

# CHAHAL SEMI TRUCK/TRAILER REPAIR FACILITY

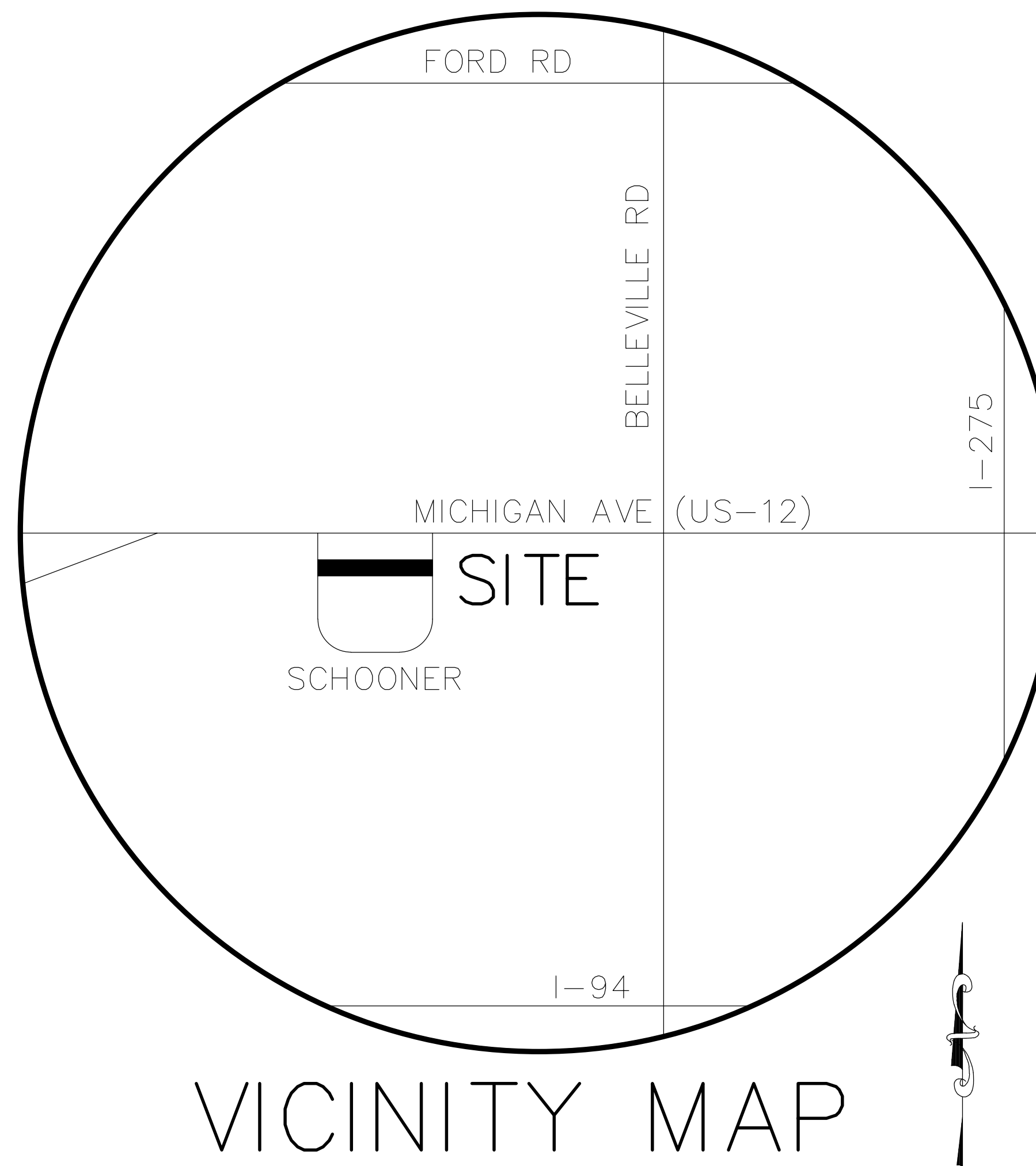
6100 SCHOONER DRIVE  
VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN

## DESIGN ENGINEERS

HARDY CIVIL DESIGN SERVICES LLC  
4996 MOORE  
WAYNE MI 48184  
Ph. (734) 756-2196  
E-MAIL: kbhardy1964@hotmail.com  
CONTACT: KEVIN HARDY

## GENERAL CONTRACTOR

JOE DAVENPORT  
(DAVENPORT BROTHERS CONST.)  
301 INDUSTRIAL PARK DRIVE  
BELLEVILLE, MI 48111  
Ph. (313) 350-0369  
E-MAIL: joe@davenportbrothers.com



VICINITY MAP

### LEGAL DESCRIPTION

COMMENCING AT THE SOUTH 1/4 CORNER OF SECTION 32, TOWN 2 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN; THENCE S.87°37'34"W., 61.08 FEET ALONG THE SOUTH LINE OF SAID SECTION 32, ALSO BEING THE NORTH LINE OF SECTION 5, TOWN 3 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, M WAYNE COUNTY, MICHIGAN; THENCE ALONG THE WESTERLY LINE OF SCHOONER DRIVE (60' RIGHT OF WAY) THE FOLLOWING TWO COURSES: (1) SOUTHERLY 27.29 FEET ALONG THE ARC OF A 370 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 04°13'31" AND HAVING A CHORD BEARING S.07°20'55"E., 27.28 FEET AND (2) S.05°14'10"E., 476.68 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING S.05°14'10"E., 274.00 FEET; THENCE S.85°10'54"W., 1010.75 FEET; THENCE N.04°49'18"W., 216.33 FEET ALONG THE EASTERLY LINE OF SAID SCHOONER DRIVE; THENCE N.88°17'04"E., 217.19 FEET; THENCE N.05°42'41"W., 69.43 FEET; THENCE N.85°10'54"E., 792.98 FEET TO THE POINT OF BEGINNING. BEING A PART OF THE NORTH 1/2 OF SECTION 5, TOWN 3 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN.

TAX ID #83-017-99-0014-714

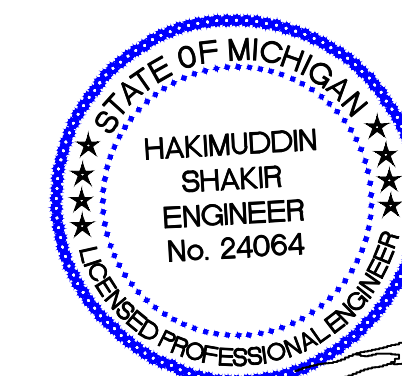
| Land Characteristic                          | Existing           | Proposed                   |
|----------------------------------------------|--------------------|----------------------------|
| Total Development Area (ac)                  | 6.03               | 4.99                       |
| Impervious Area (ac)                         | 1                  | 3.24                       |
| Total Pervious Area (ac)                     | 5                  | 1.75                       |
| <b>Pervious Area Breakdown by Cover Type</b> |                    |                            |
| Non-cultivated                               | 4                  | 0                          |
| Impervious Area (ac)                         | N/A                | N/A                        |
| <b>Improved area (grass/landscape)</b>       |                    |                            |
| Predominant NRCS Soil Type                   | 6.03<br>type B     | 1.19<br>type B             |
| <b>Wooded Area (ac)</b>                      |                    |                            |
| Predominant NRCS Soil Type                   | 0<br>N/A           | 0<br>N/A                   |
|                                              | REQUIRED<br>VOLUME | UNIT<br>PROVIDED<br>VOLUME |
| CPVC                                         | 13,042             | cf 1,956                   |
| CPRC                                         | 24,780             | cf 0                       |
| Flood control vol.=                          | 54,463             | cf 52,507                  |
| Total volumes=                               | 54,463             | cf 54,463                  |

### CERTIFICATION

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

## PROPERTY OWNER

SUKHDEV SINGH  
8385 OPAL  
WESTLAND, MI 48185  
Ph. (734) 419-3060  
E-MAIL: suksingh363@gmail.com



## SHEET INDEX

1. SITE PLAN
2. TOPOGRAPHIC SURVEY & REMOVALS PLAN
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4. STORM SEWER DESIGN PLAN
5. PROFILES
6. DETAILS
7. DETAILS
- LP-1 LANDSCAPING PLAN
- LP-2 LANDSCAPING DETAILS
- PH-1 PHOTOMETRICS PLAN
- PH-2 PHOTOMETRICS BUILDING
- A1.0 FLOOR PLAN
- A2.0 BUILDING ELEVATIONS

### REQUIRED PERMITS

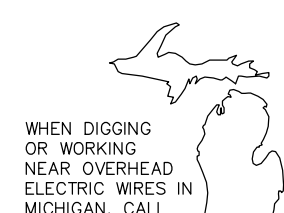
WAYNE COUNTY (STORM WATER PERMIT)  
WAYNE COUNTY SESC PERMIT  
VAN BUREN TOWNSHIP (SITE DEVELOPMENT PERMIT)

### PROPOSED USE

THE PROPOSED USE OF THE FACILITY IS FOR MAJOR TRUCK REPAIR.

VEHICLES AND THEIR TRAILERS MAY REQUIRE AND RECEIVE REPLACEMENT OR REPAIR TO MAY COMPONENT, SUCH AS ENGINES, EXHAUST SYSTEMS, TRANSMISSIONS, AND OR SUSPENSIONS.

NEW AND USED VEHICLES AND TRAILER COMPONENTS WILL BE REMOVED WITHIN THE PROPOSED BUILDING AND ALL NEW AND USED COMPONENTS WILL BE STORED WITHIN THE PROPOSED BUILDING.



3 WORKING DAYS  
BEFORE STARTING YOUR PROJECT

811  
(TOLL FREE)







ZONING & SETBACKS

SUBJECT PROPERTY ZONED M2 (GENERAL INDUSTRIAL)

ADJACENT PROPERTY ZONING:

NORTH M1 & M2  
EAST M2  
SOUTH M2  
WEST M1

SCHEDULE OF REGULATIONS FOR M2 ZONING

LOT SIZE NONE  
BUILDING HEIGHT 4 - STORY  
LOT COVERAGE 35%

SETBACKS

FRONT 60'(o)  
REAR 50'  
SIDES 50'(p), TOTAL 100'

SETBACK FOOTNOTES

(o) OFF-STREET PARKING FOR VISITORS, OVER AND ABOVE THE NUMBER OF SPACES REQUIRED UNDER SECTION 9.102 MAY BE PERMITTED WITHIN THE REQUIRED FRONT YARD PROVIDED THAT SUCH OFF-STREET PARKING IS NOT LOCATED WITHIN TWENTY (20) FEET OF THE FRONT LINE.  
(p) OFF-STREET PARKING SHALL BE PERMITTED IN A REQUIRED SIDE YARD SETBACK.

FLOODZONE

THE SUBJECT PROPERTY IS LOCATED IN ZONE "C" (AREAS OF MINIMAL FLOODING) AS SHOWN ON FLOOD INSURANCE RATE MAP PANEL 26163C0195E, DATED FEBRUARY 02, 2012.

PARCEL SOILS TYPE

Ba BELLEVILLE LOAMY FINE SAND  
TfA TEDROW LOAMY FINE SAND, LOAMY SUBSTRATUM, 0 TO 2 PERCENT SLOPES  
PER USDA SOILD SURVEY OF SOUTHEAST MICHIGAN.

LAND AREA

THE SUBJECT PROPERTY CONTAINS 262,924 S/F - 6.02 AC.

GENERAL NOTES

- PICK UP DEBRIS WITHIN PROPERTY LIMITS WEEKLY OR AS NEEDED.
- PHASING OF THE PROJECT IS NOT PROPOSED.
- THERE ARE NO WETLANDS LOCATED ON SUBJECT PROPERTY.
- PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES AND SURFACES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY MAINTAINED IN A CLEARLY VISIBLE CONDITION.
- CONTRACTOR MUST PICK UP ANY FLOW FROM OFFSITE THAT CONTRIBUTES TO THE SITE.

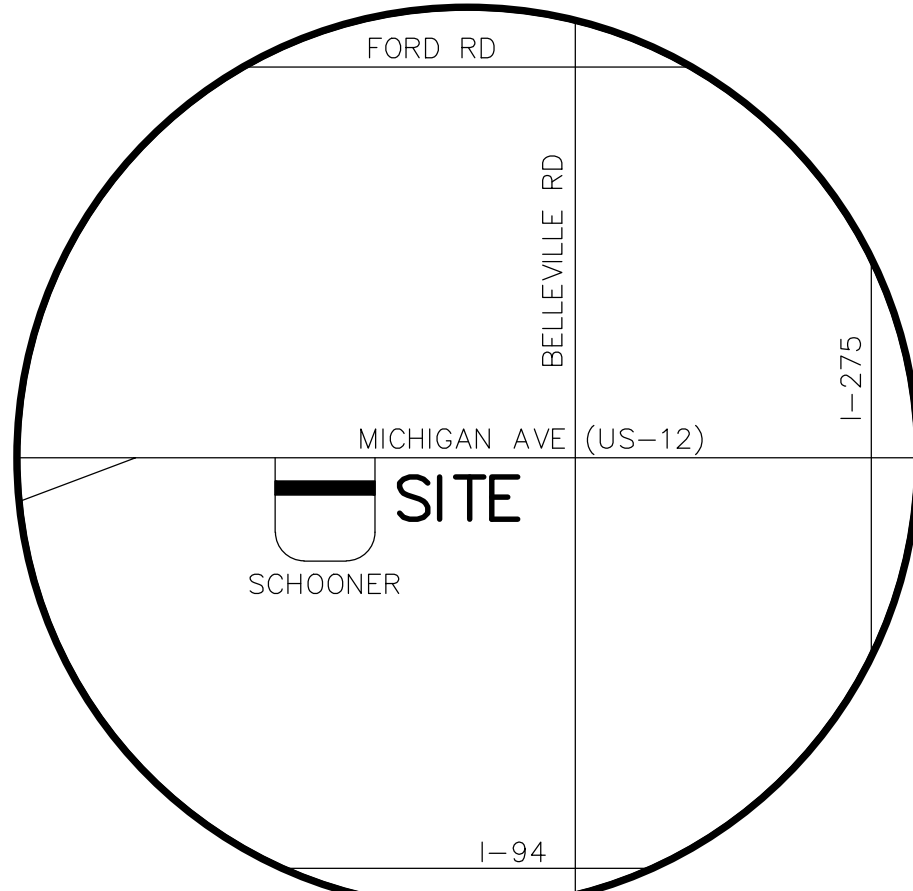
BENCHMARKS (USGS NAVD29)

RIM ON EXISTING MANHOLE LOCATED ON THE EAST SIDE OF SCHOONER DRIVE 115' SOUTH OF NORTHERLY PROPERTY LINE OF SUBJECT PARCEL  
ELEVATION - 699.16

ARROW ON HYDRANT LOCATED ON THE WEST SIDE OF SCHOONER DRIVE 65' SOUTH OF SOUTHERLY PROPERTY LINE OF SUBJECT PARCEL...  
ELEVATION - 699.27

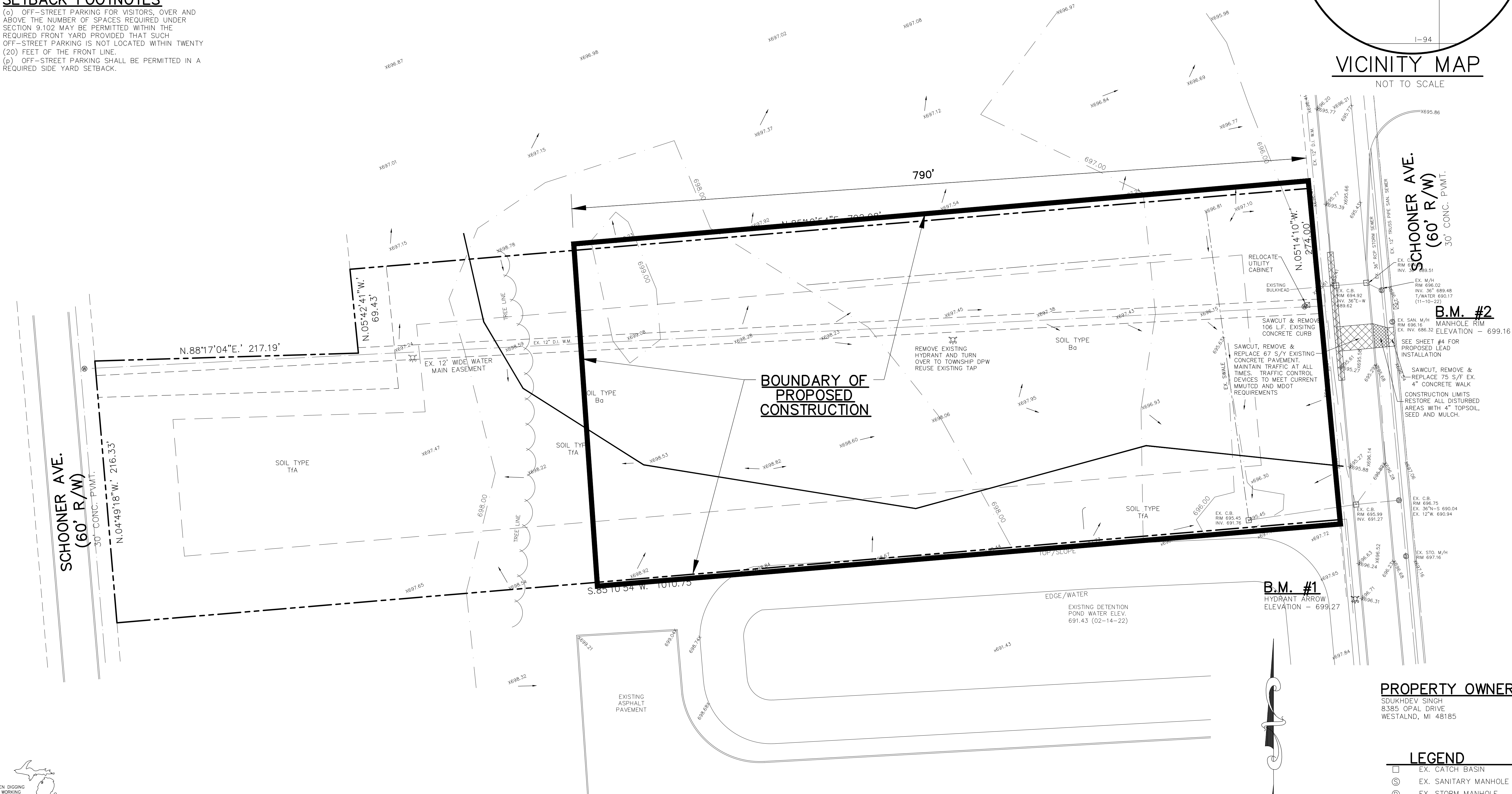
TRAFFIC CONTROL/SIGNAGE NOTES

- TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF MDOT, MMUTCD AND TOWNSHIP REQUIREMENTS.



VICINITY MAP

NOT TO SCALE



SCHOONER AVE.  
(60' R/W)  
30' CONC. P.V.M.T.

B.M. #2

MANHOLE RIM  
ELEVATION - 699.16

SAWCUT, REMOVE &  
REPLACE 75 S/F EX.  
4" CONCRETE WALK  
CONSTRUCTION LIMITS  
RESTORE ALL DISTURBED  
AREAS WITH 4" TOPSOIL,  
SEED AND MULCH.

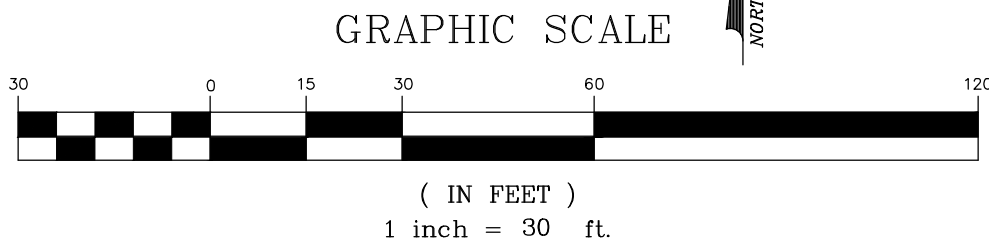
B.M. #1  
HYDRANT ARROW  
ELEVATION - 699.27

PROPERTY OWNER

SDUKHDEV SINGH  
8385 OPAL DRIVE  
WESTLAND, MI 48185

LEGEND

- EX. CATCH BASIN
- EX. SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. HYDRANT
- EX. UTILITY POLE
- EX. VALVE WELL
- EX. FENCE
- EX. STREET SIGN
- EX. LIGHT POLE



MISS DIG

3 WORKING DAYS  
BEFORE STARTING YOUR PROJECT

811

(TOLL FREE)

HARDY CIVIL DESIGN SERVICES LLC  
4996 MOORE ST. WAYNE, MI 48184  
(734) 756-2196  
E-mail: kbhardy1964@hotmail.com

TOPOGRAPHIC  
SURVEY

SEMI-TRUCK REPAIR FACILITY  
6100 SCHOONER ROAD  
VAN BUREN TOWNSHIP, MI

REVISIONS  
12-28-22  
01-10-23

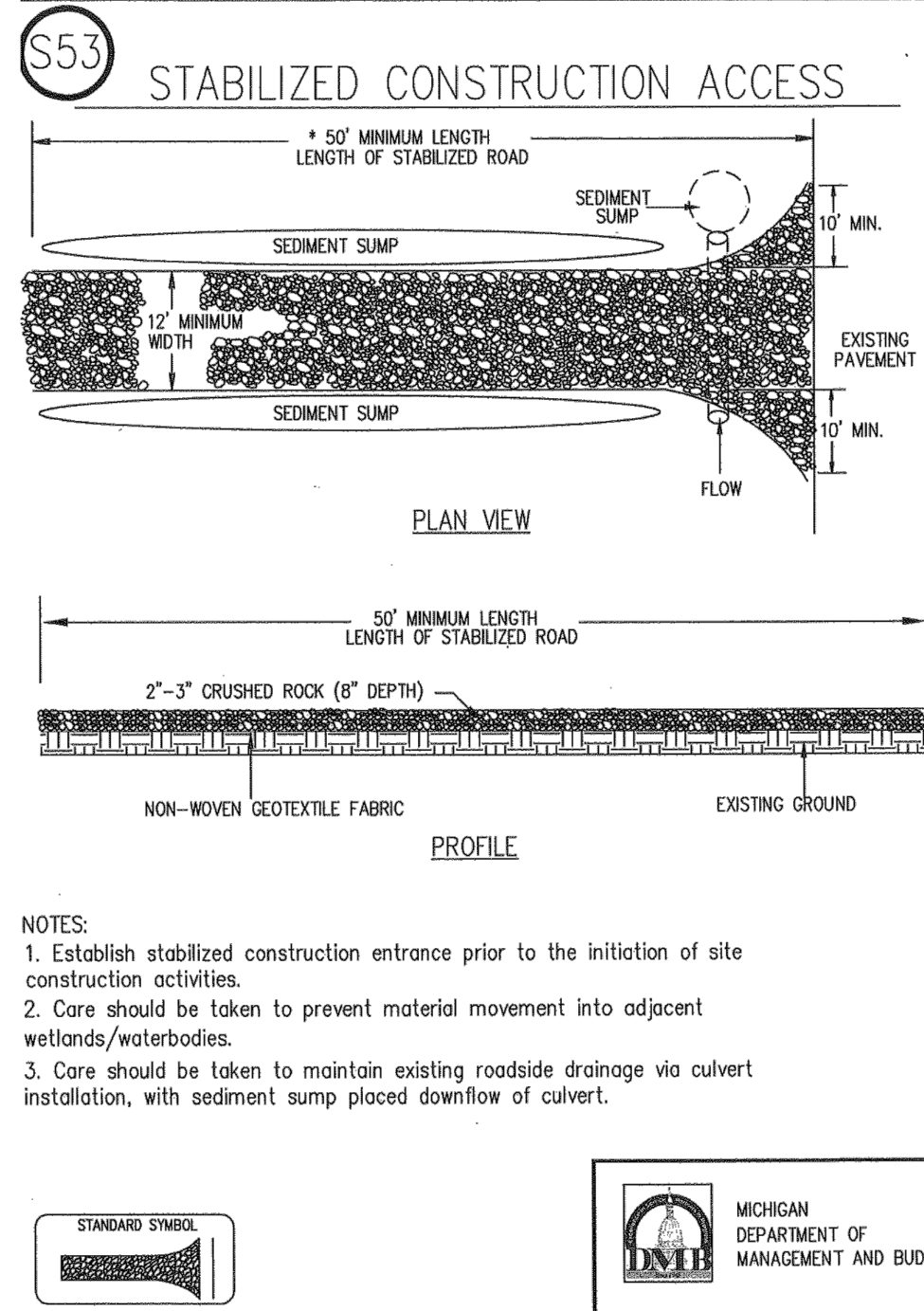
DRAWING No.  
A-  
DATE  
01-10-22

CHECKED BY:

JOB No.  
2022-01

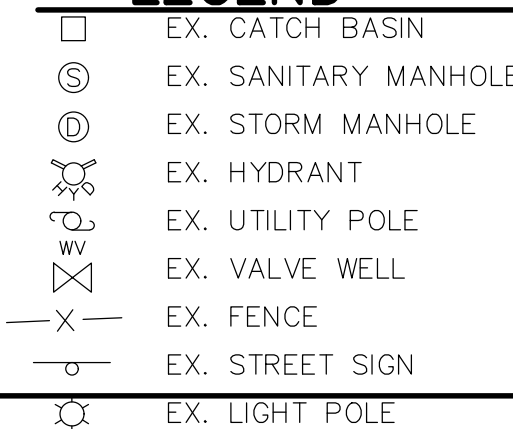
SHEET No.  
2 OF 2



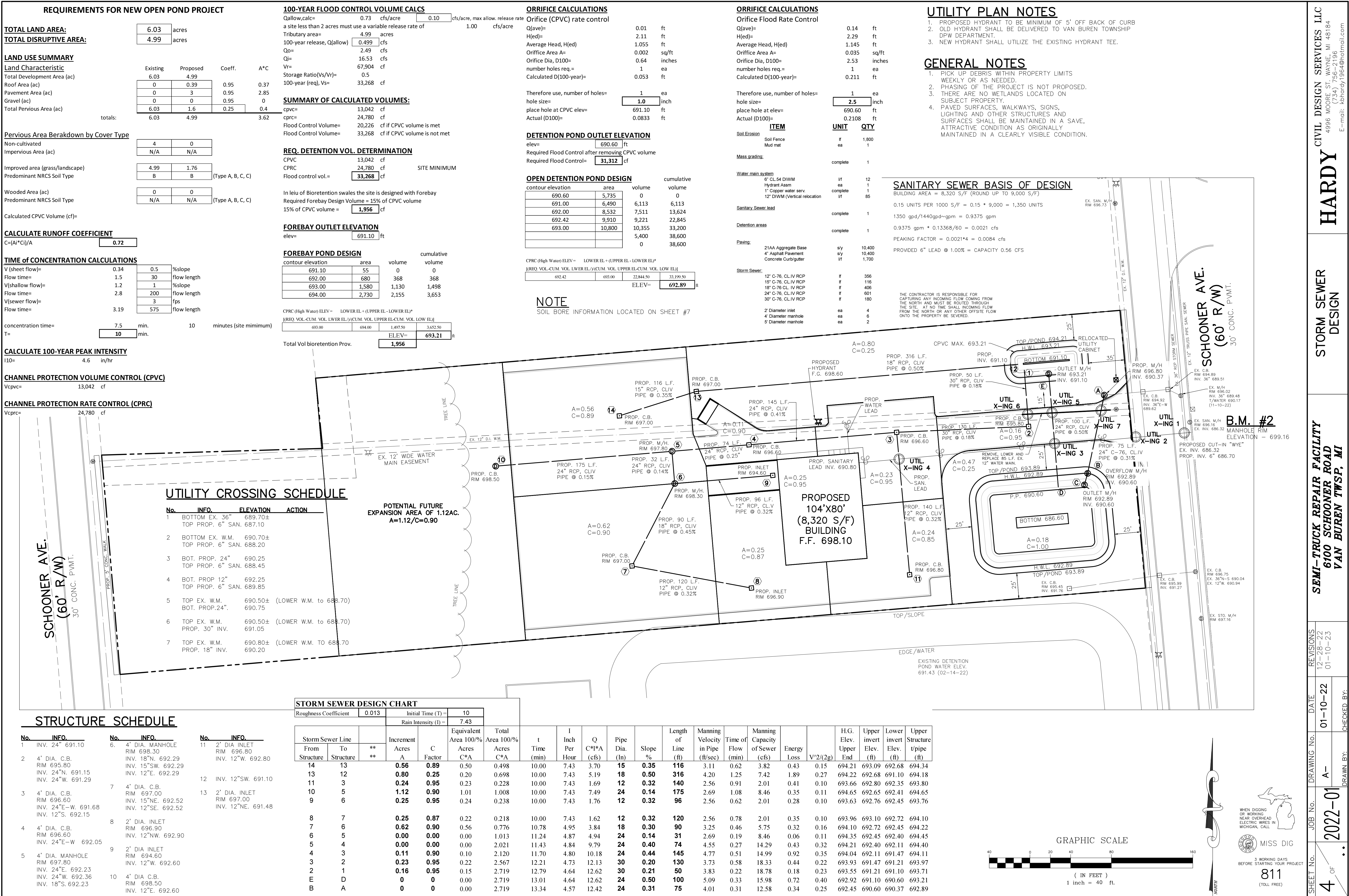


## SOIL EROSION SEQUENCE OF CONSTRUCTION

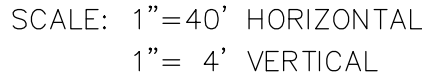
- (1) INSTALL SILT FENCE AS SHOWN HERE ON.
- (2) COMPLETE MASS GRADING AND UNDERGROUND UTILITIES.
- (3) COMPLETE BIOSWALE INSTALLATION
- (4) CONSTRUCT PARKING AREA.
- (5) RESTORE ALL DISTURBED AREAS WITH SOD OR TOPSOIL, SEED AND MULCH.
- (6) REMOVE SILT FROM FROM BEHIND SILT FENCE AND REMOVE SILT FENCE.



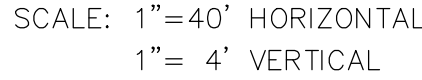








| Storm Sewer Line |              |       | Increment   |             | Equivalent Area 100% | Total Area 100% | t          | I             | Q           | Pipe      |             | Length of  | Manning                   | Time of    | Manning                 |             |                      | H.G.             | Upper                   | Lower                   | Upper                       |
|------------------|--------------|-------|-------------|-------------|----------------------|-----------------|------------|---------------|-------------|-----------|-------------|------------|---------------------------|------------|-------------------------|-------------|----------------------|------------------|-------------------------|-------------------------|-----------------------------|
| From Structure   | To Structure | ** ** | Acres A     | C Factor    | Acres C*A            | Acres C*A       | Time (min) | Inch Per Hour | C*I*A (cfs) | Dia. (in) | Slope %     | Line (ft)  | Velocity in Pipe (ft/sec) | Flow (min) | Capacity of Sewer (cfs) | Energy Loss | V <sup>2</sup> /(2g) | Upper Elev. (ft) | Upper invert Elev. (ft) | Lower invert Elev. (ft) | Upper Structure t/pipe (ft) |
| 14               | 13           |       | <b>0.56</b> | <b>0.89</b> | 0.50                 | 0.498           | 10.00      | 7.43          | 3.70        | <b>15</b> | <b>0.35</b> | <b>116</b> | 3.11                      | 0.62       | 3.82                    | 0.43        | 0.15                 | 694.21           | 693.09                  | 692.68                  | 694.34                      |
| 13               | 12           |       | <b>0.80</b> | <b>0.25</b> | 0.20                 | 0.698           | 10.00      | 7.43          | 5.19        | <b>18</b> | <b>0.50</b> | <b>316</b> | 4.20                      | 1.25       | 7.42                    | 1.89        | 0.27                 | 694.22           | 692.68                  | 691.10                  | 694.18                      |
| 11               | 3            |       | <b>0.24</b> | <b>0.95</b> | 0.23                 | 0.228           | 10.00      | 7.43          | 1.69        | <b>12</b> | <b>0.32</b> | <b>140</b> | 2.56                      | 0.91       | 2.01                    | 0.41        | 0.10                 | 693.66           | 692.80                  | 692.35                  | 693.80                      |
| 10               | 5            |       | <b>1.12</b> | <b>0.90</b> | 1.01                 | 1.008           | 10.00      | 7.43          | 7.49        | <b>24</b> | <b>0.14</b> | <b>175</b> | 2.69                      | 1.08       | 8.46                    | 0.35        | 0.11                 | 694.65           | 692.65                  | 692.41                  | 694.65                      |
| 9                | 6            |       | <b>0.25</b> | <b>0.95</b> | 0.24                 | 0.238           | 10.00      | 7.43          | 1.76        | <b>12</b> | <b>0.32</b> | <b>96</b>  | 2.56                      | 0.62       | 2.01                    | 0.28        | 0.10                 | 693.63           | 692.76                  | 692.45                  | 693.76                      |
| 8                | 7            |       | <b>0.25</b> | <b>0.87</b> | 0.22                 | 0.218           | 10.00      | 7.43          | 1.62        | <b>18</b> | <b>0.32</b> | <b>120</b> | 2.56                      | 0.78       | 2.01                    | 0.35        | 0.10                 | 693.96           | 693.10                  | 692.72                  | 694.10                      |
| 7                | 6            |       | <b>0.62</b> | <b>0.90</b> | 0.56                 | 0.776           | 10.78      | 4.95          | 3.84        | <b>12</b> | <b>0.30</b> | <b>90</b>  | 3.25                      | 0.46       | 5.75                    | 0.32        | 0.16                 | 694.10           | 692.72                  | 692.45                  | 694.22                      |
| 6                | 5            |       | <b>0.00</b> | <b>0.00</b> | 0.00                 | 1.013           | 11.24      | 4.87          | 4.94        | <b>24</b> | <b>0.14</b> | <b>31</b>  | 2.69                      | 0.19       | 8.46                    | 0.06        | 0.11                 | 694.35           | 692.45                  | 692.40                  | 694.45                      |
| 5                | 4            |       | <b>0.00</b> | <b>0.00</b> | 0.00                 | 2.021           | 11.43      | 4.84          | 9.79        | <b>24</b> | <b>0.40</b> | <b>74</b>  | 4.55                      | 0.27       | 14.29                   | 0.43        | 0.32                 | 694.21           | 692.40                  | 692.11                  | 694.40                      |
| 4                | 3            |       | <b>0.11</b> | <b>0.90</b> | 0.10                 | 2.120           | 11.70      | 4.80          | 10.18       | <b>24</b> | <b>0.44</b> | <b>145</b> | 4.77                      | 0.51       | 14.99                   | 0.92        | 0.35                 | 694.04           | 692.11                  | 691.47                  | 694.11                      |
| 3                | 2            |       | <b>0.23</b> | <b>0.95</b> | 0.22                 | 2.567           | 12.21      | 4.73          | 12.13       | <b>30</b> | <b>0.20</b> | <b>130</b> | 3.73                      | 0.58       | 18.33                   | 0.44        | 0.22                 | 693.93           | 691.47                  | 691.21                  | 693.97                      |
| 2                | 1            |       | <b>0.16</b> | <b>0.95</b> | 0.15                 | 2.719           | 12.79      | 4.64          | 12.62       | <b>30</b> | <b>0.21</b> | <b>50</b>  | 3.83                      | 0.22       | 18.78                   | 0.18        | 0.23                 | 693.55           | 691.21                  | 691.10                  | 693.71                      |
| E                | D            |       | <b>0</b>    | <b>0</b>    | 0.00                 | 2.719           | 13.01      | 4.64          | 12.62       | <b>24</b> | <b>0.50</b> | <b>100</b> | 5.09                      | 0.33       | 15.98                   | 0.72        | 0.40                 | 692.92           | 691.00                  | 690.60                  | 693.10                      |
| B                | A            |       | <b>0</b>    | <b>0</b>    | 0.00                 | 2.719           | 13.34      | 4.57          | 12.42       | <b>24</b> | <b>0.31</b> | <b>75</b>  | 4.01                      | 0.31       | 12.58                   | 0.34        | 0.25                 | 692.45           | 690.60                  | 690.37                  | 692.66                      |



| No. | INFO.                                | ELEVATION         | ACTION                 |
|-----|--------------------------------------|-------------------|------------------------|
| 1   | BOTTOM EX. 36"<br>TOP PROP. 6" SAN.  | 689.70±<br>687.10 |                        |
| 2   | BOTTOM EX. W.M.<br>TOP PROP. 6" SAN. | 690.70±<br>688.20 |                        |
| 3   | BOT. PROP. 24"<br>TOP PROP. 6" SAN.  | 690.25<br>688.45  |                        |
| 4   | BOT. PROP 12"<br>TOP PROP. 6" SAN.   | 692.25<br>689.85  |                        |
| 5   | TOP EX. W.M.<br>BOT. PROP. 24".      | 690.50±<br>690.75 | (LOWER W.M. to 688.70) |
| 6   | TOP EX. W.M.<br>BOT. PROP. 30"       | 690.50±<br>691.05 | (LOWER W.M. to 688.70) |
| 7   | TOP EX. W.M.<br>BOT. PROP. 18"       | 690.80±<br>690.20 | (LOWER W.M. TO 688.70) |

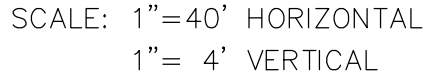
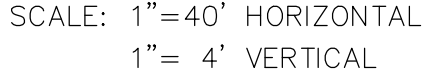
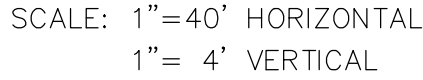
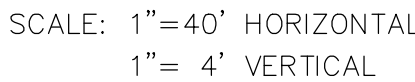
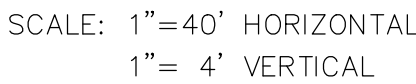
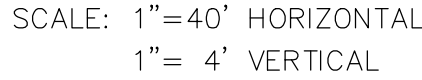
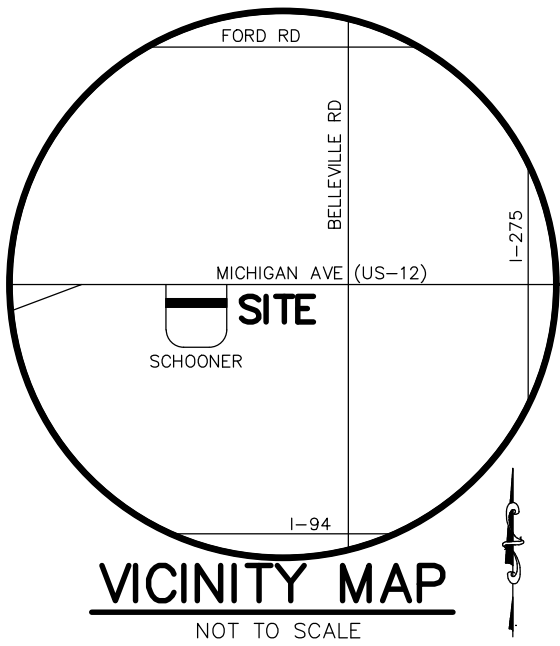




EXHIBIT "A"

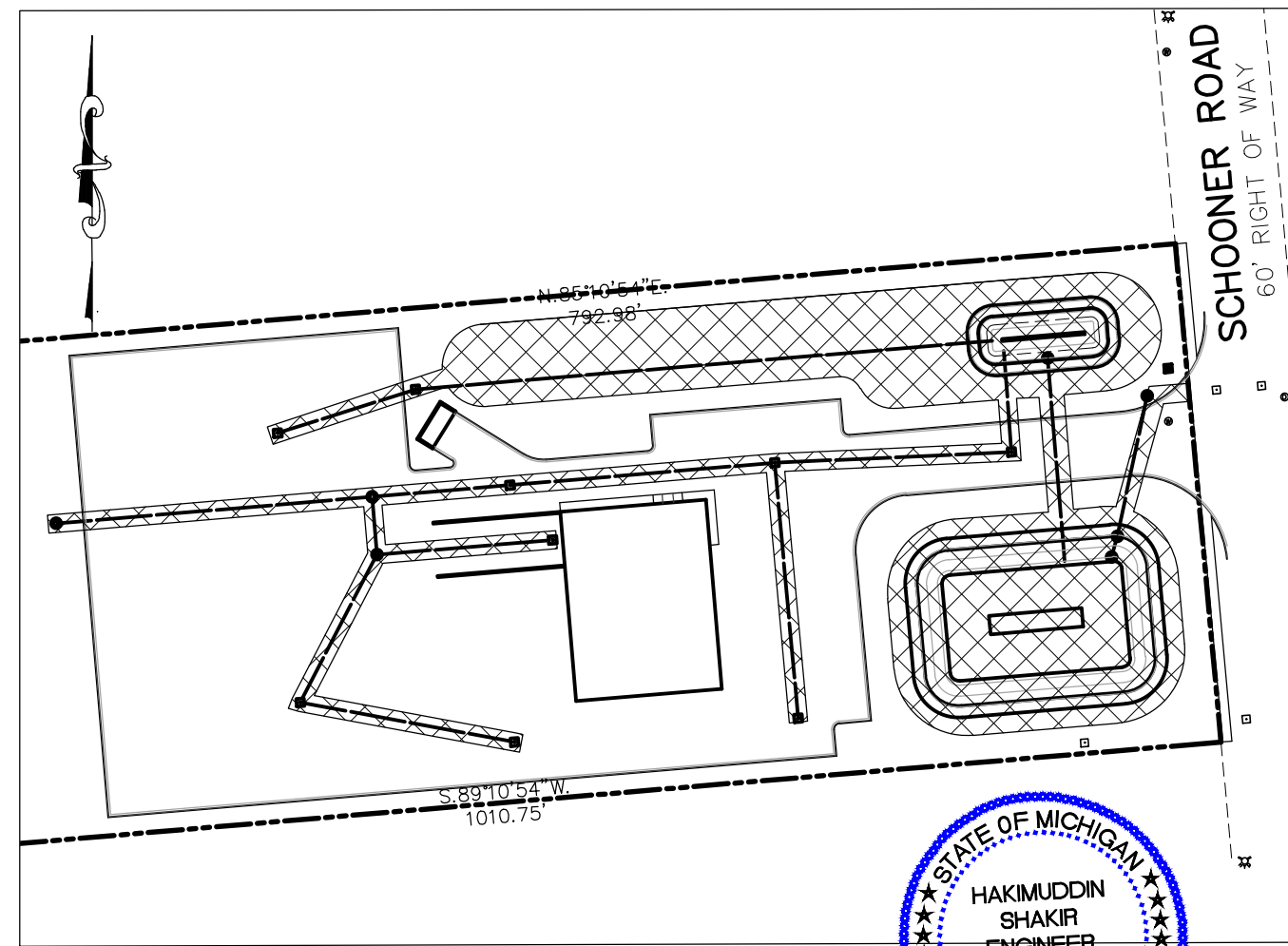
PHYSICAL LIMITS OF STORM WATER MANAGEMENT SYSTEM

**LEGEND**  
VAN BUREN TOWNSHIP  
MAINTENANCE  
RESPONSIBILITY



**PROPERTY OWNER**  
SDUKHDEV SINGH  
8385 OPAL DRIVE  
WESTLAND, MI 48185

**ENGINEER**  
HAKIM SHAKIR  
ENGINEERING SERVICES  
32190 SCHOOLCRAFT RD  
LIVONIA, MI 48150  
CONTACT: KEVIN HARDY  
(734) 756-2196



DATE: 12-08-22  
JOB No. 2022-01  
DWG No. D-  
SHEET: 1 of 1  
SCALE: 1"=100'

**EXHIBIT "A"**  
**STORM MAINTENANCE**  
CHAHAL TRUCKING  
VAN BUREN TWP., WAYNE  
COUNTY, MICHIGAN

**HARDY CIVIL DESIGN SERVICES LLC**  
4996 MOORE ST.  
WAYNE, MI 48184  
(734) 756-2196 // kbhardy1964@hotmail.com

EXHIBIT "B"

LONG TERM MAINTENANCE SCHEDULE CHART

\* NOT TO EXCEED THE LENGTH ALLOWED BY LOCAL COMMUNITY ORDINANCE.

| MAINTENANCE ACTIVITIES                                                  | VAN BUREN TOWNSHIP<br>CHANNELS AND SWALES<br>INLETS TO FOREBAY<br>BUFFER STRIP<br>SEDIMENT POND &<br>DETENTION BASIN<br>OUTLET PIPE<br>OVERFLOW STRUCTURES<br>PAVEMENT AREAS | FREQUENCY                                                    |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|                                                                         |                                                                                                                                                                              |                                                              |
| <b>MONITORING/INSPECTION</b>                                            |                                                                                                                                                                              |                                                              |
| INSPECT FOR SEDIMENT ACCUMULATION                                       | XXXXXX                                                                                                                                                                       | AS NEEDED / SEMI-ANNUALLY                                    |
| INSPECT FOR FLOATABLES, DEAD VEGETATION AND DEBRIS                      | XXXXXX                                                                                                                                                                       | ANNUALLY & AFTER MAJOR EVENTS                                |
| INSPECT FOR EROSION AND INTEGRITY OF SYSTEM                             | XXXXXX                                                                                                                                                                       | ANNUALLY & AFTER MAJOR EVENTS                                |
| INSPECT ALL COMPONENTS DURING WET WEATHER AND COMPARE TO AS-BUILT PLANS | XXXXXX                                                                                                                                                                       | ANNUALLY                                                     |
| ENSURE MAINTENANCE ACCESS REMAIN OPEN/CLEAR                             | XXXXXX                                                                                                                                                                       | ANNUALLY                                                     |
| <b>PREVENTATIVE MAINTENANCE</b>                                         |                                                                                                                                                                              |                                                              |
| REMOVE ACCUMULATED SEDIMENTS                                            | XXXXXX                                                                                                                                                                       | AS NEEDED, SELECT AREAS ONLY                                 |
| REMOVE FLOATABLES, INVASIVE & DEAD VEGETATION & DEBRIS                  | XXXXXX                                                                                                                                                                       | AS NEEDED                                                    |
| RE-APPLY / REPLACE MULCH LAYER                                          | XXXXXX                                                                                                                                                                       | RE-APPLY EVERY 6 MONTHS,<br>REPLACE EVERY 2 YEARS            |
| REPLACE SUBSURFACE COMPONENTS (SOILS, STONES, 6" UNDERDRAIN)            | XXXXXX                                                                                                                                                                       | REPLACE SOILS DRAIN WITH WATER<br>BURY SOILS DRAIN & TOPSOIL |
| SWEEPING OF PAVED SURFACES                                              | XXXXXX                                                                                                                                                                       | AS NEEDED / SEMI-ANNUALLY                                    |
| <b>REMEDIAL ACTIONS</b>                                                 |                                                                                                                                                                              |                                                              |
| REPAIR/STABILIZE AREAS OF EROSION, RESEED BARE AREAS                    | XXXXXX                                                                                                                                                                       | AS NEEDED                                                    |
| REPLACE DEAD PLANTINGS, LAWN                                            | XXXXXX                                                                                                                                                                       | AS NEEDED                                                    |
| STRUCTURAL REPAIRS                                                      | XXXXXX                                                                                                                                                                       | AS NEEDED                                                    |
| MAKE ADJUSTMENTS/REPAIRS TO ENSURE PROPER FUNCTIONING                   | XXXXXX                                                                                                                                                                       | AS NEEDED                                                    |

\* NOT TO EXCEED THE LENGTH ALLOWED BY LOCAL COMMUNITY ORDINANCE.

**A. PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM**

THE STORM WATER MANAGEMENT SYSTEM (SWMS) SUBJECT TO THIS LONG-TERM MAINTENANCE PLAN (PLAN) IS DEPICTED ON EXHIBIT A TO THE PERMIT AND INCLUDES WITHOUT LIMITATION THE STORM SEWERS, CATCH BASINS, MANHOLES, INLETS, SWALES, SPILLWAYS, FOREBAY, DETENTION BASIN, OUTLET CONTROL STRUCTURE AND OUTLET PIPE THAT CONVEYS FLOW FROM THE DETENTION BASIN INTO THE VAN BUREN TOWNSHIP STORM SEWER. FOR PURPOSES OF THIS PLAN, THIS STORM WATER MANAGEMENT SYSTEM AND ALL OF ITS COMPONENTS AS SHOWN ON EXHIBIT A IS REFERRED TO AS CHAHAL TRUCKING.

**B. TIME FRAME FOR LONG-TERM MAINTENANCE RESPONSIBILITY**

AS CHAHAL TRUCKING IS RESPONSIBLE FOR MAINTAINING THE CHAHAL TRUCKING SWMS, INCLUDING COMPLYING WITH APPLICABLE REQUIREMENTS OF THE LOCAL OR WAYNE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL PROGRAM, UNTIL WAYNE COUNTY RELEASES THE CONSTRUCTION PERMIT. LONG-TERM MAINTENANCE RESPONSIBILITY FOR THE CHAHAL TRUCKING SWMS COMMENCES WHEN DEFINED BY THE MAINTENANCE PERMIT ISSUED BY THE COUNTY. LONG-TERM MAINTENANCE CONTINUES IN PERPETUITY.

**C. MANNER OF ENSURING MAINTENANCE RESPONSIBILITY**

THE TOWNSHIP OF VAN BUREN HAS ASSUMED RESPONSIBILITY FOR LONG-TERM MAINTENANCE OF AS CHAHAL TRUCKING SWMS. THE RESOLUTION BY WHICH THE CITY HAS ASSUMED MAINTENANCE RESPONSIBILITY IS ATTACHED TO THE PERMIT AS EXHIBIT C. AS CHAHAL TRUCKING THROUGH A MAINTENANCE AGREEMENT WITH THE CITY, HAS AGREED TO PERFORM THE MAINTENANCE ACTIVITIES REQUIRED BY THIS PLAN. VAN BUREN TOWNSHIP RETAINS THE RIGHT TO ENTER THE PROPERTY AND PERFORM THE NECESSARY MAINTENANCE OF THE AS CHAHAL TRUCKING SWMS IF AS CHAHAL TRUCKING FAILS TO PERFORM THE REQUIRED MAINTENANCE ACTIVITIES. TO ENSURE THAT THE AS CHAHAL TRUCKING SWMS IS MAINTAINED IN PERPETUITY, THE MAP OF THE PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM (EXHIBIT A), THIS PLAN (EXHIBIT B), THE RESOLUTION ATTACHED AS EXHIBIT C, AND THE MAINTENANCE AGREEMENT BETWEEN THE TOWNSHIP OF VAN BUREN AND THE PROPERTY OWNER(S) WILL BE RECORDED WITH THE WAYNE COUNTY REGISTER OF DEEDS. UPON RECORDING, A COPY OF THE RECORDED DOCUMENTS WILL BE PROVIDED TO THE COUNTY.

**D. LONG TERM MAINTENANCE PLAN AND SCHEDULE**

TABLE 1 IDENTIFIES THE MAINTENANCE ACTIVITIES TO BE PERFORMED, ORGANIZED BY CATEGORY (MONITORING/INSPECTION, PREVENTATIVE MAINTENANCE, AND REMEDIAL ACTIONS). WHILE PERFORMING MAINTENANCE, CHEMICALS SHOULD NOT BE APPLIED TO THE FOREBAY, DETENTION BASIN, BUFFER STRIP, OR WATERCOURSES. TABLE 1 ALSO IDENTIFIES SITE-SPECIFIC WORK NEEDED TO ENSURE THAT THE STORM WATER MANAGEMENT SYSTEM FUNCTION PROPERLY AS DESIGNED.

**PROPERTY OWNER**  
SDUKHDEV SINGH  
8385 OPAL DRIVE  
WESTLAND, MI 48185

**ENGINEER**  
HAKIM SHAKIR  
ENGINEERING SERVICES  
32190 SCHOOLCRAFT RD  
LIVONIA, MI 48150  
CONTACT: KEVIN HARDY  
(734) 756-2196

DATE: 12-08-22  
JOB No. 2022-01  
DWG No. D-  
SHEET: 1 of 1  
SCALE: 1"=100'

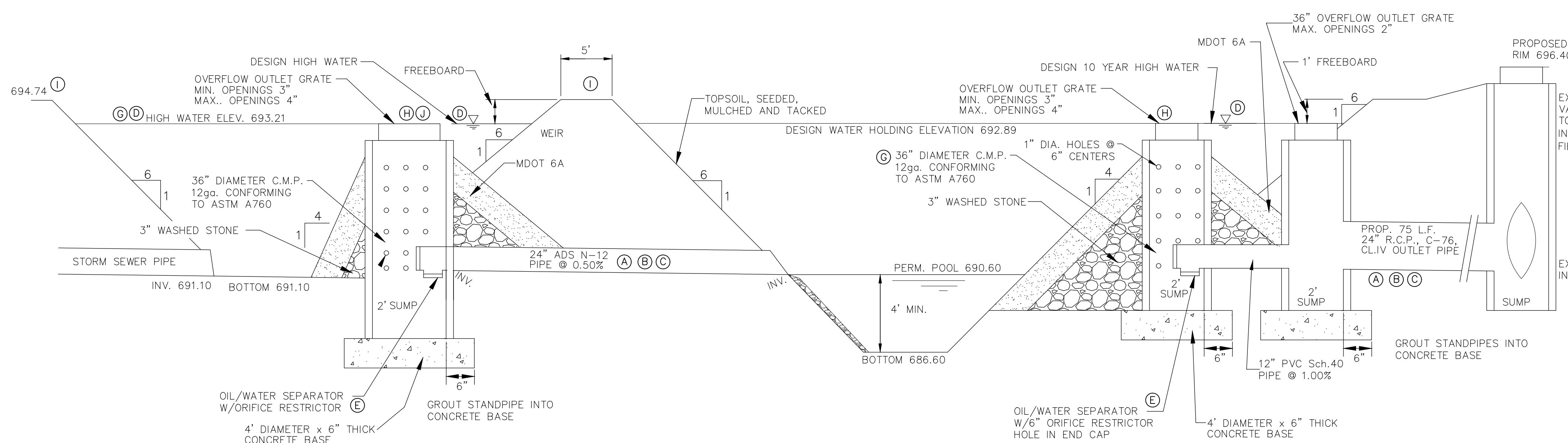
**EXHIBIT "B"**  
**STORM MAINTENANCE**  
CHAHAL TRUCKING  
VAN BUREN TWP., WAYNE  
COUNTY, MICHIGAN

**HARDY CIVIL DESIGN SERVICES LLC**  
4996 MOORE ST.  
WAYNE, MI 48184  
(734) 756-2196 // kbhardy1964@hotmail.com

WETLANDS DATA

WAYNE COUNTY DPS GENERAL NOTES:

1. ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY (ROW) AND DRAIN EASEMENT SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, AND MDOT 2012 SPECIFICATIONS FOR CONSTRUCTION.
2. THESE PLANS ARE NOT VALID WITHOUT ATTACHMENT OF THE WAYNE COUNTY PERMIT SPECIFICATIONS FOR CONSTRUCTION WITHIN THE ROAD ROW, PARKS, DRAIN EASEMENT OR SANITARY SEWER UNDER JURISDICTION OF THE WAYNE COUNTY (07/01/93) REVISED 12/15/2004
3. CONTRACTOR SHALL CONTACT MISS DIG AT 811 TO IDENTIFY AND FLAG / MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES AT THE PROPOSED CONSTRUCTION AREAS PRIOR TO START OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES, AND RESOLVE ANY CONFLICT BETWEEN THE PROPOSED WORK AND THE EXISTING UNDERGROUND OR ABOVEGROUND UTILITIES.
4. CONTRACTOR SHALL MAINTAIN 18" MINIMUM VERTICAL CLEARANCE AND 3 FEET MINIMUM HORIZONTAL CLEARANCE BETWEEN THE PROPOSED AND EXISTING UTILITIES. ANY PROPOSED UTILITY PERMITTED TO CROSS UNDER THE ROAD OR DRAIN, MUST BE PLACED A MINIMUM OF 7 FEET BELOW THE LOWEST POINT OF THE ROAD, OR 6 FEET BELOW THE DRAIN BOTTOM. OVERHEAD WIRES/CABLES MUST BE INSTALLED 18 FEET MINIMUM ABOVE THE ROAD CENTERLINE. TO RELOCATE ANY UTILITY WITHIN THE ROAD ROW, THE CONTRACTOR SHALL COORDINATE THE RELOCATION WITH THE UTILITY COMPANY AND AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
5. ALL SURVEY MONUMENTS / CORNERS AND BENCH MARKS LOCATED WITHIN THE CONSTRUCTION AREA MUST BE PRESERVED IN ACCORDANCE WITH PUBLIC ACT 74 AS AMENDED (INCLUDING ACT 34, P.A. 2000) AND AS PER WAYNE COUNTY PERMIT RULE 1.5. THE PERMIT HOLDER AND CONTRACTOR SHALL COORDINATE THE WORK WITH A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF MICHIGAN DURING CONSTRUCTION ACTIVITIES FOR THE PURPOSE OF WITNESSING, PRESERVING OR REPLACING SURVEY MONUMENTS AND MONUMENT BOXES.
6. EXPOSURE OF ANY UTILITIES UNDER THE PAVEMENT WILL NOT BE PERMITTED, UNLESS APPROVED BY THE WAYNE COUNTY ENGINEER. PAVEMENT REMOVAL AND REPLACEMENT SHALL BE PERFORMED PER APPLICABLE WAYNE COUNTY STANDARD DETAILS AN AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
7. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS WITHIN THE WAYNE COUNTY ROAD ROW AND DRAIN EASEMENT WITH 3" TOPSOIL, THM SEED MIX AND MULCH. SLOPES STEEPER THAN 1 ON 3 SHALL BE RESTORED BY PLACING SOD ON 2" TOPSOIL.
8. ALL BACKFILLS UNDER OR WITHIN 3 FEET OF THE PROPOSED OR EXISTING PAVEMENT, CURB OR SIDEWALK SHALL CONFORM TO THE WAYNE COUNTY TRENCH "B" BACKFILL REQUIREMENTS. TRENCH "A" BACKFILL MAY BE USED WITHIN THE ROAD ROW AREAS UNDER CONDITIONS OTHER THAN THOSE SPECIFIED FOR TRENCH "B".
9. CONTRACTOR IS RESPONSIBLE FOR RESTORING OR REPLACING ALL DISTURBED LANDSCAPED AREAS, SPRINKLER SYSTEMS, FENCES, SIGNS, MAIL BOXES, ETC. WITHIN THE WAYNE COUNTY ROAD ROW AND / OR AS DIRECTED BY THE COUNTY ENGINEER.
10. CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES. OTHERWISE, DETOURING TRAFFIC MUST BE PER APPROVED PLANS. ALL SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF M.M.U.T.C.D.
11. MAINTAIN A SAFE AND ADEQUATE TRAVEL ROUTE FOR PEDESTRIANS AT ALL TIMES THROUGHOUT THE PROJECT DURATION.
12. TUNNELING, BORING AND JACKING OPERATIONS SHALL BE IN ACCORDANCE WITH THE WAYNE COUNTY SPECIFICATIONS AND DETAILS.
13. BORE PITS SHALL BE PLACED AT MINIMUM 10 FEET FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
14. REMOVE ALL ABANDONED CONDUITS FROM THE COUNTY ROADS ROW OR AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
15. CONTRACTOR SHALL PROVIDE COLD WEATHER PROTECTION FOR ALL PROPOSED CONCRETE WORK (PAVEMENTS, SIDEWALKS, DRIVE APPROACHES, ETC.) AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
16. OVERNIGHT VEHICLE PARKING AND STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENTS ARE NOT PERMITTED WITHIN THE WAYNE COUNTY ROADS RIGHTS-OF-WAY.
17. CONTRACTOR SHOULD OBTAIN SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FROM THE WAYNE COUNTY DPS. CONTACT THE WAYNE COUNTY SOIL EROSION OFFICE AT (734) 326-5565, OR THE COMMUNITY HAVING JURISDICTION OVER THE SOIL EROSION PERMIT.
18. CONTRACTOR SHALL NOTIFY THE WAYNE COUNTY TRAFFIC SIGNAL SHOP AT (734) 955-2154 AT LEAST 72 HOURS PRIOR TO START OF WORK AT OR NEAR ANY SIGNALIZED INTERSECTIONS.
19. CONTRACTOR SHALL NOTIFY WAYNE COUNTY 72 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT THE PERMIT OFFICE AT (734) 858-2764



FOREBAY OUTLET STRUCTURE

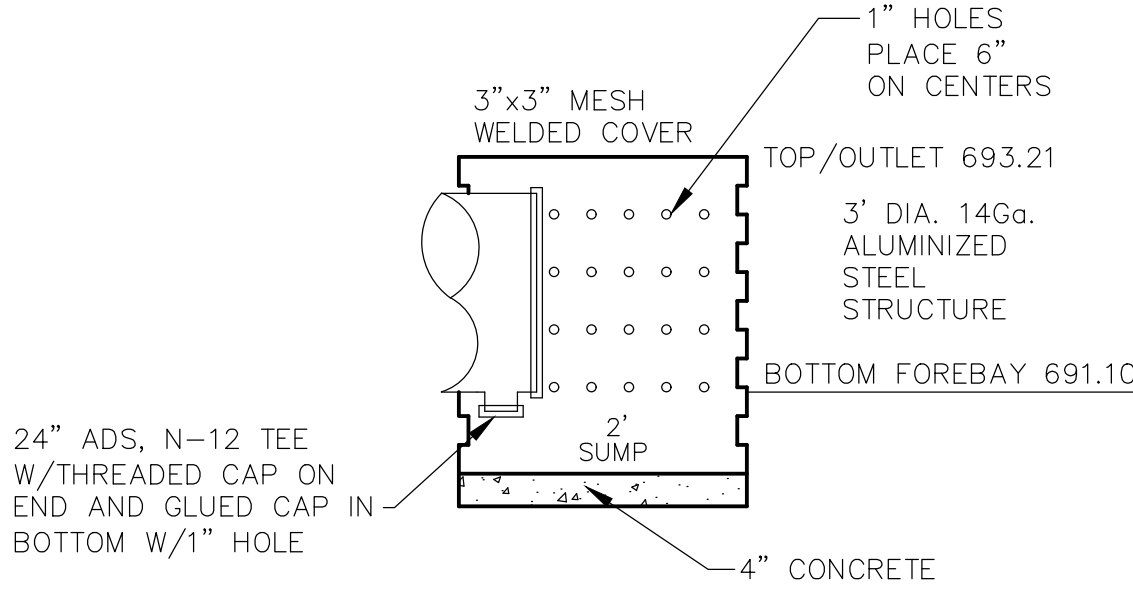
| FORBAY OUTLET SCHEDULE    |                          |                         |                                  |                                    |                           |                                   |                                |                                     |  |
|---------------------------|--------------------------|-------------------------|----------------------------------|------------------------------------|---------------------------|-----------------------------------|--------------------------------|-------------------------------------|--|
| OUTLET PIPE LENGTH<br>(A) | OUTLET PIPE SLOPE<br>(B) | OUTLET PIPE SIZE<br>(C) | FOREBAY STORAGE ELEVATION<br>(D) | CPVC DISCHARGE ORIFICE SIZE<br>(E) | STANDPIPE DIAMETER<br>(G) | TOP OF STANDPIPE ELEVATION<br>(H) | FOREBAY CREST ELEVATION<br>(I) | EMERGENCY SPILLWAY ELEVATION<br>(J) |  |
| 100'                      | 0.50%                    | 24" @ 691.10            | 693.21                           | (1) 1" HOLE IN CAP                 | 36"                       | 693.21                            | 694.21                         | 693.21                              |  |

DETENTION OUTLET STRUCTURE

| DETENTION OUTLET SCHEDULE |                          |                         |                         |                                                 |                           |                                   |                             |                                     |  |
|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------------------------------|---------------------------|-----------------------------------|-----------------------------|-------------------------------------|--|
| OUTLET PIPE LENGTH<br>(A) | OUTLET PIPE SLOPE<br>(B) | OUTLET PIPE SIZE<br>(C) | 100 YEAR STORAGE<br>(D) | 100 YEAR STORM RELEASE INV./ORIFICE SIZE<br>(E) | STANDPIPE DIAMETER<br>(G) | TOP OF STANDPIPE ELEVATION<br>(H) | POND CREST ELEVATION<br>(I) | EMERGENCY SPILLWAY ELEVATION<br>(J) |  |
| 100'                      | 0.50%                    | 24"                     | 692.89                  | (1) 2.5" HOLE @ 690.60                          | 36"                       | 692.89                            | 693.89                      | 693.89                              |  |

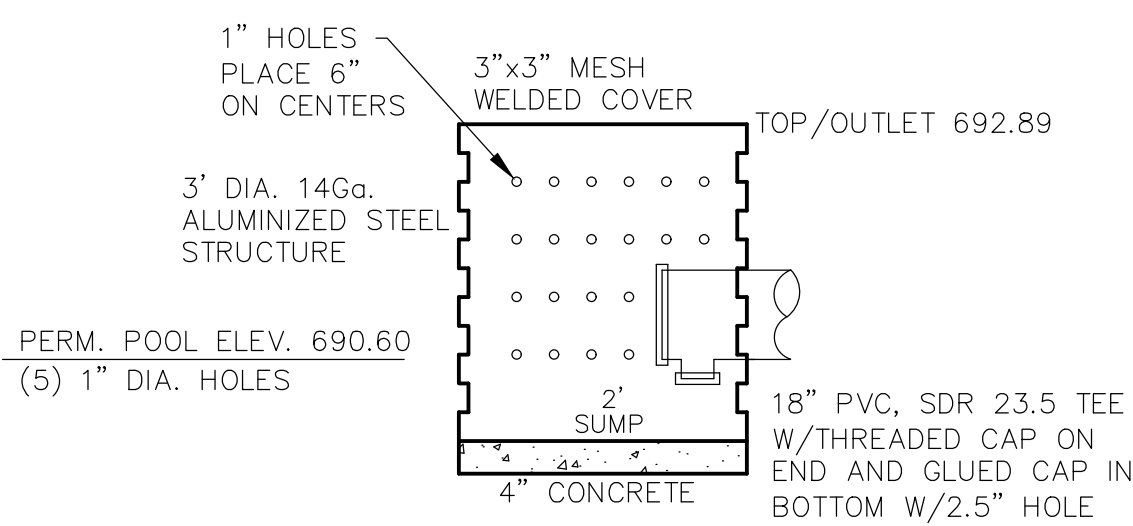
DETAIL FOREBAY OUTLET STRUCTURE "E"

NOT TO SCALE

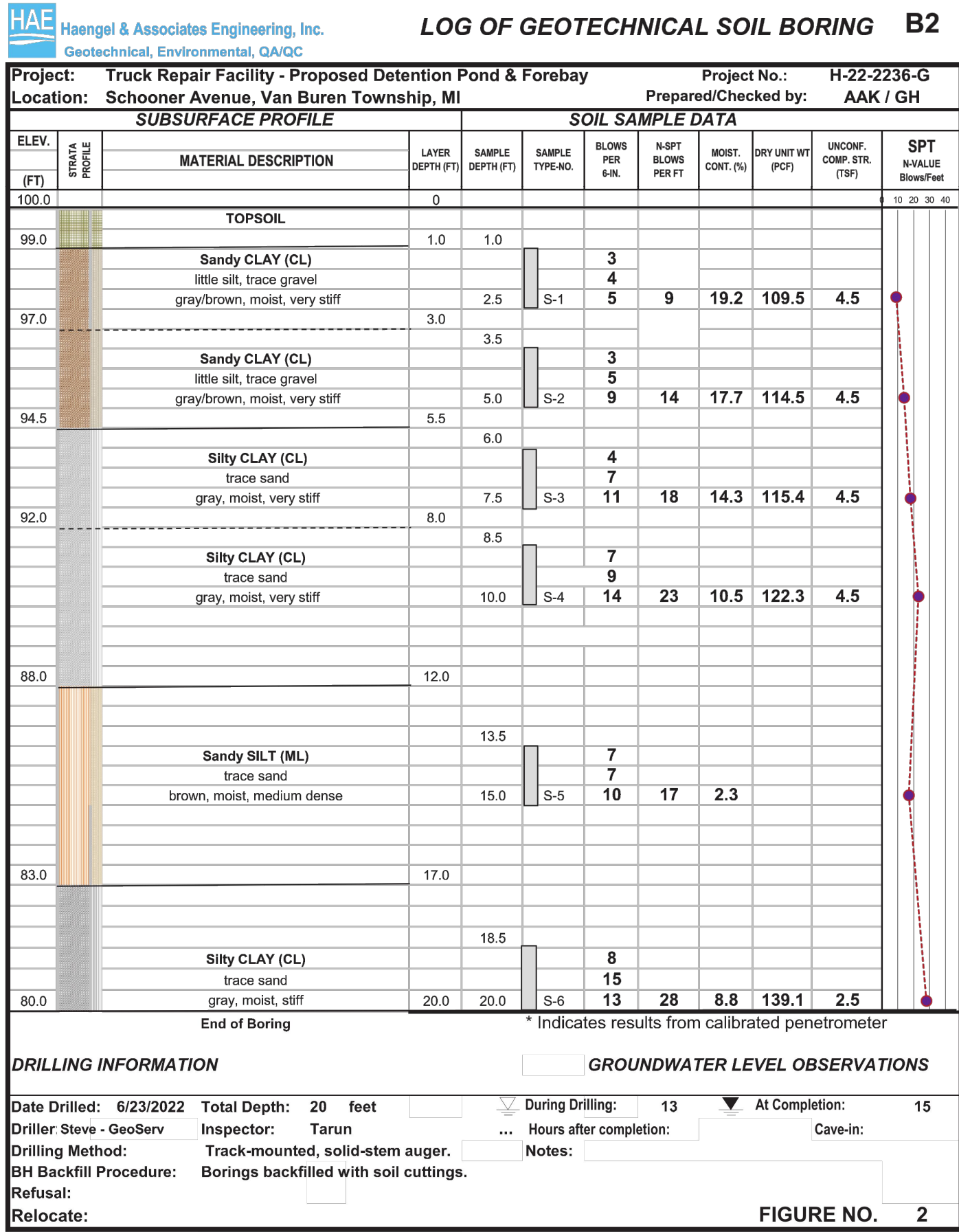
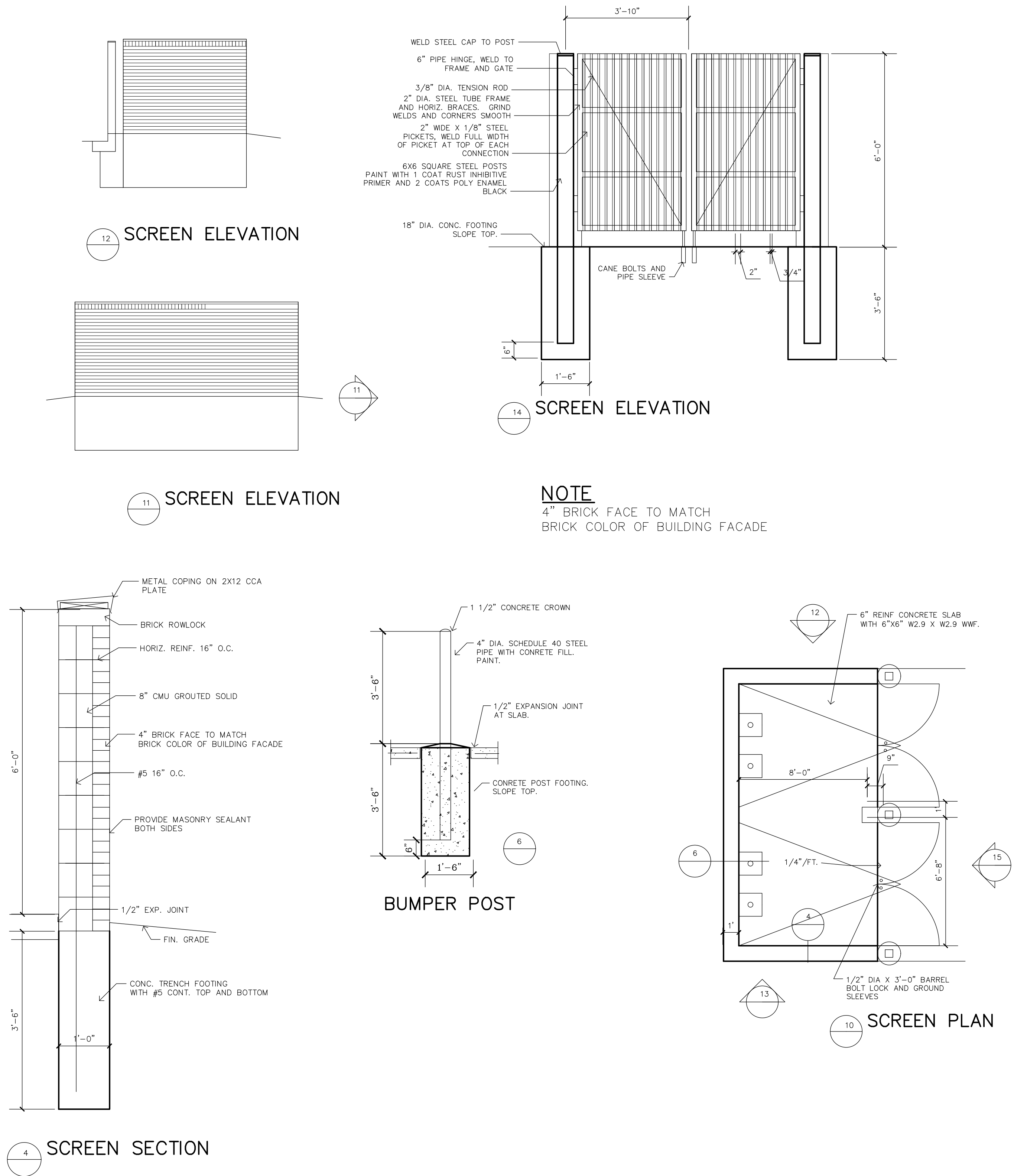
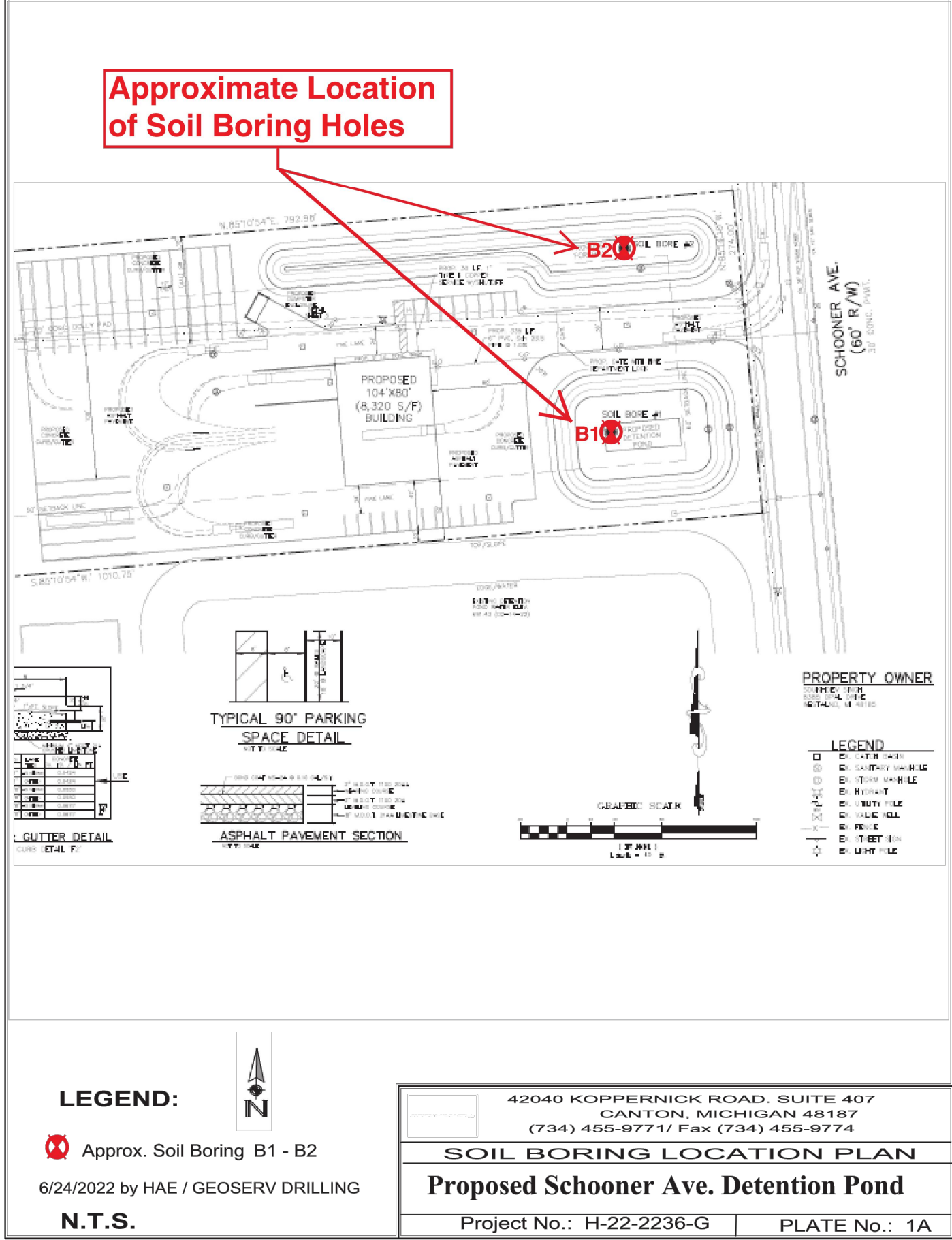
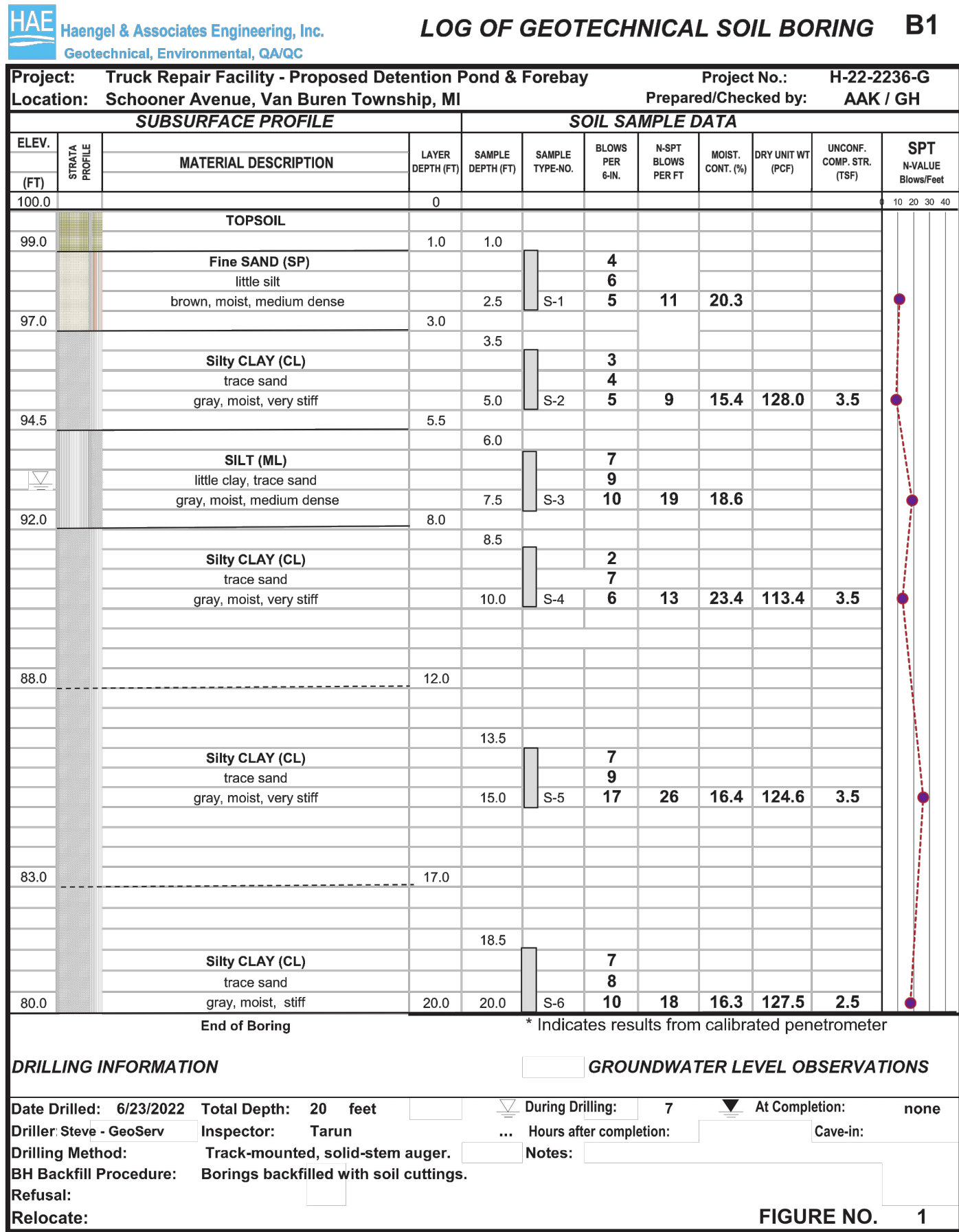


DETAIL DETENTION OUTLET STRUCTURE "C"

NOT TO SCALE



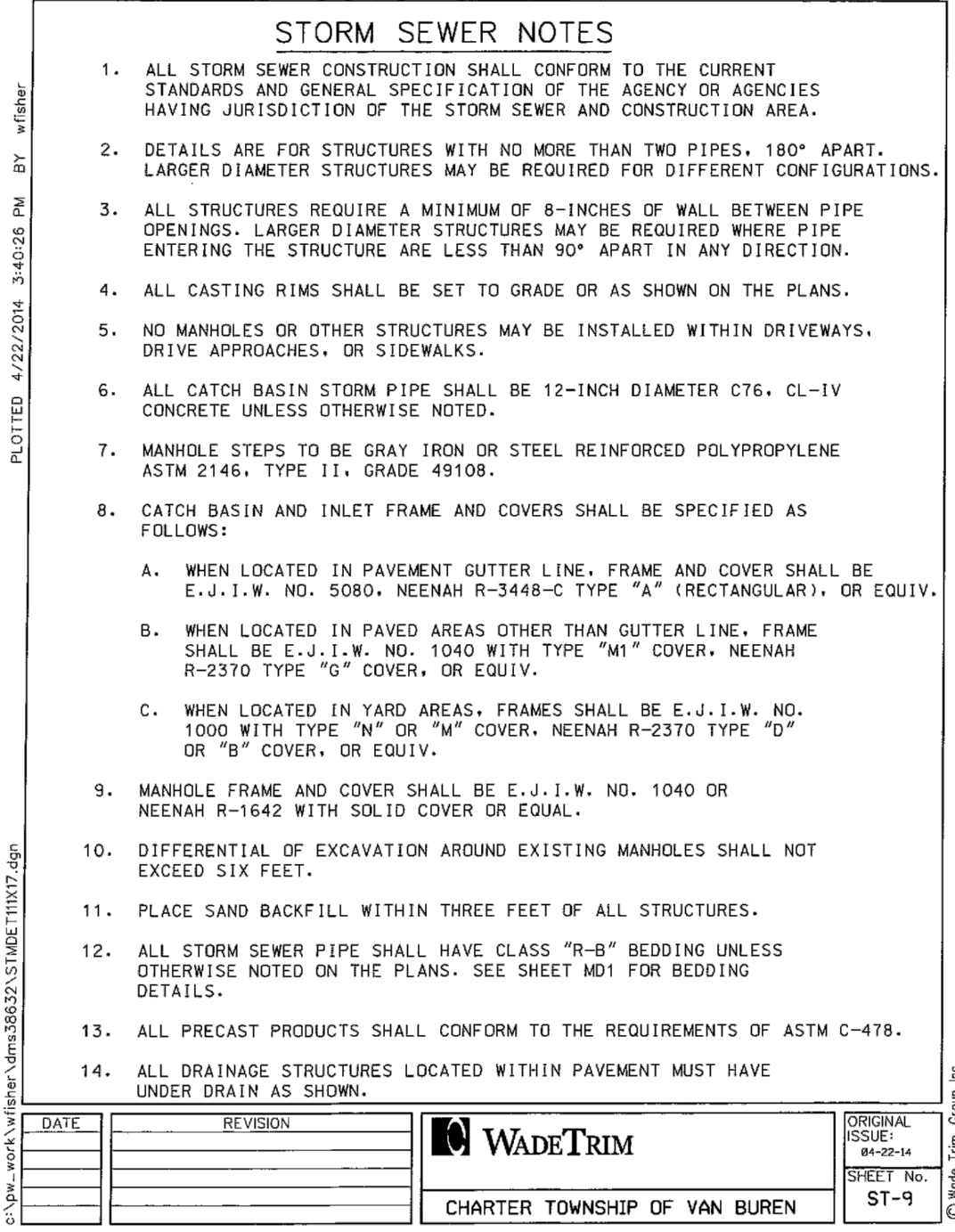
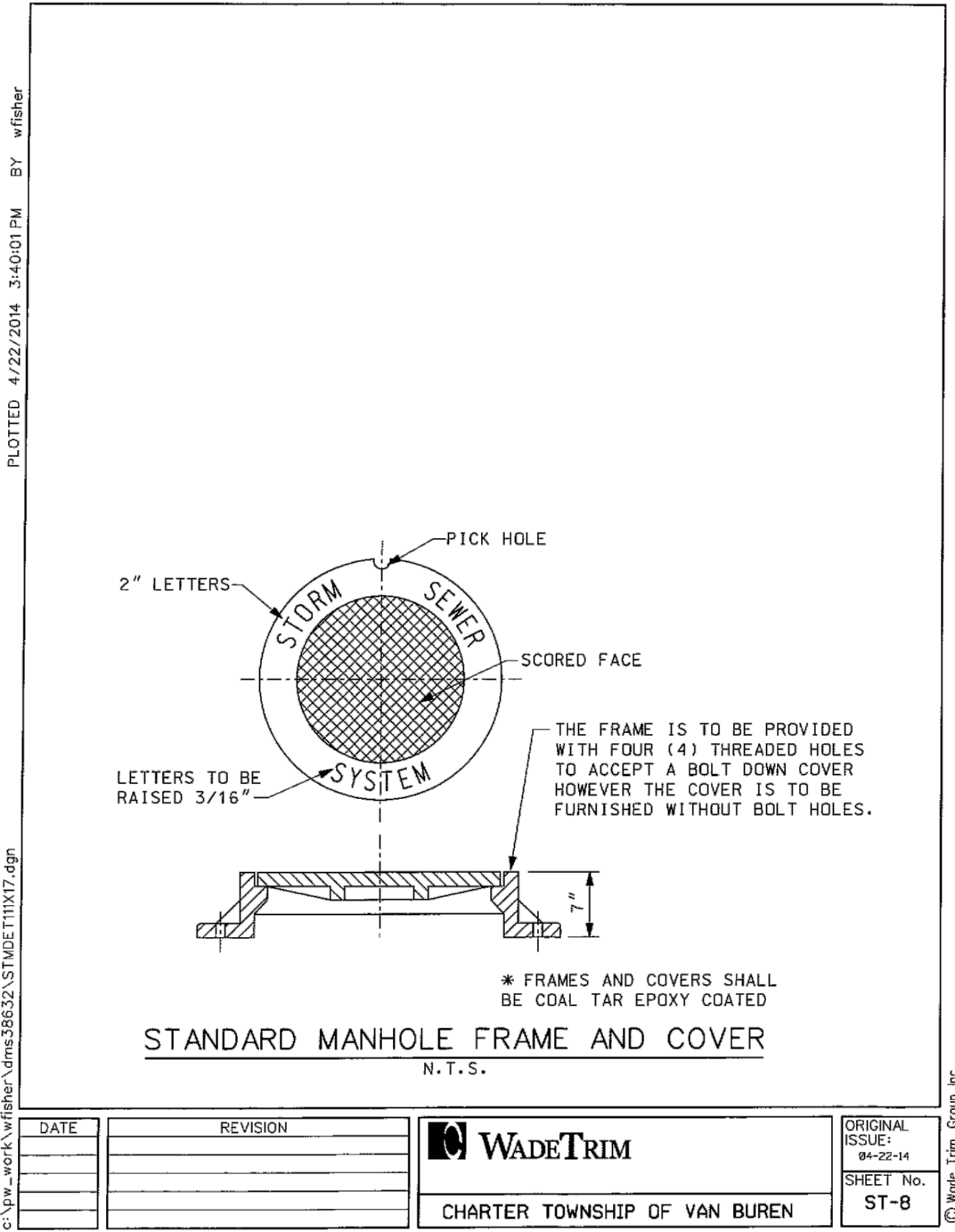
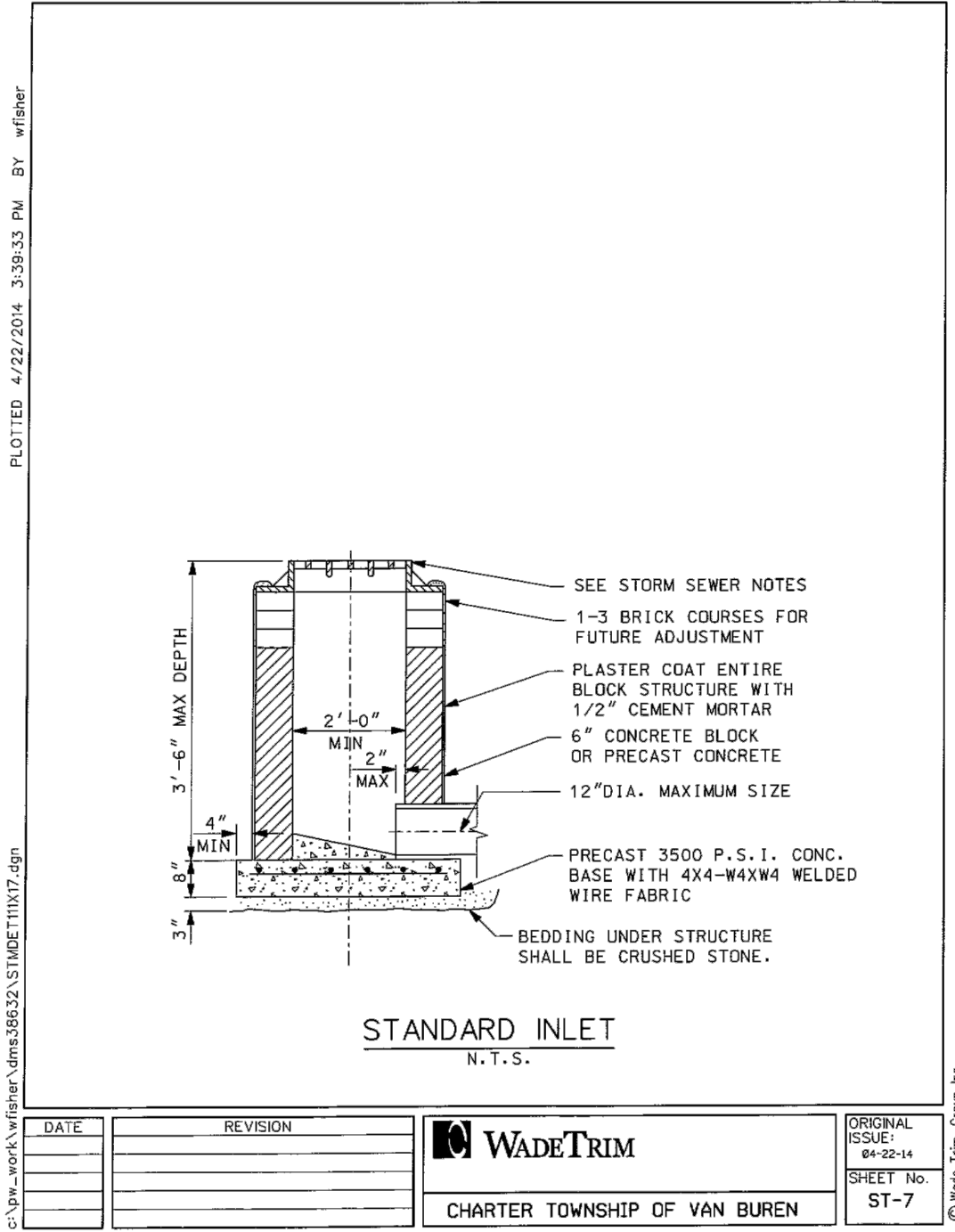
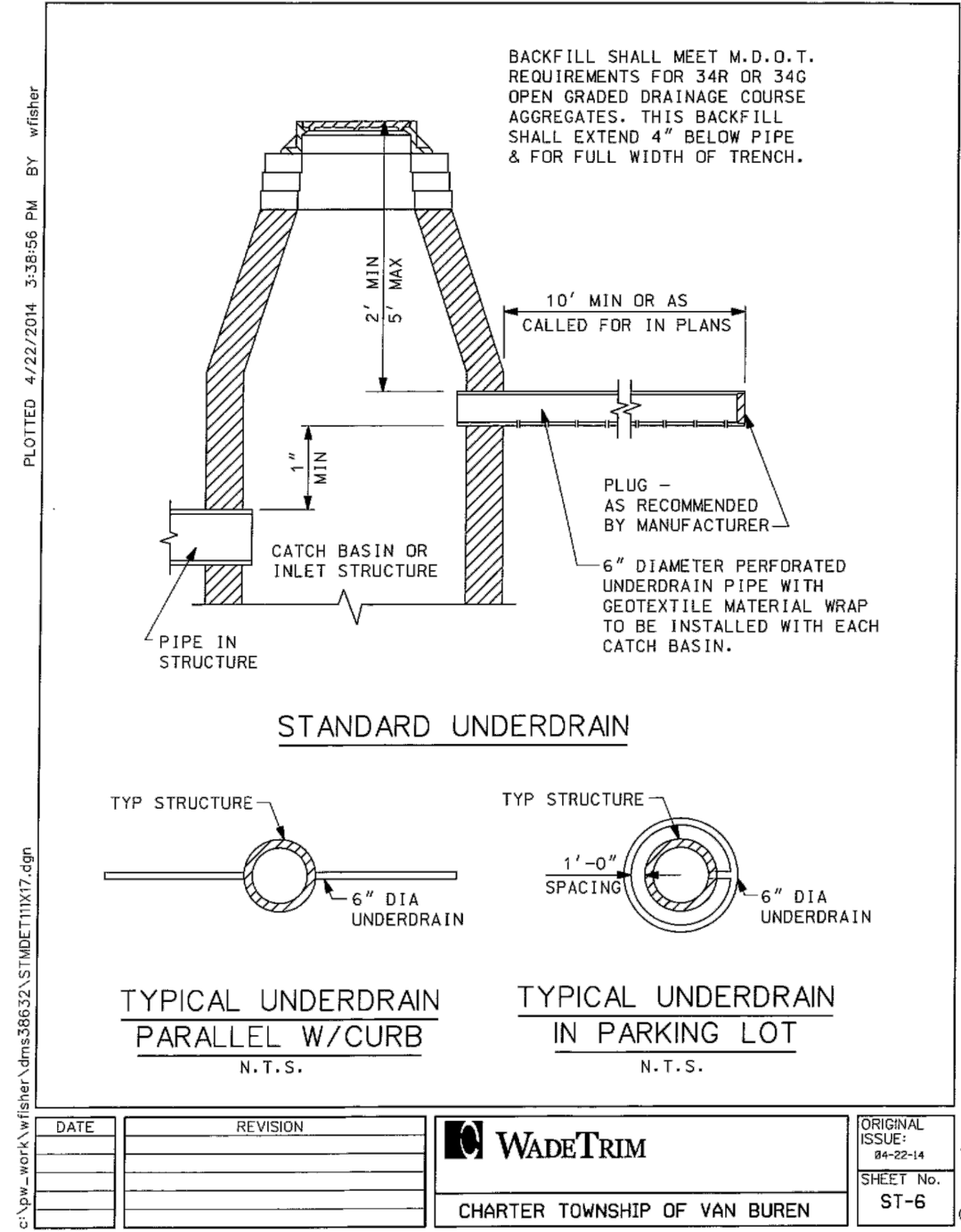
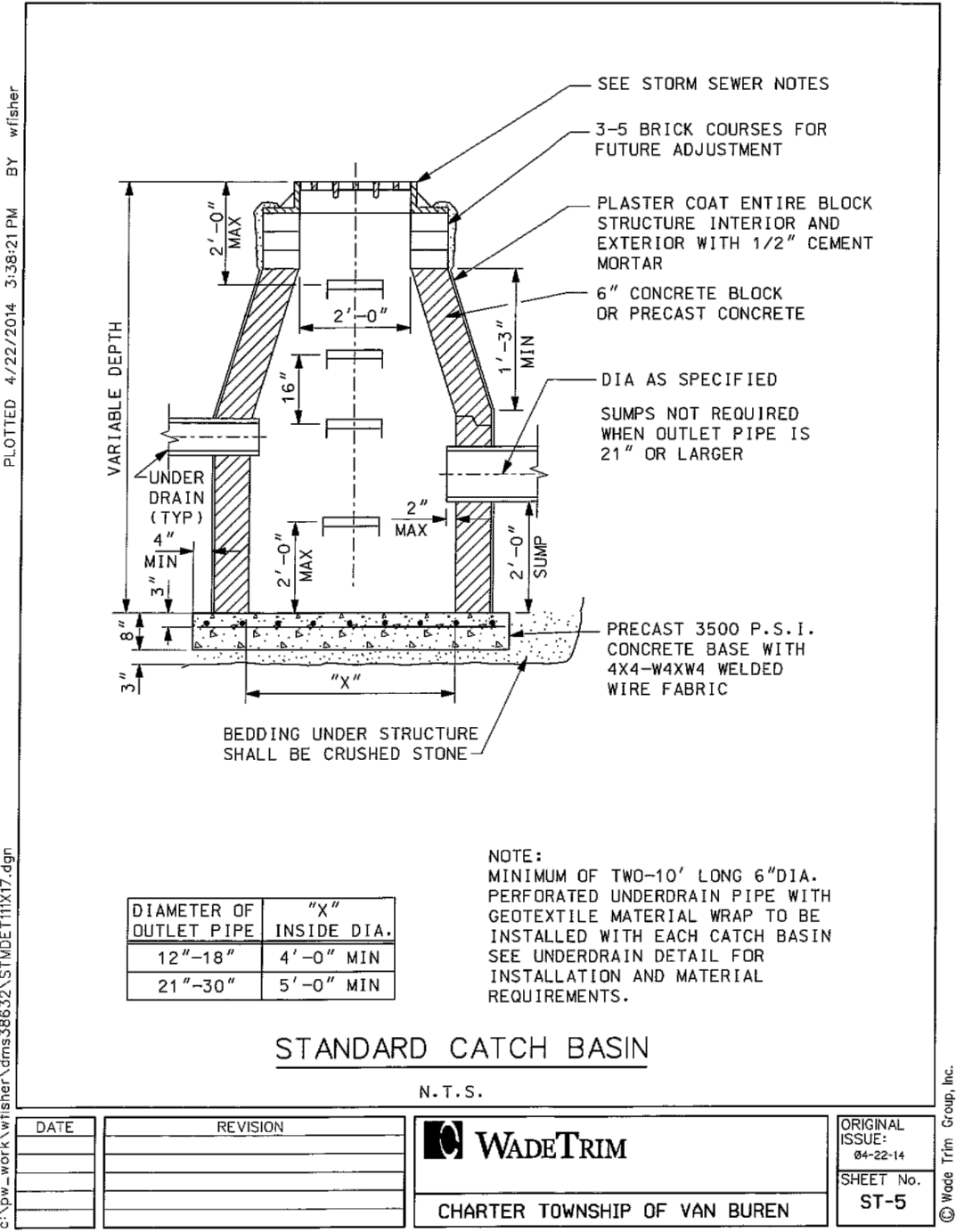
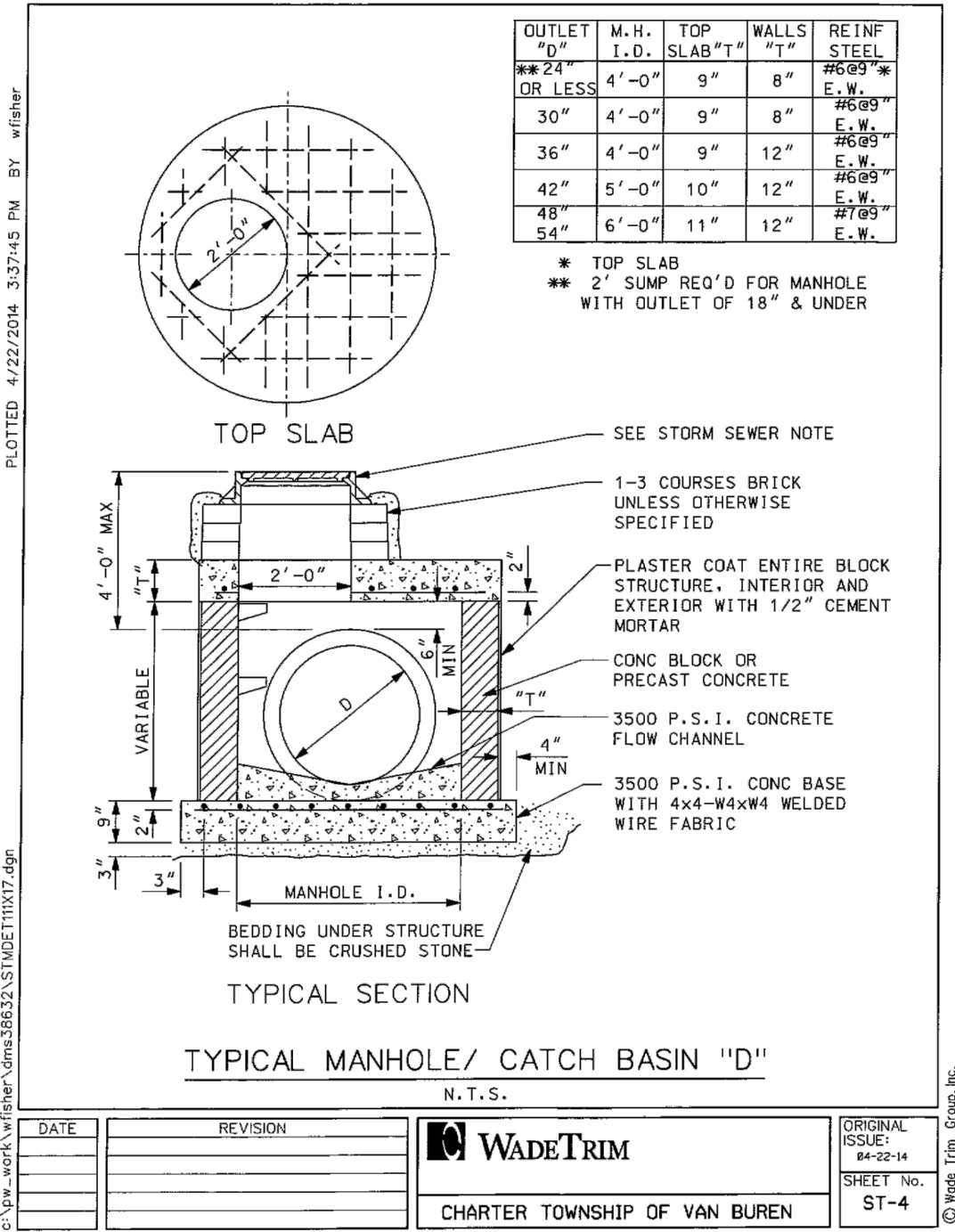
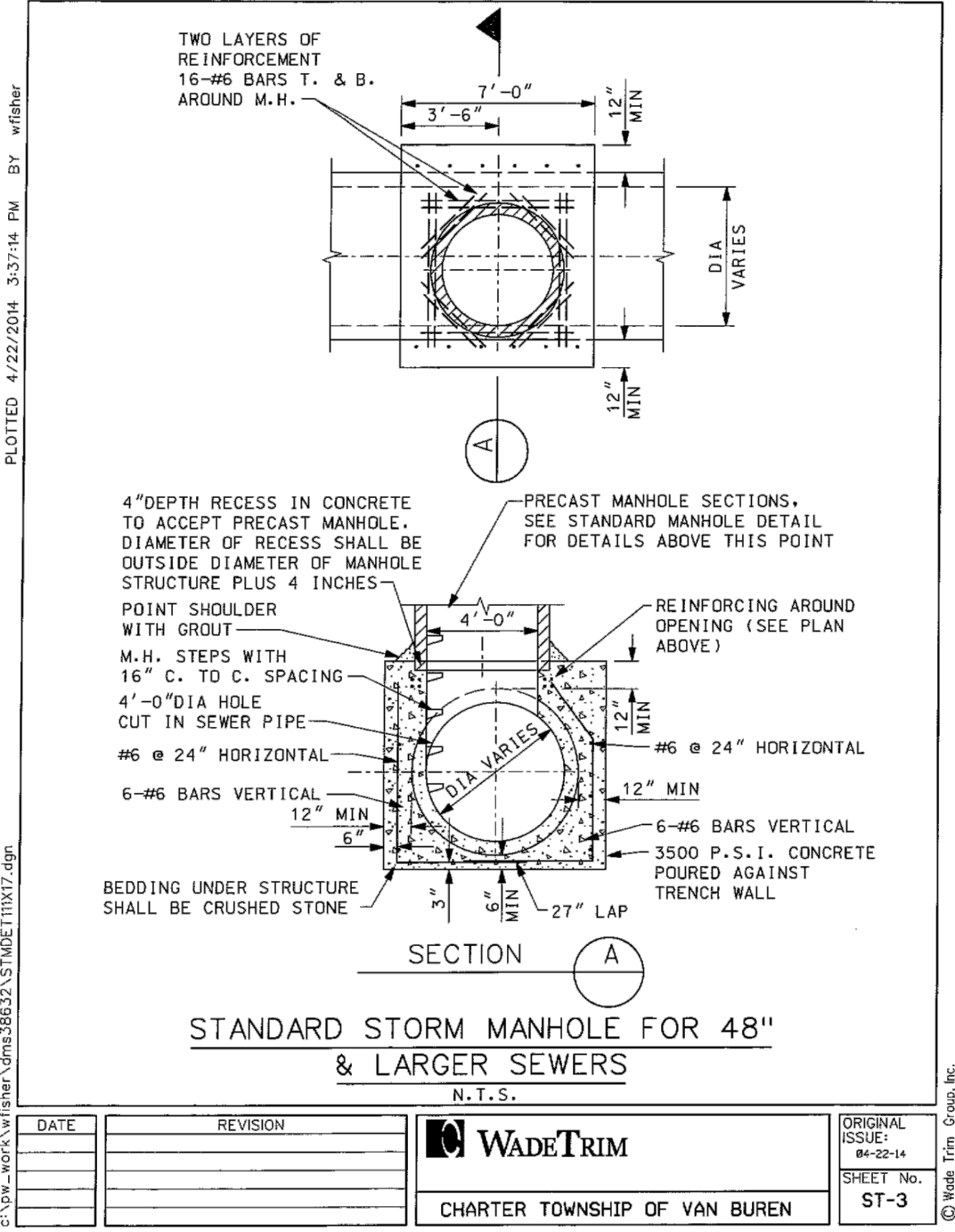
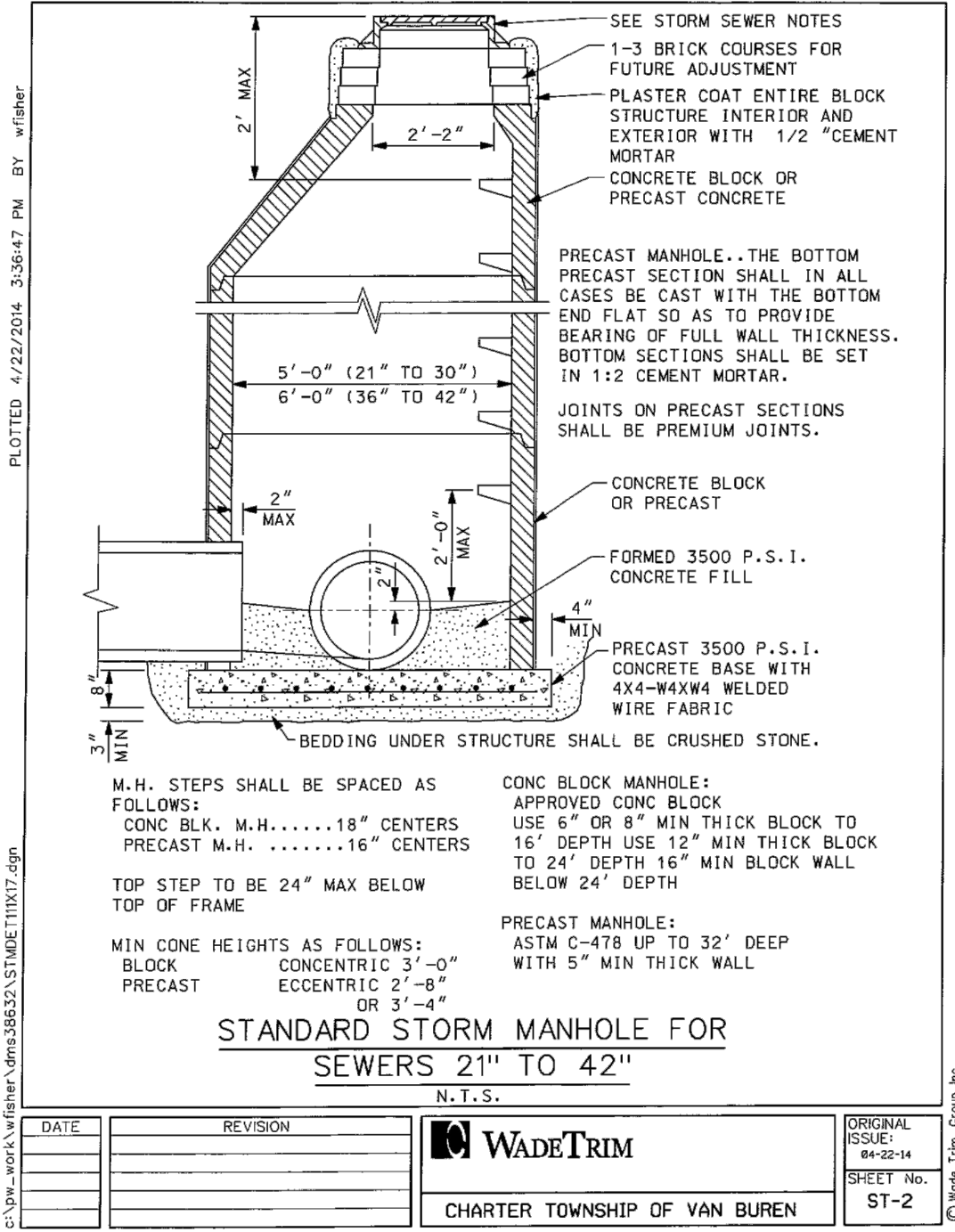
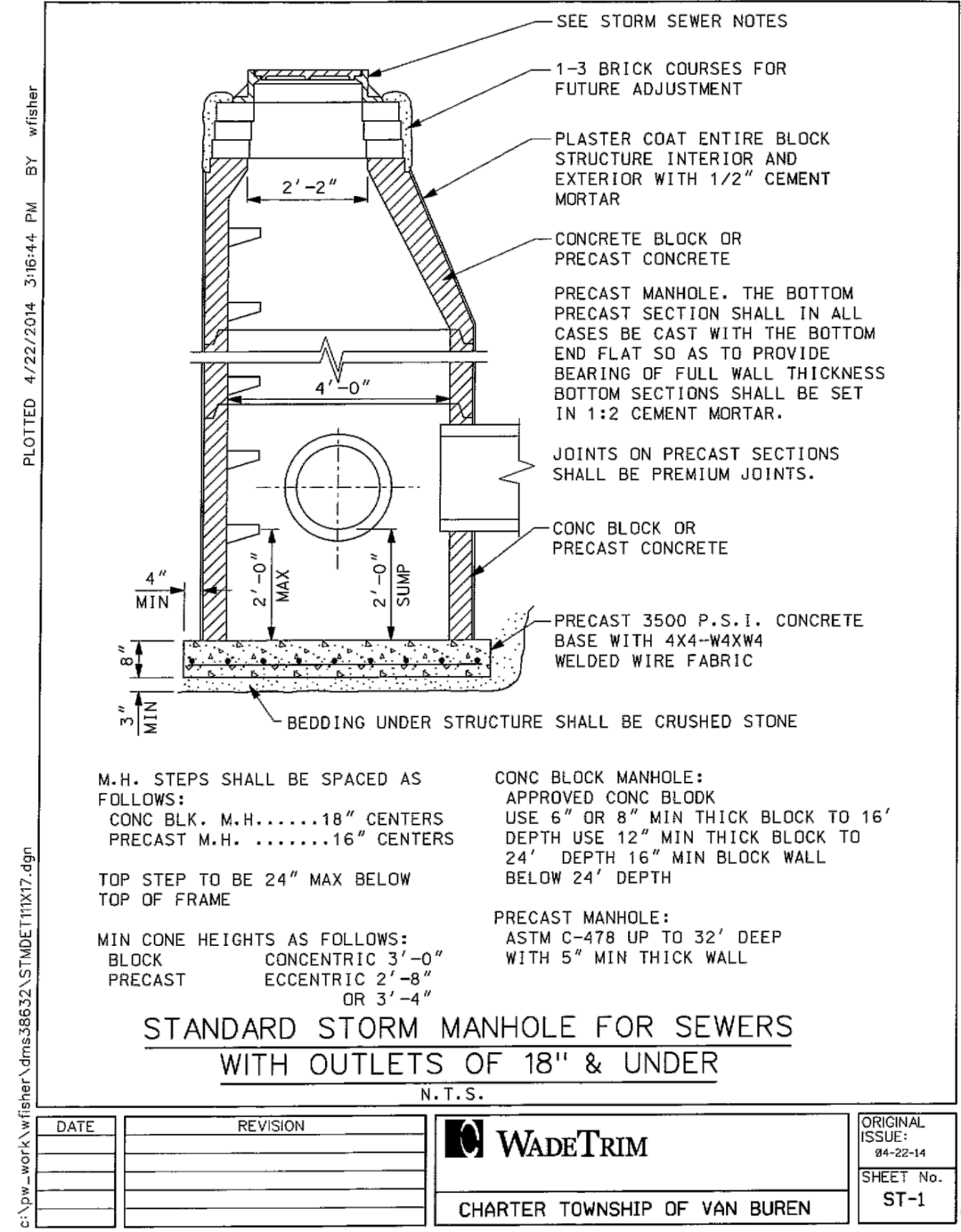




THE SOIL BORE REPORTS INDICATE A MEDIUM DENSITY FINE SAND MATERIAL FROM A DEPTH OF 1' TO 3' BELOW GROUND LEVEL OVER A VERY STIFF SILTY GRAY CLAY WITH TRACE OF SAND FROM A DEPTH OF 3' TO 5.5' OVER A MEDIUM STIFF SILTY GRAY CLAY WITH TRACE OF SAND FROM A DEPTH OF 5.5' TO 8' OVER A VERY STIFF SILTY GRAY CLAY WITH TRACE OF SAND FROM A DEPTH OF 8' TO 17' OVER A STIFF SILTY GRAY CLAY WITH TRACE OF SAND FROM A DEPTH OF 17' TO 20'.

THIS MATERIAL DOES NOT PROVIDE INFILTRATION INTO THE SUBSTRATA.











# *Hardy Civil Design Services, LLC*

4996 Moore St., Wayne, MI 48184

(734) 756-2196, E-mail: hardy-cds@hotmail.com

December 27, 2022

Re: 6100 Schooner Drive  
Van Buren Township, MI  
Chahal trucking Facility

To: OHM  
County review R22-0560

OHM review #3 response letter:

## **Storm water management:**

1. Noted
2. Cover sheet updated. 2a) Waiver sent under separate cover.
3. Information regarding manhole A added to all applicable sheets.
4. Q(allow) has been revised.
5. Noted.
6. Volumes have been revised.
7. Orifice size has been revised.
8. The water elevation within the existing storm system was previously stated on sheets #2, #3 and #4 but has now also been added to the profile on sheet #5
9. As stated in the previous review, "D" is not a manhole; it is a flared end section and is labeled as such on all appropriate sheets, including the profiles. It is the outlet pipe from the Forebay to the Detention Pond.
10. Buffer strip revised.

---

Kevin Hardy, Civil Design Services



**ENGINEERING  
SERVICES,**

**INC. R K ENGINEERING**  
A Division of Engineering Services

32190 Schoolcraft Road, Livonia, Michigan 48150

Telephone: (734) 525-7330,  
www.esi\_corp@yahoo.com

Fax: (734) 525-7255  
website: www.esi-engr.com

January 16, 2023

Mr. Hikmat Kassem, P.E.  
Plan Review Engineer  
Wayne County DPW/Engineering Division  
33809 Michigan Avenue  
Wayne, Michigan 48184

Re: Chalal Semi Truck/Trailor Repair Facility  
6100 Schooner Drive  
Van Buren Township, MI  
**CPVC Waiver Request**

Dear Mr. Hikmat:

The Site dynamics of the proposed site (trucking facility) does not allow for the use of bioswales. Truck parking spaces, movements and turning radius's dictate the layout of the site. In addition, the ground water table is 7' below existing grade. This elevation would put the bottom to a proposed bio-swale within 2' vertical feet of the ground water table. Rough calculations would set the top of the bioswale 2-3 feet lower than the existing grade, added to that would be the depth of the bioswale at between 4-5 feet. Therefore, the bottom of the bio-swale would be 6-8 feet lower than existing grade. The distance of sheet flow across the parking lot would be in the 150' range. Our typical design for parking lots is to design with slopes of between 1.5-2% slopes. This would mean that the top of slope would be approximately 3' lower than the ridge line. Attached is soil report.

Please do not hesitate to call if you have any further questions. Thanks.



Very truly yours,

**ENGINEERING SERVICES, INC.**

By:

Hakim Shakir, P.E.  
Principal

Cc: Mr. Steve Davenport