# 2022 MISCELLANEOUS UTILITY PROJECTS

**RFP NO. 22-20, FILE NO. 2021-013**

## Sheet List Table

<table>
<thead>
<tr>
<th>Sheet Title</th>
<th>Sheet Number</th>
</tr>
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<tbody>
<tr>
<td>CITY OF ANN ARBOR</td>
<td>1</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>2</td>
</tr>
<tr>
<td>COVER SHEET</td>
<td>3</td>
</tr>
<tr>
<td>2021-013</td>
<td>4</td>
</tr>
<tr>
<td>RFP NO. 22-20</td>
<td>5</td>
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<tr>
<td>FILE NO. 2021-013</td>
<td>6</td>
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## Notes

- All Factures on undersigned drawings are in conformance with Public Act No. 311 (H.B. 4880) of 1998, Michigan Revised Statutes, Chapter 150, to the extent that they are required to be on the undersigned drawings. All referenced specifications are as stated in Section 100, *Ann Arbor Public Services Procurement Policy*, and are available on request. The undersigned reserves the right to change, alter or modify the undersigned drawings at any time for any reason without prior notice. The undersigned also reserves the right to change, alter or modify the undersigned drawings at any time for any reason without prior notice.

- Know what's below. Call before you dig.
CONSTRUCTION NOTES:

1. The contractor is responsible for all data, notes, and project specifications prepared by the City. The contractor shall be held responsible for the accuracy and completeness of all data, notes, and project specifications submitted to the Department of Public Services. The contractor shall be responsible for the accuracy and completeness of all data, notes, and project specifications prepared by the contractor and submitted to the City.

2. All data, notes, and project specifications shall be submitted to the Department of Public Services in accordance with the specifications and requirements of the City. The contractor shall be responsible for the accuracy and completeness of all data, notes, and project specifications submitted to the Department of Public Services.

3. The contractor shall be responsible for all data, notes, and project specifications prepared by the City. The contractor shall be held responsible for the accuracy and completeness of all data, notes, and project specifications submitted to the Department of Public Services. The contractor shall be responsible for the accuracy and completeness of all data, notes, and project specifications prepared by the contractor and submitted to the City.

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PROJECT NAME BENCHMARKS

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<th>ELEV</th>
<th>DESCRIPTION</th>
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<td>SPAC IN SOUTHWEST FACE OF POWER POLE ON OFF SIDE OF DRIVE TO HOUSE</td>
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<td>SPAC IN SOUTHWEST FACE OF POWER POLE ON OFF SIDE OF LIBERTY ST</td>
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<td>504.81</td>
<td>SPAC ON POWER POLE ON SW CORNER OF SUMMIT AND HICKORY ST</td>
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<td>7</td>
<td>502.30</td>
<td>SPAC ON POWER POLE @ DRIVE BETWEEN 111 &amp; 113 HICKORY ST</td>
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<tr>
<td>8</td>
<td>157.27</td>
<td>SPAC ON LIGHT POLE SOUTH SIDE OF SUMMIT ST ET/90 EAST</td>
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Know what's below. Call before you dig.
### HMA Application Estimate

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<tr>
<th>LVSP</th>
<th>Binder</th>
<th>Location/Notes</th>
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<tr>
<td>220 LB/SYD</td>
<td>PG 58-28</td>
<td>Bonds Coat SS-1h</td>
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</tbody>
</table>

**Existing Dicken Dr**

**Typical Section**

*Looking North*

**Proposed Dicken Dr**

**Typical Section**

*Looking North*
Know what's below. Call before you dig.

EXISTING MAPLE RD
TYPICAL SECTION
(LOOKING NORTH)

PROPOSED MAPLE RD
TYPICAL SECTION
(LOOKING NORTH)
NTS

HMA APPLICATION ESTIMATE

HMA MIX

RATE OF APPLICATION

THICKNESS (INCHES)

AWI (MIN.)

BINDER

LOCATION/NOTES

LVSP

220 LB/SYD

2

260 (TOP)

PG 58-28

TOP COURSE

Bond Coat SS-1h

0.05 - 0.15

GAL/SYD

- - - -

INCLUDE IN COST OF HMA ITEM

Know what's below.

Call before you dig.
Know what's below. Call before you dig.
**WATER VALVE BOX ADJUSTMENT**

**POLYETHYLENE ENCASEMENT**

(WET INSTALLATION)

**POLYETHYLENE ENCASEMENT**

(DRY INSTALLATION)

**FIRE HYDRANT ASSEMBLY**

**THRUST BLOCK SD-W-2**

**GATE WELL FOR MAIN 16" & SMALLER SD-W-3**

**WATER VALVE BOX ADJUSTMENT**

**MANHOLE CASTING ADJUSTMENT SD-GU-6**

**NOTES:**

1. ALL CFR STEEL WELD Joints shall be grooved prior to welding and curing.
2. ALL WELDS shall be made using a process that guarantees sound welds.
3. ALL WELDS are required to be grooved prior to welding.
4. All welds shall be made using a process that guarantees sound welds.

**TYPICAL PIPE CASING DETAIL**

**POLYETHYLENE ENCASEMENT**

(WET INSTALLATION)

**POLYETHYLENE ENCASEMENT**

(DRY INSTALLATION)
PeDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET

GENERAL NOTES

WHEN EXISTING PEDESTRIAN CROSSWALKS ARE UNDERMINED, OTHER DEVICES MAY BE NEEDED TO CONTROL PEDESTRIAN MOVEMENTS. THESE DEVICES SHOULD BE CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NEEDED TO CONTROL PEDESTRIAN MOVEMENTS. THESE DEVICES SHOULD BE CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.

PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.

2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ACCESSIBLE PREMISES. PEDESTRIAN ACCESS DEVICES MAY BE SHOWN ON THE PROJECT PLANS. THE CONTRACTOR SHALL INSTALL THE REQUIRED PEDESTRIAN ACCESS DEVICES, INCLUDING BUT NOT LIMITED TO, ACCESSIBLE HOTELS, APARTMENTS, SHOPS, MUSEUMS, CHURCHES, AND/or SCHOOLS. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

3. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

4. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

5. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

6. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

7. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.

8. THE CONTRACTOR SHALL INSTALL PEDESTRIAN TRAFFIC CONTROL DEVICES AT THE REQUIRED LOCATIONS AS SHOWN ON THE PROJECT PLANS.
MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENSIBLE BY PROVIDING DEVICES SHALL BE DELINATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES.

GENERAL NOTES

1. PROVIDE TEMPORARY WALKWAY SURFACE.
2. PEDESTRIAN CHANNELIZERS.
3. MINIMUM 5' DESIRABLE.
4. PEDESTRIAN BARRIERS.
5. BARRELS WITH PAPER AND ATTENUATION.
6. PADDED CHANNELIZERS.
7. PROVIDE TEMPORARY DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. TEMPORARY CROSSWALKS TO BE POSTED IN ACCORDANCE WITH THE CLOSED AREA WAS USED AS AN INTERSECTION/TRAFFIC LANE OR BYPASSES LANE. STREET CROSSING SHALL BE PROMPTED FOR AT LEAST 30 FEET IN FRONT OF THE SIDEWALK CROSSING.
3. TEMPORARY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.
4. PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS. THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PEDESTRIAN TRAFFIC SIGNAL.
5. TEMPORARY TRUNCATED DOMES, REQUIRED IF CROSSING A MINOR ROAD OR COMMERCIAL DRIVEWAY.
6. TEMPORARY TRUNCATED DOMES, REQUIRED IF CROSSING A MINOR ROAD OR COMMERCIAL DRIVEWAY.
7. TEMPORARY TRUNCHED DOMES, REQUIRED IF CROSSING A MINOR ROAD OR COMMERCIAL DRIVEWAY.
8. TEMPORARY TRUNCATED DOMES, REQUIRED IF CROSSING A MINOR ROAD OR COMMERCIAL DRIVEWAY.

LEGEND

- DIRECTION OF TRAFFIC
- SIDEWALK BARRICADE
- WORK AREA
- SIGN
- PEDESTRIAN CHANNELIZATION DEVICE
- TRAFFIC CONTROL DEVICE
- PEDESTRIAN TRAFFIC CONTROL
- SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW SPEED ROADWAY
- SIDEWALK BYPASS USING PARKING OR SHOULDER ON HIGH SPEED ROADWAY
SPECIFIC NOTES
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING SHOWN IS 2" MIN. HEIGHT. HEIGHT MAY BE INCREASED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR WHEN A CURB APRON IS STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGE SHOWN IS 2" MIN. HIGH WITH CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDING AREAS WHERE THE ANCHORAGE CHANGES DIRECTION (TURN).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAXIMUM CROSS SLOPE.
5. CLEAR SPACE OF 48" X 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING EDGE, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. SIDE JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
8. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" MAX. AND THEN REMOVED AT A 2:1 MOUNT BETWEEN 1/4" AND 1/2" HEIGHT.

TEMPORARY CURB RAMP
PARALLEL TO CURB

TEMPORARY CURB RAMP
PERPENDICULAR TO CURB
GENERAL NOTES

- Peaking or other objects may protrude a maximum of 4 inches into the walkway clear space when located a minimum of 27 inches above the walkway surface.
- Railings or other objects shall be placed consecutively across the entire width of the walkway surface being closed.

SPECIFIC NOTES

- Detachable edges shall be continuous and a minimum of 6 inches high above the walkway surface. Devices shall not block water drainage from the walkway. A gap height or opening from the walkway surface up to a maximum of 2 inches is allowed for drainage purposes.
- When hand guidance is required, the top rail or top surface shall:
  - Be in a vertical plane perpendicular to the walkway above the detectable edge.
  - Be a minimum of 34 to 38 inches above the walkway surface, and
  - Be supported with minimal interference to the pedestrian's balance or ability.
- All devices used to channelize pedestrian flow shall allow for drainage purposes.
- All pedestrian channelizers shall be free of sharp or rough edges, and fasteners (bolts) shall be rounded to prevent harm to hands, arms, or clothing of pedestrians.
- All devices used to channelize pedestrian flow shall allow for drainage purposes.
- All devices used to channelize pedestrian flow shall allow for drainage purposes.
- All hand guidance shall be free of sharp or rough edges, and fasteners (bolts) shall be rounded to prevent harm to hands, arms, or clothing of pedestrians.
- All devices used to channelize pedestrian flow shall allow for drainage purposes.
- All devices used to channelize pedestrian flow shall allow for drainage purposes.

WALKWAY SURFACE

- Temporary pedestrian access route passing detail

PEDESTRIAN CHANNELIZER USING A BARRIER

(MINIMUM REQUIREMENTS)

- Temporary walkway surface

PEDESTRIAN CHANNELIZER

(MINIMUM REQUIREMENTS)

- 200 max spacing from last passing space
- 200 max spacing from last passing space
- 27" min
- 1" max cross slope
- 2" max
- 2% max cross slope
- 6' minimum 5' diameter
- Temporary walkway surface

NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL
REMOVAL KEY

- KEY DESCRIPTION

1. Major Utility
2. Minor Utility
3. Water Main
4. Sewer Main
5. Storm Sewer
6. Gas Main
7. Cable
8. Telephone
9. Gas Line
10. Water Line
11. Storm Sewer Line
12. Electrical
13. Other

PLAN VIEW

DICKEN DR
(60' WIDE R.O.W.)

REMOVALS AND SITE PREP

PLAN:  1' = 20'

PROFILE: 1" = 2'

DICKEN DR
(60' WIDE R.O.W.)

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

2022 MISC UTILITY PROJECTS

MAPLE RD
(VARIABLE WIDTH R.O.W.)

2021-013

17 OF 35
Know what's below. Call before you dig.

WATER MAIN PROFILE

PLAN: 1' = 20'
PROFILE: 1" = 2'

WATER MAIN STRUCTURE TABLE

<table>
<thead>
<tr>
<th>Structure</th>
<th>Elevation</th>
<th>Length (ft)</th>
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<td>475</td>
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<td>500</td>
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

2021-013 - 2022 MISC UTILITY PROJECTS

MAPLE RD (VARIABLE WIDTH R.O.W.)

DICKEN DR (60' WIDE R.O.W.)

WATER MAIN PROFILE

PLAN VIEW

WATER MAIN STRUCTURE TABLE
Know what’s below.
Call before you dig.
Know what's below. Call before you dig.
HISCOCK STREET
(66' WIDE R.O.W.)

PLAN VIEW

STORM SEWER PROFILE

STORM SEWER STRUCTURE TABLE

<table>
<thead>
<tr>
<th>STRUCTURE</th>
<th>UTILITY</th>
<th>HOLE</th>
<th>DIA &amp; LOCATION</th>
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<th>SIZE</th>
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<tr>
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<td>12&quot; W</td>
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<td>Storm MH (Cover B)</td>
<td>2 Ft</td>
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</table>
PLAN:  1' = 20'
PROFILE: 1" = 2'

CONSTRUCTION KEY

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<th>KEY</th>
<th>DESCRIPTION</th>
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<td>HMA</td>
<td>Hot-Mix Asphalt</td>
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<tr>
<td>CG</td>
<td>Concrete Base</td>
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</table>
| SW4 | Stormwater Pipe 4"
| SWR6| Stormwater Pipe 6"
| DOL | Dolomite Base |
| ASC | Aggregate Base |
| REST-1 | Restraint Base 1"
| AGG | Aggregate Base |

Know what's below. Call before you dig.

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ANN ARBOR, MI 48107-8647
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2021-013 - 31 OF 35
Know what's below. Call before you dig.

REMVAL KEY

<table>
<thead>
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<th>KEY</th>
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<tr>
<td>R11-4</td>
<td>60&quot;x30&quot; THRU TRAFFIC</td>
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<tr>
<td>W20-1</td>
<td>36&quot;x36&quot;</td>
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</tbody>
</table>

SUNRISE CT
(60' WIDE R.O.W.)

ROAD CLOSED
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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2022 MISC UTILITY PROJECTS

SUNRISE COURT
REMOVALS AND SITE PREP
SUNRISE ST
(60' WIDE R.O.W.)
BRUCE ST
WESTWOOD AVE

LIGHTED TYPE III BARRICADE
W20-1
36"x36"
SUNRISE COURT
(60' WIDE R.O.W.)

PLAN VIEW

WATER MAIN PROFILE

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

WATER MAIN STRUCTURE TABLE

<table>
<thead>
<tr>
<th>Structure</th>
<th>Type</th>
<th>Depth</th>
<th>Diameter</th>
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<tr>
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<td>2.00</td>
<td>12.00</td>
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SUNRISE CT
(60' WIDE R.O.W.)
### Storm Sewer Structure Table

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<th>Structure</th>
<th>Station</th>
<th>Invert Elev.</th>
<th>Size &amp; Direction</th>
<th>Depth</th>
<th>Size</th>
<th>Type</th>
<th>RIM Elev.</th>
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<tbody>
<tr>
<td>R-112</td>
<td>0+00</td>
<td>12' 911.61</td>
<td>6' Storm MH (Cover B)</td>
<td>12.14</td>
<td>6'</td>
<td>Storm MH (Cover B)</td>
<td>916.61</td>
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<tr>
<td>R-115</td>
<td>0+00</td>
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<td>Storm MH (Cover B)</td>
<td>28.85</td>
<td>2'</td>
<td>Storm MH (Cover B)</td>
<td>917.86</td>
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<td>R-113</td>
<td>0+37</td>
<td>7.81</td>
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<td>28.81</td>
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<td>0+66</td>
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<td>2'</td>
<td>Storm MH (Cover B)</td>
<td>922.77</td>
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### Existing Storm Sewer Structure Removal Table

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<th>Structure</th>
<th>Depth</th>
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<tr>
<td>R-112</td>
<td>12.14</td>
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<td>R-115</td>
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<td>Storm MH (Cover B)</td>
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<td>8.95</td>
<td>Storm MH (Cover B)</td>
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<tr>
<td>R-115</td>
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</tr>
</tbody>
</table>

**Note:** The plan view shows the alignment of Sunrise ST1, ST2, and ST3 with specific stations and elevations. The depth and size of storm sewer structures are detailed in the tables above. The city of Ann Arbor - Public Services - Engineering is responsible for this project, which is part of the 2020 Misc. Utility Projects.
PLAN: 1' = 20'

Know what's below. Call before you dig.

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

2021-013 - 2022 MISC UTILITY PROJECTS

SUNRISE COURT
ROAD PLAN

SUNRISE CT
(60' WIDE R.O.W.)

CONSTRUCTION KEY

<table>
<thead>
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<th>KEY</th>
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<tr>
<td>2</td>
<td>PVMT BASE</td>
</tr>
</tbody>
</table>

NOTICE: All right-of-way widths are approximate and subject to change. Final widths shall be determined by the engineer of record.