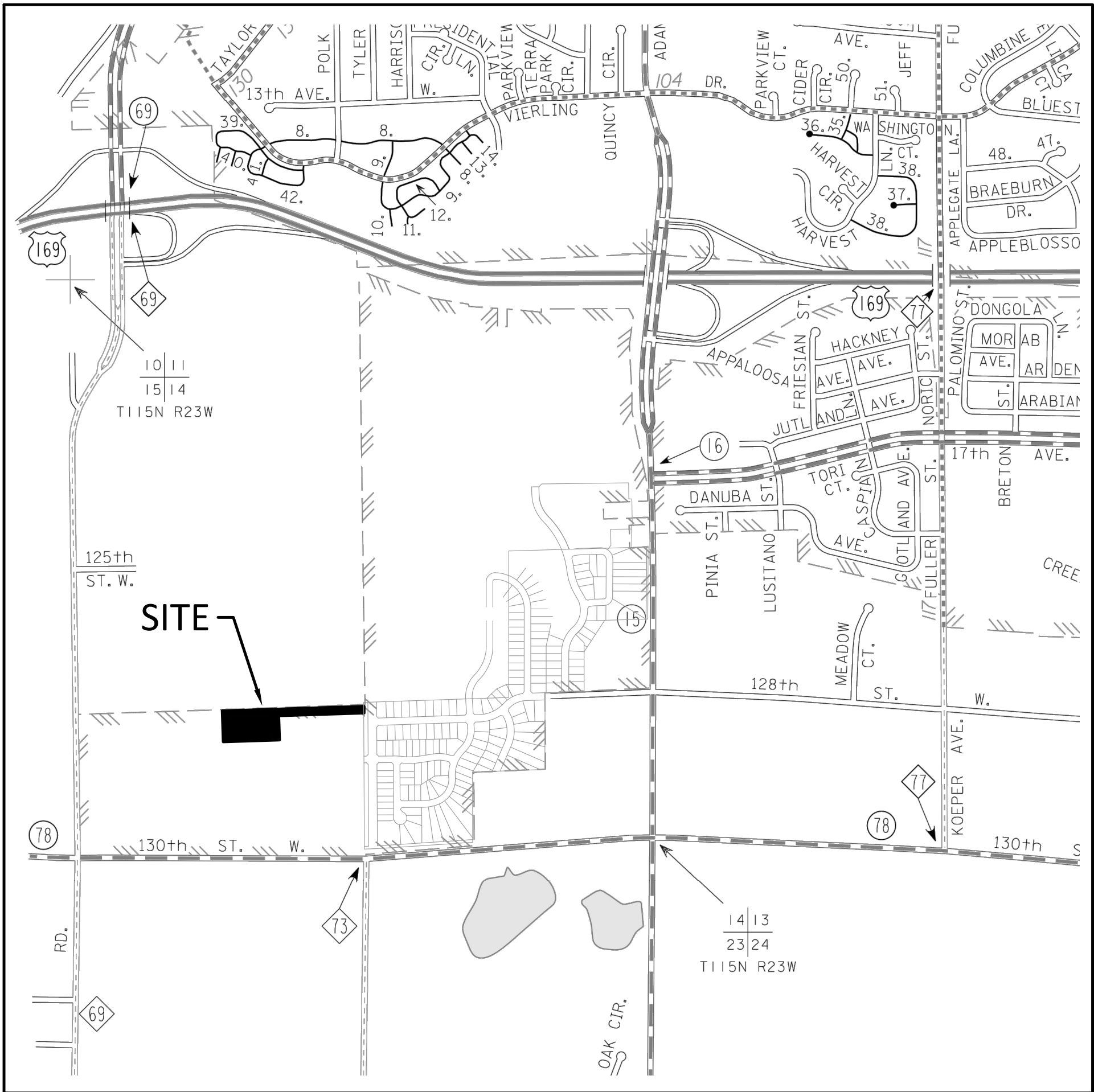


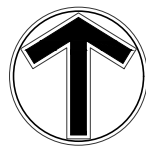
Construction Plans for

# Water Tank 8

PROJECT NO. 2019-1  
Shakopee, Minnesota  
Prepared for:  
Shakopee Public Utilities



VICINITY MAP  
NO SCALE



**GOVERNING SPECIFICATIONS**

PERFORM CONSTRUCTION IN ACCORDANCE WITH THE OCCUPATIONAL, SAFETY AND HEALTH ADMINISTRATION (OSHA) LAWS AND REGULATIONS. REFER TO PLANS FOR CIVIL, ARCHITECTURAL AND ELECTRICAL CODE AND SPECIFICATION REQUIREMENTS.

**EXCAVATION NOTICE SYSTEM**

A CALL TO GOPHER ONE CALL (800) 252-1166 IS REQUIRED A MINIMUM OF 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION

GOPHER ONE CALL TICKET NO. 170750716 WAS UTILIZED DURING SITE DESIGN.

- BENCHMARKS**
- THE VERTICAL DATUM IS BASED ON NAVD88.
- BENCHMARK #1**  
CAST IRON MONUMENT AT SOUTH QUARTER CORNER OF SECTION 14.  
ELEV.=975.37
- BENCHMARK #2**  
CAST IRON MONUMENT AT SOUTHWEST QUARTER CORNER OF SECTION 14.  
ELEV.=943.37

| SHEET INDEX |                                   |
|-------------|-----------------------------------|
| SHEET       | DESCRIPTION                       |
| C1.01       | TITLE SHEET                       |
| C1.02       | ALTA SURVEY                       |
| C1.03       | VICINITY PLAN & GENERAL NOTES     |
| C2.01       | SITE PLAN                         |
| C3.01       | TANK SITE GRADING PLAN            |
| C3.02       | STORM WATER BASIN GRADING PLAN    |
| C4.01       | ACCESS DRIVE PLAN & PROFILE       |
| C5.01       | WATERMAIN PLAN & PROFILE          |
| C6.01       | PHASE 1 EROSION CONTROL PLAN      |
| C6.02       | PHASE 2 EROSION CONTROL PLAN      |
| C6.03       | EROSION CONTROL NOTES & DETAILS   |
| C6.04       | SWPPP NARRATIVE                   |
| C6.05       | SWPPP NARRATIVE                   |
| C7.01       | DETAILS                           |
| C7.02       | DETAILS                           |
| C7.03       | DETAILS                           |
| L1.01       | TREE REMOVAL AND REPLACEMENT PLAN |
| L1.02       | LANDSCAPE TURF RESTORATION PLAN   |
| T1.01       | TANK NO. 8 PLAN & DETAILS         |
| T1.02       | TANK NO. 8 PLAN & DETAILS         |
| C8.01       | ACCESS DRIVE CROSS SECTIONS       |
| C8.02       | ACCESS DRIVE CROSS SECTIONS       |
| C8.03       | ACCESS DRIVE CROSS SECTIONS       |
| C8.04       | ACCESS DRIVE CROSS SECTIONS       |

PRELIMINARY PLAT SUBMITTAL

**Client**



**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



**Sambatek**  
www.sambatek.com

12800 Whitewater Drive, Suite 300  
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763.476.6010 telephone  
763.476.8532 facsimile

Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

**Project**  
**WATER TANK 8**

**Location**  
**SHAKOPEE, MN**

**Certification**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

**John Karwacki**  
Registration No. 16532 Date: X/XX/2019

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

**Summary**

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

**Revision History**

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|-----|------|----|----------------------|

**Sheet Title**  
**TITLE SHEET**

**Sheet No. Revision**  
**C1.01**

**Project No.** 20709.05

Client



**SHAKOPEE PUBLIC UTILITIES**  
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Summary

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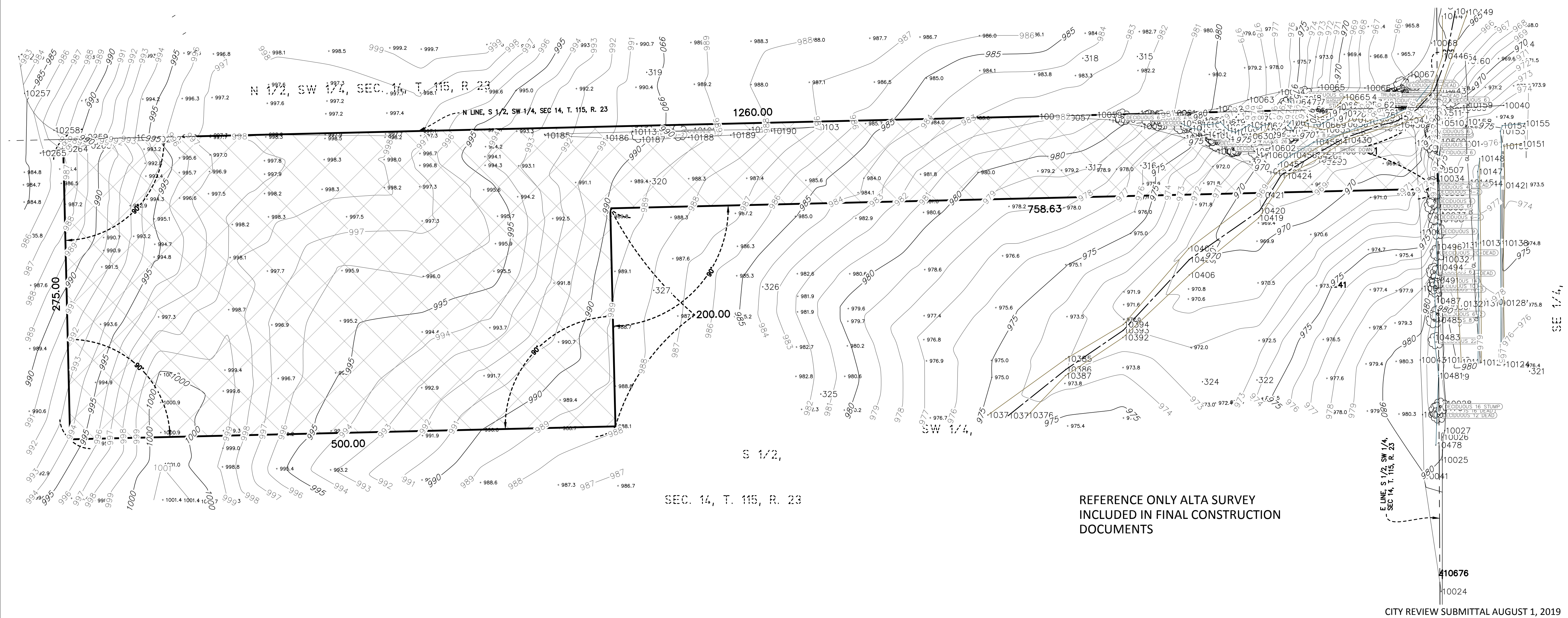
Revision History

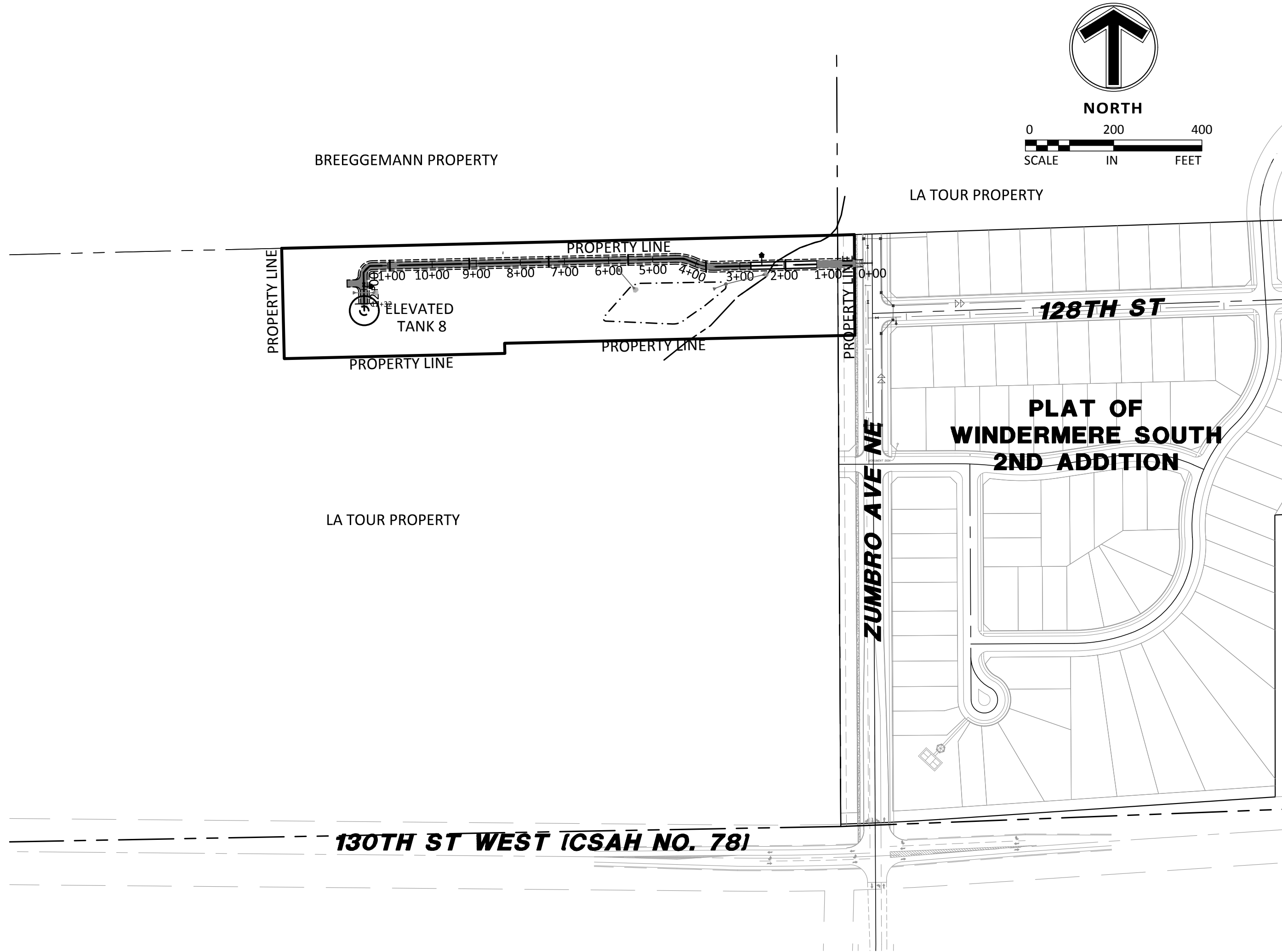
No. Date By      Submittal / Revision

Sheet Title  
ALTA SURVEY

Sheet No.    Revision  
**C1.02**

Project No.    20709.05





VICINITY PLAN

ROAD AND UTILITY IMPROVEMENTS SHOWN ON VICINITY PLAN REPRESENT EITHER INPLACE AND/OR PROPOSED DEVELOPMENT CONSTRUCTION.

| GENERAL LEGEND           |          |
|--------------------------|----------|
| (TYPICAL FOR ALL SHEETS) |          |
| PROPERTY LIMIT           | PROPOSED |
| EASEMENT                 | EXISTING |
| SETBACK LINE             |          |
| CURB & GUTTER            |          |
| STORM SEWER              |          |
| WATERMAIN                |          |
| DRAINTILE                |          |
| GAS LINE                 |          |
| BUILDING                 |          |
| RETAINING WALL           |          |
| WETLAND LIMITS           |          |
| TREELINE                 |          |
| SPOT ELEVATION           |          |
| CONTOUR                  |          |
| RIP RAP                  |          |
| OVERFLOW ELEV.           |          |
| SOIL BORINGS             |          |
| CONSTRUCTION LIMITS      |          |

CONSULTANT CONTACT LIST:

|                                                                                                                                                                        |                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OWNER<br>SHAKOPEE PUBLIC UTILITIES<br>255 SARAZIN STREET<br>SHAKOPEE, MN 55379-0470<br>TEL 952-445-1988<br>FAX 952-445-7767<br>CONTACT: LON SCHEMEL                    | CIVIL ENGINEER<br>SAMBATEK<br>12800 WHITEWATER DRIVE, SUITE 300<br>MINNETONKA, MN 55343<br>TEL 763-476-6010<br>FAX 763-476-8532<br>CONTACT: JOHN KARWACKI<br>MIKE BURDORF |
| ELECTRICAL ENGINEER<br>BARR ENGINEERING, COMPANY<br>4700 WEST 77TH STREET<br>MINNEAPOLIS, MN 55435<br>TEL 952-832-2600<br>FAX 952-832-2601<br>CONTACT: STUART STEPHENS | SURVEYOR<br>SAMBATEK<br>12800 WHITEWATER DRIVE, SUITE 300<br>MINNETONKA, MN 55343<br>TEL 763-476-6010<br>FAX 763-476-8532<br>CONTACT: JASON LEMPOLA                       |
|                                                                                                                                                                        | LANDSCAPING<br>SAMBATEK<br>12800 WHITEWATER DRIVE, SUITE 300<br>MINNETONKA, MN 55343<br>TEL 763-476-6010<br>FAX 763-476-8532<br>CONTACT: BILL DELANEY                     |

UTILITY & GOVERNING AGENCIES CONTACT LIST:

|                                                                                                                                         |                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CITY ENGINEER/PUBLIC WORKS<br>485 GORMAN STREET<br>SHAKOPEE, MN 55379<br>TEL 952-233-9369<br>FAX 952-233-3803<br>CONTACT: N/A           | ELECTRIC COMPANY<br>SHAKOPEE PUBLIC UTILITIES<br>255 SARAZIN STREET<br>SHAKOPEE, MN 55379-0470<br>TEL 952-445-1988<br>FAX 952-445-7767<br>CONTACT: GREG DRENT |
| PUBLIC SAFETY<br>485 GORMAN STREET<br>SHAKOPEE, MN 55379<br>TEL 952-233-9400<br>EMERGENCY TEL 911<br>CONTACT: N/A                       | NATURAL GAS COMPANY<br>XCEL ENERGY<br>ADDRESS 2<br>TEL 320-656-2407<br>CONTACT: PETE CLUEVER                                                                  |
| BUILDING INSPECTOR<br>129 HOLMES STREET SOUTH<br>SHAKOPEE, MN 55379<br>TEL 952-233-9333<br>CONTACT: DAVE KRIESEL                        | UTILITY LOCATION<br>MINNESOTA<br>GOPHER STATE ONE CALL<br>(800) 252-1166                                                                                      |
| FIRE<br>2700 VIERLING DRIVE<br>SHAKOPEE, MN 55379<br>TEL 952-233-9570<br>EMERGENCY TEL 911<br>CONTACT: TOM PITSCHEIDER,<br>FIRE MARSHAL |                                                                                                                                                               |

GENERAL NOTES

- REFER TO ALTA/NSPS SURVEY FOR PROPERTY DIMENSIONS AND EXISTING SURVEY INFORMATION.
- QUALITY OF SUBSURFACE UTILITY LOCATIONS:  
THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).
- IF THE CONTRACTOR ENCOUNTERS ANY DRAIN TILE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE TILE LINE IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF 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 LOCATIONS OF SMALL UTILITIES SHALL BE OBTAINED BY THE CONTRACTOR, BY CALLING GOPHER STATE ONE CALL AT 1-800-252-1166.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- SAFETY NOTICE TO CONTRACTORS: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARDS.
- CONSTRUCTION ACCESS LOCATION TO BE CSAH NO. 78 TO ZUMRO AVE NE.
- CONSTRUCTION WITHIN THE CITY RIGHT-OF-WAY REQUIRES A PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS AND SCHEDULING REQUIRED INSPECTIONS.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIRING TO ANY ROADWAY DETERIORATION ON COUNTY ROADS AND CITY STREETS, CAUSED BY CONSTRUCTION ACTIVITY. BREAKUP, ALLIGATOR CRACKING OR RUTTING SHALL BE REPAIRED BY BITUMINOUS PATCHING AS DIRECTED BY THE ENGINEER. REPAIRS TO MATCH THE EXISTING PAVEMENT SECTION.
- REFER TO SHEETS C3.01 - C3.02 FOR GRADING AND DRAINAGE PLANS.
- REFER TO SHEET C4.01 FOR ACCESS DRIVE PLAN AND PROFILE.
- REFER TO SHEET C5.01 FOR WATERMAIN AND STORM SEWER PLAN.
- REFER TO SHEETS C6.01 - C6.03 FOR EROSION CONTROL (SWPPP) PLANS.
- REFER TO SHEET L1.01 FOR TREE REPLACEMENT PLAN PLAN.
- REFER TO SHEETS L1.02 - L1.03 FOR LANDSCAPE PLANS.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING IN-PLACE UTILITY LINES, PREVIOUSLY INSTALLED, BEFORE TRENCHING NEW LINES.
  - ENGAGE UNDERGROUND UTILITY LOCATOR TO LOCATE AND FLAG IN-PLACE LINES.
  - UTILITY LOCATING INCIDENTAL TO CONTRACT.

Client



**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project

WATER TANK 8

Location

SHAKOPEE, MN

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

John Karwacki  
Registration No. 16532 Date: X/XX/2019  
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

Revision History

No. Date By Submittal / Revision

Sheet Title

VICINITY PLAN

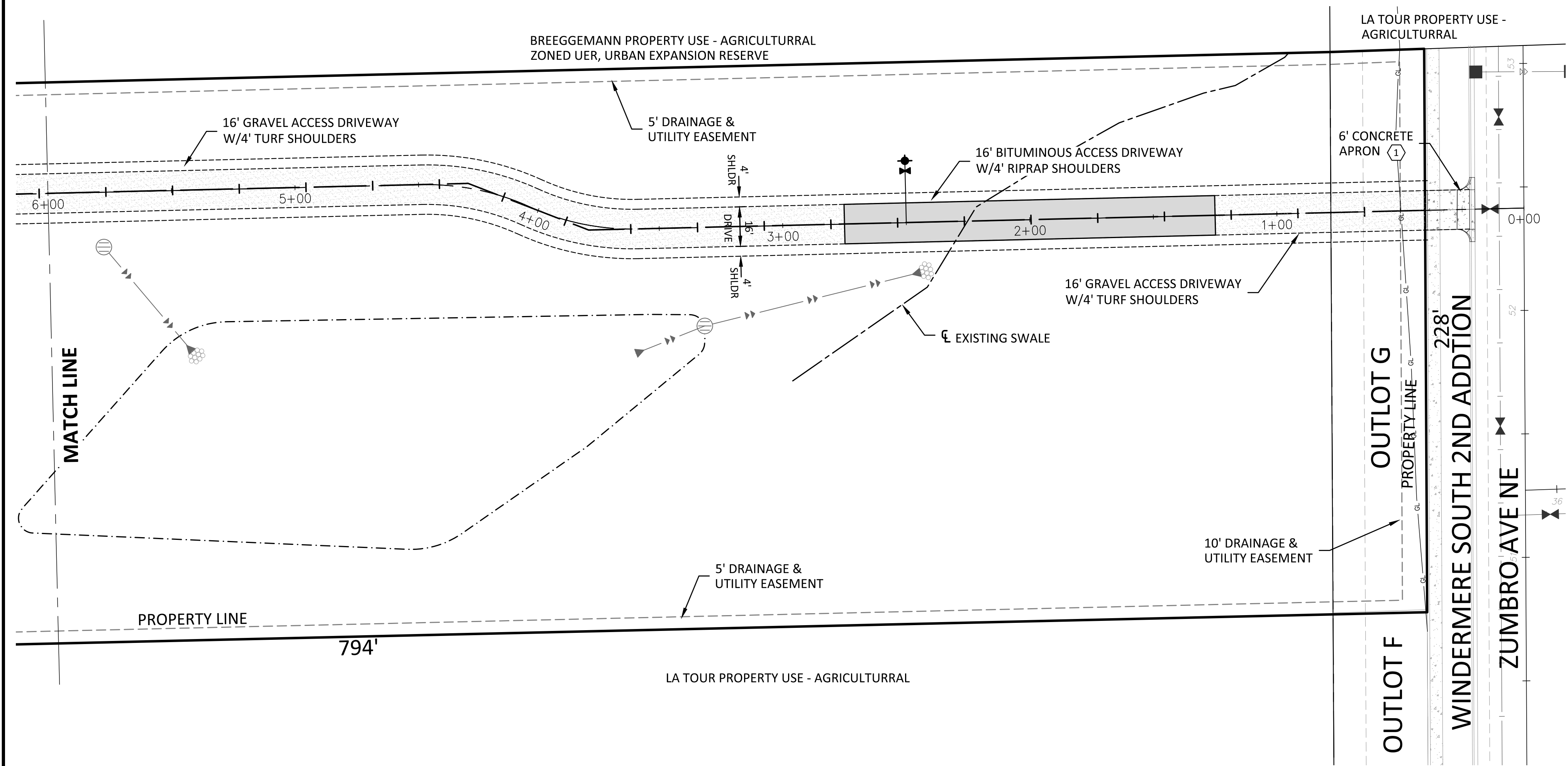
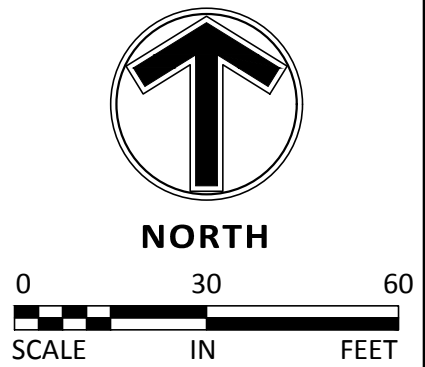
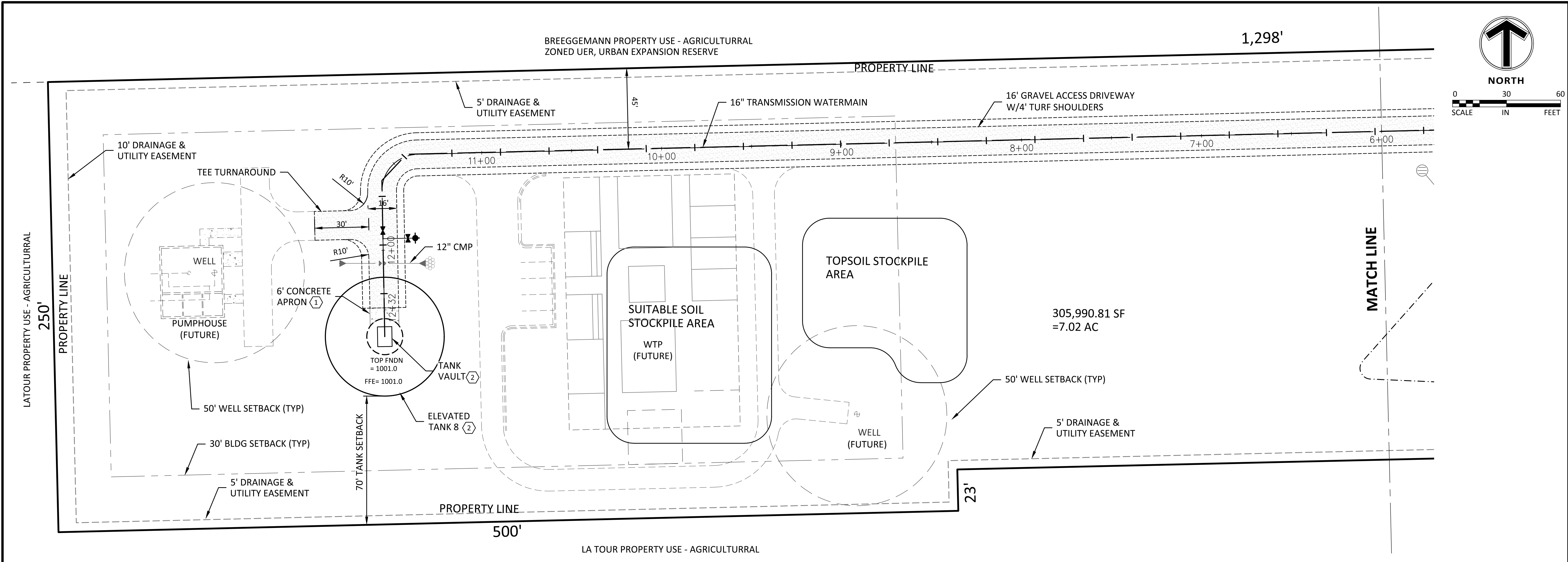
& GENERAL

NOTES

Sheet No. Revision

C1.03

Project No. 20709.05



### NOTES

- FUTURE IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY. FUTURE USE AND SCHEDULING BY SPU HAS NOT BEEN ESTABLISHED.
- OUTLOT G OF WINDERMERE SOUTH 2ND ADDITION WILL BE ACQUIRED BY SPU FROM D R HORTON.

### DESCRIPTION

LOT 1, BLOCK 1 OF THE PROPOSED LA TOUR TERRACE PLAT.

### PROPERTY SUMMARY

- THE ENTIRE LATOUR PARCEL WILL BE PLATTED WITH THE SPU PROPERTY IDENTIFIED AS LOT 1, BLOCK 1.
- ZONING: CURRENTLY NO ZONING DESIGNATION. REQUEST REZONING TO R1B URBAN RESIDENTIAL.
- ELEVATED TANK: 750,000 GALLON, STEEL SPHEROID TANK, APPROXIMATELY 135 FEET IN HEIGHT. OUTLINE OF THE APPROXIMATE TANK DIAMETER IS SHOWN AT 66 FEET.
- FOR ACCESS DRIVEWAY PLANS SEE SHEETC4.01.

### BENCH MARK

THE VERTICAL DATUM IS BASED ON NAVD88.

BENCHMARK #1  
CAST IRON MONUMENT AT SOUTH QUARTER CORNER OF SECTION 14.  
ELEV.=975.37

BENCHMARK #2  
CAST IRON MONUMENT AT SOUTHWEST QUARTER CORNER OF SECTION 14.  
ELEV.=943.37

### KEY NOTES

- 6' CONCRETE APRON 4000 PSI, 6" THICKNESS
- TANK VAULT. REFER TO TANK DETAILS SHEET T1.01-T1.02

### CONSTRUCTION NOTES

FOR PROPERTY INFORMATION, REFER TO ALTA SURVEY SHEET C1.02 AND PROPOSED LA TOUR TERRACE PRELIMINARY AND FINAL PLAT.

CITY REVIEW SUBMITTAL AUGUST 1, 2019

### Client

**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988  
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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

### Project WATER TANK 8

### Location SHAKOPEE, MN

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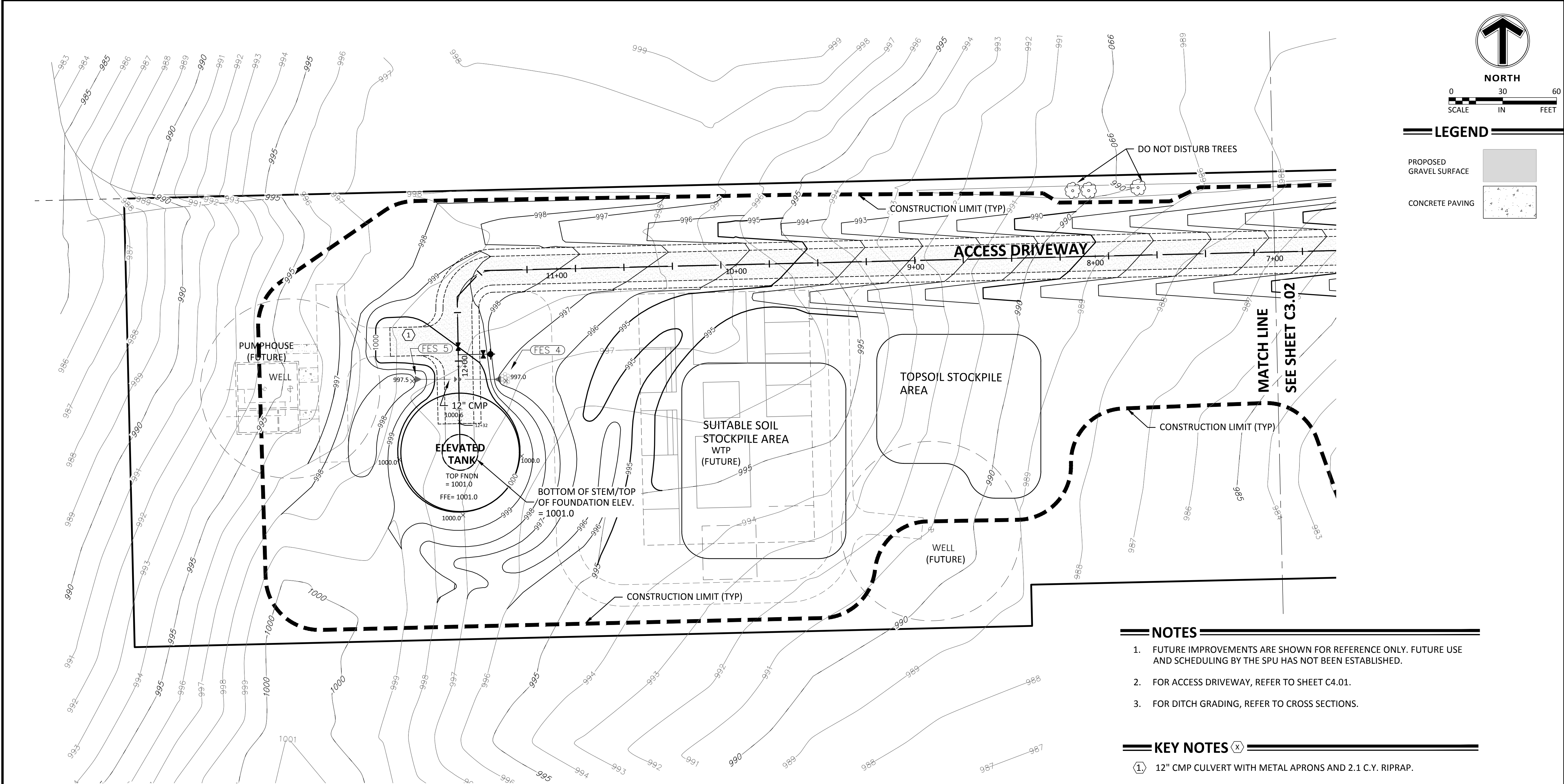
### Revision History

No. Date By Submittal / Revision

### Sheet Title SITE PLAN

### Sheet No. Revision C2.01

Project No. 20709.05

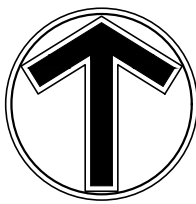


GRADING NOTES

- A. PROPOSED CONTOURS ARE TO FINISHED SURFACE ELEVATION. SPOT ELEVATIONS DENOTE FINISHED GRADE.
- B. REFER TO EROSION CONTROL SHEETS C5.01, C5.02 FOR EROSION CONTROL MEASURES.
- C. REFER TO LANDSCAPE PLANS FOR TURF RESTORATION. SHEETS L1.01 & L1.02
- D. REFER TO UTILITY PLAN SHEET C4.01 AND C4.02 FOR STORM SEWER AND WATERMAIN.
- E. FOR WATER TANK FLOOR AND FOUNDATION PLANS, REFER TO WATER TANK DETAIL SHEETS T1.01-T1.02.
- F. REFER TO PROJECT SPECIFICATIONS FOR BUILDING AND PAVEMENT SUBGRADE AND BASE DENSITY COMPACTION REQUIREMENTS.
- G. SALVAGE ALL TOPSOIL AND RE-SPREAD TO A MINIMUM 6" DEPTH. SUPPLEMENT WITH TOPSOIL BORROW IF REQUIRED. QUANTITIES INDICATE ADEQUATE SUPPLY OF OF EXISTING TOPSOIL TO MEET 6" MINIMUM.
- H. THE GRADING PLAN EARTHWORK WILL NOT BALANCE. STOCKPILE MATERIAL TO COMPLETE THE FINISHED SITE GRADING. STOCKPILE EXCESS MATERIAL IN AREAS DESIGNATED ON THE PLANS. EXCESS MATERIAL REMAINING AFTER FINISHED GRADING TO BE GRADED AS DIRECTED BY ENGINEER.
- I. REPLACE ALL SUBGRADE SOIL DISTURBED DURING THE CONSTRUCTION THAT HAS BECOME UNSUITABLE AND WILL NOT PASS A TEST ROLL. REMOVE UNSUITABLE SOIL FROM THE SITE AND IMPORT SUITABLE SOIL AT NO ADDITIONAL COST TO THE OWNER. ALL AREAS OUTSIDE THE PROPERTY BOUNDARIES THAT ARE DISTURBED BY CONSTRUCTION TO BE RESTORED IN KIND.
- J. SUITABLE GRADING MATERIAL CONSISTS OF ALL SOIL ENCOUNTERED ON THE SITE WITH EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL. STOCKPILE TOPSOIL AND GRANULAR FILL.

- K. SUBGRADE EXCAVATION TO BE BACKFILLED IMMEDIATELY AFTER EXCAVATION TO HELP OFFSET ANY STABILITY PROBLEMS DUE TO WATER SEEPAGE OR STEEP SLOPES. WHEN PLACING NEW SURFACE MATERIAL ADJACENT TO EXISTING PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF THE EXISTING PAVEMENT SURFACES.
- L. ALL EXCESS MATERIAL, BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS, AND OTHER UNSTABLE MATERIALS, BECOMES THE PROPERTY OF THE CONTRACTOR AND DISPOSED OFF THE CONSTRUCTION SITE PER FEDERAL, STATE AND LOCAL REGULATIONS.
- M. COMPLETION OF SITE GRADING AND TOPSOIL SPREADING SHALL RESULT IN ALL AREAS BEING GRADED TO "PLAN FINISH ELEVATION".
- N. CONTRACTOR IS RESPONSIBLE FOR GRADING AND SLOPING THE FINISHED GROUND SURFACE TO PROVIDE SMOOTH & UNIFORM SLOPES, WHICH PROVIDE POSITIVE DRAINAGE. CONTACT ENGINEER IF FIELD ADJUSTMENTS TO GRADING PLANS ARE REQUIRED.
- O. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF PAVEMENT WHICH PROVIDES SMOOTH UNIFORM SLOPES AND POSITIVE DRAINAGE. CONTACT ENGINEER IF FIELD ADJUSTMENTS ARE REQUIRED.
- P. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE DRIVEWAY AND PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER.
- Q. RE-COMPACTION OF EXISTING FILL SOILS;
- SUBGRADE SOILS WILL BE DENSITY TESTED BY OWNER PRIOR TO FILL PLACEMENT.
  - REMOVE SOIL, BACKFILL AND COMPACT AS DIRECTED BY SOILS ENGINEER.

R. TOTAL SITE AREA 7.02 AC.



NORTH

0 30 60  
SCALE IN FEET

LEGEND

PROPOSED GRAVEL SURFACE



CONCRETE PAVING

NOTES

- FUTURE IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY. FUTURE USE AND SCHEDULING BY THE SPU HAS NOT BEEN ESTABLISHED.
- FOR ACCESS DRIVEWAY, REFER TO SHEET C4.01.
- FOR DITCH GRADING, REFER TO CROSS SECTIONS.

KEY NOTES

- 12" CMP CULVERT WITH METAL APRONS AND 2.1 C.Y. RIPRAP.

Client



SHAKOPEE PUBLIC UTILITIES

255 SARAZIN STREET

SHAKOPEE, MN. 55379

TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS

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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project

WATER TANK 8

Location

SHAKOPEE, MN

Certification

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John Karwacki

Registration No. 16532 Date: X/XX/2019

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Summary

Designed: JRK

Drawn: DJD

Approved: JRK

Book / Page:

Phase: FINAL

Initial Issue: 8/01/2019

Revision History

No. Date By Submittal / Revision

Sheet Title

TANK SITE

GRADING PLAN

Sheet No. Revision

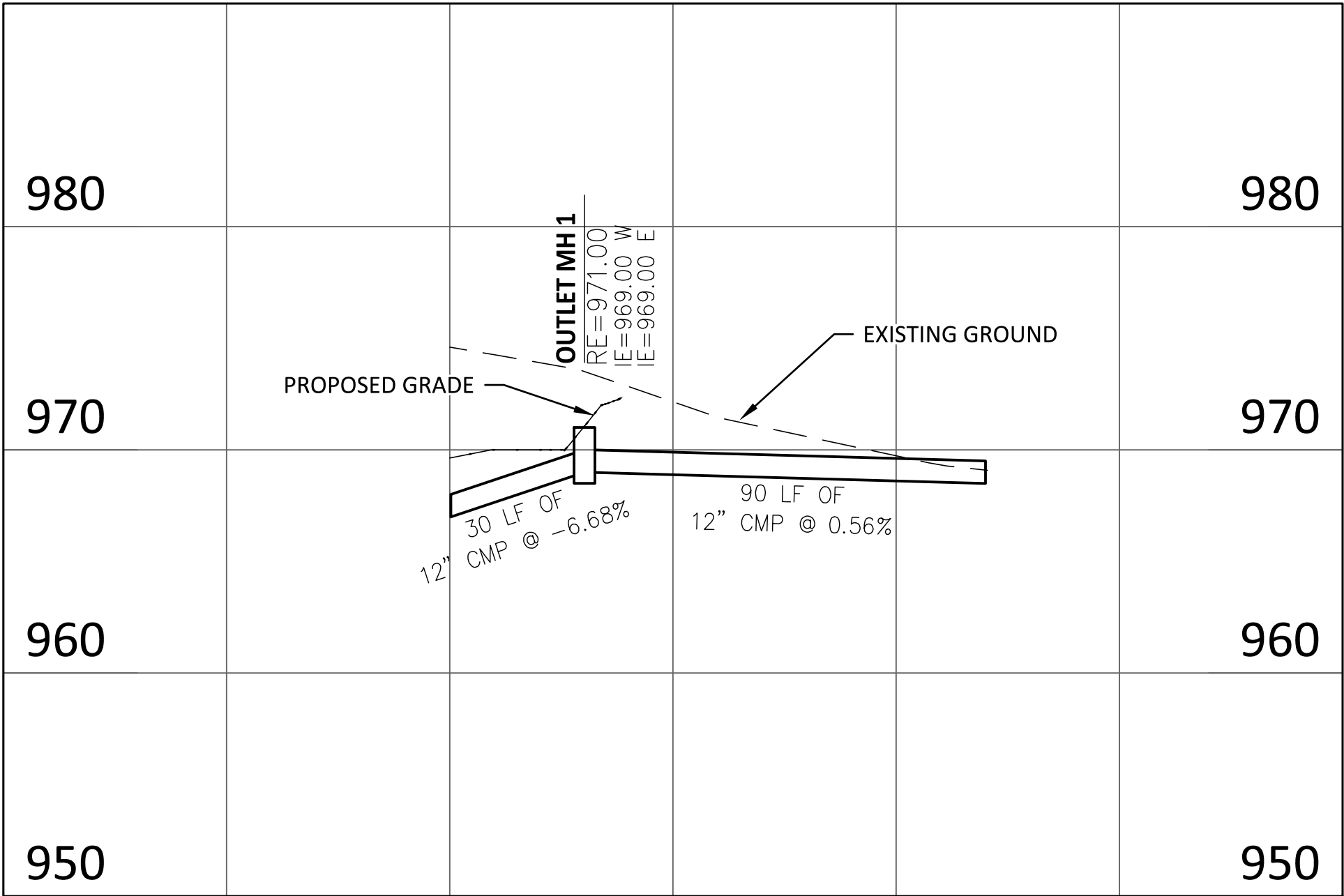
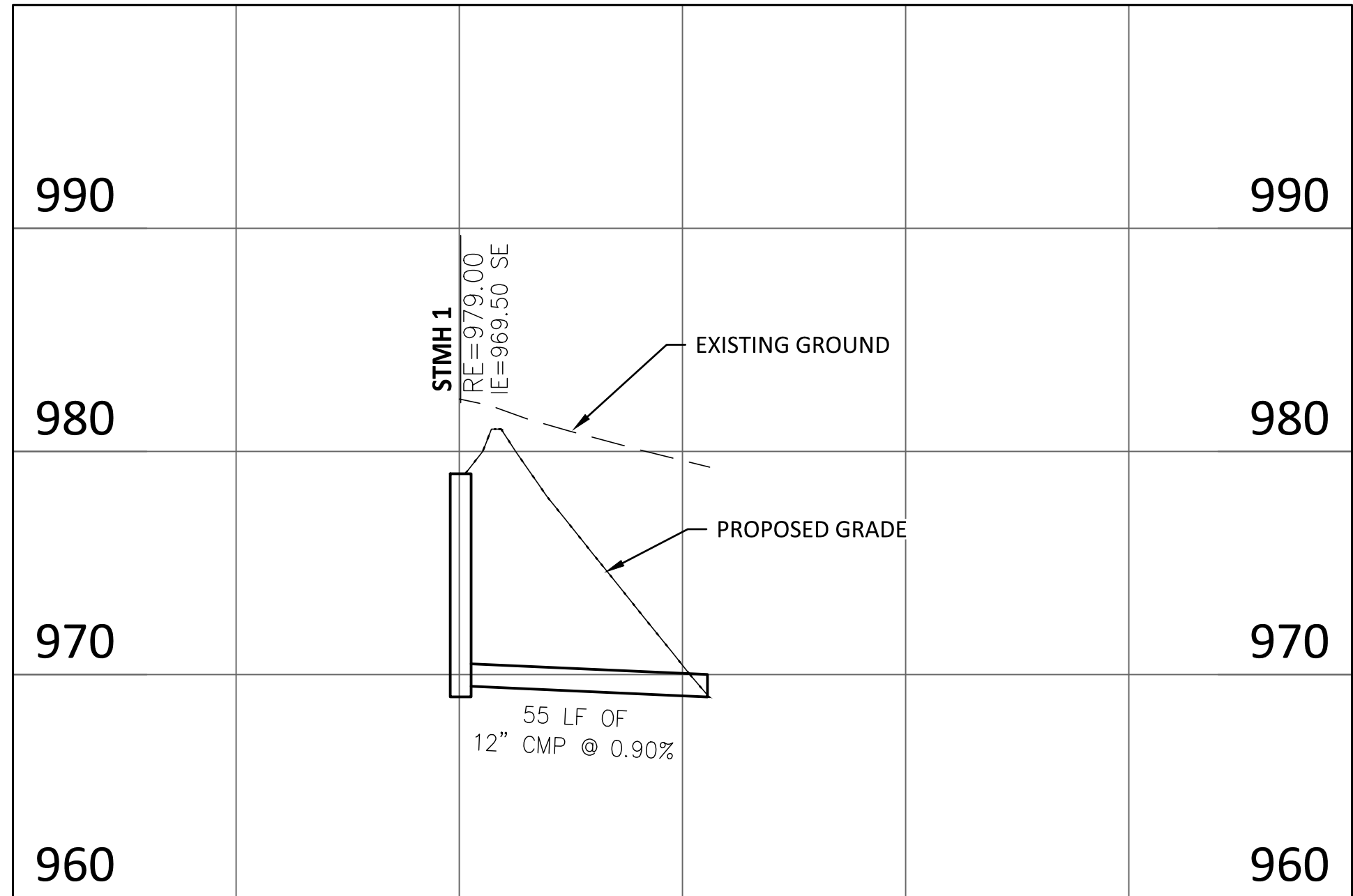
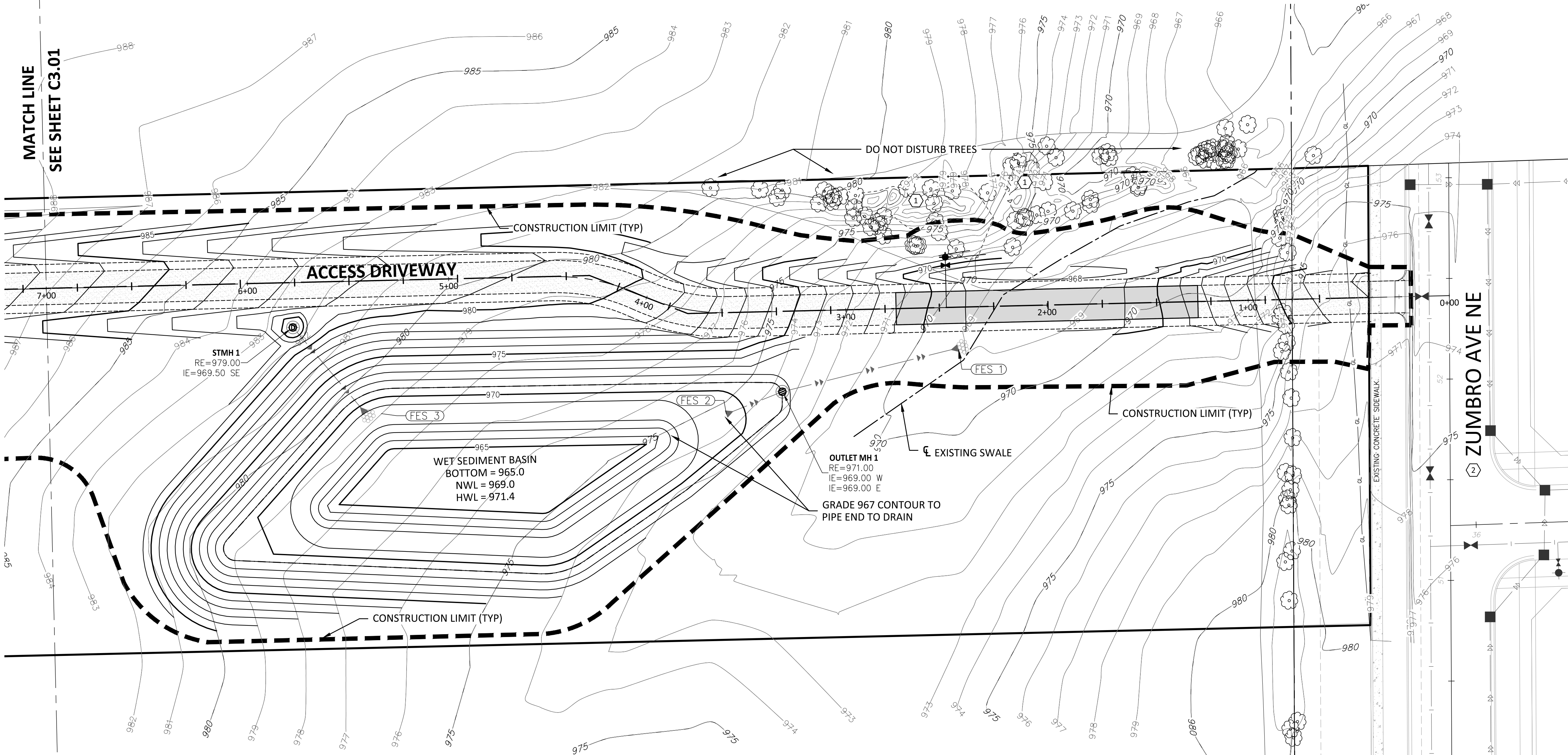
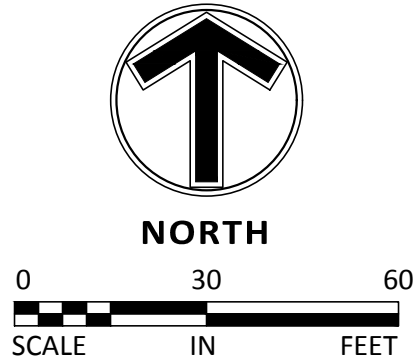
C3.01

Project No. 20709.05

CITY REVIEW SUBMITTAL AUGUST 1, 2019

KEY NOTES

- 1 POSSIBLE RUBBLE & DEBRIS REMOVAL
- 2 ZUMBRO AVE NE IMPROVEMENTS BY OTHERS. VERIFY ELEVATIONS AND LOCATIONS PRIOR TO WATERMAIN AND ACCESS DRIVEWAY CONSTRUCTION.



CONSTRUCTION NOTES

1. MODIFY STRUCTURE TO INVERTS SHOWN.
2. MNDOT CL 2 RIPRAP STANDARD PLATE 3134D
3. MNDOT METAL APRON STANDARD PLATE 3123J
4. MNDOT CMP STANDARD PLATE 3040F

Client

**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



12800 Whitewater Drive, Suite 300  
Minnetonka, MN 55343  
763.476.6010 telephone  
763.476.8532 facsimile

Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project  
WATER TANK 8

Location  
SHAKOPEE, MN

Certification

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John Karwacki  
Registration No. 16532 Date: X/XX/2019  
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

Revision History

No. Date By Submittal / Revision

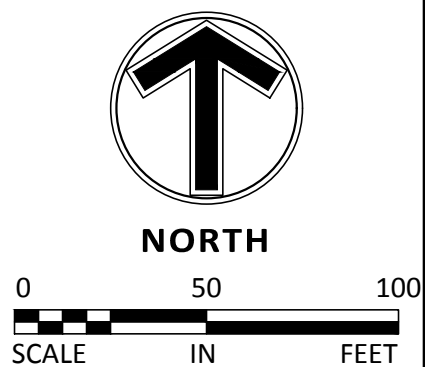
Sheet Title  
STORM WATER  
BASIN GRADING  
PLAN

Sheet No. Revision  
C3.02

Project No. 20709.05

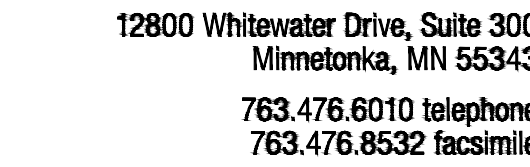
| CURVE NO. 1                | CURVE NO. 2                | CURVE NO. 3                |
|----------------------------|----------------------------|----------------------------|
| L=45.10                    | L=45.10                    | L=31.32                    |
| R=100'                     | R=100'                     | R=20'                      |
| $\Delta=25^{\circ}50'30''$ | $\Delta=25^{\circ}50'30''$ | $\Delta=89^{\circ}42'56''$ |

1. a. CONSTRUCT CONCRETE APRON SEE DETAIL 2/C7.02
- b. EXTEND 8" CONCRETE PAVEMENT TO EDGE OF SIDEWALK. MATCH SIDEWALK ELEVATION UNIFORM SLOPE. SLOPE TO DRAIN.
- c. MATCH WEST SIDEWALK WITH GRAVEL SURFACE ACCESS DRIVE.
2. CONTACT XCEL ENERGY FOR FIELD VERIFICATION OF LOCATION AND DEPTH OF GAS LINE PRIOR TO ANY CONSTRUCTION.
3. VERIFY EXISTING GROUND ELEVATIONS WITH THE ENGINEER. CONSTRUCT SLOPE OF ACCESS DRIVEWAY TO DRAIN SWALE SOUTH TO NORTH OVER DRIVEWAY. GRADE DRIVEWAY DITCH WITH UNIFORM SLOPES TO DRAIN TO SWALE. CUSTOM DITCH GRADING MAY BE NEEDED FOR 100' EACH SIDE OF OVERFLOW SECTION, INCIDENTAL.
4. DRIVEWAY SECTION SEE DETAIL 3/C7.01
5. SEE SHEET C3.02



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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

**Location**  
**SHAKOPEE, MN**

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Registration No. 16532 Date: X/XX/2019  
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Phase: FINAL      Initial Issue: 8/01/2019

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|     |      |    |                      |

Sheet Title  
**ACCESS DRIVE  
PLAN & PROFILE**

# C4.01

**Project No.** 20709.05

1. CONTACT XCEL ENERGY FOR FIELD VERIFICATION OF LOCATION AND DEPTH OF GAS LINE PRIOR TO ANY CONSTRUCTION.

A. REFER TO SHEET C1.03 FOR "GENERAL NOTES"

C. THE WATERMAIN IMPROVEMENTS FOR THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SHAKOPEE PUBLIC UTILITIES WATER POLICY STANDARD, EXCEPT AS MODIFIED HEREIN. CONTRACTOR SHALL OBTAIN A COPY OF THESE SPECIFICATIONS.

D. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP WATERMAIN BELONGING TO THE UTILITY UNLESS DULY AUTHORIZED TO DO SO BY THE UTILITY. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE THE LIABILITY OF CONTRACTOR.

E. ALL SITE WORK WATERMAIN TO BE DUCTILE IRON - CLASS 52.

E.1. ALL WATERMAIN TO HAVE 7.5-FEET OF COVER OVER TOP OF WATERMAIN.

E.2. PROVIDE EBBA "MEGALUGS" ON ALL PIPE BENDS AND FITTINGS, MINIMUM 40' DISTANCE OF BEND OR FITTING. INSTALL STAINLESS STEEL TIE RODS AND CONCRETE RESTRAINTS WHERE INDICATED ON PLANS.

E.3. WRAP ALL BURIED WATERMAIN, FITTINGS AND JOINT RESTRAINTS WITH V-BIO ENHANCED POLYETHYLENE ENCASEMENT. INSTALL WRAP IN ACCORDANCE WITH THE DUCTILE IRON PIPE ASSOCIATION RECOMMENDED METHODS AND PROCEDURES.

F. ALL SOILS TESTING SHALL BE COMPLETED BY THE SOILS ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE SOILS ENGINEER. THE UTILITY BACKFILL CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE SOILS ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND SOIL INSPECTIONS WITH THE SOILS ENGINEER.

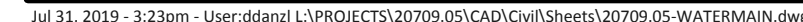
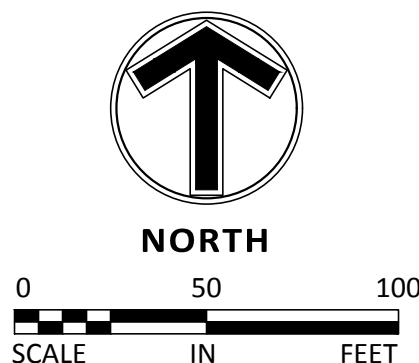
G. REFER TO GRADING PLAN FOR FINISH GRADING AND ACCESS DRIVE RECONSTRUCTION.

H. REFER TO EROSION CONTROL PLAN FOR EROSION CONTROL MEASURES.

I. REFER TO LANDSCAPE PLAN FOR RESTORATION OF DISTURBED AREAS.

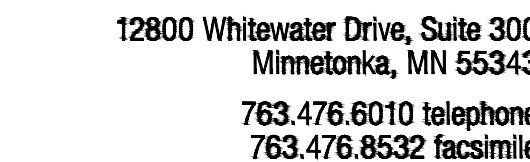
J. CONTRACTOR IS RESPONSIBLE FOR LOCATING IN-PLACE UTILITY LINES, PREVIOUSLY INSTALLED, BEFORE TRENCHING NEW LINES.

1. ENGAGE UNDERGROUND UTILITY LOCATOR TO LOCATE AND FLAG IN-PLACE LINES
2. UTILITY LOCATING INCIDENTAL TO CONTRACT.



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WATER SUPERINTENDENT: LON SCHEMEL



Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

**Location**  
**SHAKOPEE, MN**

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John Karwacki  
Registration No. 16532      Date: X/XX/2019

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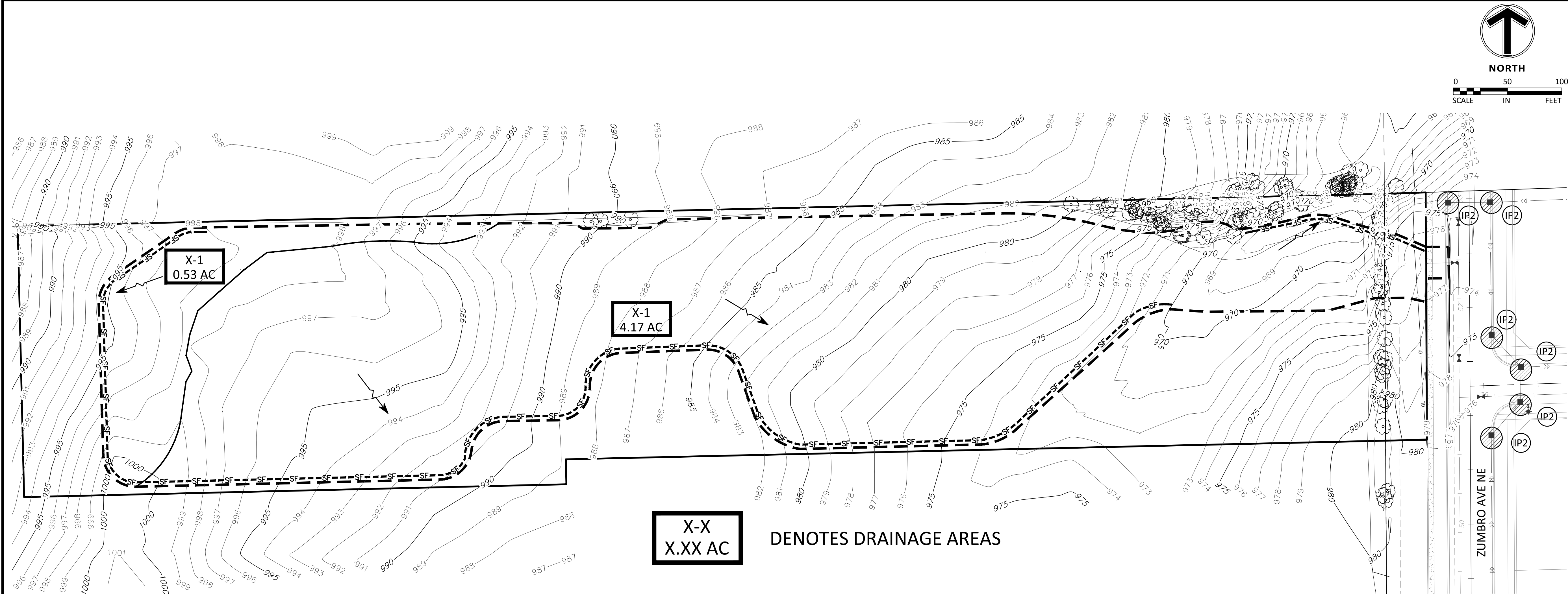
Designed: JRK      Drawn: DJD  
Approved: JRK      Book / Page:  
Phase: FINAL      Initial Issue: 8/01/2019

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|     |      |    |                      |

**Sheet No. Revision**

# C5.01

**Project No.** 20709.05



KEY NOTES

1. PLACE STAKED BIO-ROLLS AS DIRECTED BY THE ENGINEER
2. SAVE TREES. REFER TO NOTES ON SHEET C3.01

CONSTRUCTION NOTES

- A. REFER TO SHEET C2.01 FOR SITE PLAN NOTES.
- B. REFER TO SHEET C3.01 FOR TANK SITE GRADING PLAN.
- C. REFER TO SHEET C6.02 FOR EROSION CONTROL GENERAL NOTES AND DETAILS.
- D. REFER TO SHEETS L1.01 AND L1.02 FOR TURF AND GRASS RESTORATION AND AND GRADING REQUIREMENTS FOR TOP SOIL PLACEMENT.
- E. RESTORE ALL AREAS USED FOR PARKING AND MATERIAL STORAGE.

SEQUENCE OF CONSTRUCTION

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND EXISTING SWALE.
2. CONSTRUCT THE SILT FENCES ON THE SITE.
3. INSTALL CB INSERTS.
4. HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEERING CONSULTANT TO PERFORM INSPECTION OF BMPs. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.

EROSION CONTROL MATERIALS QUANTITIES

| ITEM                           | UNIT        | QUANTITY |
|--------------------------------|-------------|----------|
| SILT FENCE                     | LINEAR FEET | 1590     |
| SILT DIKE                      | LINEAR FEET | N/A      |
| BIO-ROLL                       | LINEAR FEET | N/A      |
| CONSTRUCTION ENTRANCE          | UNIT        | N/A      |
| INLET PROTECTION DEVICE (IP-1) | UNIT        | 0        |
| INLET PROTECTION DEVICE (IP-2) | UNIT        | 6        |

\* REFER TO SHEET C6.03 FOR GENERAL NOTES, MAINTENANCE NOTES, LOCATION MAPS, AND STANDARD DETAILS

AREA SUMMARY IN ACRES

|                                |          |
|--------------------------------|----------|
| GRAVEL AREA                    | 0.67 AC± |
| BUILDING AREA                  | 0.07 AC± |
| SEEDED/SODDED AREA             | 2.97 AC± |
| TOTAL DISTURBED                | 4.71 AC± |
| PRE - CONSTRUCTION IMPERVIOUS  | 0.00 AC± |
| POST - CONSTRUCTION IMPERVIOUS | 0.74 AC± |

LEGEND

|                                                                                           | PROPOSED | EXISTING |
|-------------------------------------------------------------------------------------------|----------|----------|
| CURB & GUTTER                                                                             |          |          |
| STORM SEWER                                                                               |          |          |
| DRAINTILE                                                                                 |          |          |
| CONTOUR                                                                                   |          |          |
| RIP RAP                                                                                   |          |          |
| OVERFLOW ELEV.                                                                            |          |          |
| SILT FENCE                                                                                |          |          |
| SILT DIKE                                                                                 |          |          |
| LIMITS OF DISTURBANCE                                                                     |          |          |
| SOIL BORINGS                                                                              |          |          |
| DIRECTION OF OVERLAND FLOW                                                                |          |          |
| TEMPORARY DIVERSION DITCH                                                                 |          |          |
| CHECK DAM                                                                                 |          |          |
| LIMITS OF DRAINAGE SUB-BASIN                                                              |          |          |
| BIO-ROLL                                                                                  |          |          |
| INLET PROTECTION DEVICE 1                                                                 |          |          |
| INLET PROTECTION DEVICE 2                                                                 |          |          |
| TEMPORARY STONE CONSTRUCTION ENTRANCE                                                     |          |          |
| TEMPORARY SEDIMENT BASIN                                                                  |          |          |
| TEMPORARY STORAGE AND PARKING AREA                                                        |          |          |
| TEMPORARY STABILIZATION MEASURES (SEED, MULCH, MATS OR BLANKETS AS OUTLINED IN THE SWPPP) |          |          |
| GRASS RESTORATION                                                                         |          |          |
| GRASS RESTORATION WITH WOOD FIBER MAT                                                     |          |          |

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IF THE CONTRACTOR ENCOUNTERS ANY DRAIN TILE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE TILE LINE IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

Client



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SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988  
UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project

WATER TANK 8

Location

SHAKOPEE, MN

Certification

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John Karwacki  
Registration No. 16532 Date: X/XX/2019  
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Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

Revision History

No. Date By Submittal / Revision

Sheet Title

PHASE 1

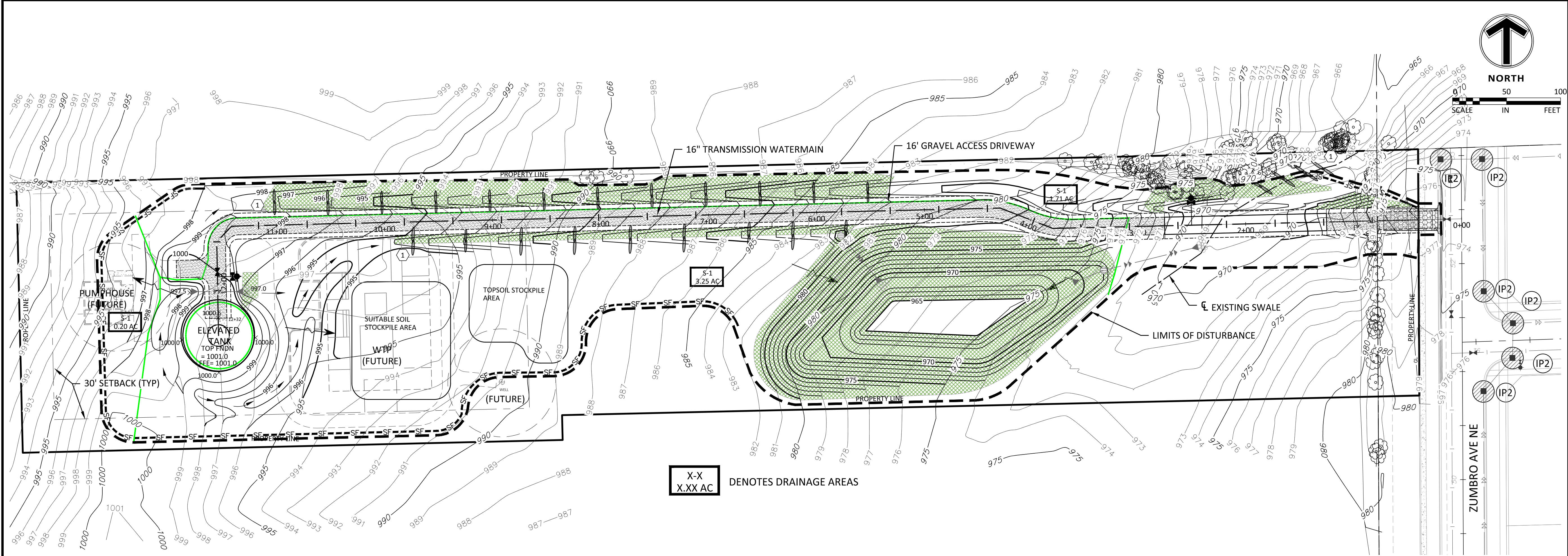
EROSION

CONTROL PLAN

Sheet No. Revision

C6.01

Project No. 20709.05



X-X  
X.XX AC

DENOTES DRAINAGE AREAS

### KEY NOTES

1. PLACE STAKED BIO-ROLLS AS DIRECTED BY THE ENGINEER
2. SAVE TREES. REFER TO NOTES ON SHEET C3.01

### CONSTRUCTION NOTES

- A. REFER TO SHEET C2.01 FOR SITE PLAN.
- B. REFER TO SHEET C3.01 FOR TANK SITE GRADING PLAN.
- C. REFER TO SHEET C6.02 FOR EROSION CONTROL GENERAL NOTES AND DETAILS.
- D. REFER TO SHEETS L1.01 AND L1.02 TURF MIXES AND GRASS RESTORATION.
- E. RESTORE ALL AREAS USED FOR PARKING AND MATERIAL STORAGE.
- F. HYDRO MULCH "HYDRO COVER CELLULOSE WITH TACK. MANUFACTURED BY PROFILE PRODUCTS OR EQUAL.

### SEQUENCE OF CONSTRUCTION

1. MAINTAIN CB INSERTS.
2. INSTALL WATERMAIN.
3. GRADE ACCESS DRIVEWAY.
4. GRADE NORTH DITCH AND STABILIZE WITH TURF AND EC MATS, BIOROLLS, AND SILT FENCE.
5. WATER TANK CONSTRUCTION.
6. GRADE SOUTH DITCH AND STORMWATER BAS. STABILIZE WITH TURF AND EC MATS, BIOROLLS, AND SILT FENCE.
7. INSTALL STORMSEWER.

### EROSION CONTROL MATERIALS QUANTITIES

| ITEM                           | UNIT        | QUANTITY |
|--------------------------------|-------------|----------|
| SILT FENCE                     | LINEAR FEET | 1056     |
| SILT DIKE                      | LINEAR FEET | N/A      |
| BIO-ROLL                       | LINEAR FEET | 500      |
| CONSTRUCTION ENTRANCE          | UNIT        | N/A      |
| INLET PROTECTION DEVICE (IP-1) | UNIT        | 0        |
| INLET PROTECTION DEVICE (IP-2) | UNIT        | 6        |

\* REFER TO SHEET C6.03 FOR GENERAL NOTES, MAINTENANCE NOTES, LOCATION MAPS, AND STANDARD DETAILS

### AREA SUMMARY IN ACRES

|                                |          |
|--------------------------------|----------|
| PAVEMENT AREA                  | 0.67 AC± |
| BUILDING AREA                  | 0.07 AC± |
| SEEDED/SODDED AREA             | 2.97 AC± |
| TOTAL DISTURBED                | 4.71 AC± |
| PRE - CONSTRUCTION IMPERVIOUS  | 0.00 AC± |
| POST - CONSTRUCTION IMPERVIOUS | 0.74 AC± |

### LEGEND

|                                                                                           | PROPOSED | EXISTING |
|-------------------------------------------------------------------------------------------|----------|----------|
| CURB & GUTTER                                                                             |          |          |
| STORM SEWER                                                                               |          |          |
| DRAINTILE                                                                                 |          |          |
| CONTOUR                                                                                   |          |          |
| RIP RAP                                                                                   |          |          |
| OVERFLOW ELEV.                                                                            |          |          |
| SILT FENCE                                                                                |          |          |
| SILT DIKE                                                                                 |          |          |
| LIMITS OF DISTURBANCE                                                                     |          |          |
| SOIL BORINGS                                                                              |          |          |
| DIRECTION OF OVERLAND FLOW                                                                |          |          |
| TEMPORARY DIVERSION DITCH                                                                 |          |          |
| CHECK DAM                                                                                 |          |          |
| LIMITS OF DRAINAGE SUB-BASIN                                                              |          |          |
| BIO-ROLL                                                                                  |          |          |
| INLET PROTECTION DEVICE 1                                                                 |          |          |
| INLET PROTECTION DEVICE 2                                                                 |          |          |
| TEMPORARY STONE CONSTRUCTION ENTRANCE                                                     |          |          |
| TEMPORARY SEDIMENT BASIN                                                                  |          |          |
| TEMPORARY STORAGE AND PARKING AREA                                                        |          |          |
| TEMPORARY STABILIZATION MEASURES (SEED, MULCH, MATS OR BLANKETS AS OUTLINED IN THE SWPPP) |          |          |
| GRASS RESTORATION                                                                         |          |          |
| GRASS RESTORATION WITH WOOD FIBER MAT                                                     |          |          |

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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

### Project WATER TANK 8

### Location SHAKOPEE, MN

### Certification

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John Karwacki  
Registration No. 16532 Date: X/XX/2019  
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

### Summary

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Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

### Revision History

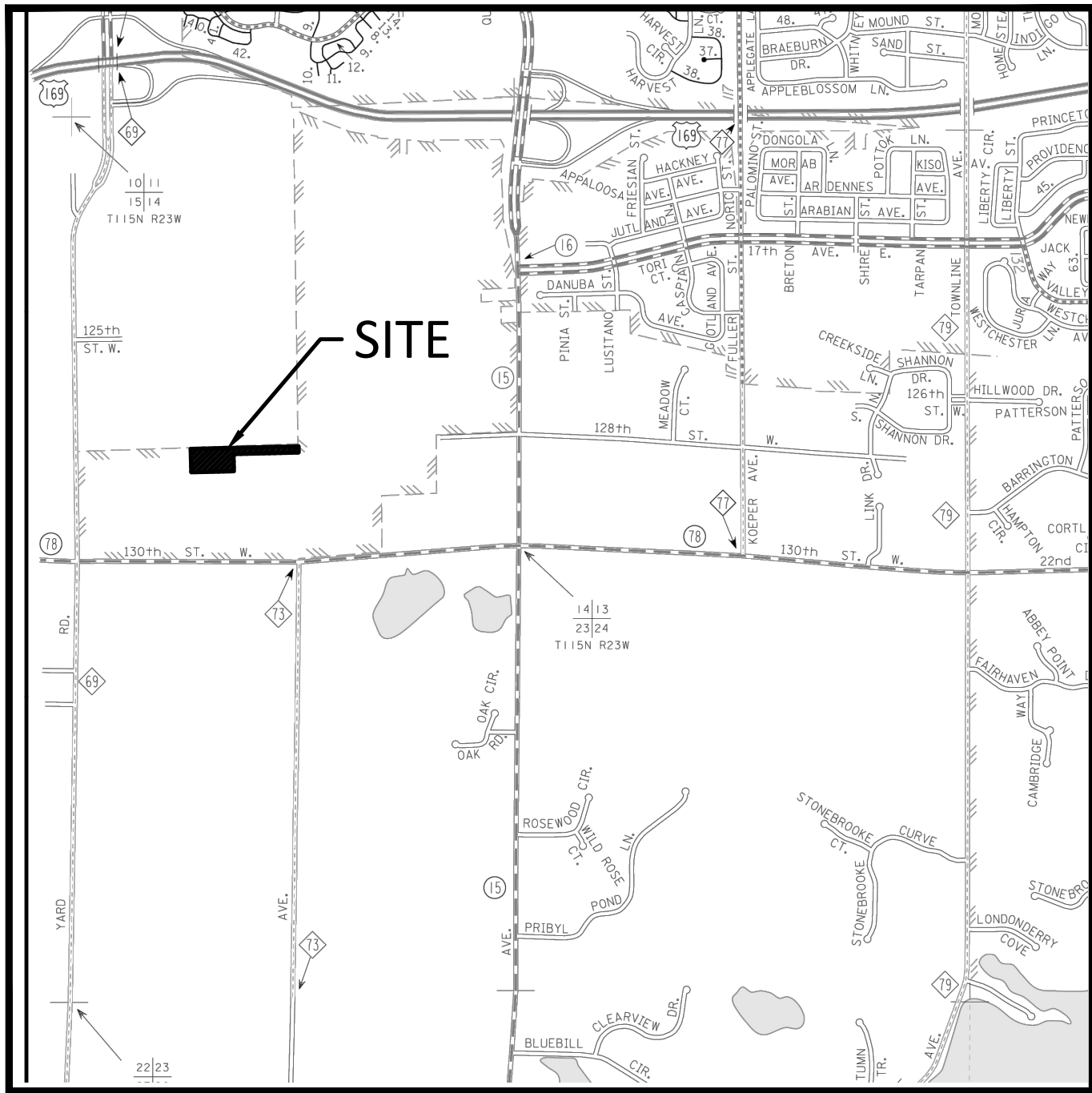
No. Date By Submittal / Revision

### Sheet Title PHASE 2 EROSION CONTROL PLAN

### Sheet No. Revision C6.02

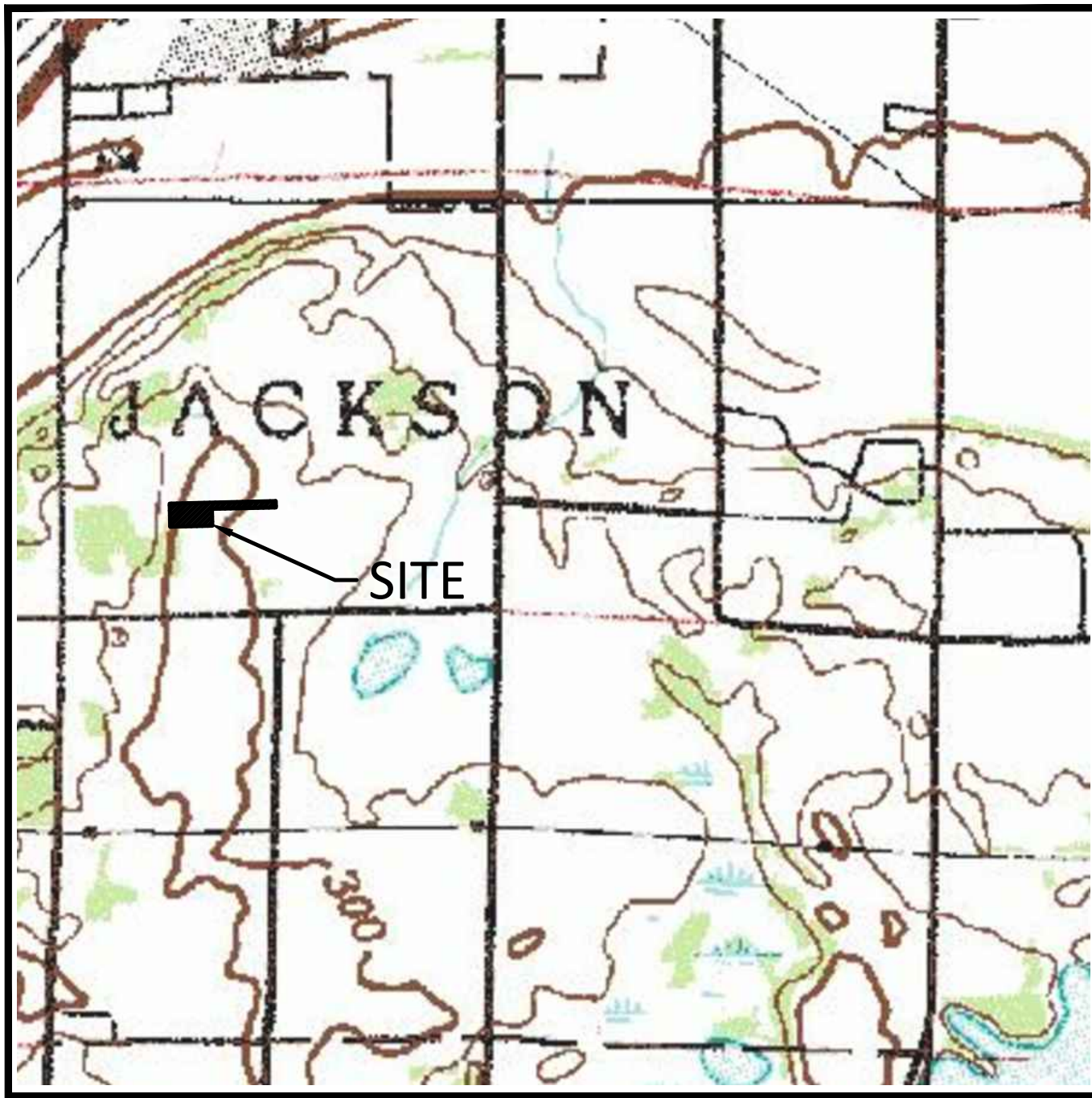
Project No. 20709.05

EROSION & SEDIMENTATION CONTROL NOTES & DETAILS / "SITE MAP"



SITE LOCATION MAP

NOT TO SCALE



USGS MAP

NOT TO SCALE

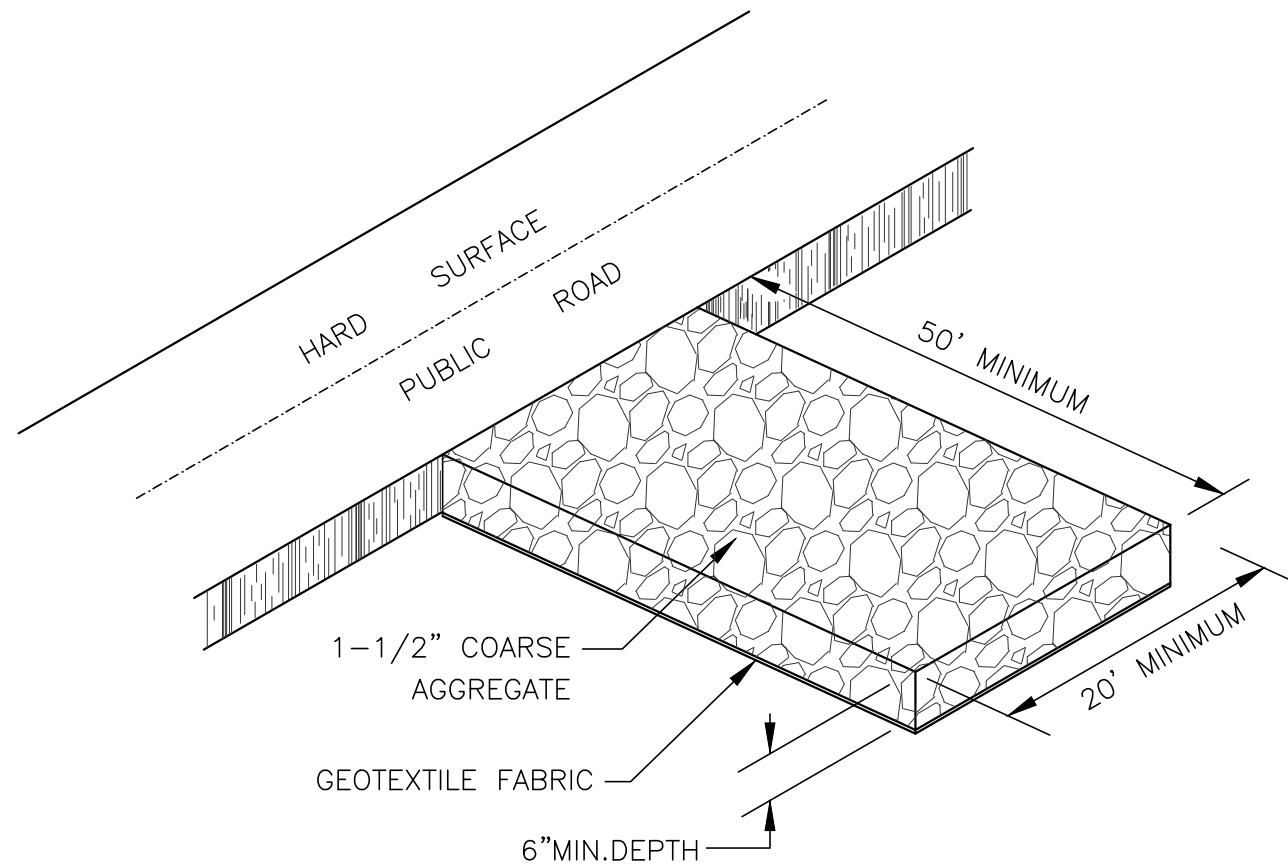
|                                                                                                 |
|-------------------------------------------------------------------------------------------------|
| OWNER:<br>SHAKOPEE PUBLIC UTILITIES<br>255 SARAZIN STREET<br>SHAKOPEE, MN 55379<br>952-445-1988 |
| SITE OPERATOR / GENERAL CONTRACTOR<br>TBD                                                       |
| SUPERINTENDENT:<br>TBD                                                                          |

GENERAL EROSION NOTES:

- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME. WHERE A CONFLICT EXISTS BETWEEN LOCAL JURISDICTIONAL STANDARD SPECIFICATIONS AND SAMBATEK STANDARD SPECIFICATIONS, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT ALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF 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 LOCATIONS OF SMALL UTILITIES SHALL BE OBTAINED BY THE CONTRACTOR BY CALLING MINNESOTA GOPHER STATE ONE CALL AT 1-800-252-1166.
- THE DESIGN SHOWN IS BASED UPON THE ENGINEER'S UNDERSTANDING OF THE EXISTING CONDITIONS. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, THEY MAY, AT THEIR EXPENSE, OBTAIN A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
- THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO OWNER'S PROPERTY AND ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES OCCURRING TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- THE EROSION CONTROL PLAN IS COMPRISED OF THIS DRAWING (EROSION & SEDIMENTATION CONTROL PLAN), THE STANDARD DETAILS, THE PLAN NOTES, AND ITS APPENDICES, PLUS ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS INDICATED ON EROSION CONTROL PLAN. THE CONTRACTOR SHALL OVERSEE THE INSPECTION & MAINTENANCE OF THE BMP'S AND EROSION PREVENTION FROM BEGINNING OF CONSTRUCTION AND UNTIL CONSTRUCTION IS COMPLETED AND APPROVED BY ALL AUTHORITIES.
- BMP'S AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TRACKED SEDIMENT FROM KELLY CIRCLE AS REQUIRED BY THE ENGINEER.
- CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE EROSION CONTROL PLANS SHALL BE CLEARLY DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS. GROUND DISTURBING ACTIVITIES MUST NOT OCCUR OUTSIDE THE LIMITS OF DISTURBANCE.
- GENERAL CONTRACTOR TO COORDINATE WITH OWNER, THE TEMPORARY PARKING AND STORAGE AREA, EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) MUST BE LIMITED TO A DEFINED AREA OF THE SITE AND SHALL BE CONTAINED AND PROPERLY TREATED OR DISPOSED. NO ENGINE DEGREASING IS ALLOWED ON SITE.
- OMITTED
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- CONTROL DUST ON THE SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- SOLID WASTE: COLLECTED SEDIMENT, ASPHALT & CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION & DEMOLITION DEBRIS & OTHER WASTES MUST BE DISPOSED OF PROPERLY & MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.
- HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT & ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE & DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, TO BE INITIATED AS SOON AS PRACTICABLE AND PRIOR TO SOIL DISTURBING ACTIVITIES.
- TEMPORARILY SEED DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED, WITHIN 14 DAYS OF INACTIVITY, IN ACCORDANCE WITH MN/DOT SEED MIXTURE NUMBER 100 OR 110 DEPENDING ON THE SEASON OF PLANTING (SEE MN/DOT SPECIFICATION SECTION 2575.3) SEEDING METHOD AND APPLICATION RATE SHALL CONFORM TO MN/DOT SPECIFICATION SECTION 2575.3. TEMPORARY MULCH TO BE APPLIED IN ACCORDANCE WITH MN/DOT SPECIFICATION SECTION 2575.3F1 AND 2575.3G. ALTERNATIVELY, HYDRAULIC SOIL STABILIZER IN ACCORDANCE WITH MN/DOT SPECIFICATION SECTION 2575.3H MAY BE USED IN PLACE OF TEMPORARY MULCH.
- CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT FROM CONVEYANCES & FROM TEMPORARY SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. SEDIMENT MUST BE STABILIZED TO PREVENT IT FROM BEING WASHED BACK INTO THE BASIN, CONVEYANCES, OR DRAINAGEWAYS DISCHARGING OFF-SITE OR TO SURFACE WATERS. THE CLEANOUT OF PERMANENT BASINS MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.
- ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BMP'S.
- TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS & CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB & GUTTER SYSTEMS OR CONDUITS & DITCHES.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, CHECK DAMS, INLET PROTECTION DEVICES, ETC.) TO PREVENT EROSION.
- ALL CONSTRUCTION TO BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

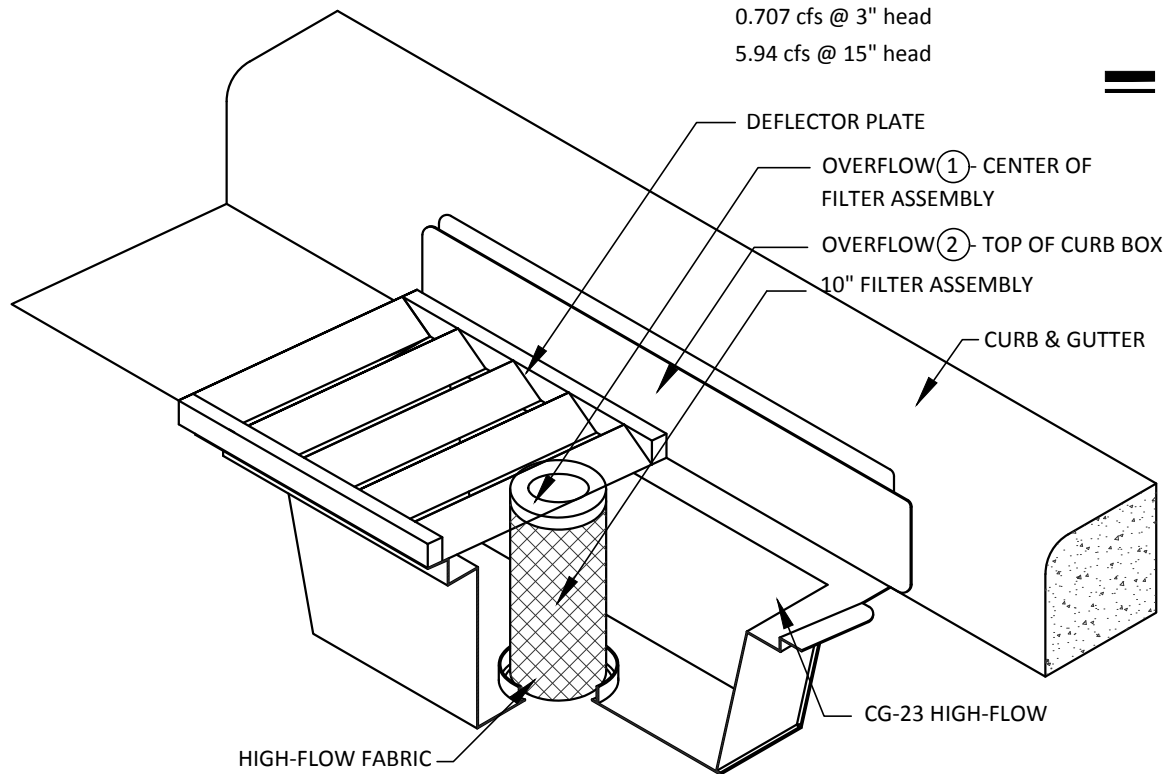
SILT FENCE - CITY DETAIL 2001

NOT TO SCALE



ROCK CONSTRUCTION ENTRANCE - CITY DETAIL 2004

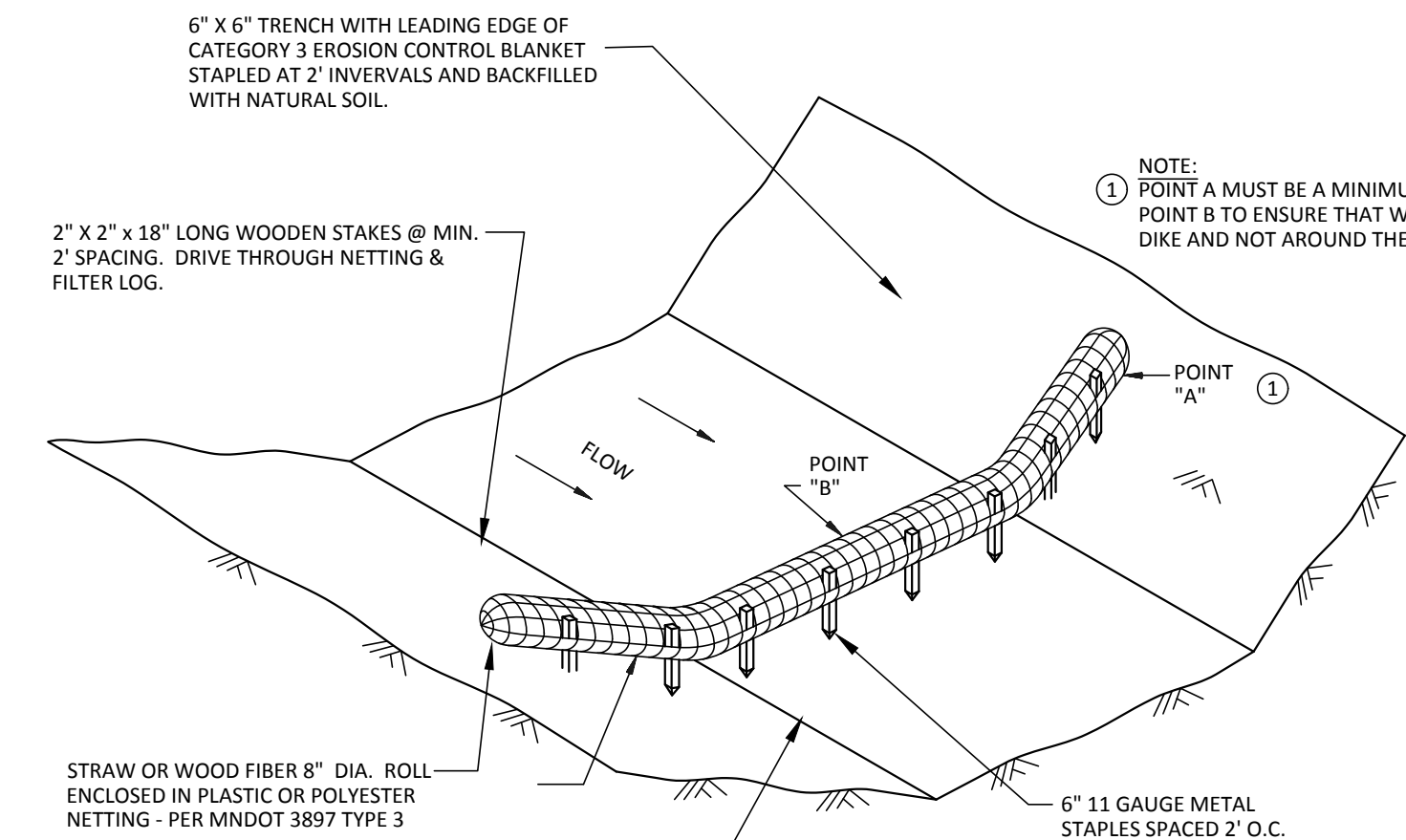
NOT TO SCALE



NOTE:  
Clean filter media after each rain event and replace if filter is clogged with sediment.  
Remove debris/sediment from receptacle after each rain event.

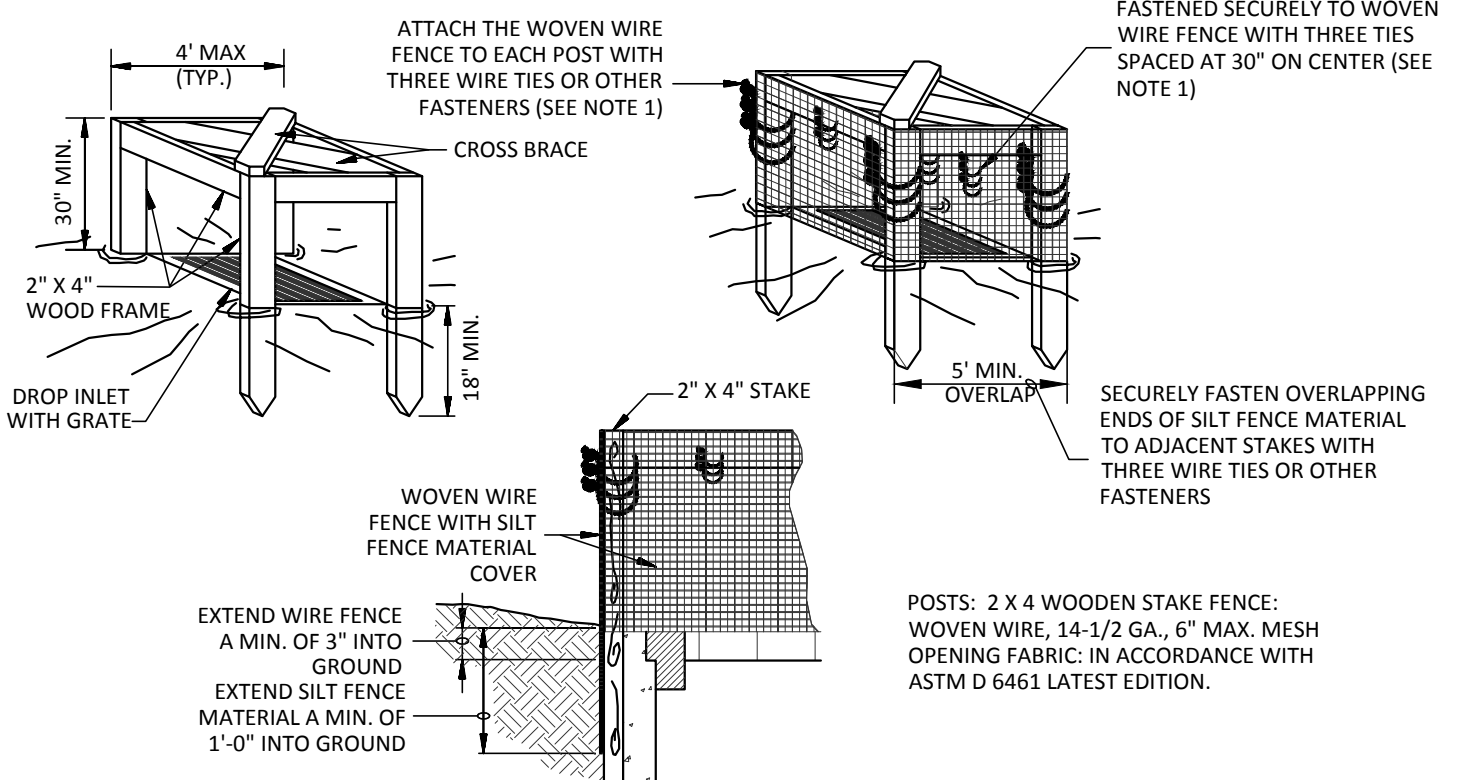
EROSION CONTROL BLANKET - CITY DETAIL 2005

NOT TO SCALE



BIO-ROLLS - CITY DETAIL 2009

NOT TO SCALE



SILT FENCE INLET PROTECTION (IP-1)

NOT TO SCALE

INLET PROTECTION SYSTEM (IP-2) - CITY DTL 2007

NOT TO SCALE

INSTALLED AS DIRECTED BY ENGINEER

Client

**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL

**Sambatek**  
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763.476.6010 telephone  
763.476.8532 facsimile

Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project  
WATER TANK 8

Location  
SHAKOPEE, MN

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

John Karwacki  
Registration No. 16532 Date: X/XX/2019

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

Revision History

No. Date By Submittal / Revision

Sheet Title  
EROSION  
CONTROL  
NOTES &  
DETAILS

Sheet No. Revision

C6.03

Project No. 20709.05

CITY REVIEW SUBMITTAL AUGUST 1, 2019

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 PROJECT/SITE INFORMATION

PROJECT/SITE NAME: WATER TOWER 8  
PROJECT STREET/LOCATION:  
CITY: SHAKOPEE  
STATE: MN  
ZIP CODE: 55379  
COUNTY: SCOTT

THIS PROJECT IS LOCATED TO THE NORTH OF THE INTERSECTION OF ZUMBRO AVE AND 130TH STREET WEST (CSAH NO. 78)

NPDES PERMIT NUMBER:

1.2 CONTACT INFORMATION/RESPONSIBLE PARTIES

COMPANY/ORGANIZATION NAME: SHAKOPEE PUBLIC UTILITIES  
CONTACT NAME: JOE ADAMS  
ADDRESS: 255 SARAZIN STREET  
CITY, STATE, ZIP CODE: SHAKOPEE, MN, 55379  
TELEPHONE NUMBER: 952-445-1988  
FAX/EMAIL:

GENERAL CONTRACTOR (TO BE COMPLETED BY GENERAL CONTRACTOR):

COMPANY/ORGANIZATION NAME:  
CONTACT NAME:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:  
INSERT AREA OF CONTROL (IF MORE THAN ONE OPERATOR AT SITE):

THE GENERAL CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE MINNESOTA GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PERMIT PROGRAM (GENERAL PERMIT). THE GENERAL CONTRACTOR MUST COMPLY WITH ANY LOCAL GOVERNING AGENCY (LGA) HAVING JURISDICTION CONCERNING EROSION AND SEDIMENT CONTROL. THE GENERAL CONTRACTOR SHALL BE REQUIRED TO BE A CO-APPLICANT WITH THE OWNER. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL DEVICES. THE "APPLICATION FOR GENERAL STORM-WATER PERMIT FOR CONSTRUCTION ACTIVITY (MN R100001)" SHALL BE COMPLETED BY THE GENERAL CONTRACTOR AND SUBMITTED ONLINE, ALONG WITH THE REQUIRED APPLICATION FEE, THROUGH THE MPCA'S WEBSITE.

UNLESS NOTIFIED BY THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) TO THE CONTRARY, APPLICANTS WHO SUBMIT A COMPLETE APPLICATION FORM IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT ARE AUTHORIZED TO DISCHARGE STORM WATER FROM THE CONSTRUCTION SITE UNDER THE TERMS AND CONDITIONS OF THIS PERMIT SEVEN (7) CALENDAR DAYS THE ONLINE APPLICATION PROCESS IS COMPLETE(HTTPS://NETWEB.PCA.STATE.MN.US/PRIVATE/).

ADDITIONALLY, AUTHORIZATION WILL BE DELAYED UNDER THE FOLLOWING CIRCUMSTANCES:

- IF THE PROJECT DISTURBS 50 ACRES OR MORE AND HAS A DISCHARGE POINT WITHIN 1 MILE AND FLOWS TO AN IMPAIRED OR SPECIAL WATER WHOSE DISCHARGE MAY REACH AN IMPAIRED OR SPECIAL WATER LISTED IN SECTION 23 OF THE GENERAL PERMIT THE APPLICANT SHALL SUBMIT THE STORM WATER POLLUTION PREVENTION PLAN AND A COMPLETED APPLICATION AT LEAST 30 CALENDAR DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. UNLESS NOTIFIED BY THE MPCA TO THE CONTRARY, COVERAGE BECOMES EFFECTIVE 30 CALENDAR DAYS AFTER THE POSTMARKED DATE OF THE COMPLETED APPLICATION.
- IF THE PROJECT INCLUDES ALTERNATIVE METHODS THE APPLICATION AND TWO ALTERNATIVE TREATMENT PLANS MUST BE SUBMITTED A MINIMUM OF 90 DAY BEFORE CONSTRUCTION STARTS.

EROSION & SEDIMENT CONTROL SUBCONTRACTOR (RESPONSIBLE FOR IMPLEMENTING & UPDATING SWPPP - TO BE COMPLETED BY CONTRACTOR):

COMPANY/ORGANIZATION NAME:  
CONTACT NAME:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:

EROSION & SEDIMENT CONTROL INSPECTOR (SEE PART 6.1 OF THIS SWPPP FOR MORE INFORMATION ON INSPECTION RESPONSIBILITIES- TO BE COMPLETED BY CONTRACTOR):

COMPANY/ORGANIZATION NAME:  
CONTACT NAME:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:

GROUND DISTURBING SUBCONTRACTOR(S):

COMPANY/ORGANIZATION NAME:  
CONTACT NAME:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:

THE GENERAL CONTRACTOR SHALL PROVIDE A CHAIN OF RESPONSIBILITY WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE AND THE NOT SUBMITTED.

THIS SWPPP WAS PREPARED BY:

COMPANY/ORGANIZATION NAME:  
CONTACT NAME:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:

SWPPP DESIGNER CERTIFICATION CARD:

1.3 NATURE OF CONSTRUCTION ACTIVITY

NATURE OF CONSTRUCTION:

THIS SWPPP HAS BEEN PREPARED FOR MAJOR ACTIVITIES ASSOCIATED WITH CONSTRUCTION OF WATER TOWER 8 IN SHAKOPEE, MN. CONSTRUCTION ACTIVITY WILL INCLUDE INSTALLATION OF A WATER TOWER, ACCESS ROAD, AND BMPS.

ANTICIPATED APPROXIMATE TIMELINES:

ESTIMATED PROJECT START DATE: SPRING 2020  
ESTIMATED PROJECT COMPLETION DATE: FALL 2020

1.4 SOILS, SLOPES, VEGETATION, AND CURRENT DRAINAGE PATTERNS

SOIL TYPE(S):

PER THE WEB SOIL SURVEY, SOILS ON SITE ARE PRIMARILY HAYDEN LOAMS, WHICH MAY BE CLASSIFIED AS HYDROLOGIC SOIL GROUP C SOILS. THESE SOILS HAVE SLOW INFILTRATION RATES.

SLOPES:

HIGH GROUND EXISTS AT THE WESTERN PROJECT AREA BOUNDARY, WITH EXISTING SLOPES DRAINING TO THE EAST. CURRENT SLOPES RANGE FROM 4-10% AND ARE GENERALLY MINOR. PROPOSED SLOPES WILL MATCH EXISTING WHENEVER POSSIBLE.

DRAINAGE PATTERNS:

THE SITE DRAINS OFFSITE TO THE NORTH EAST. PROPOSED GRADE WILL DRAIN TO WET SEDIMENTATION BASIN LOCATED ON SITE.

VEGETATION:

THE PROJECT IS CURRENTLY FARMED LAND. THERE ARE NO EXISTING IMPERVIOUS SURFACES WITHIN THE PROJECT BOUNDARY. THE PROPOSED SITE WILL BE SEEDED WITH NATIVE GRASSES AND PERIMETER POLLINATOR MIX AND A GRAVEL ACCESS ROAD WILL BE CONSTRUCTED TO THE WEST OF THE SITE.

RAINFALL INFORMATION:

RAINFALL INFORMATION - THE AVERAGE TOTAL ANNUAL PRECIPITATION IS ABOUT 28.32 INCHES. OF THIS ABOUT 17.31 INCHES, OR 61 PERCENT, USUALLY FALLS IN MAY THROUGH SEPTEMBER. THE AVERAGE ANNUAL SNOWFALL IS 57.3 INCHES.

1.5 CONSTRUCTION SITE ESTIMATES

PROJECT AREA SUMMARY:

TOTAL PROJECT AREA: 7.02 ACRES  
CONSTRUCTION SITE AREA TO BE DISTURBED: 4.71 ACRES

IMPERVIOUS AREAS:

IMPERVIOUS AREA BEFORE CONSTRUCTION (ACRES): 0.00  
IMPERVIOUS AREA AFTER CONSTRUCTION (ACRES): 0.74

1.6 RECEIVING WATERS

CONSTRUCTION PHASE STORM WATER SYSTEM DESCRIPTION:

THE STORM SEWER DRAINAGE SYSTEM RUNOFF FROM THE SITE WILL DRAIN TO THE LOWER MINNESOTA RIVER DURING CONSTRUCTION.

DESCRIPTION OF RECEIVING WATERS:

A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH TOOL (HTTPS://PCA-GIS02.PCA.STATE.MN.US/CSW/INDEX.HTML). NO SURFACE WATERS WERE LISTED WITHIN ONE MILE OF THE DISCHARGE POINT.

1.7 SITE FEATURES AND SENSITIVE AREAS TO BE PROTECTED

THERE ARE NO SITE FEATURES AND SENSITIVE AREAS TO BE PROTECTED.

1.8 POTENTIAL SOURCES OF POLLUTION

POTENTIAL SOURCES OF SEDIMENT AND OTHER POLLUTANTS TO STORMWATER RUNOFF:

CONSTRUCTION PHASE POLLUTANT SOURCES ANTICIPATED AT THE SITE ARE DISTURBED (BARE) SOIL, VEHICLE FUELS AND LUBRICANTS, CHEMICALS ASSOCIATED WITH BUILDING CONSTRUCTION, AND BUILDING MATERIALS. WITHOUT ADEQUATE CONTROL THERE IS THE POTENTIAL FOR EACH TYPE OF POLLUTANT TO BE TRANSPORTED BY STORM WATER.

1.9 ENDANGERED/THREATENED SPECIES

THE RUSTY PATCHED BUMBLE BEE (BOMBUS AFFINIS) IS AN ENDANGERED SPECIES LOCATED WITHIN SCOTT COUNTY. IT IS KNOWN TO EXIST WITHIN GRASSLANDS WITH FLOWERING PLANTS. A COUNTY DISTRIBUTION OF FEDERALLY-LISTED THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE SPECIES CAN BE FOUND AT HTTP://WWW.FWS.GOV/MIDWEST/ENDANGERED/LISTS/MINNESOT-SPP.HTML; THE MINNESOTA NATIONAL HERITAGE INFORMATION SYSTEM (NHIS) DATA REQUEST FORM CAN BE FOUND AT HTTP://FILES.DNR.STATE.MN.US/ECO/NHNRP/NHIS\_DATA\_REQUEST.PDF

1.10 HISTORIC PRESERVATION

THERE ARE NO KNOWN HISTORIC SITES ON OR NEAR THE CONSTRUCTION SITE.

1.11 APPLICABLE FEDERAL, TRIBAL, STATE OR LOCAL PROGRAMS

LOCAL GOVERNING UNIT (LGU) REQUIREMENTS:

THE PROJECT IS LOCATED WITHIN THE CITY OF SHAKOPEE OF WHICH IS AN MS4. ADDITIONALLY, THE PROJECT IS LOCATED WITHIN THE JURISDICTION OF THE LOWER MINNESOTA RIVER WATERSHED DISTCT. THE PROJECT HAS BEEN DESIGNED TO BE COMPLIANT WITH LOCAL REGULATIONS.

1.12 MITIGATION MEASURES FROM ENVIRONMENTAL REVIEWS/TMDLS/IMPAIRED WATERS

1.13 MAPS

EROSION AND SEDIMENT CONTROL PLANS:

THE FOLLOWING SITE DEVELOPMENT PLAN SHEETS ARE AN INTEGRAL PART OF THIS SWPPP:

- C-6.01 - PHASE I EROSION AND SEDIMENTATION CONTROL PLAN/"SITE MAP"
- C-6.02 - PHASE II EROSION AND SEDIMENTATION CONTROL PLAN/"SITE MAP"
- C-6.03 - EROSION AND SEDIMENTATION CONTROL DETAILS & NOTES/"SITE MAP"

SHOW THE FOLLOWING ON THE EROSION AND SEDIMENT CONTROL PLANS:

- EXISTING AND FINAL GRADES
- DIVIDING LINES AND DIRECTION OF FLOW FOR ALL PRE AND POST-CONSTRUCTION STORM WATER RUNOFF DRAINAGE AREAS LOCATED WITHIN THE PROJECT LIMITS
- IMPERVIOUS SURFACE AREAS (PRE- AND POST-CONSTRUCTION AREA TABULATIONS)
- SOIL TYPES
- DELINEATED WETLAND LOCATIONS WITHIN ONE MILE OF THE PROJECT BOUNDARIES, WHICH WILL RECEIVE STORM WATER RUNOFF FROM THE SITE, (IF NOT POSSIBLE TO SHOW ON THE PLAN SHEET, THEY MUST BE IDENTIFIED WITH AN ARROW INDICATING BOTH DIRECTION AND DISTANCE TO THE SURFACE WATER, OR ON A USGS 7.5 MINUTE QUADANGLE MAP OR EQUIVALENT)
- LOCATION AND TYPE OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, INCLUDING METHODS FOR FINAL STABILIZATION
- BOUNDARIES OF DISTURBED CONSTRUCTION AREAS
- PHASING OF CONSTRUCTION IN ORDER TO MINIMIZE DURATION OF EXPOSED SOILS
- STANDARD PLATES/SPECS FOR PROPOSED BMPS

- SEDIMENT CONTROL PRACTICES FOR PROPOSED TEMPORARY OR PERMANENT DRAINAGE DITCHES WHERE APPROPRIATE
- ESTIMATED PRELIMINARY QUANTITIES TABULATION FOR TEMPORARY BMPS
- ANY AREAS THAT ARE ADJACENT TO AND DRAIN TO PUBLIC WATERS FOR WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS"
- BUFFERS
- STEEP SLOPES
- MAINTENANCE PLANS FOR PERMANENT STORMWATER SYSTEMS
- KARST AREAS

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

EROSION CONTROL BMPS:

THE PURPOSE OF EROSION CONTROL IS TO PREVENT SOIL PARTICLES FROM BECOMING SUSPENDED IN WATER AND BEING TRANSPORTED TO EITHER DOWNSTREAM SURFACE WATERS OR DOWNSTREAM PROPERTIES.

APPROPRIATE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION MUST BE PLANNED FOR AND IMPLEMENTED.

IN THE NATURAL CONDITION, SOIL IS STABILIZED BY NATIVE VEGETATION. THE PRIMARY TECHNIQUE TO BE USED AT THIS PROJECT FOR FINAL STABILIZATION OF SITE SOIL WILL BE TO PROVIDE A PROTECTIVE COVER OF VEGETATION, PAVEMENT, OR BUILDING.

ALL EXPOSED AREAS MUST BE STABILIZED AS SOON AS POSSIBLE (BUT NO LATER THAN THE NEXT WORK DAY) TO LIMIT SOIL EROSION, BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G. CLEAN AGGREGATED STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT, BUT MUST COMPLY WITH SECTION 2.7 OF THIS SWPPP (SECTION 8.4, 9.9, 9.10, AND 23.9 OF THE GENERAL PERMIT).

SEDIMENT CONTROL BMPS:

THE PURPOSE OF SEDIMENT CONTROL IS TO PREVENT SOIL PARTICLES THAT HAVE BEEN SUSPENDED IN WATER FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS. SEDIMENT CONTROL BMPS HAVE BEEN DESIGNED AS PART OF THIS SWPPP.

IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ADDITIONAL UP GRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE THE OVERLOADING AND MUST AMEND THE SWPPP TO IDENTIFY THE ADDITIONAL PRACTICES.

SEDIMENT CONTROL PRACTICES MUST ALWAYS BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS AND BE LOCATED UPGRADIENT TO ANY BUFFER ZONES. THE PERIMETER SEDIMENT CONTROL PRACTICES MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED (SEE SECTION 8 OF THIS SWPPP).

THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE RE-INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT RAIN EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

2.1 MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL

PHASE I:

- INSTALL STABILIZED CONSTRUCTION ENTRANCES.
- CONSTRUCT THE SILT FENCES ON THE SITE.
- INSTALL CB INSERTS.

- HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEERING CONSULTANT TO PERFORM INSPECTION OF BMPS. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.

PHASE II:

- MAINTAIN CB INSERTS.
- INSTALL WATERMAIN.
- GRADE ACCESS DRIVEWAY.
- GRADE NORTH DITCH AND STABILIZE WITH TURF AND EC MATS, BIOROLLS, AND SILT FENCE.
- WATER TANK CONSTRUCTION.
- GRADE SOUTH DITCH AND STORMWATER BAS. STABILIZE WITH TURF AND EC MATTS, BIOROLLS, AND SILT FENCE.
- INSTALL STORMSEWER.

2.2 PRESERVE 50 FOOT NATURAL BUFFER

THE CONTRACTOR MUST PRESERVE A 50 FOOT NATURAL BUFFER WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECTS EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER. THE CONTRACTOR IS NOT REQUIRED TO ENHANCE THE QUALITY OF THE VEGETATION THAT ALREADY EXISTS IN THE BUFFER OR PROVIDE VEGETATION IF NONE EXISTS.

2.3 CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT

MEASURES SHOULD BE TAKEN TO ENSURE THAT "CLEAN" RUNOFF FROM OFF SITE IS DIVERTED AROUND DISTURBED AREAS ON SITE. CARE SHOULD BE TAKEN THAT RE-ROUTING OFF SITE RUNOFF DOES NOT RESULT IN FLOODING OR OTHER ISSUES ON ADJACENT PROPERTIES.

2.4 STABILIZE SOILS

- TEMPORARY SEEDING - DISTURBED AREAS THAT ARE NOT YET AT FINAL GRADE BUT THAT WILL NOT BE ACTIVELY WORKED FOR 14 DAYS OR MORE MUST BE TEMPORARILY STABILIZED. TEMPORARY STABILIZATION MUST BE INITIATED IMMEDIATELY WHERE WORK HAS TEMPORARILY CEASED AND MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER WORK IN THAT PORTION OF THE SITE HAS TEMPORARILY CEASED. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH MN/DOT SEED MIXTURE NUMBER 21-111 OR 21-112 DEPENDING ON THE SEASON OF PLANTING (SEE MN/DOT SPECIFICATION SECTION 2575.3) SEEDING METHOD AND APPLICATION RATE SHALL CONFORM TO MN/DOT SPECIFICATION SECTION 2575.3. TEMPORARY MULCH SHALL BE APPLIED IN ACCORDANCE WITH MN/DOT SPECIFICATION SECTION 2575.3C. ALTERNATIVELY, HYDRAULIC SOIL STABILIZER IN ACCORDANCE WITH MN/DOT SPECIFICATION SECTION 2575.3E MAY BE USED IN PLACE OF TEMPORARY MULCH.
- PERMANENT STABILIZATION - ALL AREAS AT FINAL GRADE MUST BE STABILIZED WITHIN 14 DAYS AFTER COMPLETION OF THE MAJOR CONSTRUCTION ACTIVITY. PERMANENT STABILIZATION MUST BE INITIATED IMMEDIATELY WHERE WORK HAS PERMANENTLY CEASED AND MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED. SEEDED AREAS SHALL BE PROTECTED WITH MULCH. PERMANENT MULCH SHALL CONFORM TO MN/DOT SPECIFICATION 3882, TYPE 3 AT 2 TONS/ACRE AND SHALL BE DISK ANCHORED. HYDRAULIC SOIL STABILIZER MAY BE USED IN PLACE OF MULCH IF APPROVED BY CIVIL ENGINEER. IF HYDRAULIC SOIL STABILIZER IS USED, IT SHALL BE MN/DOT TYPE 6.

PERMANENT STABILIZATION WILL CONSIST OF THE MN SEED MIX 25142, AS OUTLINED IN THE LANDSCAPING PLANS.

2.5 PROTECT SLOPES

STEEP SLOPE AREAS - THE CONTRACTOR MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT THAT HAVE STEEP SLOPES (3:1 OR STEEPER), FOR THOSE SLOPED AREAS WHICH MUST BE DISTURBED, THE CONTRACTOR MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES, SUCH AS DRAINING AND TERRACING. SLOPES STEEPER THAN 3:1 MUST BE PROTECTED BY EROSION CONTROL BLANKETS.

BMP DESCRIPTION: EROSION CONTROL BLANKET

INSTALLATION SCHEDULE: INSTALL EROSION CONTROL BLANKETS AS SHOWN ON THE SWPPP PLAN SHEETS, AND AS NEEDED THROUGHOUT CONSTRUCTION, WITHIN THE TIMEFRAME ALLOWED FOR STABILIZATION AFTER WORK HAS CEASED IN AN AREA, DEPENDING ON THE LOCATION (I.E. 24 HOURS, 7 DAYS, 14 DAYS)

MAINTENANCE AND INSPECTION REQUIREMENTS: TO FUNCTION PROPERLY, EROSION CONTROL BLANKETS MUST BE IN CONTACT WITH THE SOIL BENEATH THE BLANKET. BLANKETS MUST BE SECURED PER THE CONSTRUCTION DETAIL PROVIDED WITH THE SWPPP PLAN SHEETS. INSPECT BLANKETS EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. REPAIR, REPLACE, OR SUPPLEMENT NON-FUNCTIONAL BLANKETS WITHIN 3 DAYS OR BY THE NEXT RAIN EVENT, WHICHEVER COMES FIRST.

RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):

2.6 PROTECT STORM DRAIN INLETS

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE MEANS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND PERMITTEE(S) HAVE RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MNDOT/ETC.) VERIFYING THE NEED FOR REMOVAL. THE WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THIS SWPPP.

BMP DESCRIPTION: SILT FENCE INLET PROTECTION

INSTALLATION SCHEDULE: INSTALL INLET PROTECTION IN EXISTING STRUCTURES AS DIRECTED ON THE SWPPP PLAN SHEETS, AND AS NEEDED THROUGHOUT CONSTRUCTION, PRIOR TO BEGINNING GROUND DISTURBING ACTIVITIES UP GRADIENT OF THE INLET. INSTALL INLET PROTECTION ON NEW STRUCTURES AS SOON AS THE STRUCTURES ARE PUT INTO USE.

MAINTENANCE AND INSPECTION REQUIREMENTS: INSPECT SILT FENCE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. SEDIMENT ACCUMULATIONS SHOULD BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 1/2 THE HEIGHT OF THE SILT FENCE. THIS MAINTENANCE MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY.

RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):

BMP DESCRIPTION: INLET PROTECTION (INLET INSERT DEVICE)

INSTALLATION SCHEDULE: INSTALL INLET PROTECTION IN EXISTING STRUCTURES AS DIRECTED ON THE SWPPP PLAN SHEETS, AND AS NEEDED THROUGHOUT CONSTRUCTION, PRIOR TO BEGINNING GROUND DISTURBING ACTIVITIES UP GRADIENT OF THE INLET. INSTALL INLET PROTECTION ON NEW STRUCTURES AS SOON AS THE STRUCTURES ARE PUT INTO USE.

MAINTENANCE AND INSPECTION REQUIREMENTS: INSPECT INLET PROTECTION EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. SEDIMENT ACCUMULATIONS SHOULD BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 1/2 THE CAPACITY OF THE DEVICE, OR, IF MORE STRINGENT, IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. THIS MAINTENANCE MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY.

RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE)

2.7 ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS

ALL STRUCTURAL SEDIMENT CONTROLS INTENDED TO RECEIVE AND TREAT CONSTRUCTION RUNOFF MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND ALTERATION CAN BEGIN AND MUST STAY IN OPERATION UNTIL FINAL STABILIZATION OF THE SITE HAS BEEN ACHIEVED.

TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN ANY NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.

BMP DESCRIPTION: SILT FENCE

INSTALLATION SCHEDULE: INSTALL SILT FENCE AS DIRECTED ON THE SWPPP PLAN SHEETS, AND AS NEEDED THROUGHOUT CONSTRUCTION, PRIOR TO COMMENCING UP GRADIENT LAND DISTURBING ACTIVITIES.

MAINTENANCE AND INSPECTION REQUIREMENTS: INSPECT SILT FENCE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. SEDIMENT ACCUMULATIONS SHOULD BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 1/2 THE HEIGHT OF THE SILT FENCE. THIS MAINTENANCE MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY.

RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):

BMP DESCRIPTION: BIOLOGS

INSTALLATION SCHEDULE: INSTALL BIOLOGS AS DIRECTED ON THE SWPPP PLAN SHEETS, AND AS NEEDED THROUGHOUT CONSTRUCTION, PRIOR TO COMMENCING UP GRADIENT LAND DISTURBING ACTIVITIES.

MAINTENANCE AND INSPECTION REQUIREMENTS: INSPECT BIOLOGS EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. SEDIMENT ACCUMULATIONS SHOULD BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 1/2 THE HEIGHT OF THE BIOLOG. THIS MAINTENANCE MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY.

RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):

2.8 RETAIN SEDIMENT ON-SITE

ANY OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACT (E.G. FUGITIVE SEDIMENT IN STREETS COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS. TEMPORARY SEDIMENTATION BASINS AND SEDIMENT TRAPS ARE TO BE UTILIZED DURING CONSTRUCTION TO CAPTURE AND TREAT SEDIMENT LADEN RUN OFF. THE TEMPORARY SEDIMENTATION BASINS HAVE BEEN DESIGNED TO THE OUTLET STRUCTURE MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE IN ACCORDANCE WITH SECTION 14.5 AND 14.6 OF THE GENERAL PERMIT. PERMITTEES MUST PROVIDE ENERGY DISSIPATION FOR THE BASIN OUTLET WITHIN 24 HOURS AFTER A CONNECTION TO A SURFACE WATER (SECTION 14.7 OF THE GENERAL PERMIT)

BMP DESCRIPTION: TEMPORARY SEDIMENTATION BASIN

INSTALLATION SCHEDULE: INSTALL TEMPORARY SEDIMENTATION BASIN PRIOR TO BEGINNING UPSLOPE LAND DISTURBING ACTIVITIES. IF THIS IS NOT POSSIBLE DUE TO EXISTING TOPOGRAPHY, LIMIT DISTURBANCE TO ONLY THOSE AREAS NECESSARY TO INSTALL TEMPORARY SEDIMENTATION BASIN.

MAINTENANCE AND INSPECTION REQUIREMENTS: INSPECT TEMPORARY SEDIMENTATION BASINS EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT.

Client



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PROJECT MANAGER: JOHN KARWACKI P.E.

Project  
WATER TANK 8

Location  
SHAKOPEE, MN

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

John Karwacki  
Registration No. 16532 Date: X/XX/2019

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

Revision History  
No. Date By Submittal / Revision

Sheet Title  
SWPPP  
NARRATIVE

Sheet No. Revision  
C6.04  
Project No. 20709.05

## 2.10 CONTROL STORMWATER DISCHARGE POINTS

- PIPE OR OTHER TEMPORARY OR PERMANENT OUTLETS MUST BE STABILIZED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.
- STABILIZE THE NORMAL WETTED PERIMETER OF A DRAINAGE DITCH OR SWALE WITHIN 200 FEET OF THE PROPERTY EDGE WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER. THE REMAINDER OF THE DITCH MUST BE STABILIZED WITHIN 14 CALENDAR DAYS OF CONNECTION.

**BMP DESCRIPTION:** RIPRAP

**INSTALLATION SCHEDULE:** INSTALL RIPRAP AS SHOWN ON SWPPP PLANS AND/OR GRADING PLANS. INSTALLATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER.

**MAINTENANCE AND INSPECTION REQUIREMENTS:** INSPECT OUTLETS EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. REPAIR, REPLACE OR SUPPLEMENT NON-FUNCTIONING RIPRAP ENERGY DISSIPATION WITHIN 3 DAYS OR BY THE NEXT RAIN EVENT, WHICHEVER COMES FIRST. ANY OFF SITE ACCUMULATION OF SEDIMENT MUST BE REMOVED IN MANNER AND AT A FREQUENCY TO MINIMIZE OFF-SITE IMPACTS.

**RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):**

## 2.11 CHEMICAL EROSION AND SEDIMENT CONTROL BMPS

POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS MUST BE APPLIED AFTER CONVENTIONAL EROSION AND SEDIMENT CONTROL DEVICES ARE UTILIZED. CHEMICALS MAY ONLY BE APPLIED WHERE TREATED STORMWATER IS DIRECTED TO A SEDIMENT CONTROL SYSTEM WHICH ALLOWS FOR FILTRATION OR SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE. CONSIDERATION MUST BE GIVEN WHEN SELECTING CHEMICALS TO THE EXPECTED SOIL TYPES TO BE EXPOSED DURING CONSTRUCTION, AND TO THE EXPECTED TURBIDITY, PH AND FLOW RATE OF STORMWATER FLOWING INTO THE CHEMICAL TREATMENT SYSTEM OR AREA. IF CHEMICALS ARE PART OF THE EROSION CONTROL PLAN, THEY MUST BE USED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, AND WITH DOSING SPECIFICATION AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER OR PROVIDER/SUPPLIER OF THE APPLICABLE CHEMICALS.

## 2.13 ADDITIONAL EROSION AND SEDIMENT CONTROL BMPS

## SECTION 3: DEWATERING & BASIN DRAINING

### 3.1 DEWATERING AND BASIN DRAINING

ALLOWABLE NON-STORMWATER DISCHARGES, AS DEFINED BY THE GENERAL PERMIT, ARE LIMITED TO DEWATERING AND BASIN DRAINING. DEWATERING OR BASIN DRAINING THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPS, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS. ALL WATER FROM DEWATERING OR BASIN DRAINING MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT TO THE WETLAND. IF THE CONTRACTOR ELECTS TO UTILIZE FILTERS WITH BACKWASH WATER, THE CONTRACTOR MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. THE CONTRACTOR MUST REPLACE AND CLEAN THE FILTER MEDIA USED IN DEWATERING DEVICES WHEN REQUIRED TO RETAIN ADEQUATE FUNCTION. CONTRACTOR SHALL OBTAIN A WATER USE (APPROPRIATION) PERMIT FROM THE MINNESOTA DNR FOR DEWATERING ACTIVITIES THAT WILL WITHDRAW MORE THAN 10,000 GALLONS OF WATER PER DAY OR 1 MILLION GALLONS PER YEAR.

## SECTION 4: GOOD HOUSEKEEPING BMPS

### 4.1 MATERIAL HANDLING AND WASTE MANAGEMENT

- SOLID WASTE DISPOSAL** - NO SOLID MATERIALS, INCLUDING CONSTRUCTION AND DEMOLITION MATERIALS, COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, SHALL BE ALLOWED TO BE CARRIED FROM THE SITE WITH STORM WATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED PERIODICALLY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE. DISPOSAL OF SOLID WASTES MUST COMPLY WITH MPCA REQUIREMENTS.
- GROUNDWATER PROTECTION** - SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY WHATEVER MEANS NECESSARY IN ORDER TO ENSURE THAT THEY DO NOT DISCHARGE FROM THE SITE. AS AN EXAMPLE, SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED OF SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHOULD BE HANDLED IN A MANNER CONSISTENT WITH THE IMPACT THEY REPRESENT.
- SANITARY FACILITIES** - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY SEPTIC SYSTEM REGULATIONS. PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE WHERE REQUIRED BY STATE OR LOCAL REGULATIONS. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND BE SERVICED BY A COMMERCIAL OPERATOR.

### 4.2 ESTABLISH PROPER STORAGE, HANDLING & DISPOSAL PRACTICES

HAZARDOUS MATERIALS & TOXIC WASTE (INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) MUST BE STORED IN WATERPROOF CONTAINERS WITH SECONDARY CONTAINMENT. AND THEIR LOCATION(S) MUST BE NOTED ON THE SWPPP MAP. EXCEPT DURING APPLICATION, THE CONTENTS MUST BE KEPT IN TRUCKS OR WITHIN STORAGE FACILITIES IN ACCORDANCE WITH SECTION 12.4 OF THE GENERAL PERMIT. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS. RUNOFF CONTAINING SUCH MATERIAL MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED, AND DISPOSED AT AN APPROVED SOLID WASTE OR CHEMICAL DISPOSAL FACILITY.

BUILDING PRODUCTS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS AND PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS AND LANDSCAPE MATERIALS MUST BE UNDER COVER BY PLASTIC SHEETING OR TEMPORARY ROOFS TO PREVENT DISCHARGE, OR PROTECTED BY SIMILAR EFFECTIVE MEANS TO PREVENT CONTACT WITH STORMWATER.

### 4.3 DESIGNATE WASHOUT AREAS

THE CONTRACTOR SHALL DESIGNATE AREAS FOR CONCRETE AND OTHER (STUCCO, PAINT, FOR RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS RELATED TO THE CONSTRUCTION ACTIVITY) WASHOUTS, AND NOTE THE LOCATIONS ON THE SITE MAP.

ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK PROOF CONTAINMENT FACILITY OR IMPERMEABLE LAYER. A COMPACTED CLAY LINER IS NOT AN ACCEPTABLE IMPERMEABLE LAYER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTE MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM SITE WORKERS TO UTILIZE PROPER FACILITIES FOR DISPOSAL OF CONCRETE AND OTHER WASTES.

**BMP DESCRIPTION:** CONCRETE WASHOUT

**INSTALLATION SCHEDULE:** PRIOR TO CONCRETE WORK.

**MAINTENANCE AND INSPECTION REQUIREMENTS:** INSPECT CONCRETE WASHOUTS FOR EVIDENCE OF DISCHARGE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER A 0.5" 24-HOUR RAIN EVENT. REPAIR, REPLACE OR SUPPLEMENT NON-FUNCTIONING CONCRETE WASHOUTS WITHIN 3 DAYS OR BY THE NEXT USE, WHICHEVER COMES FIRST.

**RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):**

### 4.4 ESTABLISH PROPER EQUIPMENT/VEHICLE FUELING AND MAINTENANCE PRACTICES

THE CONTRACTOR SHALL DESIGNATE AREAS FOR EQUIPMENT FUELING, CLEANING, MAINTENANCE AND REPAIR, AND NOTE THE LOCATION(S) ON THE SWPPP SITE MAPS. RUNOFF MUST BE CONTAINED WITHIN THE DESIGNATED AREAS (I.E. THROUGH USE OF A TEMPORARY BERM). THE AREAS MUST NOT BE LOCATED IN ANY SURFACE WATER. SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED OF SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. NO ENGINE DEGREASING IS ALLOWED ON SITE.

### 4.5 CONTROL EQUIPMENT/VEHICLE WASHING

THE CONTRACTOR SHALL DESIGNATE LOCATION(S) FOR VEHICLE WASHING, AND NOTE THE LOCATION(S) ON THE SWPPP SITE MAP. RUNOFF FROM THE WASHING AREA MUST BE CONTAINED IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND WASTE FROM THE WASHING ACTIVITY MUST BE PROPERLY DISPOSED OF. THE CONTRACTOR MUST PROPERLY USE AND STORE SOAPS, DETERGENTS AND SOLVENTS. ENGINE DEGREASING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES IS ALSO PROHIBITED.

### 4.6 SPILL PREVENTION AND CONTROL PLAN

- ACCIDENTAL SPILL** - DISCHARGE OF OIL OR OTHER HAZARDOUS SUBSTANCES IS SUBJECT TO REPORTING AND CLEAN UP REQUIREMENTS. IN CASE OF AN ACCIDENTAL SPILL, THE MINNESOTA POLLUTION CONTROL AGENCY IS TO BE NOTIFIED AT THEIR **24-HOUR TELEPHONE NUMBER: 651-649-5451**. REFER TO SECTION 12 OF THE GENERAL PERMIT.
- GROUNDWATER PROTECTION** - SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY WHATEVER MEANS NECESSARY IN ORDER TO ENSURE THAT THEY DO NOT DISCHARGE FROM THE SITE. AS AN EXAMPLE, SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED OF SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHOULD BE HANDLED IN A MANNER CONSISTENT WITH THE IMPACT THEY REPRESENT.

### 4.7 ANY ADDITIONAL BMPS

## SECTION 5: POST-CONSTRUCTION BMPS

**BMP DESCRIPTION:** WET SEDIMENTATION BASIN

**INSTALLATION SCHEDULE:** DURING GRADING ACTIVITIES

**MAINTENANCE AND INSPECTION REQUIREMENTS:** ONCE CONSTRUCTION IS COMPLETE, THE BASIN WILL BE INSPECTED AND CLEARED OF ANY DEBRIS BUILD-UP TWICE PER YEAR AND AS NEEDED. INSPECTION WILL ALSO INCLUDE CHECKING FOR EROSION ISSUES ALONG THE SLOPES OF THE BASIN AND CLEANING ANY DEBRIS FROM THE INLET PIPES.

**RESPONSIBLE STAFF (CONTRACTOR TO COMPLETE):**

## SECTION 6: INSPECTIONS

### 6.1 INSPECTIONS

- INSPECTION FREQUENCY AND RESPONSIBILITY**  
*[OPTION 1 - CONTRACTOR RESPONSIBLE FOR INSPECTIONS]*

BETWEEN THE TIME THIS SWPPP IS IMPLEMENTED AND FINAL SITE STABILIZATION IS ACHIEVED AND THE NOTICE OF TERMINATION FILED WITH THE MPCA, ALL DISTURBED AREAS AND POLLUTANT CONTROLS MUST BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL OF 0.5 INCHES OR GREATER. THE PURPOSE OF SITE INSPECTIONS IS TO ASSESS PERFORMANCE OF POLLUTANT CONTROLS. THE INSPECTIONS WILL BE CONDUCTED BY THE CONTRACTOR'S DESIGNATED REPRESENTATIVE. BASED ON THESE INSPECTIONS, THE CONTRACTOR WILL DECIDE WHETHER IT IS NECESSARY TO MODIFY THIS SWPPP, ADD OR RELOCATE STRUCTURAL BMPS, OR WHATEVER ELSE MAY BE NEEDED IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. IF THE SWPPP REQUIRES MODIFICATION, THOSE CHANGES TO THE SWPPP MUST BE DOCUMENTED. THE CONTRACTOR HAS THE DUTY TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR WHATEVER ELSE IS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL.

*[OPTION 2 - OWNER RESPONSIBLE FOR INSPECTIONS]*

BETWEEN THE TIME THIS SWPPP IS IMPLEMENTED AND FINAL SITE STABILIZATION IS ACHIEVED AND THE NOTICE OF TERMINATION FILED WITH THE MPCA, ALL DISTURBED AREAS AND POLLUTANT CONTROLS MUST BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL OF 0.5 INCHES OR GREATER. THE PURPOSE OF SITE INSPECTIONS IS TO ASSESS PERFORMANCE OF POLLUTANT CONTROLS. THE INSPECTIONS WILL BE CONDUCTED BY THE OWNER'S DESIGNATED REPRESENTATIVE. BASED ON THESE INSPECTIONS, THE CONTRACTOR WILL DECIDE WHETHER IT IS NECESSARY TO MODIFY THIS SWPPP, ADD OR RELOCATE STRUCTURAL BMPS, OR WHATEVER ELSE MAY BE NEEDED IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. IF THE SWPPP REQUIRES MODIFICATION, THOSE CHANGES TO THE SWPPP MUST BE DOCUMENTED. THE CONTRACTOR HAS THE DUTY TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR WHATEVER ELSE IS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL.

- INSPECTION PROCEDURES** - EXAMPLES OF PARTICULAR ITEMS TO EVALUATE DURING SITE INSPECTIONS ARE LISTED BELOW. THIS LIST IS NOT INTENDED TO BE COMPREHENSIVE. DURING EACH INSPECTION THE INSPECTOR MUST EVALUATE OVERALL POLLUTANT CONTROL SYSTEM PERFORMANCE AS WELL AS PARTICULAR DETAILS OF INDIVIDUAL SYSTEM COMPONENTS. ADDITIONAL FACTORS SHOULD BE CONSIDERED AS APPROPRIATE TO THE CIRCUMSTANCES.

- PRE-INSPECTION PREPARATION:
  - INSPECTORS SHOULD BE FAMILIAR WITH THE SWPPP, INCLUDING THE EROSION AND SEDIMENT CONTROL PLANS, PAST INSPECTION REPORTS, AND MAINTENANCE LOGS.
- SITE ENTRY:
  - BEFORE ENTERING THE SITE, OBSERVE THE SURROUNDINGS AND VARIOUS STAGES OF CONSTRUCTION. NOTE AREAS FOR IN-DEPTH REVIEW AND ANY POTENTIAL ISSUES.
  - THIS IS A GOOD TIME TO VIEW CONSTRUCTION SITE VEHICLE TRACKING PAD LOCATIONS AND PERIMETER CONTROLS.
- RECORDS REVIEW:

- VERIFY THAT A COPY OF THE SWPPP AND APPLICATION FOR THE NPDES STORM WATER PERMIT, AND COPIES OF ALL CONSTRUCTION SITE INSPECTIONS ARE ON SITE.
- VERIFY THAT THE TIMING FOR INSTALLATION OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS, AS WELL AS CONSTRUCTION PHASING, IS GENERALLY BEING FOLLOWED.
- SWPPPS ARE INTENDED TO BE DYNAMIC DOCUMENTS. VERIFY THAT AMENDMENTS OR CHANGES TO THE SWPPP ARE BEING MADE WHEN:
  - A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVE A SIGNIFICANT EFFECT ON STORM WATER DISCHARGES
  - INSPECTIONS INDICATE THE SWPPP IS NOT EFFECTIVE
  - THE SWPPP IS NOT CONSISTENT WITH THE TERMS OF THE GENERAL PERMIT
- SITE INSPECTION (NOTE TIMELINES FOR MAINTENANCE INCLUDED IN INSPECTION/MAINTENANCE REPORT)
  - INSPECT DISCHARGE POINTS DOWNSTREAM AND OFF-SITE AREAS FOR SIGNS OF IMPACT.
  - INSPECT PERIMETER CONTROLS:
    - HAVE PERIMETER CONTROLS BEEN PROPERLY INSTALLED AND MAINTAINED?
    - ARE VEHICLE TRACKING PADS FUNCTIONING PROPERLY? ARE ADDITIONAL ENTRANCES/EXITS BEING USED THAT ARE NOT STABILIZED?
    - ALL STORM DRAINS MUST BE PROTECTED AND TEMPORARY STOCKPILES MUST HAVE SEDIMENT CONTROLS INSTALLED.
    - ALL EXPOSED SOILS MUST HAVE TEMPORARY OR PERMANENT EROSION PROTECTION WITHIN 14 DAYS OF INACTIVITY.
  - COMPARE BMPS IN THE SWPPP WITH CONSTRUCTION SITE CONDITIONS: ARE REQUIRED BMPS IN PLACE; ARE ADDITIONAL BMPS NEEDED; ARE BMPS IN PLACE PROPERLY INSTALLED AND MAINTAINED?
  - INSPECT AREAS THAT HAVE BEEN DISTURBED AND ARE NOT CURRENTLY BEING WORKED. ANY UNSEEDED OR UNMULCHED BARE AREAS THAT HAVE BEEN IDLE FOR 14 DAYS SHOULD BE NOTED.
  - INSPECT AREAS WITH FINAL STABILIZATION. IN ORDER FOR FINAL STABILIZATION TO BE ACHIEVED, AREAS MUST HAVE A UNIFORM COVER WITH A DENSITY OF 70% OVER ENTIRE AREA. TEMPORARY BMPS SHOULD BE REMOVED AND AREAS DISTURBED BY REMOVAL SEEDED AS NECESSARY.
- EXIT INTERVIEW:
  - DEBRIEF THE PERSON IN CHARGE. EXPLAIN THE IDENTIFIED DEFICIENCIES AND ANY AREAS OF CONCERN.
- A COPY OF THE COMPLETED INSPECTION REPORT MUST BE KEPT WITH THE SWPPP ON SITE.

THE INSPECTION REPORT USED SHOULD INCLUDE, AT A MINIMUM, THE FOLLOWING:

- DATE & TIME OF INSPECTION
- NAME OF INSPECTOR(S)
- FINDINGS OF INSPECTIONS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS
- CORRECTIVE ACTIONS TAKEN, INCLUDING DATES, TIMES AND NAMES OF PARTY COMPLETING MAINTENANCE
- DATE & AMOUNT OF RAINFALL
- RECORD OF ALL POINTS OF DISCHARGE FROM THE PROPERTY AND DESCRIPTION OF DISCHARGE
- NOTE TO UPDATE THE SWPPP

### 6.2 DELEGATION OF AUTHORITY

**DULY AUTHORIZED REPRESENTATIVE(S) OR POSITION(S):**

COMPANY OR ORGANIZATION NAME:  
NAME:  
POSITION:  
ADDRESS:  
CITY, STATE, ZIP CODE:  
TELEPHONE NUMBER:  
FAX/EMAIL:

### 6.3 CORRECTIVE ACTION LOG

THE INSPECTION/MAINTENANCE FORM, AVAILABLE UPON REQUEST, INCORPORATES BOTH INSPECTION AND MAINTENANCE REPORTING INTO A SINGLE FORM. THIS FORM ALSO SPECIFIES THE TIME ALLOWED FOR CORRECTIONS TO BE PERFORMED. IF THE PARTY PERFORMING INSPECTIONS CHOOSES TO USE ANOTHER INSPECTION FORM, A SEPARATE CORRECTIVE ACTION LOG MUST BE PROVIDED.

## SECTION 7: RECORD KEEPING AND TRAINING

### 7.1 RECORDKEEPING

**RECORD RETENTION** - THE OWNER MUST KEEP THE SWPPP INCLUDING ALL CHANGES MADE TO IT DURING CONSTRUCTION (SEE SECTION 7.2 OF THIS SWPPP), ALONG WITH THE FOLLOWING ADDITIONAL RECORDS ON FILE FOR THREE YEARS AFTER COMPLETION OF THE CONSTRUCTION PROJECT (FINAL STABILIZATION AND NOTICE OF TERMINATION):

- ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT
- RECORDS OF ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION
- ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE
- ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS

### 7.2 AMENDMENTS

THE CONTRACTOR SHALL KEEP A RECORD LOG OF ALL MODIFICATIONS TO THE SWPPP. AN EXAMPLE OF A SWPPP UPDATE LOG FORM CAN BE PROVIDED UPON REQUEST.

**MODIFICATIONS TO THE SWPPP** - THIS SWPPP INTENDS TO CONTROL WATER-BORNE AND LIQUID POLLUTANT DISCHARGES BY SOME COMBINATION OF INTERCEPTION, FILTRATION, AND CONTAINMENT. THE GENERAL CONTRACTOR AND SUBCONTRACTORS IMPLEMENTING THIS SWPPP MUST REMAIN ALERT TO THE NEED TO PERIODICALLY REFINE AND UPDATE THE SWPPP IN ORDER TO ACCOMPLISH THE INTENDED GOALS. THIS SWPPP MUST BE AMENDED AS NECESSARY DURING THE COURSE OF CONSTRUCTION IN ORDER TO KEEP IT CURRENT WITH THE POLLUTANT CONTROL MEASURES UTILIZED AT THE SITE. AMENDING THE SWPPP DOES NOT MEAN THAT IT HAS TO BE REPEATED. IT IS ACCEPTABLE TO ADD ADDENDA, SKETCHES, NEW SECTIONS, AND/OR REVISED DRAWINGS. THIS SWPPP MUST BE UPDATED AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS, SUCH AS ADDITIONAL OR MODIFIED BMPS, DESIGNED TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER:

- THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR UNDERGROUND WATERS.
- INSPECTIONS OR INVESTIGATIONS BY SITE OPERATORS, LOCAL, STATE OR FEDERAL OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR UNDERGROUND WATERS OR THAT THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES.
- THE SWPPP IS NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY, OR THE SWPPP IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE GENERAL PERMIT.

- THE MPCA HAS DETERMINED THAT THE PROJECT'S STORM WATER DISCHARGES MAY CAUSE OR CONTRIBUTE TO NON ATTAINMENT OF ANY APPLICABLE WATER STANDARD, OR THAT THE SWPPP DOES NOT INCORPORATE REQUIREMENTS RELATED TO AN APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLAN. IN THIS CASE, THE SWPPP MUST BE UPDATED OR A SUPPLEMENTAL BMP ACTION PLAN DEVELOPED TO ADDRESS THE IDENTIFIED CONCERNS.

### 7.3 TRAINING

THE PERMITTEE(S) MUST FULFILL TRAINING REQUIREMENTS AND INCLUDE RECORDS OF TRAINING IN THE SWPPP. REFRESHER TRAINING MUST BE ATTENDED EVERY THREE YEARS STARTING THREE YEARS, FROM THE ISSUANCE OF THE 2018 GENERAL PERMIT (ISSUED 8/1/18). INDIVIDUALS REQUIRED TO BE TRAINED INCLUDE:

- INDIVIDUALS PREPARING THE SWPPP
- INDIVIDUALS OVERSEEING IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP AND INDIVIDUALS PERFORMING INSPECTIONS. ONE OF THESE INDIVIDUALS MUST BE AVAILABLE FOR AN ON SITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE MPCA.
- INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPS. AT LEAST ONE INDIVIDUAL ON A PROJECT MUST BE TRAINED IN THESE JOB DUTIES.

THE CONTENT AND EXTENT OF TRAINING MUST BE COMMENSURATE WITH THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES WITH REGARD TO ACTIVITIES COVERED UNDER THE GENERAL PERMIT. AT LEAST ONE INDIVIDUAL TRAINED IN THE JOB DUTIES LISTED ABOVE MUST BE PRESENT ON THE SITE OR AVAILABLE TO THE SITE IN 72 HOURS.

TRAINING DOCUMENTATION MUST INCLUDE:

- NAMES OF PERSONNEL ASSOCIATED WITH THE PROJECT THAT ARE REQUIRED TO BE TRAINED
- DATES OF TRAINING AND NAMES OF INSTRUCTOR AND ENTITY PROVIDING TRAINING
- CONTENT OF TRAINING COURSE, INCLUDING NUMBER OF HOURS OF TRAINING
- DOCUMENTATION MUST BE KEPT WITH THE SWPPP. TRAINING RECORD/CERTIFICATION TEMPLATE IS AVAILABLE UPON REQUEST.

INDIVIDUALS MUST BE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, OR PERMANENT STORMWATER MANAGEMENT SUCH AS THE UNIVERSITY OF MINNESOTA, MINNESOTA EROSION CONTROL ASSOCIATION, SOIL AND WATER CONSERVATION DISTRICTS, OR THE MPCA.

## SECTION 8: FINAL STABILIZATION / PERMIT TERMINATION

FINAL STABILIZATION - TO ACHIEVE FINAL STABILIZATION OF THE SITE, THE CONTRACTOR WILL IMPLEMENT THE FOLLOWING MEASURES AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED.

- ALL SOILS MUST BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OVER THE ENTIRE PVIOUS SURFACE AREA, OR BY OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER ERODIVE CONDITIONS. REFER TO LANDSCAPING PLANS/SPECIFICATIONS FOR TYPE OF VEGETATIVE COVER.
- THE PERMANENT STORMWATER MANAGEMENT SYSTEM IS CONSTRUCTED, MEETS ALL REQUIREMENTS IN SECTIONS 15, 16, 17, 18, AND 19 OF THE GENERAL PERMIT AND IS OPERATING AS DESIGNED. PERMANENT SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS HAVE BEEN CLEAN OF ANY ACCUMULATED SEDIMENT. ALL SEDIMENT HAS BEEN REMOVED FROM CONVEYANCE SYSTEMS AND DITCHES ARE STABILIZED WITH PERMANENT COVER.
- ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE REMOVED.
- FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE.

PERMIT TERMINATION - TO ACHIEVE PERMIT TERMINATION FOR THE SITE, PERMITTEES MUST COMPLY WITH SECTIONS 4 & 13 OF THE GENERAL PERMIT.

## Client



**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



**Sambatek**  
www.sambatek.com

12800 Whitewater Drive, Suite 300  
Mimmetonka, MN 55343  
763.476.6010 telephone  
763.476.8532 facsimile

Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

## Project WATER TANK 8

## Location SHAKOPEE, MN

## Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

John Karwacki  
Registration No. 16532 Date: X/XX/2019

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

**Summary**

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

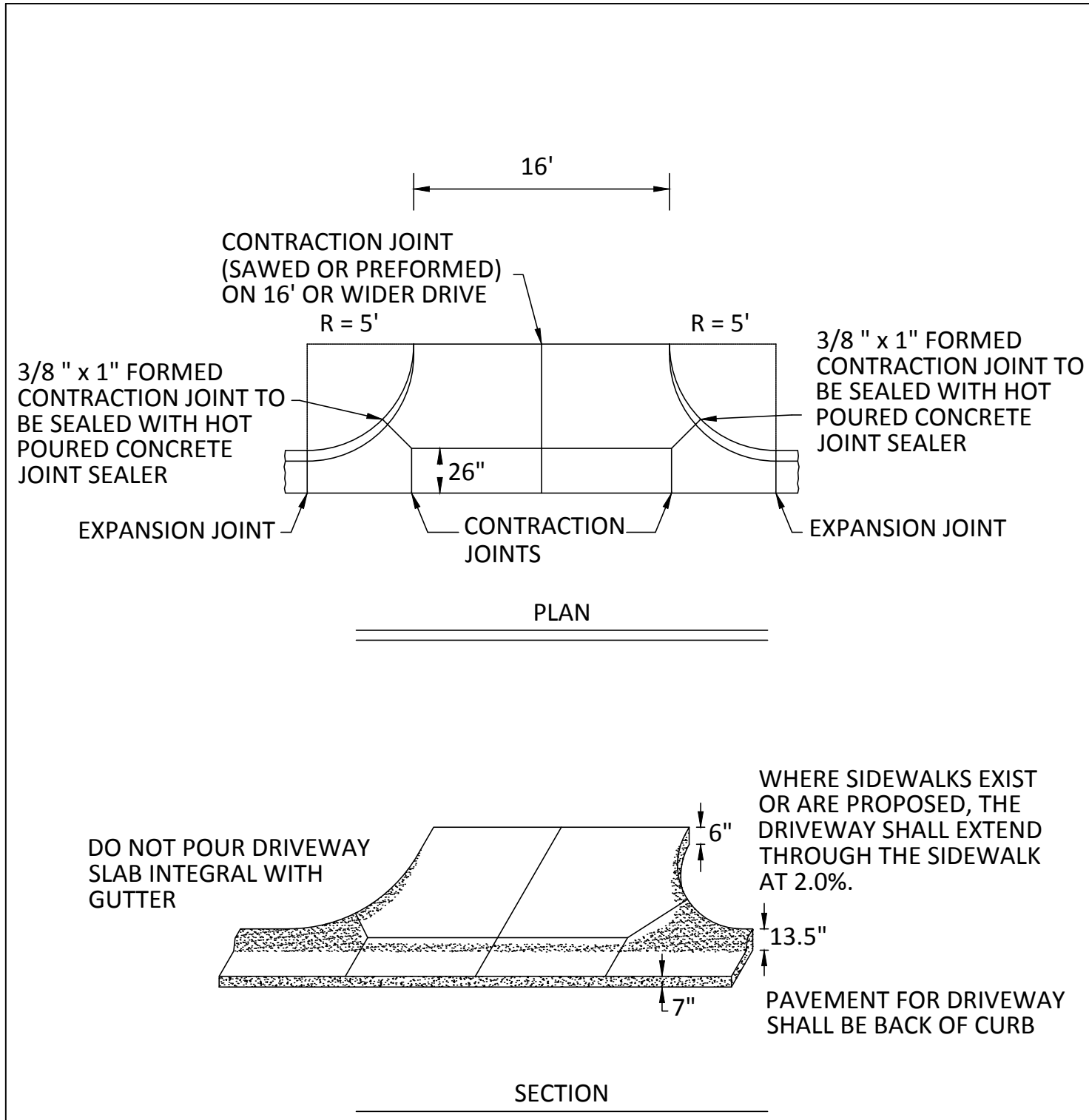
## Revision History

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|-----|------|----|----------------------|

## Sheet Title SWPPP NARRATIVE

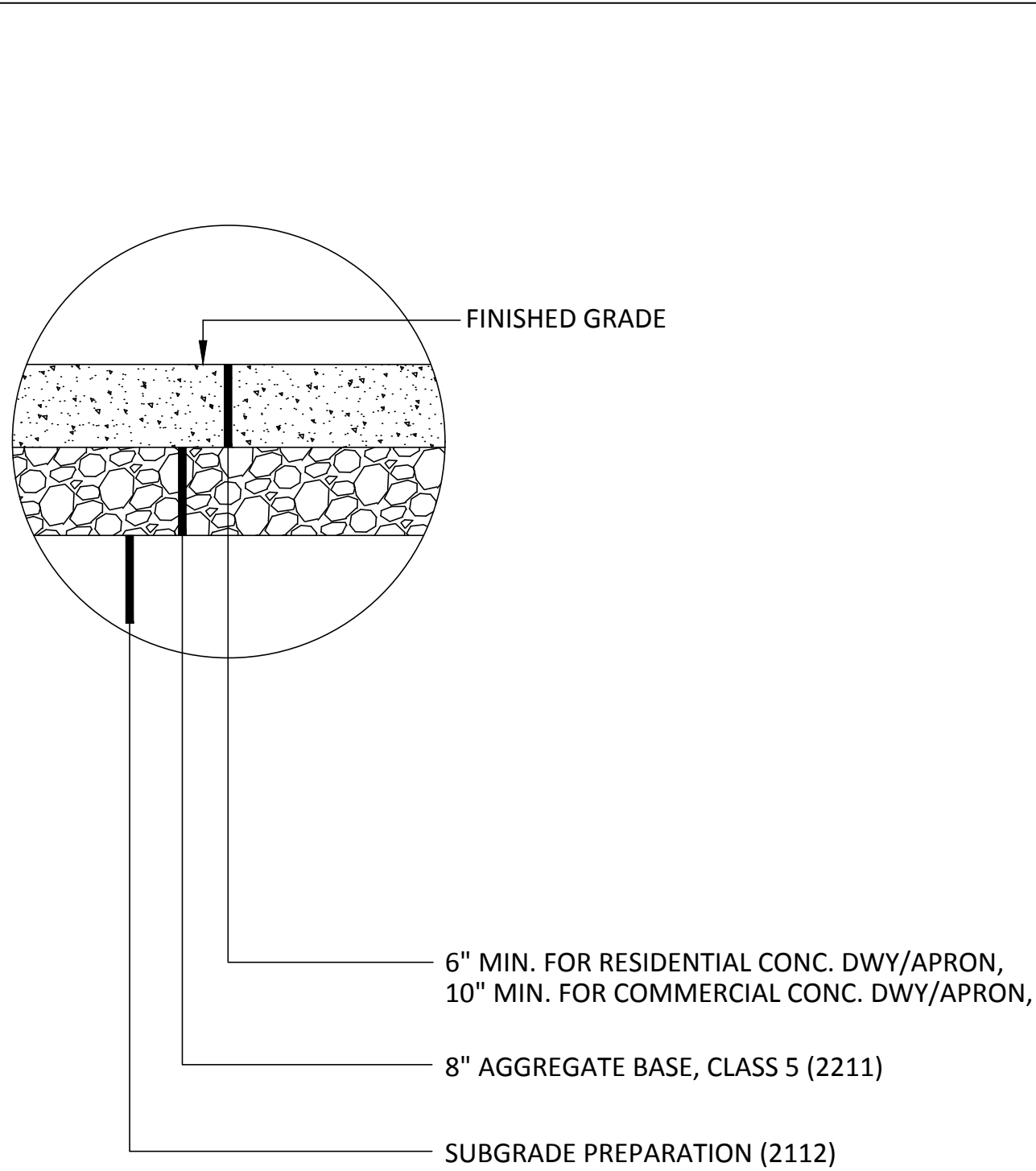
## Sheet No. Revision C6.05

Project No. 20709.05



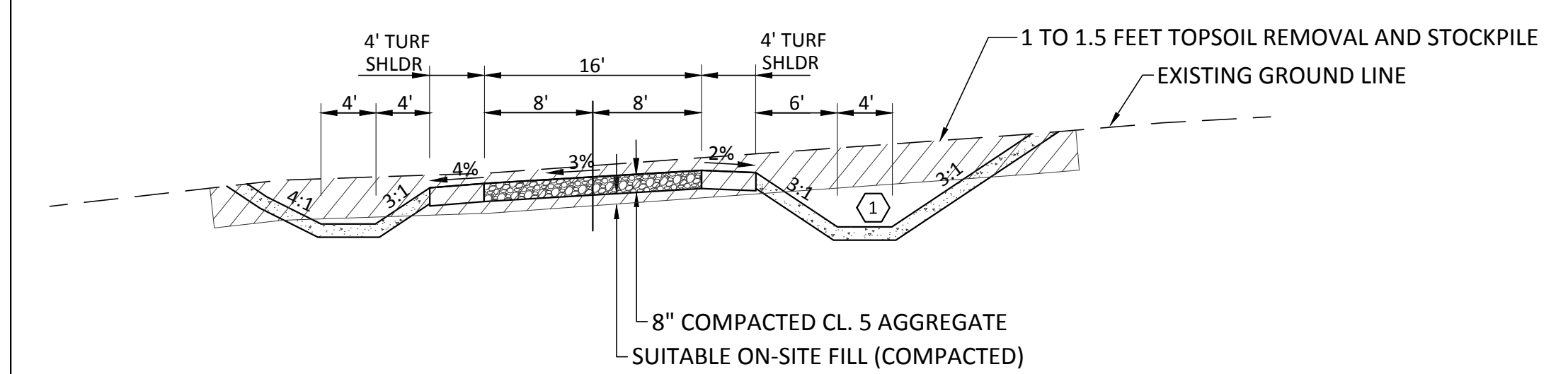
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|  | RESIDENTIAL DRIVEWAY ENTRANCE | APPROVED:                       | DETAIL NO: |
|  |                               | REVISION DATE: AUGUST 2018      | 5005       |
|  |                               | SHAKOPEE ENGINEERING DEPARTMENT |            |

**1**  
C7.01  
**RESIDENTIAL DRIVEWAY ENTRANCE**  
NOT TO SCALE  
(CURB CUT BY WINDERMERE 2ND ADDITION CONSTRUCTION)

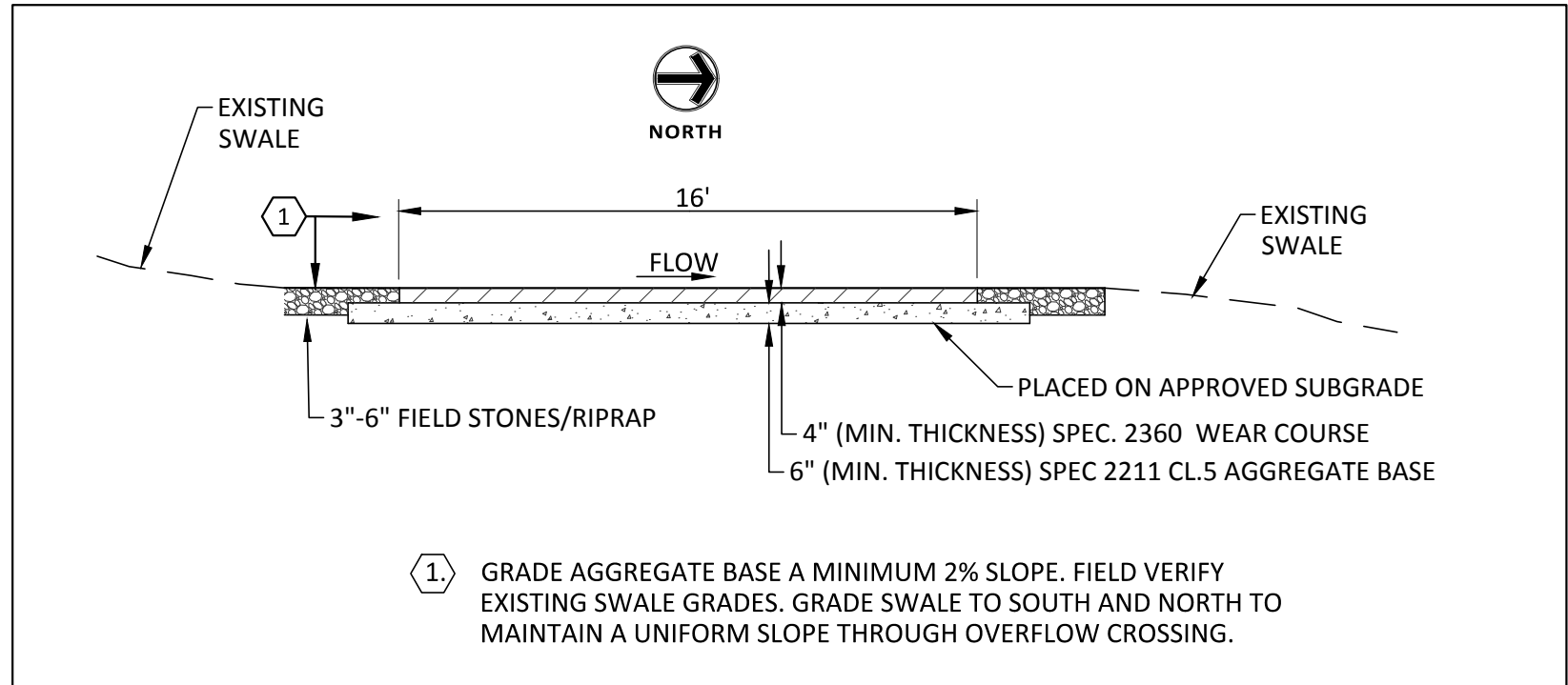


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|  | CONCRETE DRIVEWAY PAVEMENT | APPROVED:                       | DETAIL NO: |
|  |                            | REVISION DATE: AUGUST 2018      | 5004       |
|  |                            | SHAKOPEE ENGINEERING DEPARTMENT |            |

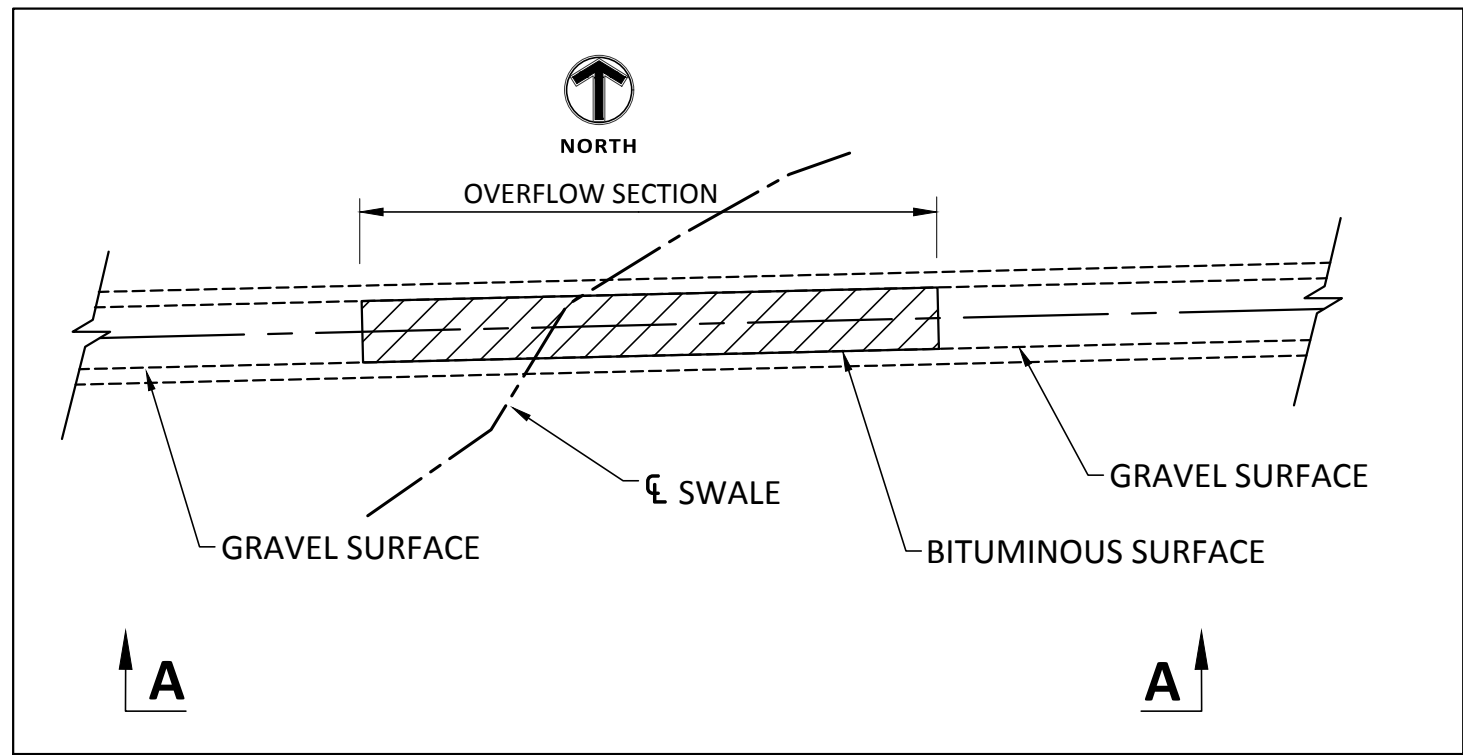
**2**  
C7.01  
**CONCRETE DRIVEWAY PAVEMENT**  
NOT TO SCALE



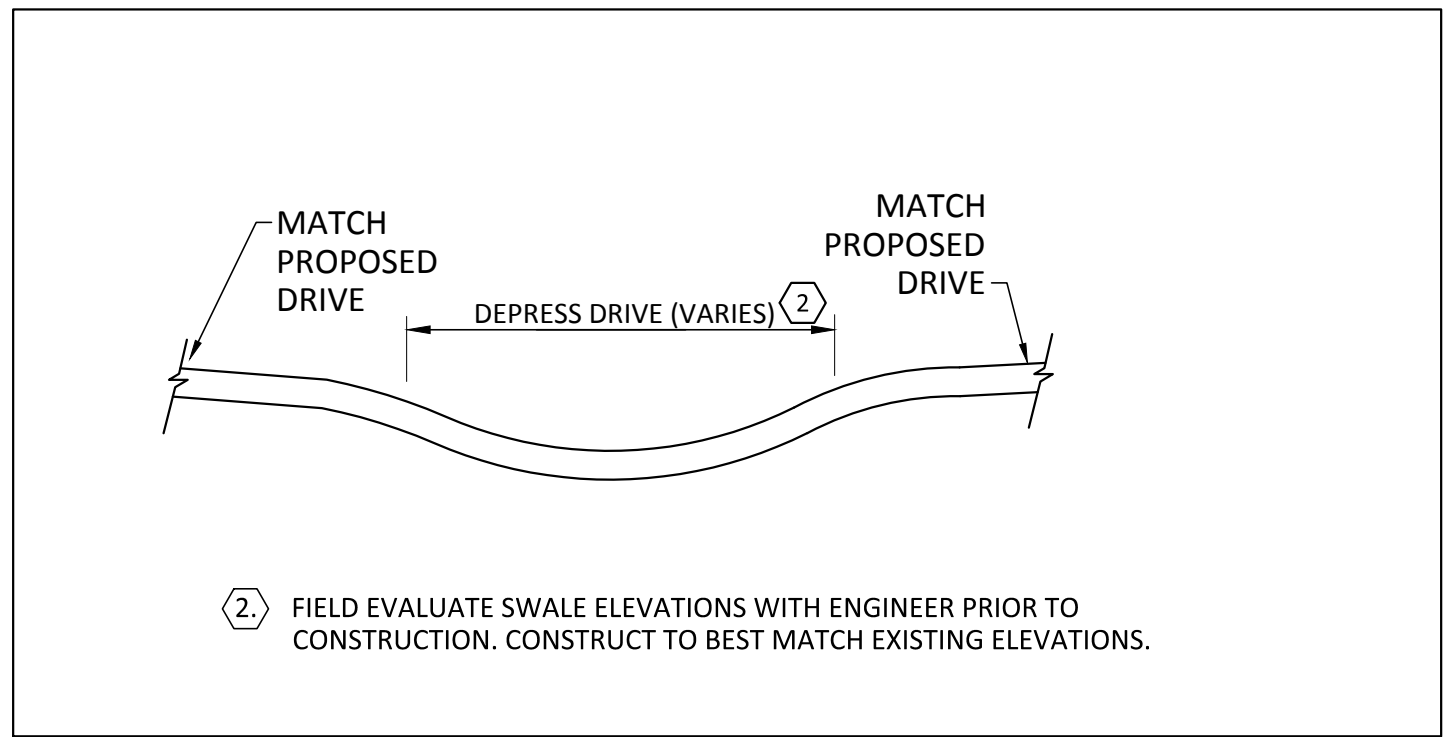
**3**  
C7.01  
**ACCESS DRIVEWAY - GRAVEL SURFACE SECTION**  
NOT TO SCALE



**4.0**  
C7.01  
**ACCESS DRIVEWAY OVERFLOW SECTION**  
NOT TO SCALE



**4.1**  
C7.01  
**TOP VIEW**  
NOT TO SCALE



**4.2**  
C7.01  
**SECTION A-A**  
NOT TO SCALE

## Client

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255 SARAZIN STREET  
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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

## Project WATER TANK 8

## Location SHAKOPEE, MN

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John Karwacki  
Registration No. 16532 Date: X/XX/2019  
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## Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

## Revision History

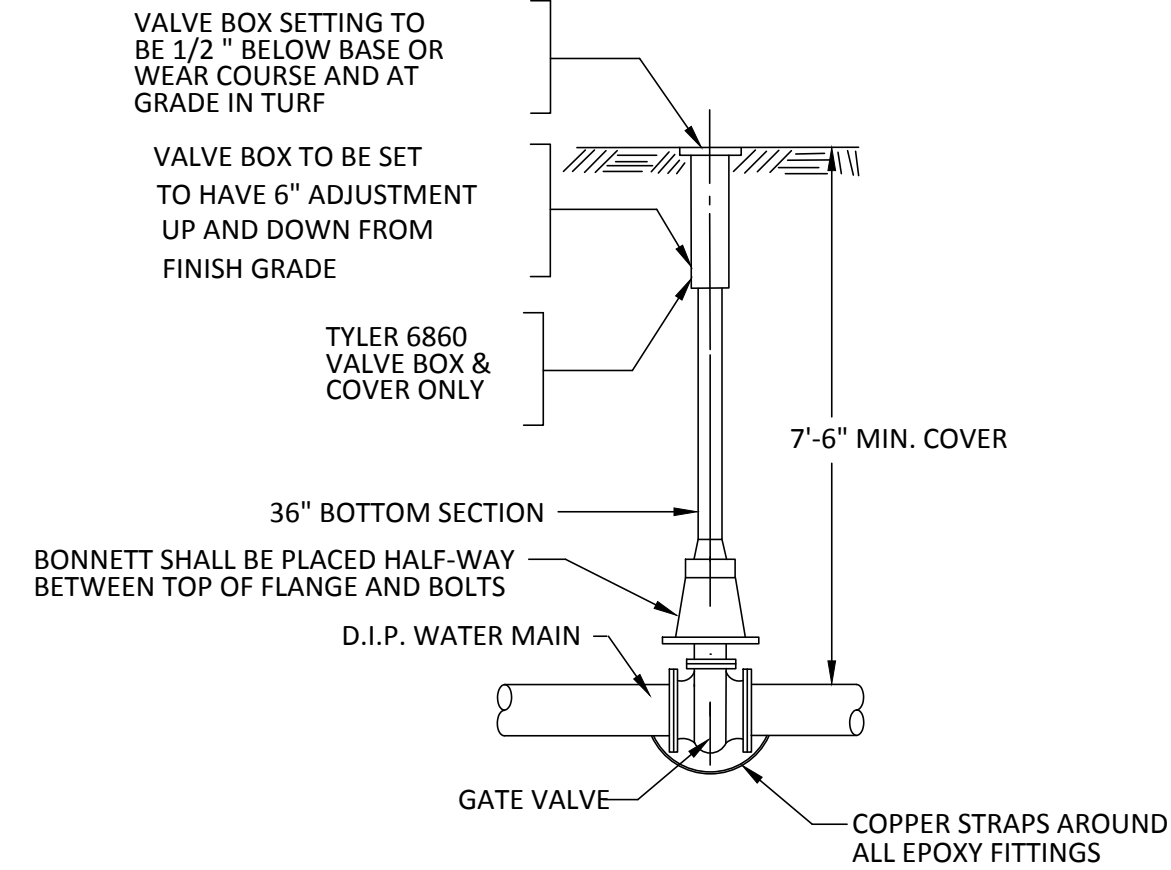
| No. | Date | By | Submittal / Revision |
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## Sheet Title DETAILS

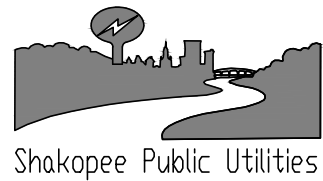
## Sheet No. Revision C7.01

Project No. 20709.05

- NOTES:  
1. VALVE BOX SHALL BE CENTERED ON OPERATING NUTS. STRAIGHT, FREE FROM DEBRIS, AND ALL SECTIONS UNBROKEN.  
2. VALVES IN EASEMENTS SHALL HAVE CHANNEL POST WITNESS MARKERS WITH REFLECTIVE "G.V." SIGN.  
3. DEEP VALVES SHALL HAVE NUT EXTENSIONS INSTALLED TO ELEVATION TO ACCOMMODATE STANDARD 10' KEY. BOTTOM NUT SHALL BE BOLTED TO VALVE NUT AND ONLY ONE SECTION.  
4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION.

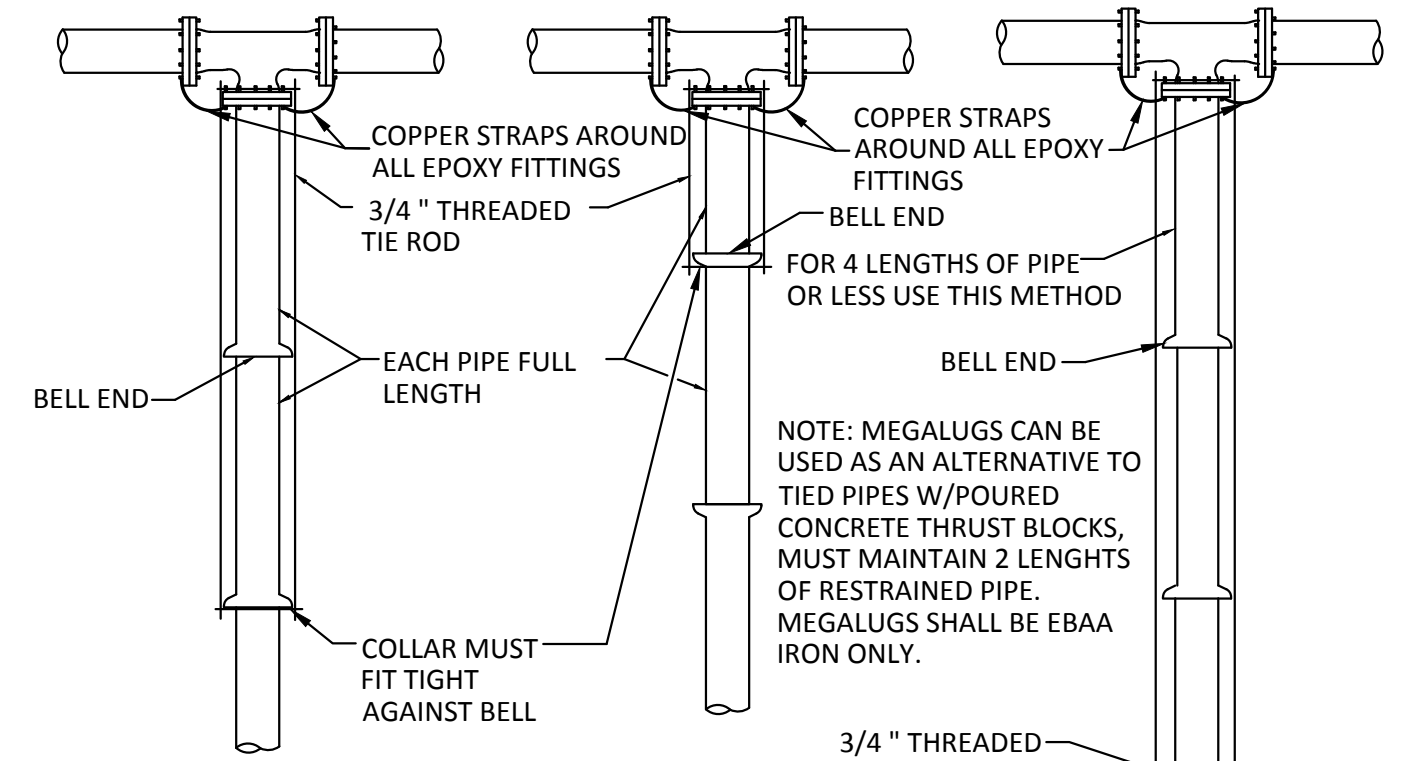


**1**  
C7.02 **TYPICAL VALVE BOX INSTALLATION**  
NOT TO SCALE

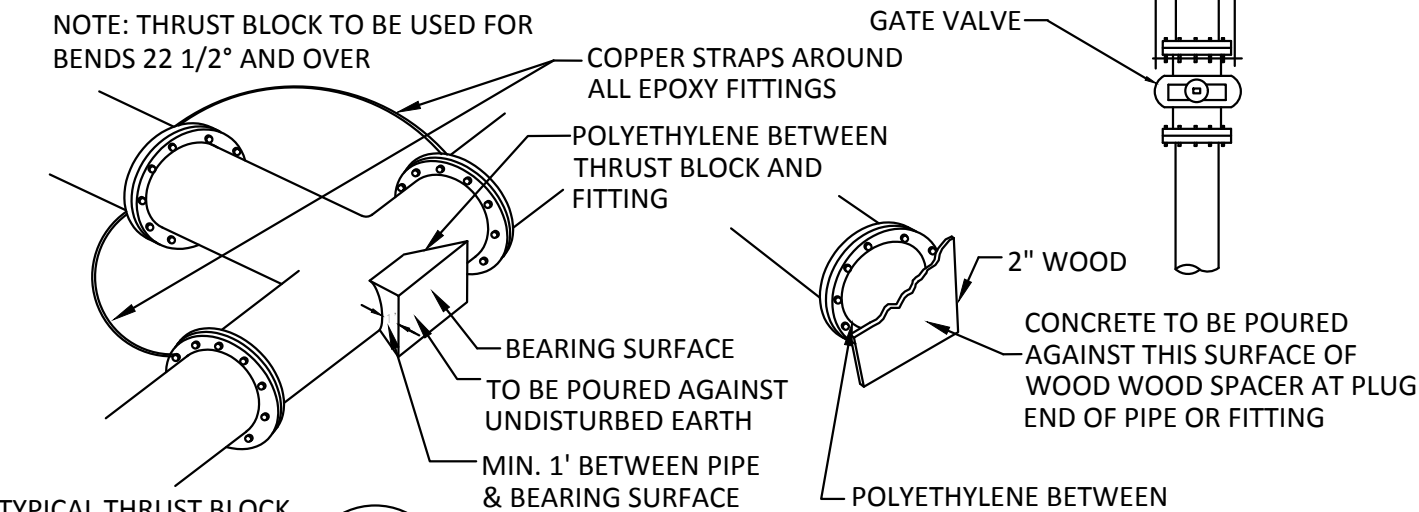


Shakopee Public Utilities  
Commission Details For  
Watermain Construction

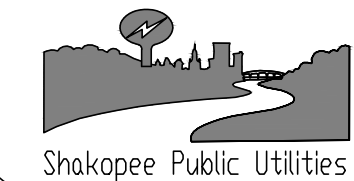
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| SPUC        | DATE | APP'D  | DRAWN | RRM | JDA |
| RES. # 1075 |      |        | APP'D |     |     |
| 08-04-14    |      |        |       |     |     |



| PIPE SIZE | BEARING AREA |
|-----------|--------------|
| 6"        | 2.50 SQ. FT. |
| 8"        | 4 SQ. FT.    |
| 12"       | 9 SQ. FT.    |
| 16"       | 16 SQ. FT.   |
| 18"       | 19.5 SQ. FT. |

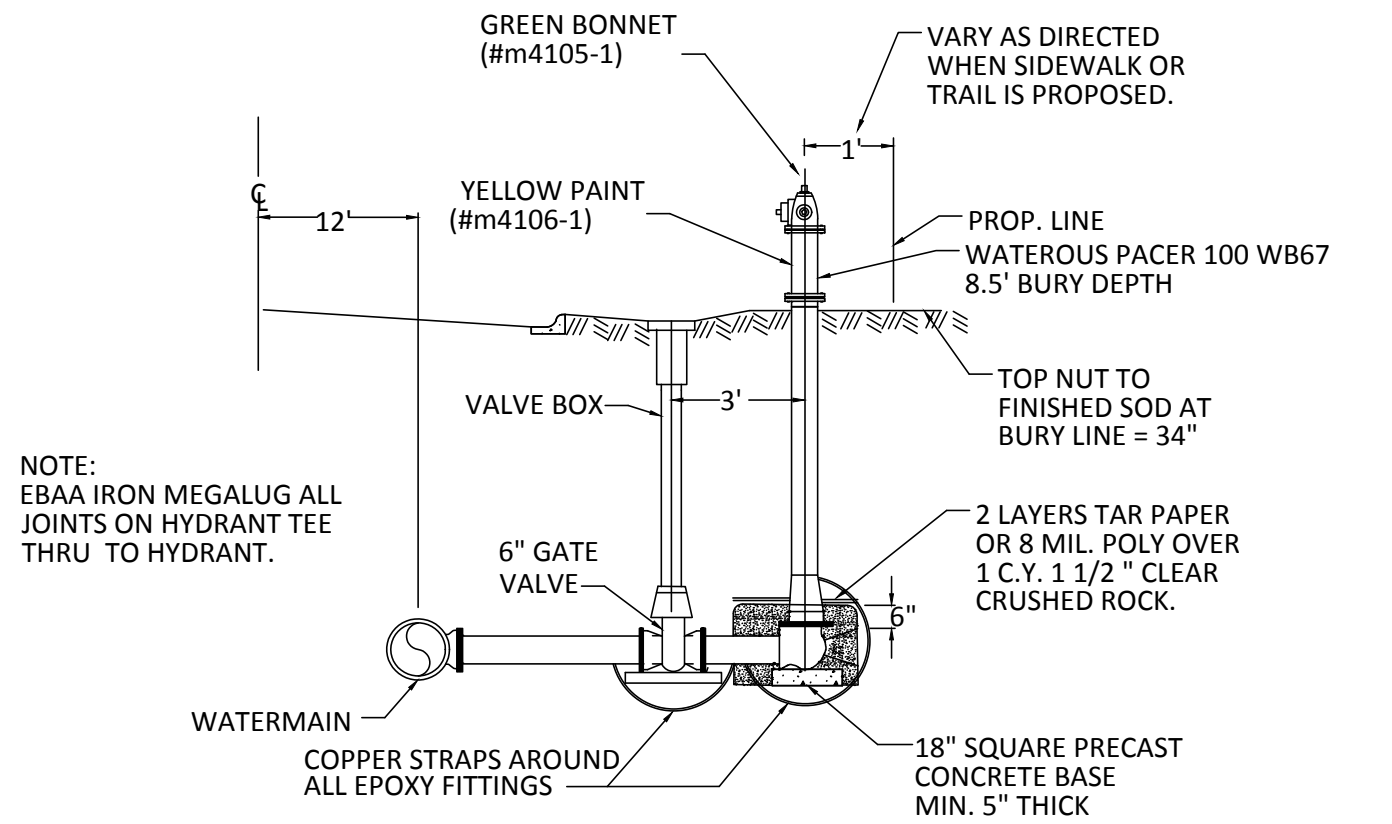


**2**  
C7.02 **THRUST RESTRAINTS DETAIL**  
NOT TO SCALE



Shakopee Public Utilities  
Commission Details For  
Watermain Construction

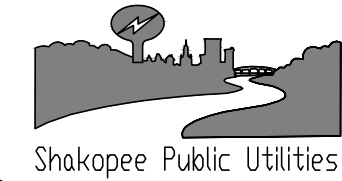
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| RES. # 1075 |      |        | APP'D |     |     |
| 08-04-14    |      |        |       |     |     |



- NOTE: HYDRANT TO HAVE NATIONAL STANDARD SCREW THREADS FOR FIRE HOSE COUPLING AND FITTINGS-ALL VALVES TO OPEN COUNTER-CLOCKWISE
- NOTE: 1. FURNISH & INSTALL "HYDRAFINDER" MARKER 2. PROVIDE WATER OPERATOR (1) EXTRA "HYDRAFINDER" MARKER FOR EACH ONE INSTALLED.

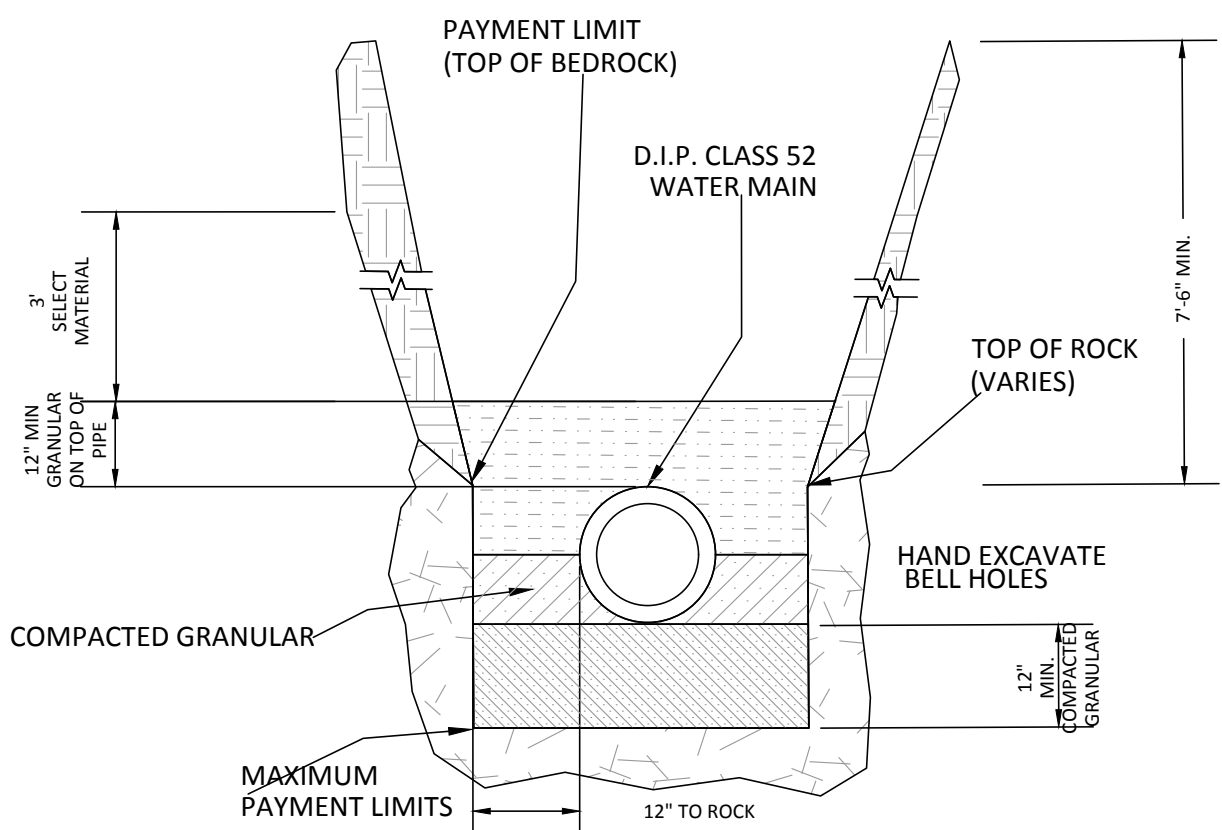
- NOTES:  
1. REMOVE ALL TAGS AND WIRES FROM HYDRANT.  
2. SET GRADE AROUND HYDRANT TO BURY LINE AND RAISE ALL HYDRANT VALVES TO GRADE, STRAIGHT AND PLUMB. CLEAN VALVE STEM BARREL TO EXPOSE VALVE NUT.

**3**  
C7.02 **STANDARD HYDRANT INSTALLATION**  
NOT TO SCALE



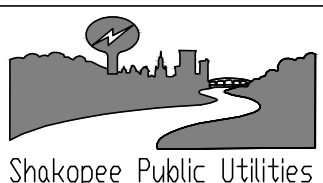
Shakopee Public Utilities  
Commission Details For  
Watermain Construction

| WAT - 008   |      |        |       |     |     |
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| ADOPTED     | REV. | DESIGN |       |     |     |
| SPUC        | DATE | APP'D  | DRAWN | RRM | JDA |
| RES. # 1075 |      |        | APP'D |     |     |
| 08-04-14    |      |        |       |     |     |



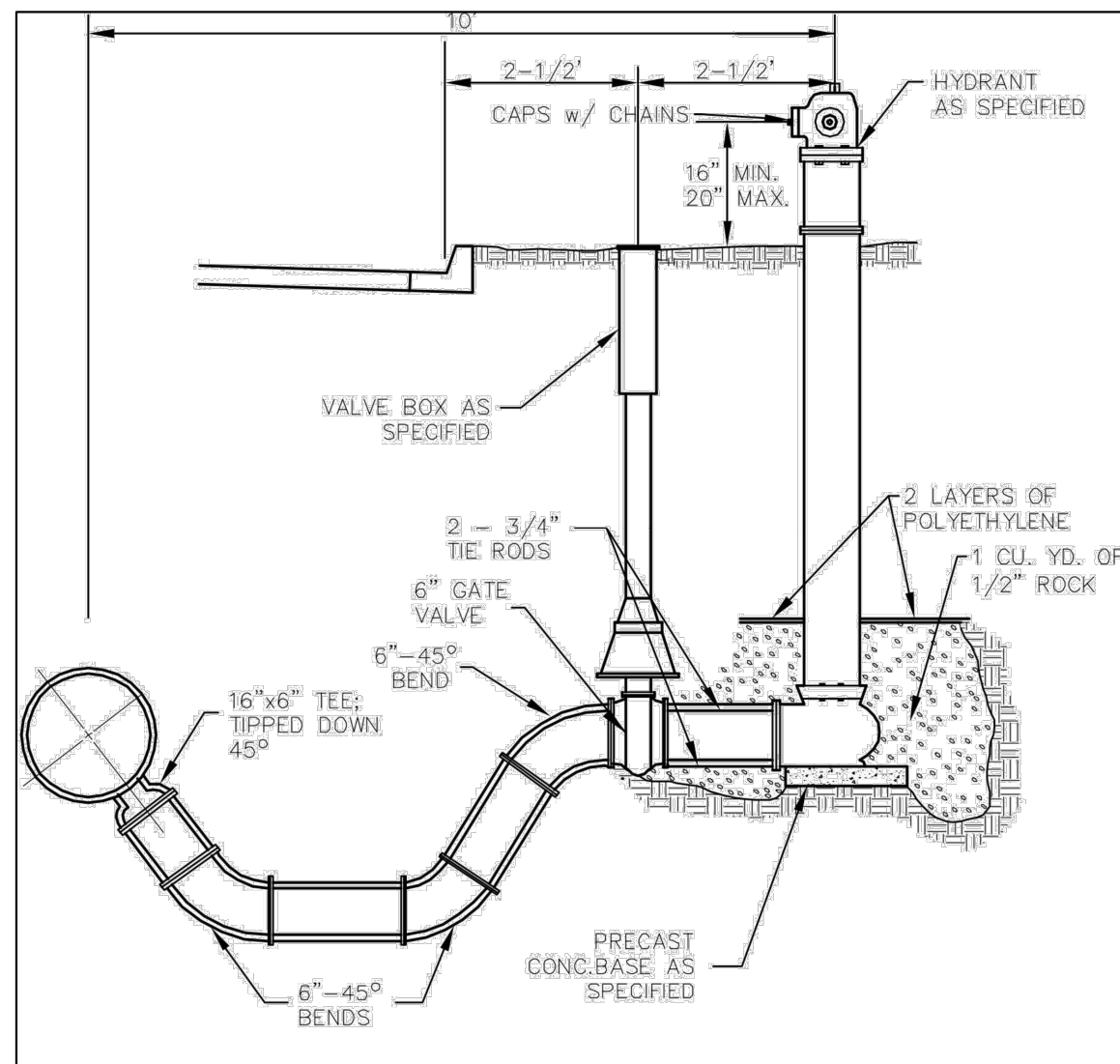
NOTE: PAY LIMITS EXTEND ONE FOOT (1') ON EACH SIDE OF THE PIPE REGARDLESS OF DEPTH.

**4**  
C7.02 **WATERMAIN LAYING CONDITION TYPE 3**  
NOT TO SCALE

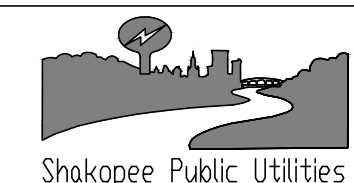


Shakopee Public Utilities  
Commission Details For  
Watermain Construction

| WAT - 018   |      |        |       |        |     |
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| ADOPTED     | REV. | DESIGN |       |        |     |
| SPUC        | DATE | APP'D  | DRAWN | C.J.F. | JDA |
| RES. # 1075 |      |        | APP'D |        |     |
| 08-04-14    |      |        |       |        |     |



**5**  
C7.02 **HYDRANT BLOW-OFF DETAIL**  
NOT TO SCALE



Shakopee Public Utilities  
Commission Details For  
Watermain Construction

| WAT - --- |      |        |       |       |  |
|-----------|------|--------|-------|-------|--|
| ADOPTED   | REV. | DESIGN |       |       |  |
| SPUC      | DATE | APP'D  | DRAWN | APP'D |  |
|           |      |        |       |       |  |
|           |      |        |       |       |  |

## Client

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Mimnetonka, MN 55343  
763.476.6010 telephone  
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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

## Project WATER TANK 8

## Location SHAKOPEE, MN

## Certification

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John Karwacki  
Registration No. 16532 Date: X/XX/2019  
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

## Summary

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Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

## Revision History

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|-----|------|----|----------------------|

## Sheet Title DETAILS

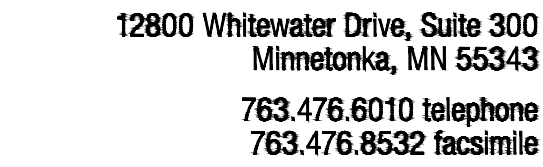
## Sheet No. Revision C7.02

Project No. 20709.05



**SHAKOPEE PUBLIC UTILITIES**  
 255 SARAZIN STREET  
 SHAKOPEE, MN. 55379  
 TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
 PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
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PROJECT MANAGER: JOHN KARWACKI P.E.

**Location**  
**SHAKOPEE, MN**

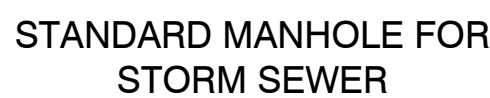
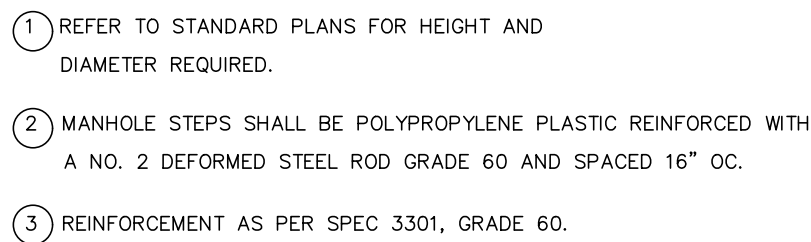
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# Summary

|               |                          |
|---------------|--------------------------|
| Designed: JRK | Drawn: DJD               |
| Approved: JRK | Book / Page:             |
| Phase: FINAL  | Initial Issue: 8/01/2019 |

Sheet No. Revision  
**C7.03**

CITY REVIEW SUBMITTAL AUGUST 1, 2019



|                                 |             |
|---------------------------------|-------------|
| APPROVED:                       |             |
| REVISION DATE:                  | AUGUST 2018 |
| SHAKOPEE ENGINEERING DEPARTMENT |             |



|                                 |             |
|---------------------------------|-------------|
| APPROVED:                       |             |
| REVISION DATE:                  | AUGUST 2018 |
| SHAKOPEE ENGINEERING DEPARTMENT |             |



NOTE: REFER TO SHEET C3.02 FOR PIPE OPENING INVERTS.

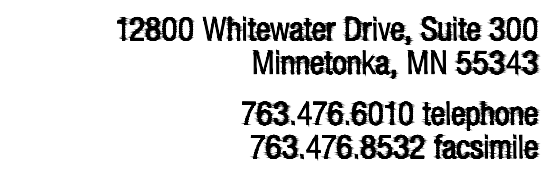


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| APPROVED:                       |             |
| REVISION DATE:                  | AUGUST 2018 |
| SHAKOPEE ENGINEERING DEPARTMENT |             |



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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

**Location**  
**SHAKOPEE, MN**

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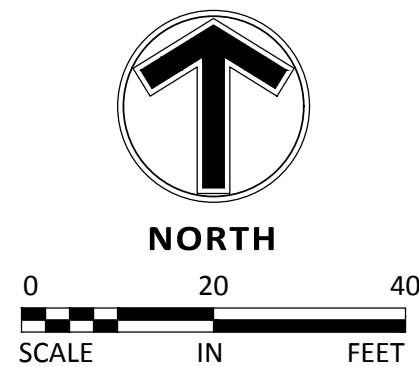
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Designed: JRK      Drawn: DJD  
Approved: JRK      Book / Page:  
Phase: FINAL      Initial Issue: 8/01/2019

## Sheet No. Revision

**Project No.** 20709.05



|      |       |                                      |   |       |       |
|------|-------|--------------------------------------|---|-------|-------|
| 3862 | 19.00 | Basewood (Tilia americana)           | X |       |       |
| 3863 | 29.00 | Basewood (Tilia americana)           | X |       |       |
| 3864 | 11.00 | Basewood (Tilia americana)           |   | 11.00 |       |
| 3865 | 11.00 | Hackberry (Celtis occidentalis)      |   | 11.00 |       |
| 3866 | 4.00  | Basewood (Tilia americana)           |   | 4.00  |       |
| 3867 | 4.00  | Basewood (Tilia americana)           |   | 4.00  |       |
| 3868 | 5.00  | Basewood (Tilia americana)           |   | 5.00  |       |
| 3869 | 7.00  | Basewood (Tilia americana)           |   | 7.00  |       |
| 3870 | 6.00  | Basewood (Tilia americana)           |   | 6.00  |       |
| 3871 | 4.00  | Basewood (Tilia americana)           |   | 4.00  |       |
| 3872 | 7.00  | Basewood (Tilia americana)           |   | 7.00  |       |
| 3873 | 11.00 | Basewood (Tilia americana)           |   | 11.00 |       |
| 3874 | 19.00 | Ash - Green (Fraxinus pennsylvanica) |   | 19.00 |       |
| 3875 | 16.00 | Elm - American (Ulmus americana)     |   | 16.00 |       |
| 3876 | 9.00  | Elm - American (Ulmus americana)     |   | 9.00  |       |
| 3877 | 9.00  | Ash - Green (Fraxinus pennsylvanica) |   | 9.00  |       |
| 3878 | 20.00 | Basewood (Tilia americana)           |   | 20.00 |       |
| 3879 | 5.00  | Basewood (Tilia americana)           |   | 5.00  |       |
| 3880 | 13.00 | Basewood (Tilia americana)           |   | 13.00 |       |
| 3881 | 6.00  | Basewood (Tilia americana)           |   | 6.00  |       |
| 3882 | 10.00 | Basewood (Tilia americana)           |   |       | 10.00 |
| 3883 | 15.00 | Basewood (Tilia americana)           |   | 15.00 |       |
| 3884 | 28.00 | Basewood (Tilia americana)           |   | 28.00 |       |
| 3885 | 15.00 | Hackberry (Celtis occidentalis)      |   | 15.00 |       |
| 3886 | 13.00 | Ash - Green (Fraxinus pennsylvanica) |   | 13.00 |       |
| 3887 | 12.00 | Basewood (Tilia americana)           |   | 12.00 |       |
| 3888 | 11.00 | Basewood (Tilia americana)           |   | 11.00 |       |
| 3889 | 13.00 | Basewood (Tilia americana)           |   | 13.00 |       |
| 3890 | 6.00  | Basewood (Tilia americana)           |   | 6.00  |       |
| 3891 | 10.00 | Oak - Red (Quercus rubra)            |   | 10.00 |       |
| 3892 | 6.00  | Ash - Green (Fraxinus pennsylvanica) |   | 6.00  |       |
| 3893 | 11.00 | Ash - Green (Fraxinus pennsylvanica) |   |       | 11.00 |
| 3894 | 6.00  | Ash - Green (Fraxinus pennsylvanica) |   | 6.00  |       |
| 3895 | 9.00  | Ash - Green (Fraxinus pennsylvanica) |   |       | 9.00  |
| 3896 | 9.00  | Ash - Green (Fraxinus pennsylvanica) |   | 9.00  |       |
| 3897 | 10.00 | Elm - American (Ulmus americana)     |   | 10.00 |       |
| 3898 | 12.00 | Ash - Green (Fraxinus pennsylvanica) |   | 12.00 |       |
| 3899 | 10.00 | Ash - Green (Fraxinus pennsylvanica) |   | 10.00 |       |
| 3900 | 4.00  | Basewood (Tilia americana)           |   | 4.00  |       |

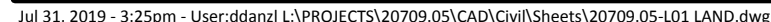
## **SHAKOPEE TREE PRESERVATION ORDINANCE**

### **Standards for commercial/industrial site development**

(a) During site development, 60% of the inventoried DBH on the buildable land for the lot being built on is allowed to be removed without replacement. Removal in excess of this 60% DBH required replacement of 1:1.5 DBH (remove:replace)

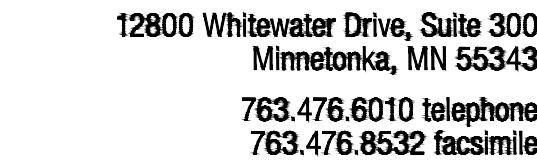
**REQUIRED REPLACEMENT PLANTINGS (DBH)**

| PLANT TYPE | REQUIRED |
|------------|----------|
| TREES      | 0 DBH    |



**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR:  
JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



PROJECT MANAGER: JOHN KARWACKI P.E.

# Project WATER TANK 8

## Certification

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Designed: JRK      Drawn: DJD  
Approved: JRK      Book / Page:  
Phase: FINAL      Initial Issue: 8/01/2019

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
|     |      |    |                      |

**Sheet No. Revision**

**Project No.** 20709.05

1. TO PREVENT COMPACTION OF SUBGRADE SOIL IN TURF AREAS, MINIMIZE OPERATION OF HEAVY EQUIPMENT.
2. PROVIDE A MINIMUM OF 1,000 CU.FT. OF AVAILABLE ROOTING SPACE AT LEAST 3' DEEP. UNDER 80% STANDARD PROCTOR DENSITY .
3. PRIOR TO SCARIFYING SUBGRADE, OWNER WILL TEST SUBGRADE ELEVATIONS. SCARIFY SUBGRADE IF COMPACTED ABOVE 80% STANDARD PROCTOR DENSITY.
4. SCARIFY TOPSOIL SUBGRADE TO A DEPTH OF 12" WITH A TILL OR DOZER FROST HOOK. FINISH GRADE WITH A SKID LOADER OR SMALL DOZER. DO NOT COMPACT ABOVE 80% STANDARD PROCTOR DENSITY IN TANK SITE AREA WHERE CONSTRUCTION EQUIPMENT HAS BEEN OPERATED.
6. APPROVAL OF DENSITY TESTS BY CITY BUILDING DEPARTMENT REQUIRED PRIOR TO SPREADING TOPSOIL AND FOR INSTALLING TURF PRODUCTS.

LOW MAINTENANCE GRASS SEED MIX (SEE SCHEDULE)  
Turfgrass Water Conservation Alliance, TWCA  
**\*TWCA TUFF TURF MIX**  
30% 4TH MILLENIUM TALL FESCUE  
20% SALTILLO TALL FESCUE  
20% XERIC CREEPING RED FESCUE  
15% TIEM KENTUCKY BLUEGRASS  
15% MANHATTEN 5 PERENNIAL RYEGRASS

| SOD/SEED                                                                              | BOTANICAL / COMMON NAME                               | CONT | QTY        |
|---------------------------------------------------------------------------------------|-------------------------------------------------------|------|------------|
|  | MN 25-142 / Agriculture Mix - Mowable                 | Seed | 143,440 sf |
|  | NATIVE MIX FOR WET AREAS / MN STATE SEED MIX # 33-261 | -    | 12,475 sf  |
|  | TWCA TUFF TURF / Drought tolerant turf seed Mix       | Seed | 34,177     |

1. REFER TO SHEET L1.01 FOR TREE REMOVALS

**GENERAL NOTES:**

- |     |                                                                                                                                                                                                                                                                                                                                |  |  |      |                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | THE CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF THE WORK.                                                                                                                                                                                           |  |  |      | AMOUNT (4% MIN.) OF HUMUS AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL COMPLY WITH MNDOT SPECIFICATION 3877.2-B LOAM TOP SOIL BORROW.                                                                                                                                                                                                                                                    |
| 2.  | THE CONTRACTOR SHALL VERIFY PLANT LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.                                                                                                                                                          |  |  |      | MIXTURE SHALL BE FREE FROM HARDPAK SUBSOIL, STONES, CHEMICALS, NOXIOUS WEEDS, ETC. SOIL MIXTURE SHALL HAVE A PH OF 6.5 AND 7.5 AND 10-0-10                                                                                                                                                                                                                                                            |
| 3.  | THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, ORDINANCES, AND PERMITS GOVERNING THE WORK.                                                                                                                                                                                                       |  |  |      | FERTILIZER AT THE RATE OF 3 POUNDS PER CUBIC YARD. IN PLANTING BEDS                                                                                                                                                                                                                                                                                                                                   |
| 4.  | THE CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION. DAMAGE TO SAME SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.                                                                                                                   |  |  |      | INCORPORATE THIS MIXTURE THROUGHOUT THE ENTIRE BED IN A 6" LAYER AND ROTO-TILLING IT INTO THE TOP 12" OF SOIL AT A 1:1 RATIO ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEeled IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.                                                                                                                 |
| 5.  | LOCATE AND VERIFY ALL UTILITIES, INCLUDING IRRIGATION LINES, WITH THE OWNER FOR PROPRIETARY UTILITIES AND Gopher STATE ONE CALL 48 HOURS BEFORE DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO SAME. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION. |  |  | 3.   | CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 3 DAYS PRIOR TO PLANNED DELIVERY. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF BEGINNING PLANT INSTALLATION.                                                                                                                                                                                          |
| 6.  | THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE PHASES OF <u>CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.</u>                                                                                                                                                                                  |  |  | 4.   | SEASONS/TIME OF PLANTING AND SEEDING: NOTE: THE CONTRACTOR MAY ELECT TO PLANT IN OFF-SEASONS ENTIRELY AT HIS/HER RISK. DECIDUOUS                                                                                                                                                                                                                                                                      |
| 7.  | THE CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK.                                                         |  |  | 4.1. | POTTED PLANTS: 4/1 - 6/1; 9/21 - 11/1                                                                                                                                                                                                                                                                                                                                                                 |
| 8.  | THE SPECIFICATIONS TAKE PRECEDENCE OVER THE PLANTING NOTES AND GENERAL NOTES.                                                                                                                                                                                                                                                  |  |  | 4.2. | DECIDUOUS B&B: 4/1 - 6/1; 9/21 - 11/1                                                                                                                                                                                                                                                                                                                                                                 |
| 9.  | EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED TO THE DRIP LINE FROM ALL CONSTRUCTION. PROTECT WITH 4" HIGH ORANGE PLASTIC SAFETY FENCING ADEQUATELY SUPPORTED BY STEEL FENCE POSTS 6" O.C. MAXIMUM SPACING.                                                                                                           |  |  | 4.3. | EVERGREEN POTTED PLANTS: 4/1 - 6/1; 9/21 - 11/1                                                                                                                                                                                                                                                                                                                                                       |
| 10. | LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED.                                                                                                                                                                                                                                                        |  |  | 4.4. | EVERGREEN B&B: 4/1 - 5/1; 9/21 - 11/1                                                                                                                                                                                                                                                                                                                                                                 |
| 11. | CONTRACTOR SHALL REQUEST IN WRITING, A FINAL ACCEPTANCE INSPECTION.                                                                                                                                                                                                                                                            |  |  | 4.5. | TURF/LAWN SEEDING: 4/1 - 6/1; 7/20 - 9/20                                                                                                                                                                                                                                                                                                                                                             |
|     |                                                                                                                                                                                                                                                                                                                                |  |  | 4.6. | NATIVE MIX SEEDING: 4/1 - 7/20; 9/20-10/20                                                                                                                                                                                                                                                                                                                                                            |
|     |                                                                                                                                                                                                                                                                                                                                |  |  | 5.   | MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANTING MATERIALS WILL BE PROTECTED AND THE INSTALLATION OF THE PLANTING IS COMPLETE. INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE-SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN |

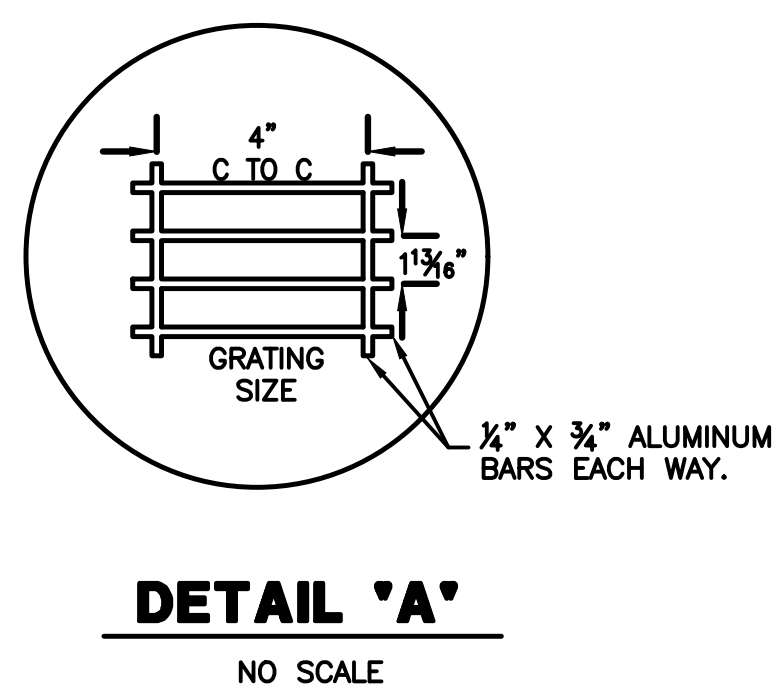
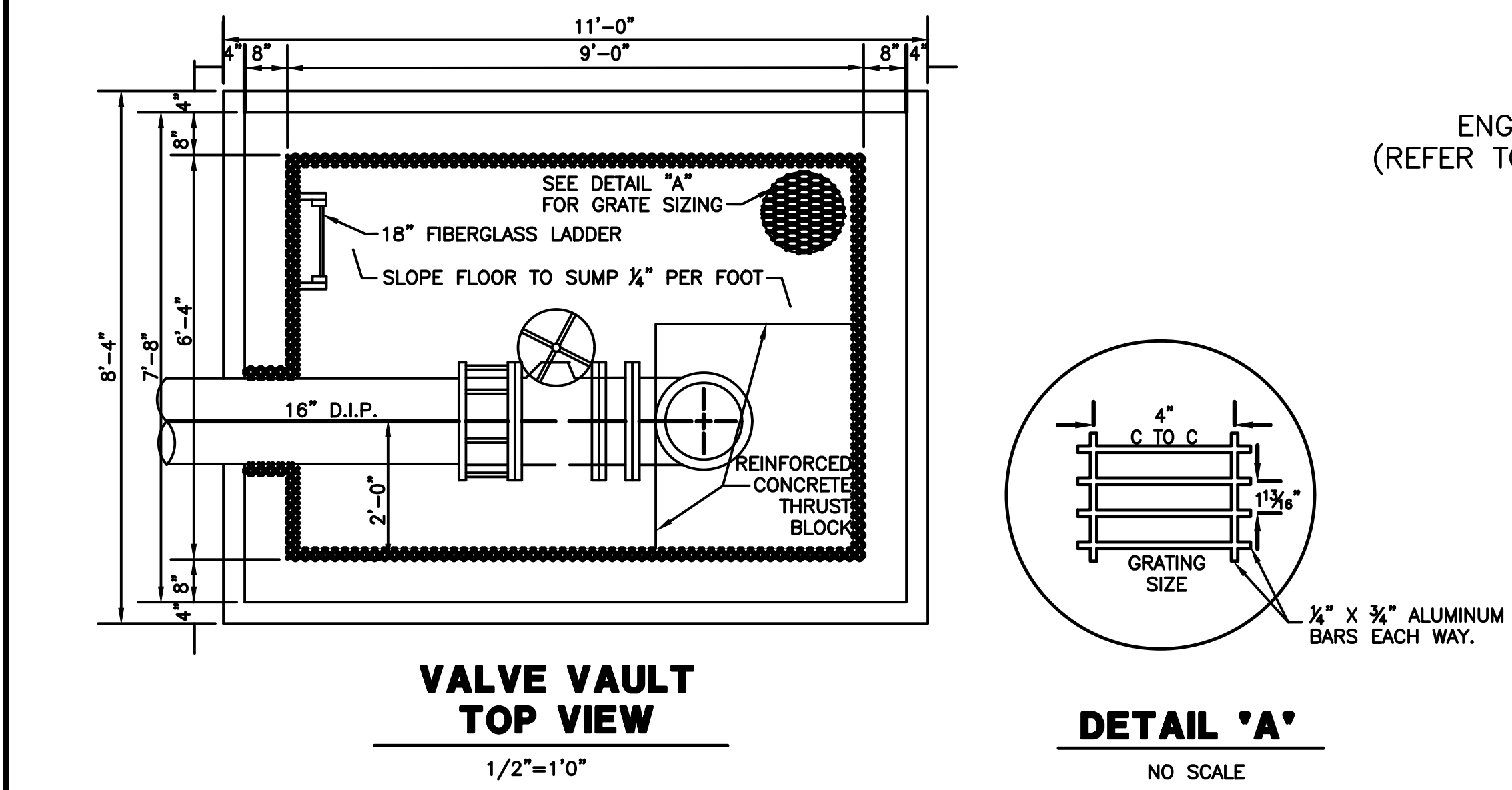
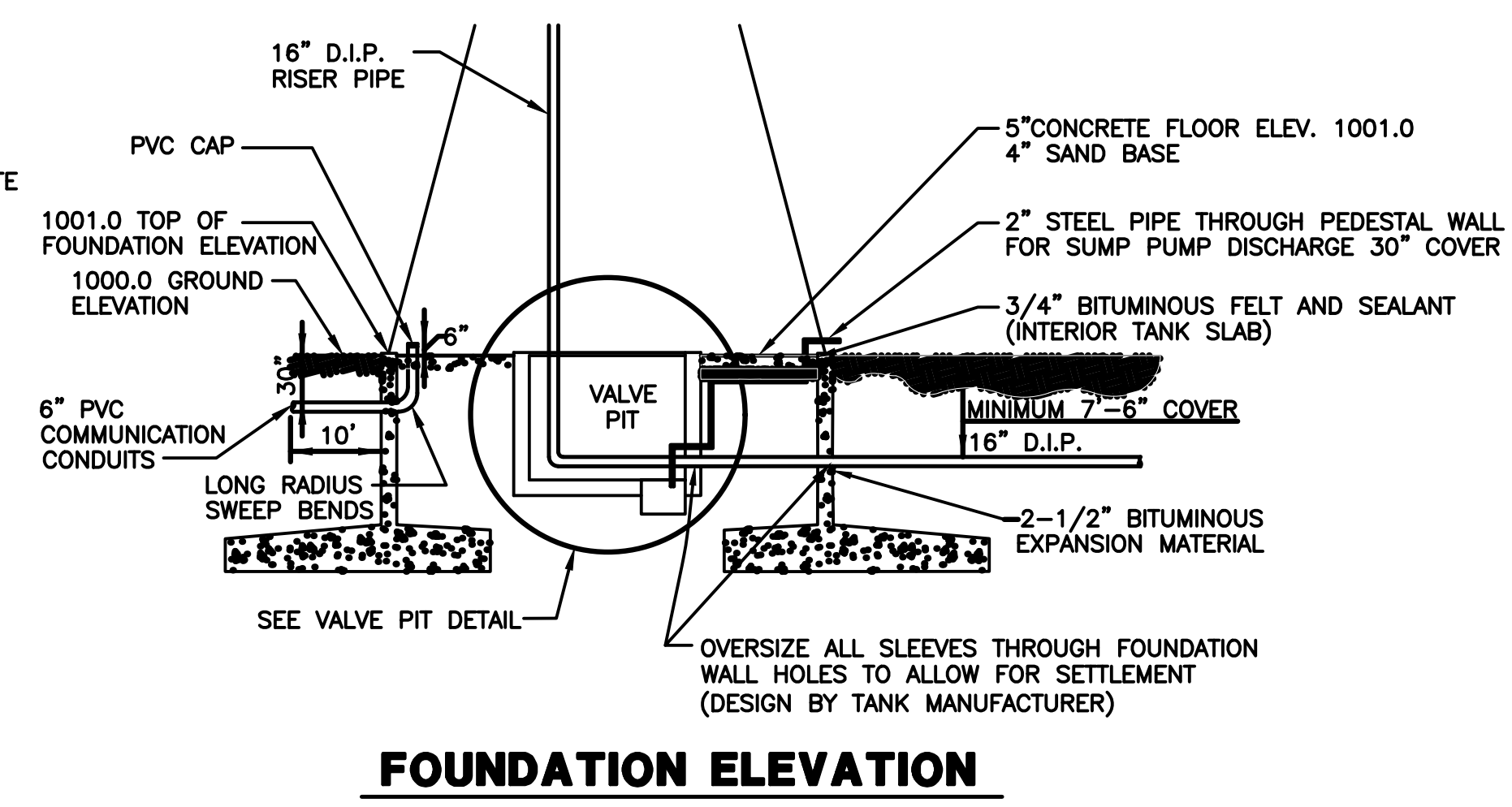
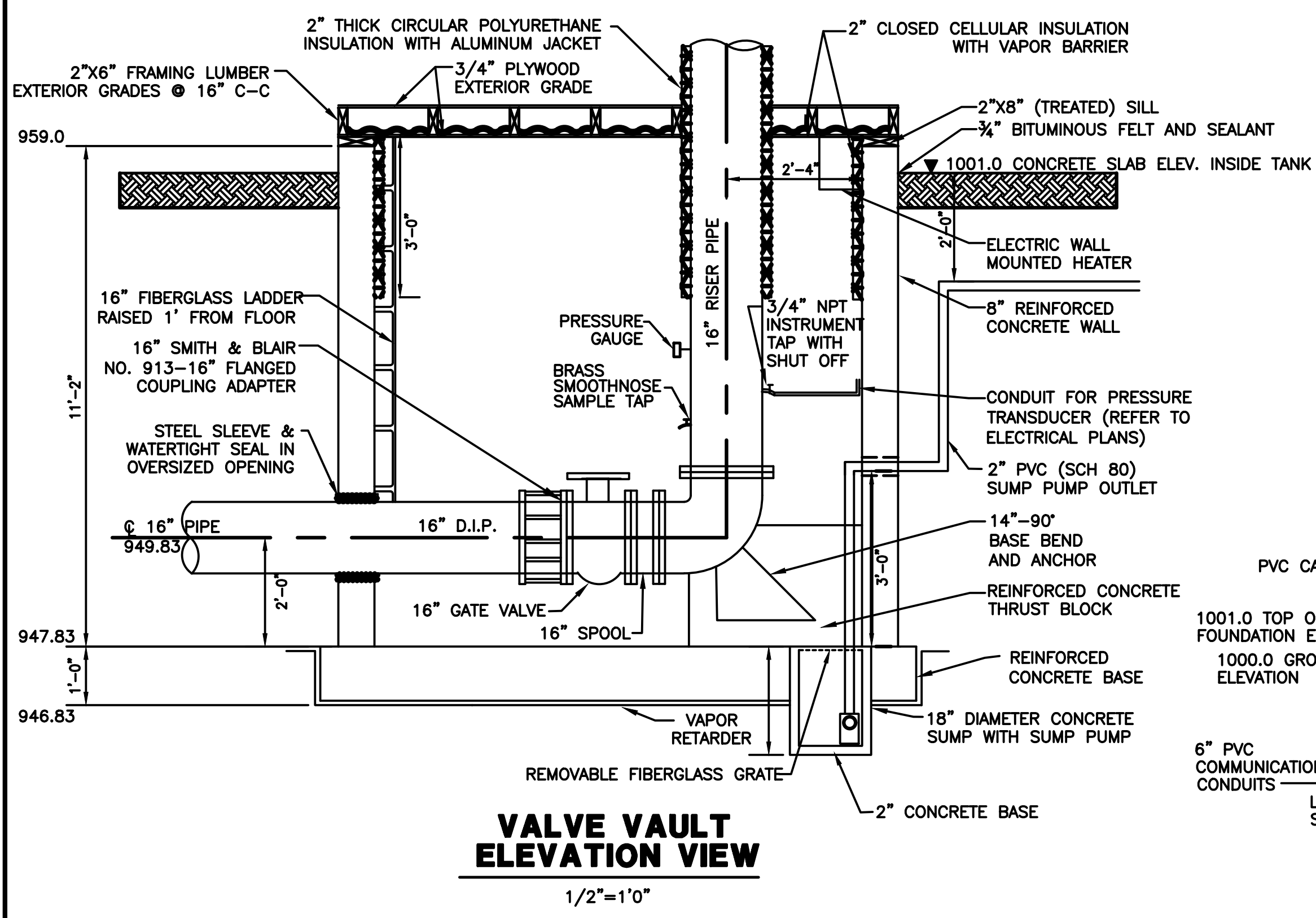
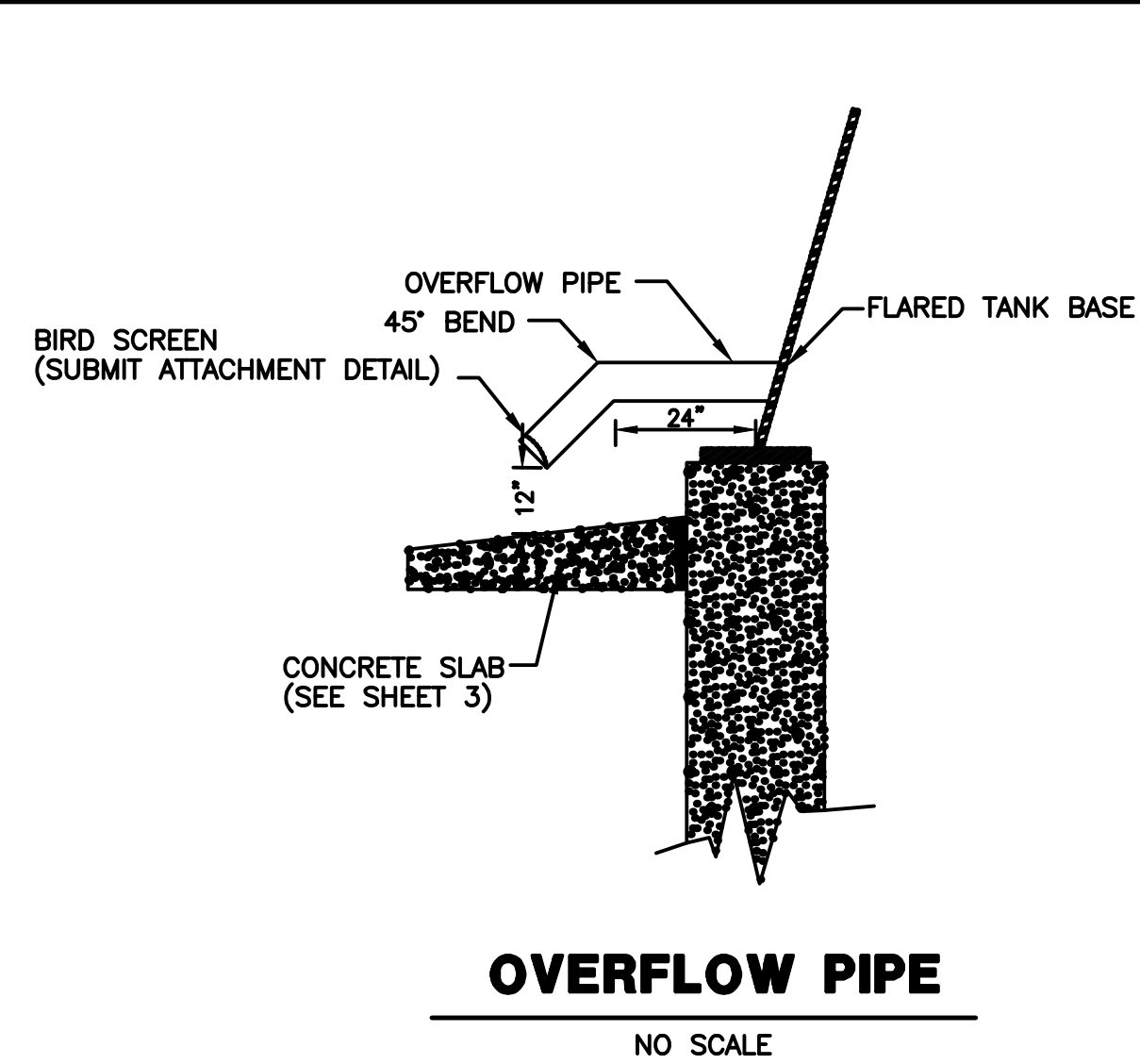
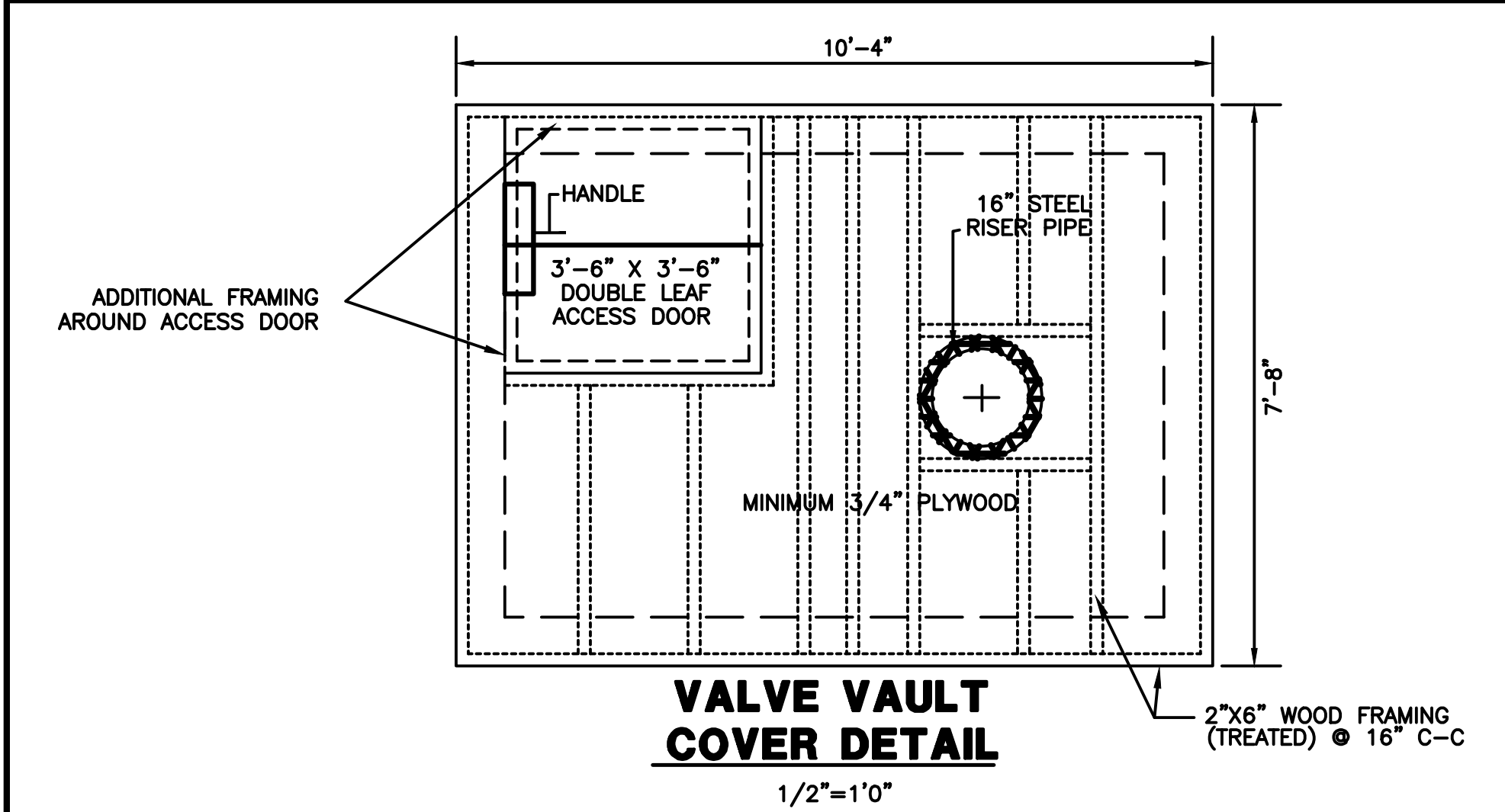
1. NO SEEDING SHALL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

6. WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY. IN EXTREMELY HOT, DRY WEATHER, WATER MORE OFTEN AS REQUIRED BY INDICATIONS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.

TURF ESTABLISHMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROVISIONS OF THE MN/DOT 2105 AND 2575 EXCEPT AS MODIFIED BELOW:

1. ALL AREAS TO RECEIVE SOD SHALL ALSO RECEIVE 6" OF TOPSOIL PRIOR TO INSTALLING SOD. TOPSOIL SHALL BE FREE OF TREE ROOTS, STUMPS, BUILDING MATERIAL, AND TRASH, AND SHALL BE FREE OF STONES LARGER THAN 1 1/2" INCHES IN ANY DIMENSION.
2. WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
3. SOD SHALL BE LAID PARALLEL TO THE CENTERLINE AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY.
4. TURF ON ALL OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING, MULCHING AND FERTILIZING. SEED MIXTURE NO.25-121 (FORMERLY MN/DOT 240) WILL BE PLACED AT THE RATE OF 70 POUNDS PER ACRE. MN/DOT TYPE 1 MULCH @ 2 TONS PER ACRE.
5. ALL DISTURBED AREAS TO BE TURF SEED, ARE TO RECEIVE 6" TOP SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.
6. ALL DISTURBED AREAS TO BE GRASS ARE TO RECEIVE 6" TOP SOIL OR RECEIVE PLANTING SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.

1. FURNISH AND PLACE "COMMON TOPSOIL BORROW", MNDOT 3877.2.A.
2. DEPTH: 6"
3. SUPPLEMENT SALVAGED TOPSOIL WITH MNDOT TOPSOIL BORROW.



- CONSTRUCTION NOTES**
- STRUCTURAL AND REINFORCEMENT DESIGN FOR THE VAULT, INCLUDING WALLS, SLAB, COVER, THRUST BLOCK, RISER PIPE AND OUTLET PIPES SHALL BE SUBMITTED BY WATER TANK MANUFACTURER WITH THE WATER TANK SHOP DRAWINGS.
  - SEE ELECTRICAL PLANS FOR WIRING CIRCUITS AND ELECTRICAL SERVICE TO VALVE PIT.
  - ENGINEER TO CONFIRM TAPS AND GAUGE LOCATIONS.
  - ALL SLEEVES THROUGH VALVE VAULT WALL SHALL BE WATERTIGHT.

**TANK STYLE -  
SPHEROID OR COMPOSITE,  
TO BE DETERMINED**

**REFERENCE ONLY**

**Client**

**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
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TELEPHONE: 952-445-1988

UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL

**Sambatek**  
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12800 Whitewater Drive, Suite 300  
Minnetonka, MN 55343  
763.476.6010 telephone  
763.476.8532 facsimile

Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

**Project**  
**WATER TANK 8**

**Location**  
**SHAKOPEE, MN**

**Certification**

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John Karwacki  
Registration No. 16532 Date: X/XX/2019

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**Summary**

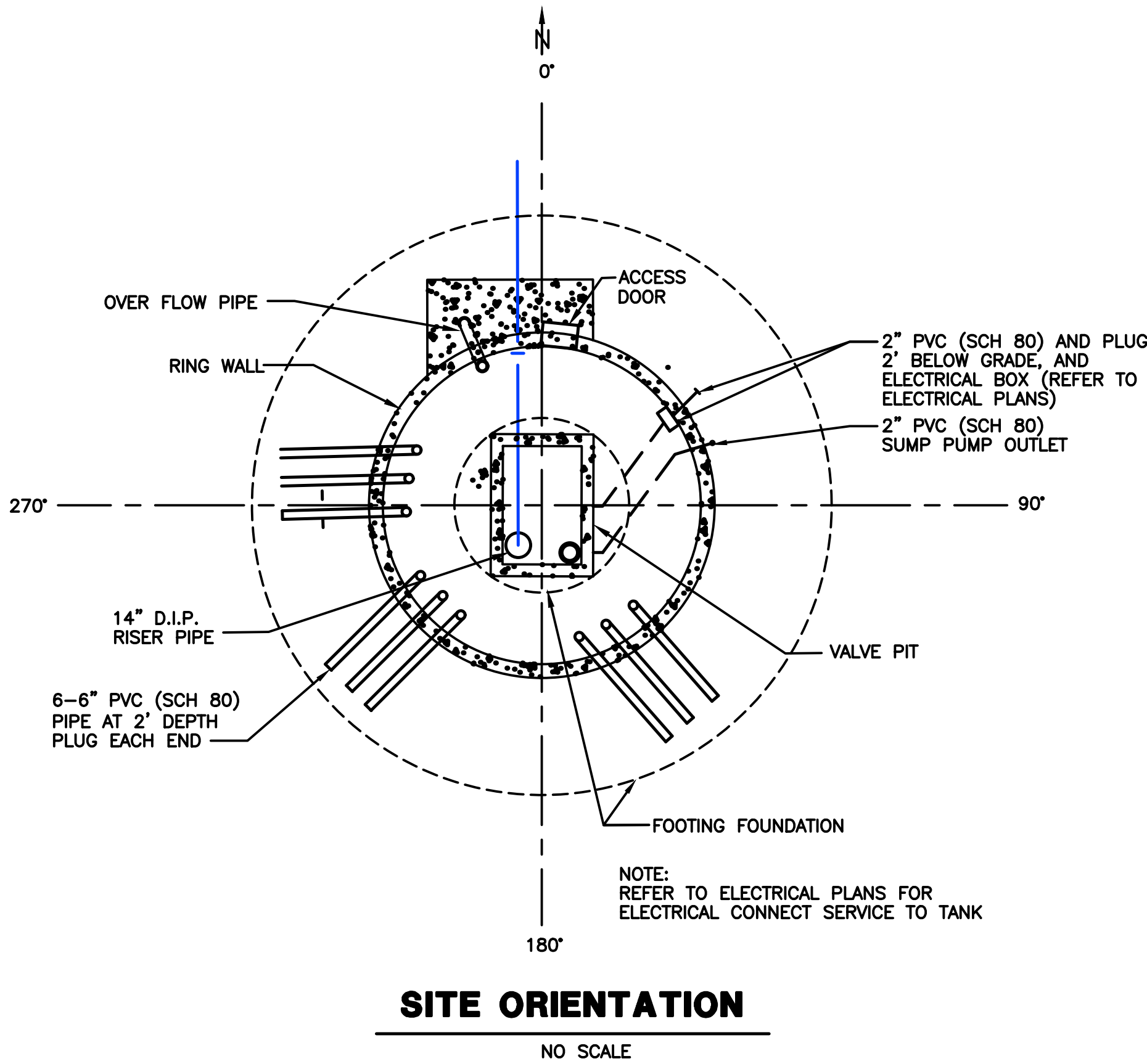
Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

**Revision History**

| No. | Date | By | Submittal / Revision |
|-----|------|----|----------------------|
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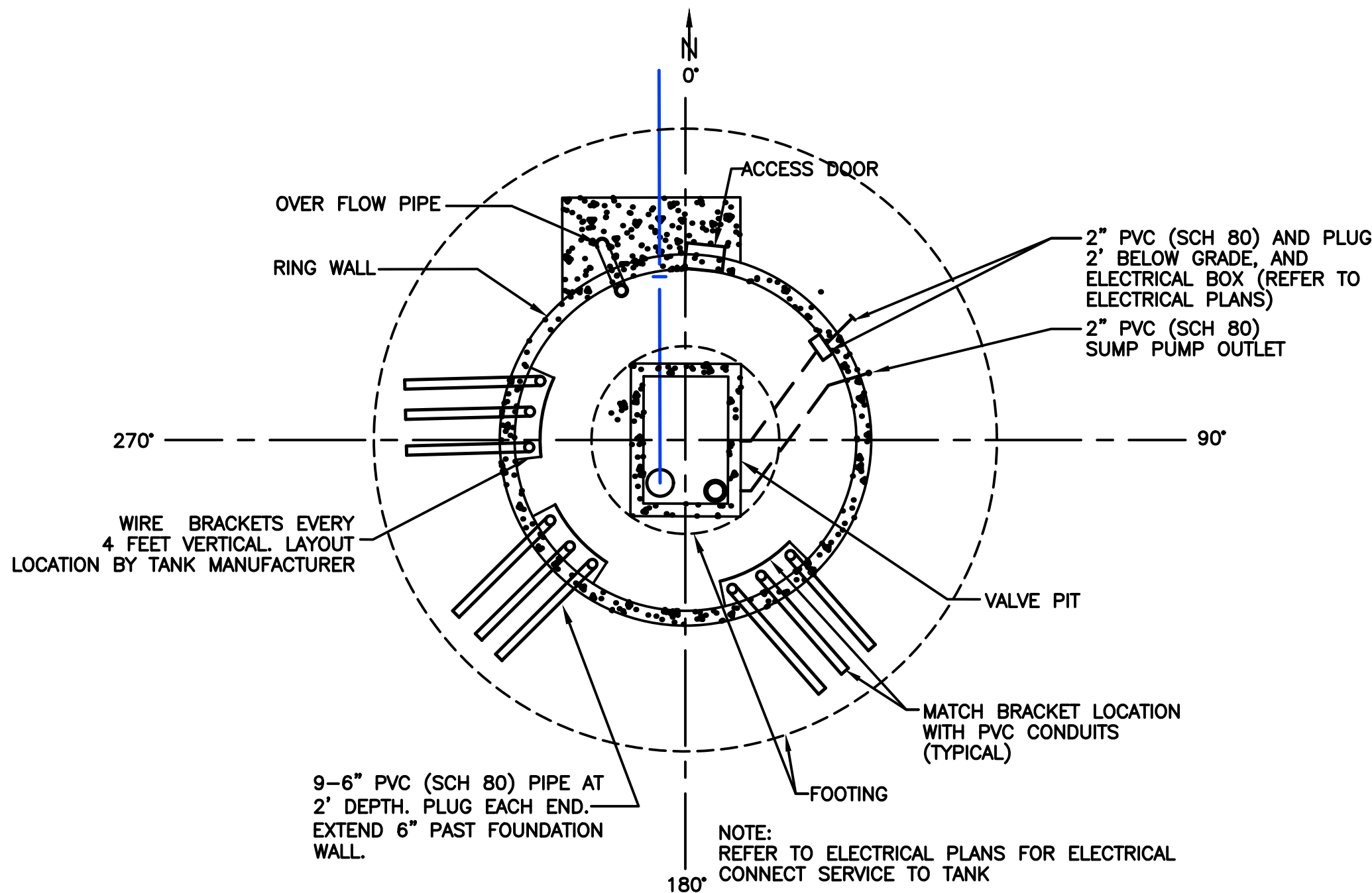
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**TANK NO. 8**  
**PLAN & DETAILS**

Sheet No. Revision  
**T1.01**  
Project No. 20709.05



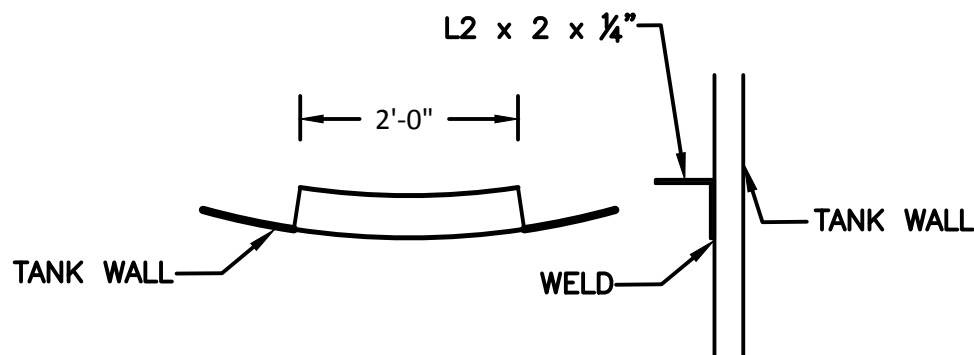
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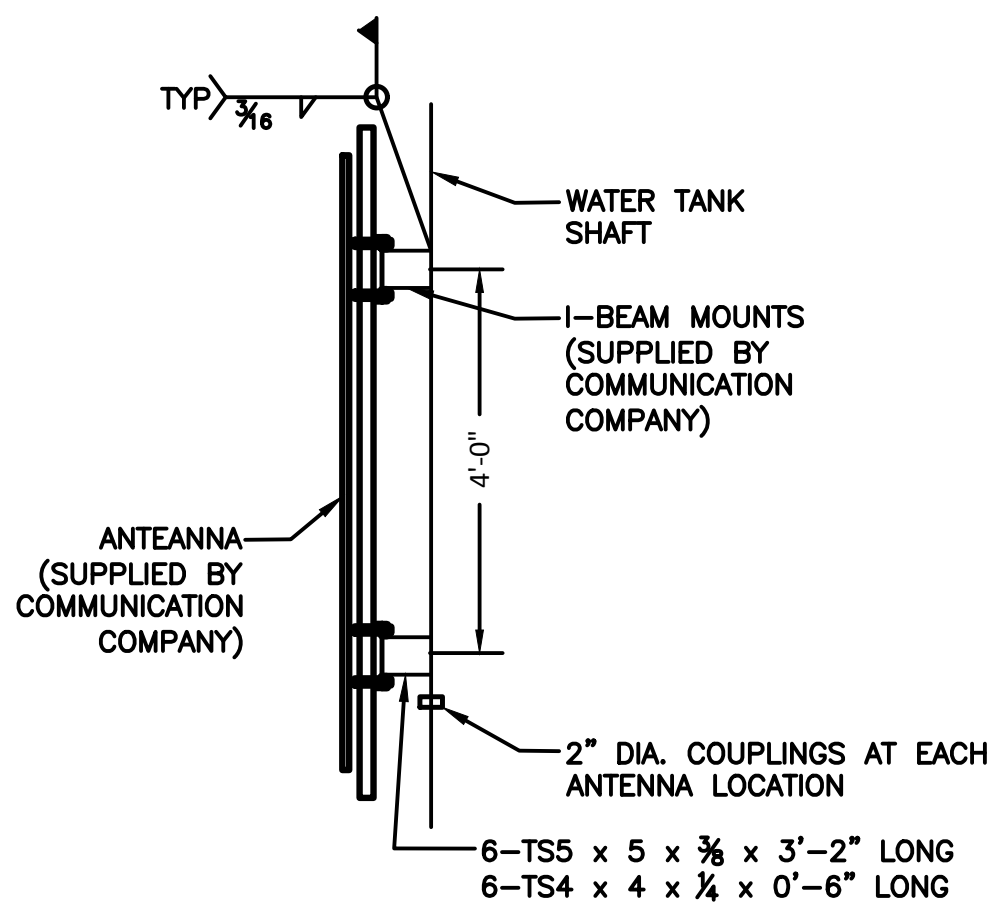
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NO SCALE



### WIRE BRACKET

NO SCALE



### TYPICAL EXTERIOR ANTENNA BRACKETS

NO SCALE

**TANK STYLE -  
SPHEROID OR COMPOSITE,  
TO BE DETERMINED**

REFERENCE ONLY

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### Project WATER TANK 8

### Location SHAKOPEE, MN

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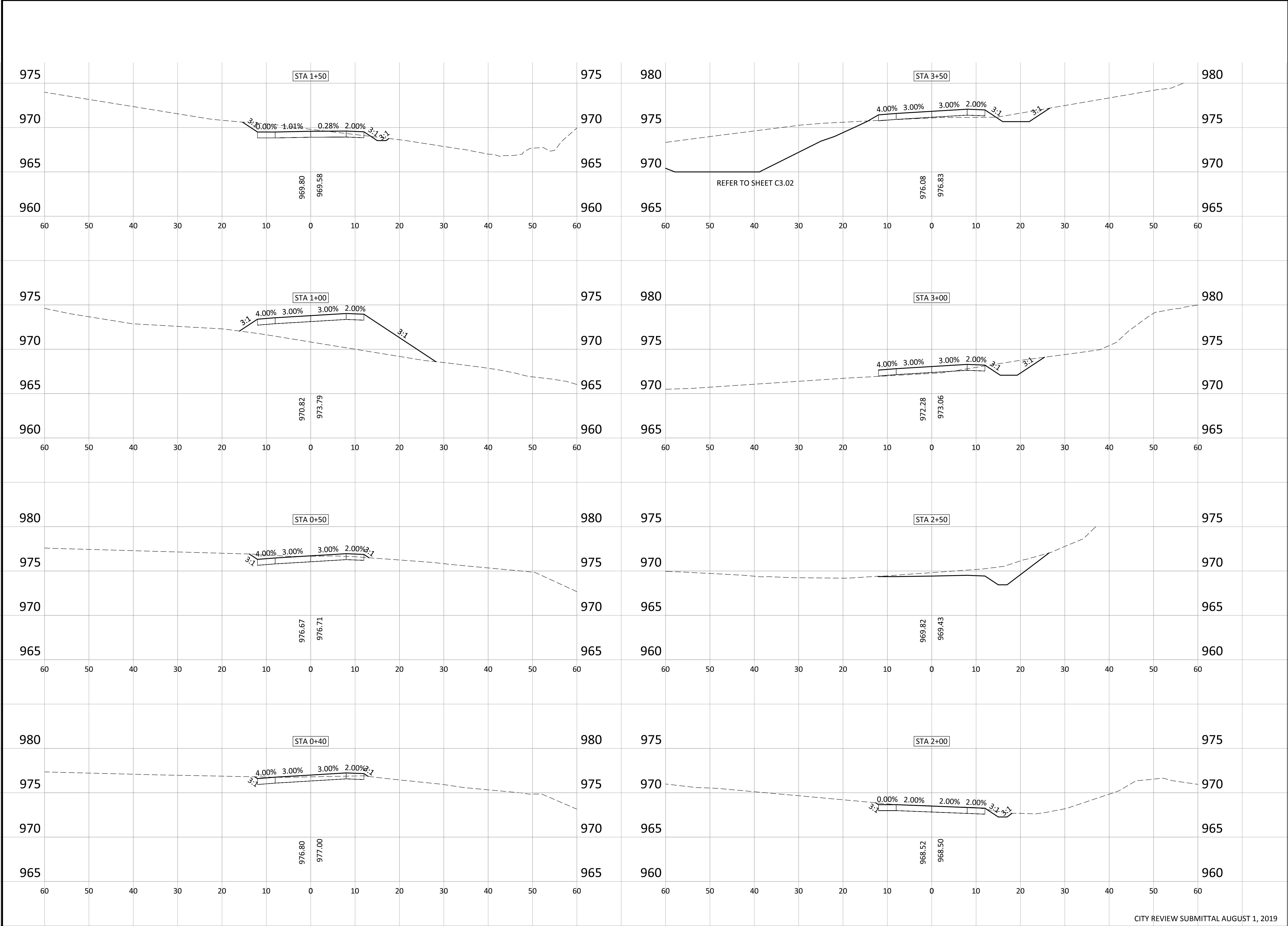
### Revision History

No. Date By Submittal / Revision

### Sheet Title TANK NO. 8 PLAN & DETAILS

### Sheet No. Revision T1.02

Project No. 20709.05



Client

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Project  
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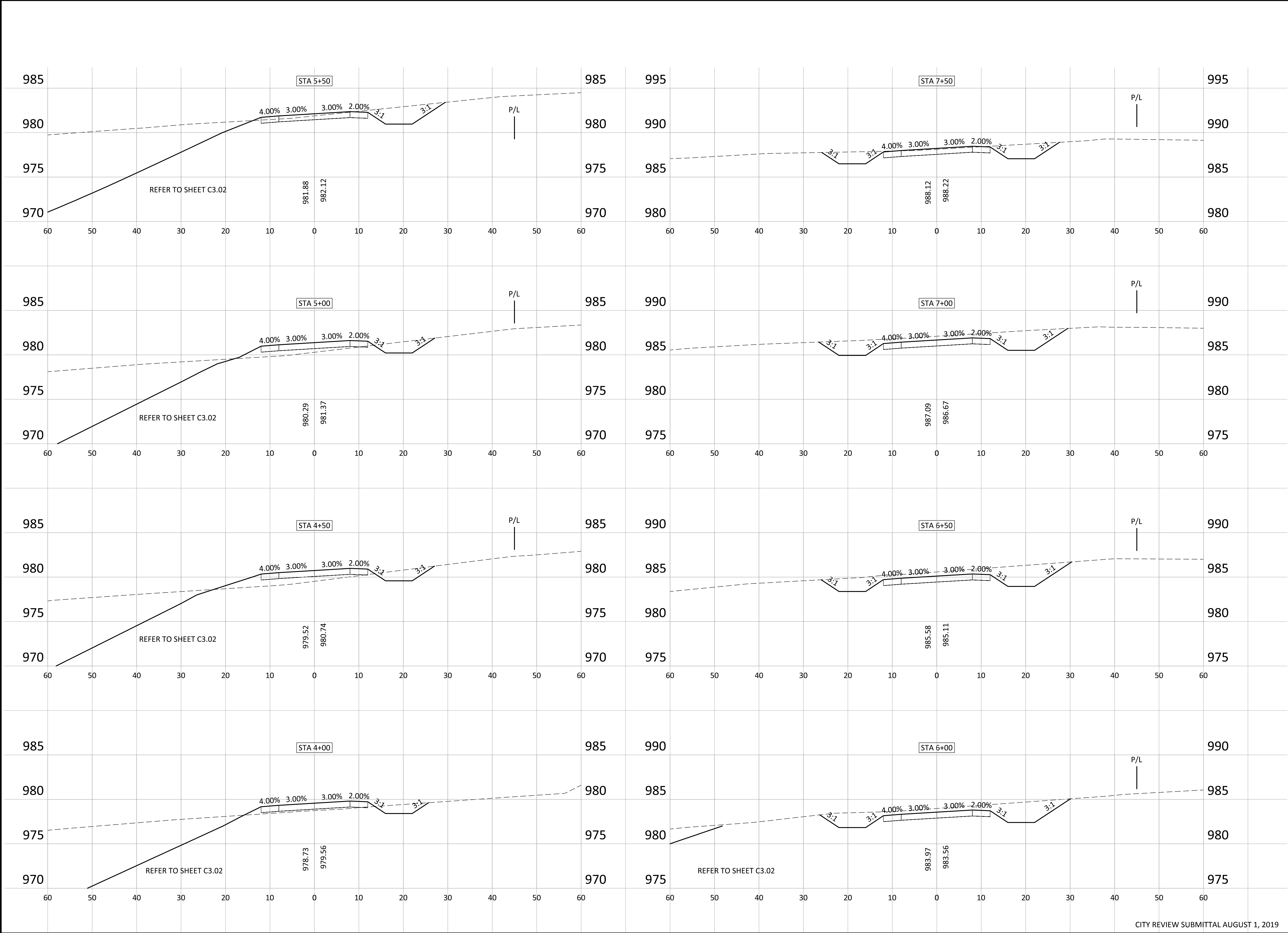
Revision History

No. Date By Submittal / Revision

Sheet Title  
**ACCESS DRIVE  
CROSS  
SECTIONS**

Sheet No. Revision  
**C8.01**

Project No. 20709.05



Client

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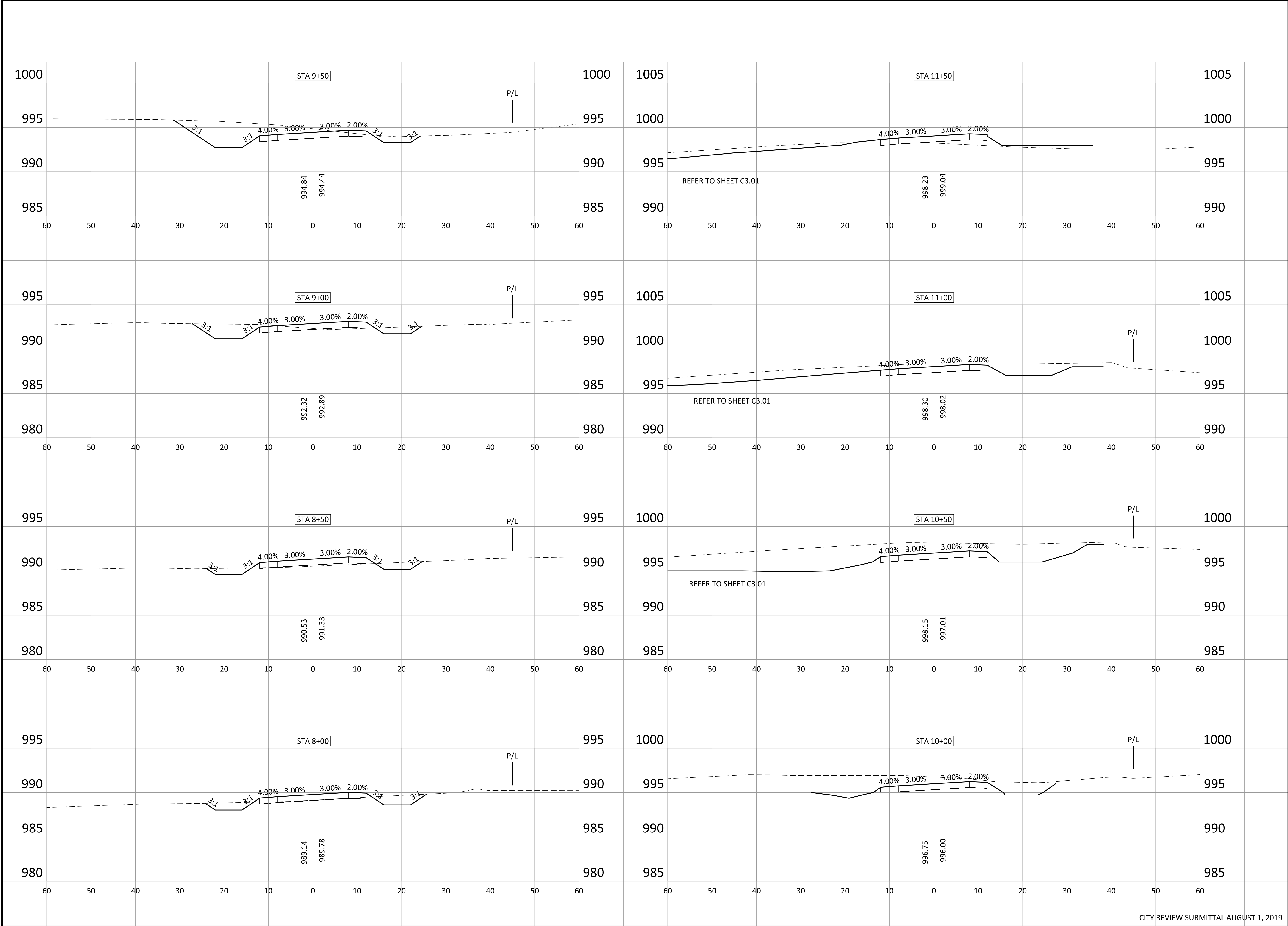
Revision History

No. Date By Submittal / Revision

Sheet Title  
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CROSS  
SECTIONS**

Sheet No. Revision  
**C8.02**

Project No. 20709.05



Client



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SHAKOPEE, MN

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

John Karwacki  
Registration No. 16532 Date: X/XX/2019  
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's Minnetonka, MN office.

Summary

Designed: JRK Drawn: DJD  
Approved: JRK Book / Page:  
Phase: FINAL Initial Issue: 8/01/2019

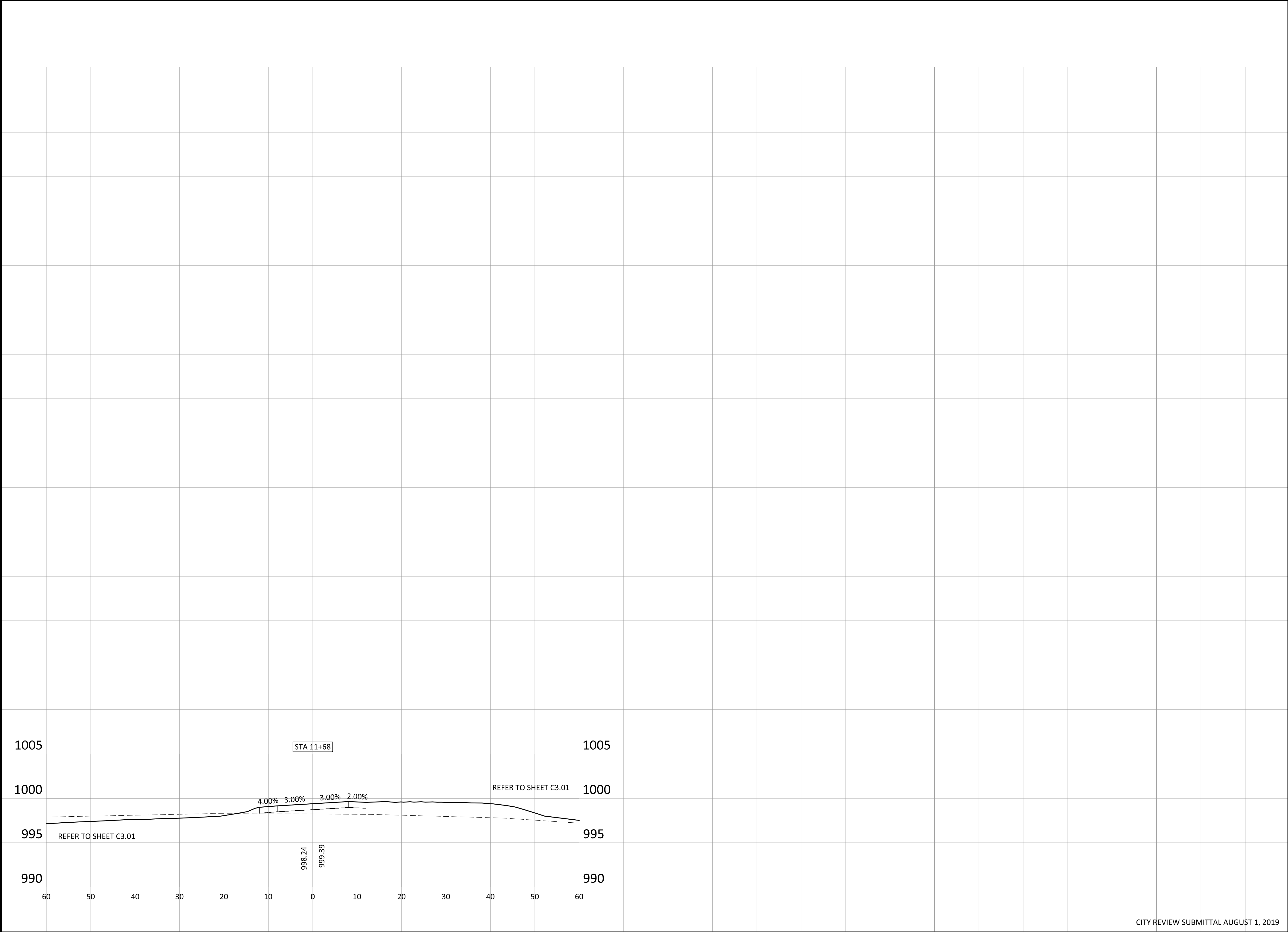
Revision History

No. Date By Submittal / Revision

Sheet Title  
ACCESS DRIVE  
CROSS  
SECTIONS

Sheet No. Revision  
C8.03

Project No. 20709.05



Client



**SHAKOPEE PUBLIC UTILITIES**  
255 SARAZIN STREET  
SHAKOPEE, MN. 55379  
TELEPHONE: 952-445-1988  
UTILITIES MANAGER: JOHN CROOKS  
PLANNING & ENGINEERING DIRECTOR: JOE ADAMS P.E.  
WATER SUPERINTENDENT: LON SCHEMEL



**Sambatek**  
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Engineering | Surveying | Planning | Environmental

PROJECT MANAGER: JOHN KARWACKI P.E.

Project  
WATER TANK 8

Location  
SHAKOPEE, MN

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|------------------|------|----|----------------------|
| No.              | Date | By | Submittal / Revision |

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Sheet No. Revision  
**C8.04**

Project No. 20709.05