RISER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL | |
| 800 . | ALL EARTH MOVING SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER THAT LIMITS THE EXPOSED AREAS OF ANY DISTURBED LAND FOR THE SHORTEST | |
| | POSSIBLE PERIOD OF TIME. THE SITE MUST BE STABILIZED WITHIN FIVE (5) CALENDAR DAYS AFTER FINAL GRADING OR EARTH MOVING ACTIVITY AS BEEN COMPLETED. | |
| • | STONE ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. | |
| 1 | SOIL, SEDIMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINAGE DITCHES AND CATCH BASINS THROUGHOUT THE DURATION OF THE PROJECT. | |
| MH SAN 798 T #1727 RIV 800.44 | ROCK CHECK DAMS ARE TO BE USED INSTEAD OF STRAW BALES OR SILT FENCING IN CONCENTRATED FLOW LOCATIONS SUCH AS DITCHES OR PIPE OUTLETS. STRAW BALES | PRIME CONSULTANT |
| 21 + 780.68 S 21 + 780.68 S 21 + 780.69 N 21 | STUDLE NEVER BE USED FOR SOIL ERUSION CONTROL. SILT FENCING, IF REQUIRED, MUST BE TRENCHED IN AND BACKFILLED. FENCING MAY BE | |
| · · | IDED-IN WITT PEA GRAVEL IF INSTALLED IN WINTER. CATCH BASINS, IF INSTALLED, MUST BE PROTECTED WITH A SEDIMENT FILTER WITH OVERELOW | BIBI 25200 Lelegraph Road - Suite 300 Southfield ML 48033 USA tel 248 936 8000 fax 248 936 8111 |
| • | DEWATERING OPERATIONS MUST HAVE SOME TYPE OF CONTROL, E.G. FILTER BAG AND | ibigroup.com |
| 1 x 5. | STOCKPILING OF ANY EXCAVATED MATERIAL MUST BE KEPT CLEAR OF SENSITIVE AREAS. | PROJECT |
| 122. | EROSION CONTROL BLANKETS ARE REQUIRED ON SLOPES OF 4:1 OR STEEPER. | Hyundai STIL |
| 19 | ALL AREAS OF A PROJECT THAT ARE DISTURBED MUST BE STABILIZED BY DECEMBER 1. ALL PERMANENT EROSION CONTROL MEASURES SHALL BE PERMANENTLY MAINTAINED BY | |
| >96 | ITE UWINER UR HUMEUWINER ASSOCIATION. | 6800 Geddes Rd Superior Charter Twp, MI 48198 |
| CIS: CMP | TRUF PLANT | |
| MH SAN | NORTH NORTH WHEN DIGGING OR WORKING NEAR OVERHEAD ELECTRIC WHEN DIGGING | 134894 |
| | | DRAWN BY: CHECKED BY: G TANNAR |
| 1/4 191 EC. 37 70.9 | MISS DIG | PROJECT MGR: APPROVED BY: |
| 199 | S WORKING DAYS BEFORE STARTING YOUR PROJECT | D KASSAB |
| 1800 | 1-800-482-7171 | |
| 804 | (TOLL FREE) | |
| 807 | HORIZONTAL SCALE | PHASE I |
| 10 | 00 FT 0 FT 50 FT 100 FT 200 FT 400 FT 400 FT | |
| 30 | D.5 M 0 M 15.2 M 30.5 M 61.0 M 122.0 M | |
| | 1 inch = 100 feet (24"x36") | |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\SESC-500 Overall SESC Plan - Phase I.dwg

| | CLIENT |
|--|---|
| KEYNOTES: | |
| 1. SWEEP/SCRAPE PAVED SURFACES ADJACENT TO WORK AREAS WHEN SEDIMENT IF VISIBLE AND AT THE END OF EACH WORK DAY. | |
| MAINTAIN SILT FENCE & TREE PROTECTION FENCE; REMOVE & REPAIR GROUND AS A FINAL SESC MEASURE | |
| MAINTAIN CONSTRUCTION ENTRANCE & CONTRACTOR STAGING AREA; THESE AREAS ARE TO BE PAVED LAST | HATCI MICHIGAN R&D CENTER SUPERIOR TOWNSHIP, MICHIGAN |
| 4. REPLACE TOPSOIL & STABILIZE DRAINAGE SWALES IMMEDIATELY UPON COMPLETION OF FINAL GRADING. | |
| | COPTRIGHT This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is forbid the Wither dimensionable like some descent and a sole of the price |
| CIVIL LEGEND - EROSION CONROL | Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and conditions on the drawing. Shop drawings shall be submitted to IBI Group |
| CIVIL LEGEND - ERUSION CONRUL | for general conformance before proceeding with fabrication. |
| SE SE SI I FENCE | is a member of the IBI Group of companies |
| | No. DESCRIPTION DATE |
| | AAREA PLAN2021-10-2BAREA PLAN AMENDMENT2021-11-2 |
| (SS) SWPPP SIGN | C PRELIMINARY SITE DESIGN 2022-01-20 D 30% OWNER REVIEW 2022-02-10 |
| - CURB/PAVED INLETS | E 60% OWNER REVIEW 2022-03-1 0 ISSUED FOR BIDS 2022-04-0 |
| (IP) (D) - YARD INLETS/VEGETATED AREAS | No So |
| | TFUCTION |
| | NO RUC |
| CW CONCRETE WASHOUT - CONTRACTOR TO DESIGNATE LOCATION IF FIELD | MS' |
| (CE) STABILIZED CONSTRUCTION ENTRANCE | CO. |
| | PLEASE CONFIRM KEYPLAN BOX |
| - < CONSTRUCTION TRAFFIC ROUTE | |
| ST SI ODE TRACKING | |
| CR EROSION CONTROL RI ANIZET | |
| | |
| (PS) PFRMANENT SEEDING | |
| (LS) LANDSCAPING - INSTALL IAW LANDSCAPING DRAWINGS. | CONSULTANTS |
| | |
| <u>SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES:</u> | SEAL |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAVER. THE SOIL EROSION PERMIT OR SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARLY VISIBLE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION/RETENTION PONDS WAY DISTURBED LAND FOR THE SHORTEST POSSIBLE PERIOD OF TIME. THE SITE MUST BE STABILIZED WITHIN FIVE (5) CALENDAR DATS AFTER FINAL GRADUE. ALL EARTH MOVING SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER THAT LIMITS THE EXPOSED AREAS OF ANY DISTURBED LAND FOR THE SHORTEST POSSIBLE PERIOD OF TIME. THE SITE MUST BE STABILIZED WITHIN FIVE (5) CALENDAR DATS AFTER FINAL GRADUES DE BITS AD OF STARE WAS AS ON SUCH A MANNER THAU LANDING OR FEARTH MOVING ACTIVITY AS BEEN COMPLETED. STORE ACCESS DRIVES, IF ROUTINED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SOLL, SEDIMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINAGE DITCHES AND CATCH BASINS THROUGHOUT THE DURATION OF THE PROJECT. FOCK CHECK DAMS ARE TO BE USED FOR SOIL EROSION CONTROL. SUIT FENCING, IF REQUIRED, MUST BE TRENCHED IN AND BACKFILLED. FENCING IN CONCENTRATED FLOW LOCATIONS SUCH AS DITCHES OR PIPE OUTLETS. STRAW BALES SHOULD NEVER BE USED FOR SOIL EROSION CONTROL. SUIT FE | SEAL PRIME CONSULTANT ISI GOUP Sub Telegraph Road - Suite 300 Southfield MI 48033 USA 1248 936 8000 fax 248 936 8111 ibigroup.com PROJECT Hyundai STIL |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAIVER. THE SOIL EROSION PERMIT OR SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARTY VISIBLE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES. EARTH CHANGES TO A PROGENTY MUST NOT ADVERSELY AFFECT DANINGE TO SURROUNDING AREAS. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/SECTIVITIES. OUTLETS OF DETENTION/SECTIVITIES. OUTLETS OF DETENTION/SECTIVITIES. CONSTRUCTED TO REDUCE THE WAITER FLOW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORWWATCR OUTLETS. RISCR PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTED TO REDUCE THE WAITER FLOW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORWWATCR OUTLETS. RISCR PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTED NEDUCETION ON CONSTRUCTED AND COMPLETED IN SUCH A MAINRE THAT LIMITS THE EXPOSED AREAS OF ANY DISTURBED LIAND FOR THE SHORTST POSSBEL PERIOD OF TIME. THE SITE MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. STOR ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SUL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINAGE DITCHES AND CALCH BE USED INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SUL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SUL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINAGE DITCHES AND CALCH BE SUDD DESIGN CONTROL. SULT FENCING, IF REQUIRED, MUST BE TRENCHED IN AND BACKFILLED. FENCING MAY BE TOCON-THAT DE LUCATIONS BUT HAVE SOME TYPE OF CONTROL, E.G. FILTER BAG AND VEGENTRALES OFTALED, MUST BE TRENCHEDE | SEAL PRIME CONSULTANT DED PRIME CONSULTANT E SEAL PRIME CONSULTANT BI GROUP S200 Telegraph Road - Suite 300 Southfield MI 48033 USA 1248 936 8000 fax 248 936 8111 ibigroup.com PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAIVER. THE SOIL EROSION PERMIT OR SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARTY VISIBLE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. DETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL. ALL EARTH MOVING SHALL BE DESIGNED. CONSTRUCTED AND COMPLETED IN SUCH A MANINER THAT LUMITS THE EXPOSED AREAS OF ANY DISTUREDED MAND FOR THE SHORTEST POSSIBLE PERGO OF TIME. THE SITE MUST BE INSTALLED PRIOR TO CONSTRUCTED DITS AFTER FINAL GRADING OR EARTH MOVING ACTIVITY AS BEEN COMPLETED. STOME ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES DRIVES, ARCAND. SUL SEDMENT, AND MUSCELLANEOUS DEBRIS MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES DRIVES, ARCAND. SUL SEDMENT, AND MUSCELLANEOUS DEBRIS MUST BE ASTALLED PRIOR TO REPORDED. SUL SEDMENT, AND MUSCELLANEOUS DEBRIS MUST BE ASTALLED PRIOR THE PROJOCET. ROCK CHINGES AND CATCH BASINST SHOUCHOUT THE DURATION OF HEP PROJECT. ROCK CHING SA MUST BACKTHE BUSTON CONTROL SULT FENCI | SEAL PRIME CONSULTANT Image: Seal in the second se |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAIVER. THE SOIL EROSION PERMIT OR SOIL EROSION VAIVER MUST BE POSTED AN BE CLEARLY VISIBLE FROM THE ROAD. SOIL EROSION AND SEQUENTIATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AEAS. DETENTION/RETENTION/SEDMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. ULLETS OF DETENTION/RETENTION/SEDMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER RIGHT OW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION PONDS MUST BE WEAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL SUBJECT TO REDUCE THE WATER RIGHT OW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION PONDS MUST BE WEAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL STORE ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACTING. OR EARTH MOVING ACTIVITY AS GEEN CONDUCIENT. STOLE ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACTING. SOIL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE INSTALLED PORT TO CONSTRUCTION FOR PURPOSES OF MUD TRACTING. SOIL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE INSTALLED PORT TO CONSTRUCTION FOR PURPOSES OF MUD TRACTING. SOIL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACTING. SOIL, SEDMENT, AND MISCELLANEOUS DEBRIS MUST BE REPOTED TO TOLETS. STRAW BALES SHOLD NEVER BE USED INSTALLED OF STRUE MALES OR SUFFER. ALL AREAS OF A PROJECT HAST ARE REQUIRED ON SLOKES OF 4-11 OR STREPTER. ALL AREAS OF A PROJECT THAT ARE DISTURBED MUST BE STABILIZED BY DECEMBER I. ALL PRAMARENT EROSION CONTROL MEASURES SHALL BE PERMAMENTLY MAIN | SEAL PRIME CONSULTANT Image: Seal in the image is a state of the image is a |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARLY VISBLE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. UTILITS OF DETENTION/RETENTON/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WAITER FLOW TO A NON-RESIVE VELOOTY. RP-RAP MUST BE INSTALLED ON ALL STORWARTER OUTLETS. RISER PRESI DOTENTION/RETENTON/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WAITER FLOW TO A NON-RESIVE VELOOTY. RP-RAP MUST BE INSTALLED ON ALL STORWARTER OUTLETS. RISER PRESI DOTENTION /RETENTON/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED NEDUCETION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL. ALL EARTH MOVING SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MAINER THAT HUINTS THE EXROLED, CONSTRUCTED AND COMPLETED IN SUCH A MAINER THAT HUINTS THE EXROLED, CONSTRUCTED AND COMPLETED IN SUCH A MAINER THAT HUINTS THE EXROLED, CONSTRUCTED AND COMPLETED IN SUCH A MAINER THAT HUINTS THE EXROLED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUST FAKEN. STOLE ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SOL, SEDIMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OF STREETS AND OUT OF DRAINARE THAT DLOCATIONS SUGH AS DITCHES OR PIPE OUTLETS. STRAW BALES STOULD NEWER MUD TRACKING. SULT FERNING, IF INSTALLED, MUST BE INSTALLED, FENCING IN ENERGY RECORDER MUD TRACKING. SULT FENCING, IF REQUIRED, MUST BE TRENCHED IN AND BACKFILLED. FENCING MAY BE TODE-IN MUTT HAR AS ARE TO BE USED INSTEAD OF STRAW BALES OR SILT FENCING IN SUCHTATED FLOW LOCATIONS SUGH AS DITCHES OR PIPE OT CONTROL | SEAL PRIME CONSULTANT Isi GROUP SSUTFIGURATION Isi GROUP SSUTFIGURATION SSUTFIGURATION Isi GROUP SSUTFIGURATION SUBJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: CHECKED BY: G TANNAR PROJECT MGR: PROJECT MGR: APPROVED BY: |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOMIG ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARLY VISIBLE FROM THE ROAD. SOIL EROSION AWARE. THE SOIL EROSION PERMIT OR SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARLY VISIBLE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOR TO ANY FARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. OUTLETS OF DETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WAITER ROUT O A NON-ROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES NO PETMITON PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CHOKED WITH PEA GRAVEL. ALL EARTH MOVING SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MAINER THAT LIMITS THE EXPOSED AREAS OF ANY DISTURBED LAND FOR THE SHORTEST POSSIBLE PERIOD OF TIME. THE SITE MUST BE STABLIZED WITHIN FIVE (5) CALEDAR DATS AFTER FINAL GRAVID. GO EARTH MOVING ACTIVITY AS BEEN COMPLETED. STOME ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SOL, SEDIMENT, AND MISCELLANEOUS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINARE DITCHS AND CARCH DASINS THROUGHOUT THE DURATION OF THE PROVING IN CONCENTRATE OND TRACKING. SULT FENCING, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF WID TRACKING. SULT FENCING, IF MUST BE DE ROSION CONTROL. SULT FENCING, IF REQUIRED, MUST BE FRONCED IN AND BACKFILLED. FENCING IN CONCENTRATE INSTALLED, MUST BE PROTECTED WITH A SEDIMENT FILTER WITH WERTORY. WITH PEA GRAVEL IN SIST AS DE DOBART FILTER WITH EVERTION. CONCENTRATE RESSON CONTROL. ELSTRETH BORGENTINS MUST HAVE SOME TYPE OF CONTROL, E.G. FILTER BAG AND VECTORY READY AND THATEL ARAP. THERE SHALL BE PROTECTED WATER. STOC | SEAL PRIME CONSULTANT Image: Seal and the seal of t |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PARMET OR SOIL EROSION WAVER. THE SOIL EROSION PERMIT OR SOIL EROSION WAIVER MUST BE POSTED AN BE CLEARLY USBLE FROM THE ROAD. SOIL EROSION AND SEDURENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST EN INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUTING AREAS. DETENTION/REDMINITATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITIES. UTLETS OF DETENTION/REDMINITATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL IS TORMWATER OUTLETS. RISER PIPES IN DETENTION/REDMINITATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RIP-RAP MUST BE INSTALLED ON ALL IS TORMWATER OUTLETS. RISER PIPES IN DETENTION/REDMENTATION PONDS SHALL BE DESIGNED AND CONSTRUCTED TO REDUCE THE WATER RUST BE WRAPPED IN GEOTEXTILE FARRIC AND CONSTRUCTED TO REDUCE THE SITE MUST BE WRAPPED IN GEOTEXTILE FARRIC AND CONSTRUCTED TO REDUCE THE SITE MUST BE INSTALLED PIOR TO COMPLETED. STORE ACCESS DRIVES, IF REQURED, MUST BE INSTALLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE INSTALLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE INSTALLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE INSTALLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE INSTALLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE TRANLED PIOR TO CONFILETED. STORE ACCESS DRIVES, IF REQURED, MUST BE TRANLED PIOR TO CONSTRUCTION FOR PURPOSES OF MUD TRACKING. SUL SEDIMET, AND ASCELLANDOS DEBRIS MUST BE KEPT OFF STREETS AND OUT OF DRAINAGE DITCHES AND CATCH BASINGS THEOUGHOUT THE DURATION OF THE PROACECT: ROCK CHECK AMAS ARE TO BE USED INSTALLED OF STRAW BALES OR SULT FERONG IN SUL, SEDIMET, AND MISCILLANEOUS DEBRIS MUST BE C | SEAL PRIME CONSULTANT Image: Seal and the search of the s |
| SHEENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAVER. THE SOIL EROSION PERMIT OR SOIL EROSION WAVER MUST BE POSTED AN BE CLEARLY USBLE FROM THE ROAD. SOIL EROSION AND SEDMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS MAD/OR AS RECURED MUST BE INSTALLED PRIOT TO ANY CARTIN MOVING ACTIVITES. EARTH CHANGES TO A PROPERTY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURROUNDING AREAS. DITENTON/RETENTION/SEDMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITES. CONTROL OF THE TRAINING PONDS MUST BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER EARTH MOVING ACTIVITIES. CONTENTON PERTINICAL DEMONSTRUCTED AND COMPLETED IN SUCH A MANNER THAT LINTS THE EXPOSED AREAS OF ANY DISTUBBED LAND FOR THE SHOREST POSSIBLE PERIOR OF TIME. THE SITE MUST BE STABILIZED WITHIN FIVE (3) CALENDAR MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RISER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTED AND CONTROL CARTIN AS DETENTION FOR THE SITEMUST BE STABLE PERIOR OF TIME. THE SITE MUST BE STABILIZED WITHIN FIVE (3) CALENDAR MUST BE INSTALLED ON ALL STOREST AREAS OF ANY DISTUBBED LOND FOR THE SIGNED. SOIL SEDMENT, AND MSCELLANEOUS DEBRIS MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUST. IF REQURED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OR DAYS, IF REQURED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OR DAYS, IF REQURED, MUST BE INSTALLED AND BACKFILLD. FEROING IN CONCENTRATED FLOW LOCATIONS SUCH AS DITCHES OR PIPE OUTLETS. STRAW BALES SOIL SEDMENT, AND MSCELLANEOUS DEBRIS MUST BE KEPT OFT STREETS AND OUT OFT DEMARKED EXCENTED AND SIGNER AND AS DITCHES OR PIPE OUTLETS. STRAW BALES SOULD INCENT RE OUTCH AND AS DITCHES ON PIPE OUTLETS. STRAW BALES SOULD SECTION SUGH AS DITCHES ON PIPE OUTLETS. STRAW BALES SOULD SECTION SUGH AS DITCHES ON PIPE OUTLETS. STRAW BALES SOULD SECTION SUGH AS DITERES SHALL BE PERMANENTLY MAINTAINED BY DEVORTIONE | SEAL PRIME CONSULTANT Image: Seal and the second s |
| SHTENAW COUNTY SOIL EROSION CONTROL REQUIREMENTS NOTES: NO EARTH MOVING ACTIVITY CAN BEGIN WITHOUT A SOIL EROSION PERMIT OR SOIL EROSION WAVER: THE SOIL EROSION PERMIT OR SOIL EROSION WAVER MUST BE FOSTED AN BE CLARKY VISIELE FROM THE ROAD. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS DESIGNATED ON PLANS AND/OR AS REQUIRED MUST BE INSTALLED PRIOT TO ANY CARTH MOVING ACTIVITIES. EARTH OLANGES TO A PROFERITY MUST NOT ADVERSELY AFFECT DRAINAGE TO SURGENDING AREAS. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PROR TO OTHER EARTH MOVING ACTIVITIES. DETENTION/RETENTION/SEDIMENTATION PONDS MUST BE CONSTRUCTED AND STABILIZED PROR TO OTHER EARTH MOVING SCILLETS. RESER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RIF-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RESER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTED TO REDUCE THE WATER FLOW TO A NON-EROSIVE VELOCITY. RIF-RAP MUST BE INSTALLED ON ALL STORMWATER OUTLETS. RESER PIPES IN DETENTION PONDS MUST BE WRAPPED IN GEOTEXTILE FABRIC AND CONSTRUCTION PONDS MUST BE WRAPPED IN GEOTEXTILE STABLES ON THE POSSIBLE PERIOD OF THE. THE STEE MUST BE STABLIZED WITHIN FILE (S) CALENDAR DATA STAFT RIFAL GRAVING. STOME ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUST AKE ON EARTH MOVING ACTIVITY AS BEEN COMPLETED. STOME ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED PRIOR TO CONSTRUCTION FOR PURPOSES OF MUST TAKED AREAS OF ARM DATAGENT OF THE PORTET. STOME ACCESS DRIVES, IF REQUIRED, MUST BE INSTALLED RIM DAGGILLED. FENCING IN MUST BUT FEROING, IF REQUIRED, MUST BE TRENCHED IN AND BACKFILLED. FENCING IN MALE SOULD INVERT BE USED FOR SOLL FROSTED ON THE REAS AND DECONSTRUCTION. STORE DE AREAD OF DEWATERING OF UNTILETER WATE STORMEDING OFFRATIONS MUST HAVE SOME TYPE OF CONTROL, C.G. UNTERES IN ALL PERMANENT FORON ON THALE DASSIDE THIS TREAD EVENTIONE. REGER PROVIN | SEAL PRIME CONSULTANT PRIME CONSULTANT BI GROUP 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA tel 248 936 800 fax 248 936 8111 bigroup.com PROJECT PROJECT PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: CHECKED BY: G TANNAR PROJECT NO: 134894 DRAWN BY: CHECKED BY: G TANNAR PROJECT MGR: DKASSAB SHEET NIILE OVERALL SESC PLAN PHASE II SHEET NUMBER |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\SESC-501 Overall SESC Plan - Phase II.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\SESC-502 Stockpile.dwg

·

SANITARY SEWER ACCEPTANCE TESTS

<u>GENERAL</u>

ALL SANITARY SEWERS SHALL BE SUBJECTED TO INFILTRATION, EXFILTRATION OR LOW PRESSURE AIR TESTS, OR A COMBINATION THEREOF PRIOR TO FINAL ACCEPTANCE BY THE TOWNSHIP. IN ADDITION, ALL PVC AND ABS PLASTIC SEWERS SHALL BE SUBJECTED TO DEFLECTION TESTING BY MEANS OF A NINE-POINT MANDREL DEFLECTION TEST.

THE TOWNSHIP'S INSPECTOR SHALL BE PRESENT FOR ALL TESTING OPERATIONS. IF TESTING IS TO BE DONE BY THE CONTRACTOR, ONLY PROPERLY TRAINED PERSONNEL SHALL BE ALLOWED TO PERFORM THE TESTING WORK. IF TESTING IS TO BE DONE BY MUNICIPAL AGENCY WORK FORCES, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE INSPECTOR IN ORDER TO SCHEDULE THE TESTING.

IN THE EVENT THAT THE SEWER PIPE FAILS ANY OF THE REQUIRED TESTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING THE PIPE AND REPEATING THE TEST UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. THE METHOD OF TESTING AND MEASUREMENT SHALL BE APPROVED BY THE TOWNSHIP. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AND LABOR FOR MAKING THE TESTS.

INFILTRATION TEST

ALL SANITARY SEWERS THAT ARE OVER TWENTY-FOUR (24) INCHES IN DIAMETER SHALL BE SUBJECTED TO AN INFILTRATION TEST. ALSO, ALL SANITARY SEWERS THAT ARE TWENTY-FOUR (24) INCHES IN DIAMETER AND SMALLER AND WHERE THE GROUND WATER LEVEL IS MORE THAN TWO (2) FEET ABOVE THE TOP OF THE SEWER SHALL BE SUBJECTED TO AN INFILTRATION TEST.

THE INFILTRATION RATE FOR ALL SANITARY SEWERS SHALL NOT EXCEED A MAXIMUM OF TWO HUNDRED (200) GALLONS PER INCH DIAMETER PER MILE OF SEWER PER TWENTY-FOUR (24) HOURS.

LOW PRESSURE AIR TEST

ALL SANITARY SEWERS THAT ARE TWENTY-FOUR (24) INCHES IN DIAMETER OR SMALLER AND WHERE THE GROUND WATER LEVEL IS TWO (2) FEET OR LESS ABOVE THE TOP OF THE SEWER SHALL BE SUBJECTED TO A LOW PRESSURE AIR TEST.

THE PROCEDURE FOR AIR TESTING OF SEWERS SHALL BE AS FOLLOWS:

THE SEWER LINE SHALL BE TESTED IN INCREMENTS BETWEEN MANHOLES. THE LINE SHALL BE CLEANED AND PLUGGED AT EACH MANHOLE. SUCH PLUGS SHALL BE DESIGNED TO HOLD AGAINST THE TEST PRESSURE AND SHALL PROVIDE AN AIRTIGHT SEAL. ONE OF THE PLUGS SHALL HAVE AN ORIFICE THROUGH WHICH AIR CAN BE INTRODUCED INTO THE SEWER. AN AIR SUPPLY LINE SHALL BE CONNECTED TO THE ORIFICE. THE SUPPLY LINE SHALL BE FITTED WITH SUITABLE CONTROL VALVES AND A PRESSURE GAUGE FOR CONTINUALLY MEASURING THE AIR PRESSURE IN THE SEWER. THE PRESSURE GAUGE SHALL HAVE A MINIMUM DIAMETER OF THREE AND ONE-HALF (3-1/2) INCHES AND A RANGE OF 0 - 10 PSIG. THE GAUGE SHALL HAVE MINIMUM DIVISIONS OF 0-10 PSIG AND ACCURACY OF PLUS OR MINUS (+/-) 0.04 PSIG.

THE SEWER SHALL BE PRESSURIZED TO 4 PSIG GREATER THAN THE GREATEST BACK PRESSURE CAUSED BY GROUND WATER OVER THE TOP OF THE SEWER PIPE. AT LEAST TWO (2) MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE BETWEEN THREE AND ONE HALF (3.5) AND FOUR (4) PSIG. IF NECESSARY, AIR SHALL BE ADDED TO THE SEWER TO MAINTAIN A PRESSURE OF 3.5 PSIG OR GREATER.

AFTER THE STABILIZATION PERIOD, THE AIR SUPPLY CONTROL VALVE SHALL BE CLOSED SO THAT NO MORE AIR WILL ENTER THE SEWER. THE SEWER AIR PRESSURE SHALL BE NOTED AND TIMING FOR THE TEST BEGUN. THE TEST SHALL NOT BEGIN IF THE AIR PRESSURE IS LESS THAN THREE AND ONE HALF (3.5) PSIG, OR SUCH OTHER PRESSURE AS IS NECESSARY TO COMPENSATE FOR GROUND WATER LEVEL.

THE TIME REQUIRED FOR THE AIR PRESSURE TO DECREASE ONE (1.0) PSIG DURING THE TEST SHALL NOT BE LESS THAN THE TIME SHOWN IN THE FOLLOWING AIR TEST TABLES. THE CONTRACTOR SHALL USE THE APPROPRIATE TEST TABLE BASED UPON THE SEWER PIPE MATERIAL.

AIR TEST TABLE FOR VITRIFIED CLAY AND CONCRETE PIPE

SPECIFICATION TIME (MIN:SEC) REQUIRED FOR PRESSURE DROP FROM 3-1/2 TO 2-1/2 PSIG

| | WHEN TESTING ONE PIPE DIAMETER ONLY PIPE DIAMETER, INCHES | | | | | | | | | | | | | | | |
|--------------|--|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| | | 4 | 6 | 8 | 10 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 |
| ' LINE, FEET | 25 50 75 100 | 0:04 0:09 0:14 0:18 | 0:10 0:21 0:32 0:42 | 0:18 0:36 0:54 1:12 | 0:22 0:45 1:08 1:30 | 0:27 0:54 1:21 1:48 | 0:32 1:03 1:34 2:06 | 0:36 1:12 1:48 2:24 | 0:45 1:30 2:15 3:00 | 0:54 1:48 2:42 3:36 | 1:03 2:06 3:09 4:12 | 1:12 2:42 3:36 4:48 | 1:21 2:42 4:03 5:24 | 1:30 3:00 4:30 6:00 | 1:39 3:18 4:57 6:36 | 1:50 3:39 5:29 7:18 |
| | 125 150 175 200 | 0:22 0:27 0:32 0:36 | 0:52 1:03 1:14 1:24 | 1:30 1:48 2:06 2:24 | 1:52 2:15 2:38 3:00 | 2:15 2:42 3:09 3:36 | 2:38 3:09 3:40 4:12 | 3:00 3:36 4:12 4:48 | 3:45 4:30 5:15 6:00 | 4:30 5:24 6:18 7:12 | 5:15 6:18 7:21 8:24 | 6:00 7:12 8:24 9:36 | 6:45 8:06 9:27 10:48 | 7:30 9:00 10:30 12:00 | 8:15 9:54 11:33 13:12 | 9:08 10:57 12:47 14:36 |
| LENGTH OI | 225 250 275 300 | 0:40 0:45 0:50 0:54 | 1:34 1:45 1:56 2:06 | 2:42 3:00 3:18 3:36 | 3:22 3:45 4:08 4:30 | 4:03 4:30 4:57 5:24 | 4:44 5:15 5:46 6:18 | 5:24 6:00 6:36 7:12 | 6:45 7:30 8:15 9:00 | 8:06 9:00 9:54 10:48 | 9:27 10:30 11:33 12:36 | 10:48 12:00 13:12 14:24 | 12:09 13:30 14:51 16:12 | 13:30 15:00 16:30 18:00 | 14:51 16:30 18:09 19:48 | 16:26 18:16 20:06 21:54 |
| | 350 400 | 1:03 1:12 | 2:27 2:48 | 4:12 4:48 | 5:15 6:00 | 6:18 7:12 | 7:21 8:24 | 8:24 9:36 | 10:30 12:00 | 12:36 14:24 | 14:42 16:48 | 16:48 19:12 | 18:54 21:36 | 21:00 24:00 | 23:06 26:24 | 25:33 29:12 |
| | 450 500 | 1:21 1:30 | 3:09 3:30 | 5:24 6:00 | 6:45 7:30 | 8:06 9:00 | 9:27 10:30 | 10:48 12:00 | 13:30 15:00 | 16:12 18:00 | 18:54 21:00 | 21:36 24:00 | 24:18 27:00 | 27:00 30:00 | 29:42 33:00 | 32:51 36:30 |

NOTE: THIS TABLE IS TAKEN FROM THE NATIONAL CLAY PIPE INSTITUTE (NCPI) TABLES WHICH ARE BASED UPON ASTM C828 "TEST METHOD FOR LOW PRESSURE AIR TEST FOR VITRIFIED CLAY PIPE LINES" AND ASTM C924 "STANDARD PRACTICE FOR TESTING CONCRETE PIPE SEWER LINES BY LOW PRESSURE AIR TEST METHOD."

AIR TEST TABLE FOR PVC AND ABS PIPE MINIMUM SPECIFIED TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015*

THE MINIMUM HOLDING TIME FOR THE PRESSURE TO DROP FROM 3.5 TO 2.5 PSIG (GREATER THAN ADDED GROUND WATER PRESSURE) SHALL NOT BE LESS THAN THAT GIVEN IN THE FOLLOWING TABLE FOR EACH TESTED RUN OF SEWER BETWEEN MANHOLES: NOTE: AIR TESTING SHOULD NOT BE USED IF THE AIR PRESSURE REQUIRED FOR THE TEST EXCEEDS 9 PSIG.

| PIPE | MINIMUM | LENGTH FOR | TIME FOR | SPECIFICATION TIME FOR LENGTH (L) SHOWN, MINUTES | | | | | | | | | |
|----------|---------|---------------|-----------|--|--------|--------|--------|--------|--------|--------|--------|--|--|
| DIAMETER | TIME | MINIMUM TIME, | LONGER | | | | | | | | | | |
| INCHES | MINUTES | FT. | LENGTH, S | 100 FT | 150 FT | 200 FT | 250 FT | 300 FT | 350 FT | 400 FT | 450 FT | | |
| 4 | 3:46 | 597 | 0.380 L | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | | |
| 6 | 5:40 | 398 | 0.854 L | 5:40 | 5:40 | 5:40 | 5:40 | 5:40 | 5:40 | 5:42 | 6:24 | | |
| 8 | 7:34 | 298 | 1.520 L | 7:34 | 7:34 | 7:34 | 7:34 | 7:36 | 8:52 | 10:08 | 11:24 | | |
| 10 | 9:26 | 239 | 2.374 L | 9:26 | 9:26 | 9:26 | 9:53 | 11:52 | 13:51 | 15:49 | 17:48 | | |
| 12 | 11:20 | 199 | 3.418 L | 11:20 | 11:20 | 11:24 | 14:15 | 17:05 | 19:56 | 22:47 | 25:38 | | |
| 15 | 14:10 | 159 | 5.342 L | 14:10 | 14:10 | 17:48 | 22:15 | 26:42 | 31:09 | 35:36 | 40:04 | | |
| 18 | 17:00 | 133 | 7.692 L | 17:00 | 19:13 | 25:38 | 32:03 | 38:27 | 44:52 | 51:16 | 57:41 | | |
| 21 | 19:50 | 114 | 10.470 L | 19:50 | 26:10 | 34.54 | 43:37 | 52:21 | 61:00 | 69:48 | 78:31 | | |
| 24 | 22:40 | 99 | 13.674 L | 22:47 | 34:11 | 45:34 | 56:58 | 68:22 | 79:46 | 91:10 | 102:33 | | |
| 27 | 25:30 | 88 | 17.306 L | 28:51 | 43:16 | 57:41 | 72:07 | 86:32 | | | | | |
| 30 | 28:20 | 80 | 21.366 L | 35:37 | 53:25 | 71:13 | 89:02 | 106:50 | | | | | |
| 33 | 31:10 | 72 | 25.852 L | 43:05 | 64:38 | 86:10 | 107:43 | 129:16 | | | | | |
| 36 | 34:00 | 66 | 30.768 L | 51:17 | 76:55 | 102:34 | 128:12 | 153:50 | | | | | |

NOTE: THIS TABLE IS TAKEN FROM ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION AND ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR TEST." ASTM F1417 CONFORMS TO UNI-BELL "RECOMMENDED PRACTICE FOR LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (UNI-B-6-98)

* Q IS THE ALLOWABLE LEAKAGE RATE IN CUBIC FEET/MINUTE/SQUARE FOOT OF INSIDE SURFACE AREA OF PIPE

EXFILTRATION TEST

EXFILTRATION OR LEAKAGE FROM THE SEWER LINE CAN BE MEASURED BY RECORDING THE WATER LEVEL DROP OVER A GIVEN PERIOD OF TIME IN A STANDPIPE PLACED AND CONNECTED IN THE UPSTREAM MANHOLE. THE MEASURED DROP IN THE TIME PERIOD CAN BE CONVERTED BY CALCULATIONS TO THE LEAKAGE

EXFILTRATION TESTS MAY BE SUBSTITUTED FOR LOW PRESSURE AIR TESTS WHERE APPROVED BY THE TOWNSHIP ENGINEER. EXFILTRATION TESTS WILL NOT BE

RATE IN TERMS OF GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.

ALLOWED WHERE THE EXTERNAL WATER PRESSURE EXCEEDS FOUR (4) FEET. FOR THE PURPOSE OF EXFILTRATION TESTING, THE INTERNAL WATER LEVEL SHALL BE EQUAL TO THE EXTERNAL WATER LEVEL PLUS FOUR (4) FEET AS

MEASURED FROM THE TOP OF THE HIGHEST PIPE IN THE SYSTEM BEING TESTED. THIS COULD BE EITHER A HOUSE LEAD OR A LATERAL. HOWEVER, THE MAXIMUM TOTAL HEIGHT OF WATER ABOVE THE INVERT OF THE PIPE AT THE LOWER END SHALL NOT EXCEED SIXTEEN (16) FEET. A PROSPECTIVE TEST THAT WOULD EXCEED THIS SIXTEEN (16) FOOT LIMIT SHOULD NOT BE TAKEN. THE LINE UNDER CONSTRUCTION CAN BE BROKEN DOWN INTO SMALLER SECTIONS SUCH THAT THE MAXIMUM HEAD OF SIXTEEN (16) FEET WILL NOT BE EXCEEDED.

THE MAXIMUM EXFILTRATION RATE SHALL BE THE SAME AS THAT PERMITTED FOR THE INFILTRATION TEST. THE EXFILTRATION TEST PROCEDURE IS SUMMARIZED AS FOLLOWS:

1) ALL SERVICE LATERALS, STUBS AND FITTINGS INTO THE SEWER LINE(S) BEING TESTED SHOULD BE PROPERLY CAPPED OR PLUGGED, AND CAREFULLY BRACED TO RESIST THE THRUST ACTIONS DEVELOPED BY THE INTERNAL WATER PRESSURE. IN PREPARING THE BLOCKING OF PLUGS OR END CAPS, IT IS EXTREMELY IMPORTANT TO RECOGNIZE THAT THE FIVE (5) TO TEN (10) FEET OF HEAD IN THE STANDPIPE WILL EXERT CONSIDERABLE THRUST AGAINST THE PLUGS OR CAPS.

2) A PLUG IS INSERTED AND TIGHTENED IN THE INLET PIPE OF THE DOWNSTREAM MANHOLE TO WHICH THE WATER SUPPLY CONNECTION IS MADE FOR FILLING THE PIPE.

3) THE UPPER MANHOLE IS PLUGGED AND SECURELY TIGHTENED FOR CONNECTION TO THE STANDPIPE. THE STANDPIPE IS THEN PLACED IN THIS MANHOLE AND CONNECTED TO THE TAPPED PLUG. THE STANDPIPE MUST BE CAPABLE OF HANDLING FROM FIVE (5) TO TEN (10) FEET OF WATER HEAD TO DETERMINE THE TIGHTNESS AND SOUNDNESS OF THE SEWER LINE, AS SPECIFIED AND DIRECTED BY THE ENGINEER.

4) WATER IS INTRODUCED INTO THE LINE AT THE DOWNSTREAM (LOWER) MANHOLE UNTIL THE STANDPIPE IN THE UPSTREAM MANHOLE HAS BEEN COMPLETELY FILLED. BY FILLING THE LINE FROM THE LOWEST LEVEL, THE AIR IN THE LINE IS EASILY PUSHED AHEAD AND, FINALLY DISPELLED THROUGH THE STANDPIPE AT THE UPPER END OF THE TEST SECTION. CARE SHOULD BE TAKEN TO MINIMIZE ENTRAPPED AIR THAT WILL GIVE DISTORTED TEST RESULTS. THE RATE OF DROP IN THE STANDPIPE MAY BE QUITE RAPID UNTIL THE AIR HAS BEEN EXPELLED.

5) AFTER FILLING WITH WATER, THE LINE MUST BE ALLOWED TO STAND FOR AT LEAST FOUR (4) HOURS BEFORE BEGINNING THE TEST. DURING THIS TIME SOME WATER ABSORPTION INTO THE MANHOLE STRUCTURES AND SEWER PIPE WILL TAKE PLACE. AFTER THE WATER ABSORPTION HAS STABILIZED, THE WATER LEVEL IN THE STANDPIPE IS CHECKED AND WATER ADDED IF NECESSARY.

6) THE TEST IS NOW READY TO BEGIN. THE DROP IN THE STANDPIPE IS MEASURED AND RECORDED OVER A FIFTEEN (15) MINUTE PERIOD. TO VERIFY THE FIRST RESULTS, A SECOND FIFTEEN (15) MINUTE TEST IS SUGGESTED. THIS WILL ALSO VERIFY WHETHER A STABLE CONDITION EXISTS IN THE LINE.

7) THE MEASURED DROPS IN THE STANDPIPE ARE CONVERTED TO LEAKAGE IN TERMS OF GALLONS PER INCH DIAMETER PER MILE PER DAY.

8) ANOTHER COMMONLY USED METHOD OF CONDUCTING WATER EXFILTRATION TESTING IS TO UTILIZE THE MANHOLE IN LIEU OF A STANDPIPE. THE TEST PROCEDURE IS EXACTLY AS OUTLINED FOR USING THE STANDPIPE. HOWEVER, SINCE THE MANHOLE IS LARGER IN DIAMETER THAN THE STANDPIPE, THIS METHOD NORMALLY REQUIRES A MINIMUM TWO (2) HOUR TEST PERIOD IN ORDER TO BE ABLE TO RECORD A MEASURABLE WATER LEVEL DROP. MANHOLE LEAKAGE MUST ALSO BE CONSIDERED IN THE LEAKAGE RATE AND TEST RESULTS.

9) CAUTION SHOULD BE TAKEN ABOUT CONDUCTING EXFILTRATION TESTS ON SEWER LINES LAID ON STEEP GRADES. CONSIDERATION MUST BE GIVEN TO THE DOWNSTREAM PORTION OF THE SYSTEM TO PREVENT EXCESSIVE PRESSURES IN THESE LOWER LINES. FOR THESE INSTALLATIONS AND WHERE THE UPSTREAM MANHOLES ARE VERY DEEP, IT IS NOT ADVISABLE TO FILL THE STANDPIPE OR MANHOLE TO THE TOP WHEN PERFORMING THE TEST.

DEFLECTION TEST FOR PLASTIC PIPE

DEFLECTION GAUGE (MANDREL): MANDREL TESTING SHALL TAKE PLACE TO ENSURE THE FLEXIBLE PIPE HAS BEEN PROPERLY BEDDED AND BACK-FILLED. THE DEFLECTION TEST MUST BE CONDUCTED NO LESS THAN 30 DAYS AFTER INSTALLATION OF THE FINAL BACKFILL. THE MAXIMUM ALLOWABLE DEFLECTION IS 5 PERCENT. INSTALLATION SHALL CONFORM TO ASTM 2321-89. A NINE-ARM (POINT) MANDREL SHALL BE USED. CHERNE FIXED STEEL DEFLECTION OR APPROVED EQUAL.

VIDEOTAPING

AS A MEANS OF INSURING THAT PIPE LAYING WAS PROPERLY DONE AND THAT ALL JOINTS ARE IN A "HOME" POSITION, THE CONTRACTOR SHALL PROVIDE VIDEOTAPING OF ALL OF THE PIPE LAID THAT IS THIRTY-SIX (36) INCHES IN DIAMETER AND SMALLER. THIS VIDEOTAPING SHALL BE DONE NO SOONER THAN THIRTY (30) DAYS AFTER COMPLETION OF BACKFILL. THE CONTRACTOR SHALL PROVIDE FORTY-EIGHT (48) HOURS NOTICE TO THE TOWNSHIP PRIOR TO VIDEOTAPING SO THAT A REPRESENTATIVE MAY BE PRESENT. A SATISFACTORY REVIEW OF THE VIDEOTAPE BY THE TOWNSHIP SHALL BE A CONDITION FOR SEWER ACCEPTANCE BY THE TOWNSHIP. TYPICAL ITEMS TO BE REVIEWED ON THE VIDEOTAPE WILL INCLUDE PIPE DEFLECTION, PIPE SETTLEMENT, LEAD CONNECTIONS, JOINTS AND PIPE CLEANLINESS. IF THE VIDEOTAPE REVIEW REVEALS UNSATISFACTORY CONDITIONS, THE CONTRACTOR SHALL CORRECT THE CONDITIONS AND SHALL RE-VIDEOTAPE THE AFFECTED PIPE SECTIONS FOR REVIEW BY THE TOWNSHIP.

| | | CLIENT |
|---|--|---|
| | | COPYRIGHT This drawing has been prepared solely for the intended use, thus any reproduction or distribution for any purpose other than authorized by IBI Group is forbidden. Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job, and IBI Group shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to IBI Group for general conformance before proceeding with fabrication. IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies |
| H: NTS SCALE H: NTS SCALE NIA NIA NIA NIA NIA NIA NIA NIA NIA NIA | ITED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM | No. DESCRIPTION DATE A AREA PLAN 2021-10-27 B AREA PLAN AMENDMENT 2021-11-29 C PRELIMINARY SITE DESIGN 2022-01-26 D 30% OWNER REVIEW 2022-02-18 E 60% OWNER REVIEW 2022-03-18 0 ISSUED FOR BIDS 2022-04-01 |
| CITYVILAGETOWNSHIP CHARTER TOWNSHIP CHARTER TOWNSHIP OF SUPERIOR | IND THE SAME MAY NOT BE DUPLICATED, DISTRIBL | CONSULTANTS |
| Image: section indicating the section indicating th | RITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AI | SEAL |
| DATE CAD ENG ARCI DCT 2003 DK DLG/UG REVISIONS: REVISIONS: | COPYRIGHT 2009 OHM ALL DRAWINGS AND WI | |
| CHARTER TOWNSHIP OF SUPERIOR STANDARD SANITARY DETAILS | | PRIME CONSULTANT IBI GROUP 25200 Telegraph Road - Suite 300 Southfield MI 48033 USA tel 248 936 8000 fax 248 936 8111 ibigroup.com PROJECT Hyundai STIL 6800 Geddes Rd Superior Charter Twp, MI 48198 PROJECT NO: 134894 DRAWN BY: CHECKED BY: GTANNAR DROJECT MOD: |
| SHEET 2 OF 2 | | PROJECT MGR: APPROVED BY: D KASSAB SHEET TITLE DETAILS |
| | | SHEET NUMBER ISSUE |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CT-600 Details.dwg

| | | | | | | CLIEN | | AICHIGA | N R&D CE | NTER | |
|---|--|--|---|---|--|---|---|--|--|--|---|
| STANDARD BACKFILL TRENCH A 1:1 RUCTURE (FOR AREAS NOT UNDER OR WITHIN A 1:1 INFLUENCE OF A ROADWAY OR STRUCTURE) (COMPACTED SELECTED EXCAVATED MATERIAL COMPACTED MODT GRANULAR MATERIAL CLASS II OR III OVER AND AROUND PIPE ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL ARCH PIPE SPRING LINE 1/4" TO 1 1/2" ANGULAR GRADED STONE BEDDING (MDOT 6AA CRUSHED STONE OR CRUSHED CONCRETE) CAREFULLY AND UNIFORMLY COMPACTED IN 6" LAYERS NOT TO EXCEED 12" TO PIPE SPRING LINE. NDRY STABLE SOILS, PEASTONE (EQUIVALENT TO MDOT 34R) MAY BE SUBSTITUTED FOR BEDDING. | H: NTS V: N/A N/A N/A | 1000-00-0000 | | WWW.OHM-ADVISORS.COM | ED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM | COPY reprint Cor the jc ic cond ISSUE No. A B C D E 0 | SUPERIC RIGHT This drawing has oduction or distribu- idden. Written dir trractors shall verif b, and IBI Group s itions shown on th for general c IBI Group is a S AREA PLAI AREA PLAI AREA PLAI AREA PLAI PRELIMINA 30% OWNE 60% OWNE ISSUED FC | DR TOWN the been prepared s the off any purp- nensions shall he y and be respons- that be informed e drawing. Shop- conformance before Profession member of the IE DESCRIPT N NAMENDME R REVIEW R REVIEW DR BIDS N ADDA N ADDA R DESCRIPT | NSHIP, MIC | CHIGAN Use, thus any red by IBI Group caled dimensions and conditions oi the dimensions a mitted to IBI Grou rication. A) Inc. DATE 2021-10- 2021-11- 2022-01- 2022-03- 2022-04- X | is n nd p -27 -29 -26 -18 -01 |
| FOR STORM SEWER CONSTRUCTION Image: Strain Storm Storm Store However, IF The Strain Storm Storm Store May Lead Directly on Storm Storm Storm Sewer May be Lad Directly on Storm Storm Storm Sewer May be Lad Directly on Storm Storm Storm Sewer May be Lad Directly on Storm Storm Storm Sewer May be Lad Directly on Storm Storm Sewer May be Into Compact Storm Sto | ATE CADD ENG/ARCH PROJINGR SECTION TOWN RANGE COUNTY CITY/VILLAGE/TOWNSHIP 2003 DK DLG/JGL WASHTENAW CHARTER TOWNSHIP OF SUPERIOR | | NS: REVISIONS: REVISIONS: REVISIONS: REVISIONS: | 34000 Plymouth Road Livonia, MI 48150 P (734) 522-6711 F (734) 522-6427 | RIGHT 2009 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUT | CONS | ULTANTS | | | | |
| SODDING/ SEEDING. REQUIREMENTS FERTILIZER REQUIREMENT MDOT "ROADSIDE" MIX (50% PERENNIAL RYE, 35% KENTUCKY BLUE, 35% KENTUCKY BLUE, 35% KENTUCKY BLUE, 35% KENTUCKY BLUE, 47 100 LBS/ACRE 240 LBS/ACRE OF CHEMICAL FERTILIZER NUTRIENTS IN EQUAL PROPORTIONS OF NITROGEN, 905 PHOSPHORIC ACID AND POTASH. (MUST BE A SLOW-RELEASE FERTILIZATION) MDOT "CLASS A" MIX (30% PERENNIAL RYE, 30% KENTUCKY BLUE, 40% RED FESCUE) APPLIED AT 100 LBS/ACRE 240 LBS/ACRE OF CHEMICAL FERTILIZER NUTRIENTS IN EQUAL PROPORTIONS OF NITROGEN, PHOSPHORIC ACID AND POTASH. (MUST BE A SLOW-RELEASE FERTILIZATION) S 3" TOPSOIL WITH CLASS A SOD 240 LBS/ACRE OF CHEMICAL FERTILIZER NUTRIENTS IN EQUAL PROPORTIONS OF NITROGEN, PHOSPHORIC ACID AND POTASH. (MUST BE A SLOW-RELEASE FERTILIZATION) MATE OF 2–3 BALES/1000 SQUARE FEET. (MUST BE A SLOW-RELEASE FERTILIZATION) S) PONSIBLE TO INSURE THE GROWTH OF ALL SEEDED S NECESSARY TO ACCOMPLISH THIS. | | CHARTER TOWNSHIP OF SUPERIOR STANDARD STORM SEWER DETAILS | | | COPYRIC | PROJE PROJE 13489 DRAW G TAN PROJE D KAS SHEET | ECT BI 00 Gedd CT NO: 04 N BY: NAR ECT MGR: SAB | TANT BI GROUP 25200 Teleg Southfield M rel 248 936 8 bigroup.com Hyund es Rd Si MI 4 | raph Road - Suit 1 48033 USA 3000 fax 248 93 ai STIL uperior Cha 8198 CHECKED I APPROVED GAILS | e 300 6 8111 arter Twp BY: |), |
| | | | | | | SHEE | | T-60: | 3 | ISSUE | E |

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CT-600 Details.dwg

CLIENT

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CT-600 Details.dwg

J:\134894_HATCI_STIL\7.0_Production\7.03_Design\04_Civil\Sheets\CT-600 Details.dwg