

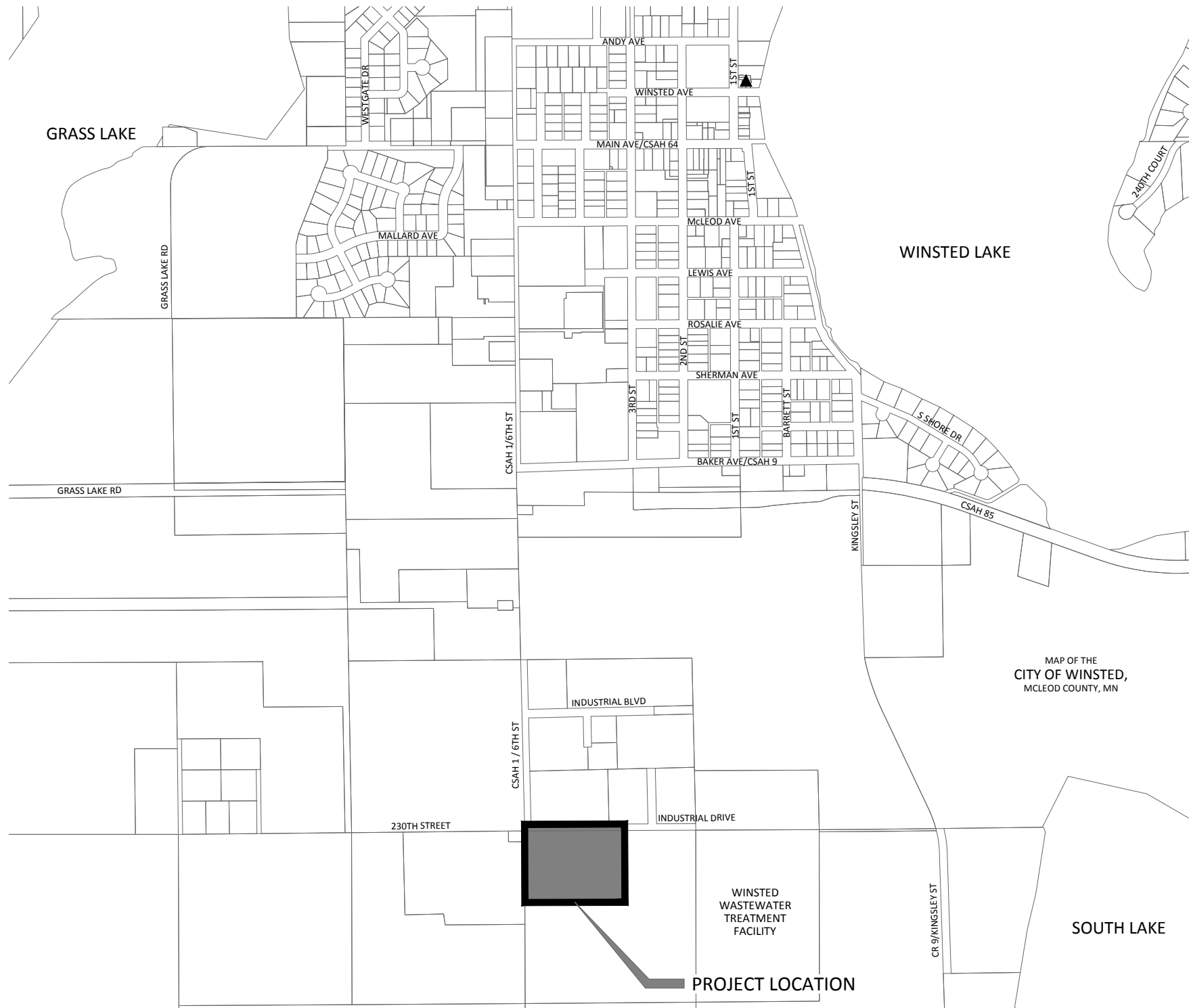
PLAN REVISIONS		
REV	ISSUED FOR	DATE

CITY OF WINSTED, MINNESOTA

CONSTRUCTION PLANS FOR

INDUSTRIAL PARK EXPANSION - PHASE 1

APRIL, 2016



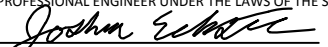
NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

SHEET INDEX	
SHEET NO.	GENERAL
C1	TITLE SHEET
C2	LEGEND
C3	TYPICAL SECTIONS
C4 - C6	CONSTRUCTION DETAILS
C7	EXISTING CONDITIONS & REMOVAL PLAN
C8	SEWER & WATER SERVICE PLAN
C9	STREET CONSTRUCTION PLAN
C10	GRADING PLAN
C11	TURF ESTABLISHMENT & EROSION CONTROL
C12	SWPPP NARRATIVE
C13	SWPPP PROJECT INFORMATION MAP
C14	SWPPP SOILS MAP

THIS PLAN SET CONTAINS 14 SHEETS.

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.

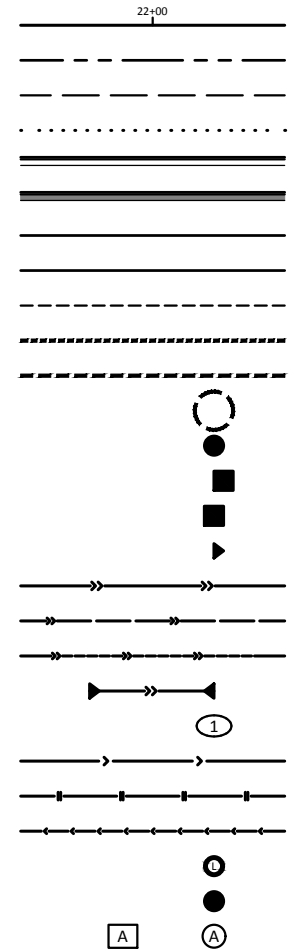

 JOSHUA ECKSTEIN
 LIC. NO. 48224 DATE: 05/17/2016

EXISTING

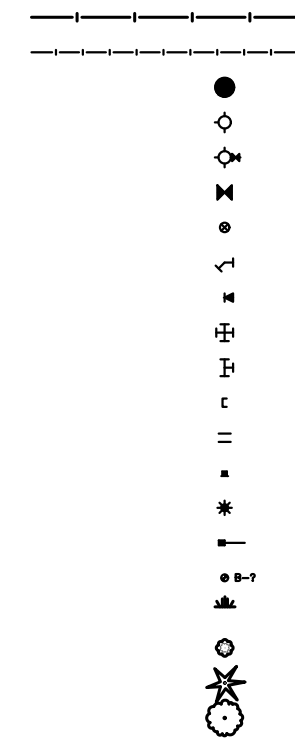
○	IRON PIPE MONUMENT SET	⊠	ELECTRIC TRANSFORMER
●	MONUMENT FOUND	□EV	EXHAUST VENT
⊙	CAST IRON MONUMENT FOUND	~	FLAG POLE
■	STONE MONUMENT FOUND	○	FILL PIPE
△	POST SET	⊙	GAS MANHOLE
⊕	BENCH MARK	⊙	GAS REGULATOR
⊙AS	AUTO SPRINKLER	⊙	GAS VALVE
⊙	ANTENNA	⊠	GAS METER
⊠	AIR CONDITIONER	▨	ACCESS GRATE
⊂	ANCHOR	♿	HANDICAPPED PARKING
⊙AP	AIR PUMP	⊠	HAND HOLE
▷	APRON	⊙	HYDRANT
⊙	BASKETBALL HOOP	⊙	IRRIGATION CONTROL VALVE
⊠	BIRD FEEDER	☀	LIGHT DECORATIVE
⊠	BENCH	☀	LIGHT POLE
○	BRACE POLE	⊠	MAILBOX
▨	CATCH BASIN	⊙	METER
○	CLOTHES LINE POLE	⊙	POST
△	CONTROL POINT	⊙	MANHOLE
⊙	CLEAN OUT	⊙	LIFT STATION MANHOLE
⊠CP	COMMUNICATION PEDESTAL	⊙	MONITORING WELL
⊙	CURB STOP VALVE	⊙	ORDER MICROPHONE
◇	DITCH TOP	⊙	PARK GRILL
⊠	DRINKING FOUNTAIN	⊙	GAS PUMP
⊙	DOWN SPOUT	⊙	POST INDICATOR VALVE
⊙	ELECTRIC MANHOLE	⊙	PARKING METER
⊠	ELECTRIC METER	⊙	SANITARY MANHOLE
⊠E	ELECTRIC PEDESTAL	⊙	SATELLITE DISH

⊙	SEMAPHORE TRAFFIC LIGHT
⊠	SIGNAL BOX
○	SIGNAL POLE - RR
⊙	SOIL BORING
⊙	SIREN
⊙	SPRINKLER HEAD
⊙	STORM MANHOLE
⊙	TELEPHONE MANHOLE
⊠	PUBLIC TELEPHONE
⊠	TILE INLET
⊠	TILE RISER
⊠	TRAFFIC ARM BARRIER
⊠	TRAFFIC SIGN
⊠	TRANSMISSION TOWER
⊙	UTILITY POLE
⊠	VACUUM
⊙	VENT PIPE
⊙	DECIDUOUS TREE
⊙	CONIFEROUS TREE
⊙	STUMP
⊙	BUSH
⊙	WELL
⊙	WATER MANHOLE
⊙	WATER METER
⊙	WATER SPIGOT
⊙	WATER VALVE
⊙	WETLAND / MARSH
⊙	WETLAND - DELINEATED

PROPOSED



—	ALIGNMENT/CENTERLINE
- - -	RIGHT-OF-WAY LINE
- · - · -	TEMPORARY EASEMENT
· · · · ·	CONSTRUCTION LIMITS
==	CURB & GUTTER
==	CURB & GUTTER (OUT)
—	BITUMINOUS EDGE
—	CONCRETE EDGE
- - -	GRAVEL EDGE
- - -	SILT FENCE-PREASSEMBLED
- - -	SILT FENCE-HEAVY DUTY
—	EROSION PROTECTION AT INLET
⊙	MANHOLE
⊙	CATCH BASIN
⊙	STORM INLET
⊙	APRON
⊙	STORM SEWER
⊙	PERFORATED PIPE DRAIN
⊙	STORM DRAIN TILE
⊙	CULVERT W/APRON
⊙	STORM MANHOLE NUMBER
⊙	SANITARY SEWER
⊙	SANITARY FORCEMAIN
⊙	SANITARY SEWER SERVICE
⊙	SANITARY LIFT STATION
⊙	SANITARY MANHOLE
⊙	SANITARY MANHOLE NUMBER



—	WATERMAIN
- - -	WATERMAIN SERVICE
⊙	WATER SYSTEM MANHOLE
⊙	HYDRANT
⊙	HYDRANT W/ VALVE
⊙	VALVE
⊙	CURBSTOP
⊙	BEND
⊙	REDUCER
⊙	CROSS
⊙	TEE
⊙	CAP
⊙	SLEEVE
⊙	SIGN
⊙	LIGHT POLE
⊙	GUARD RAIL
⊙	SOIL BORING
⊙	WETLAND
⊙	BUSH
⊙	CONIFEROUS TREE
⊙	DECIDUOUS TREE

—EO—	OVERHEAD ELECTRIC LINE	-----	EASEMENT LINE
—EU—	UNDERGROUND ELECTRIC LINE	-----	BUILDING SETBACK LINE
—G—	GAS LINE	-x-x-x-x-	FENCE LINE
—FO—	FIBER OPTIC LINE	—□—	GUARD RAIL
—CU—	UNDERGROUND COMMUNICATIONS LINE	—○—	ACCESS CONTROL LINE
—OU—	OVERHEAD UTILITY LINE	-----	CENTERLINE
— — — — — —	WATER SYSTEM	-----	PROPERTY / LOT LINE
—>>—>>—	STORM SEWER	-----	ROAD RIGHT-OF-WAY LINE
—>>----->>—	TILE LINE	-----	RAILROAD RIGHT-OF-WAY LINE
—>—>—	SANITARY SEWER	-----	GRAVEL EDGE
— — — — —	SANITARY FORCEMAIN	-----	BITUMINOUS EDGE
=====	CULVERT	=====	CONCRETE EDGE
-----	INTERMEDIATE CONTOURS	=====	CURB & GUTTER
-----	INDEX CONTOURS	-----	WATER EDGE
-----	COUNTY LINE	-----	WATER CENTERLINE
-----	CITY LIMITS	-----	HIGHWATER LINE
-----	SIXTEENTH LINE	-----	WETLAND EDGE
-----	QUARTER LINE	-----	SWALE CENTERLINE
-----	SECTION LINE	-----	RAILROAD TRACKS
-----	ADJACENT LINES	-----	TREE DRIP LINE

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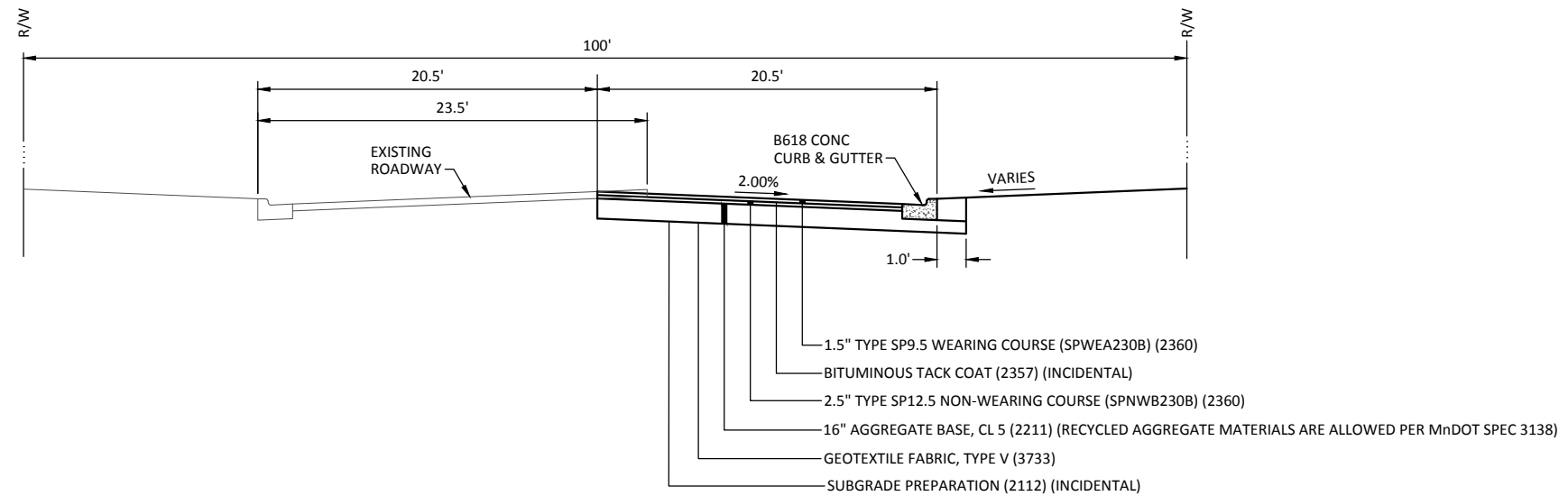
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Joshua Eckstein
 JOSEPH A. ECKSTEIN
 LIC. NO. 48224 DATE 05/17/2016

DESIGNED JZE
DRAWN A.S
CHECKED JSS

CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 LEGEND

TYPICAL SECTION



NOTE: DETAILS ARE NOT TO SCALE



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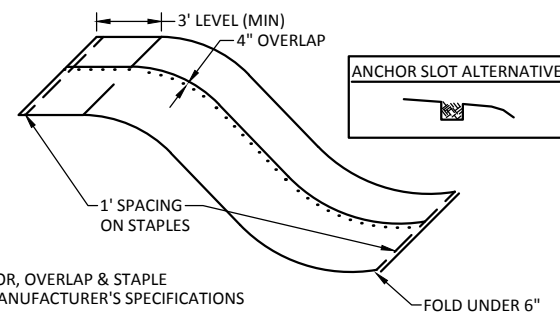
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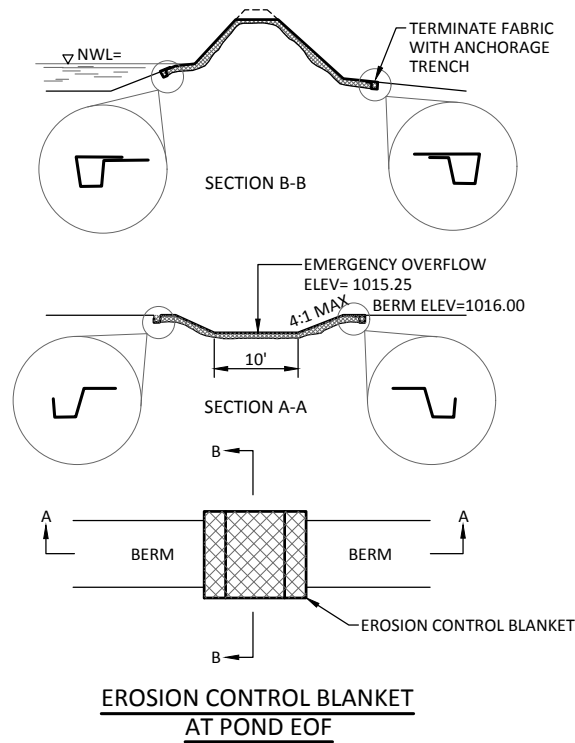
CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 TYPICAL SECTIONS

SHEET
C3

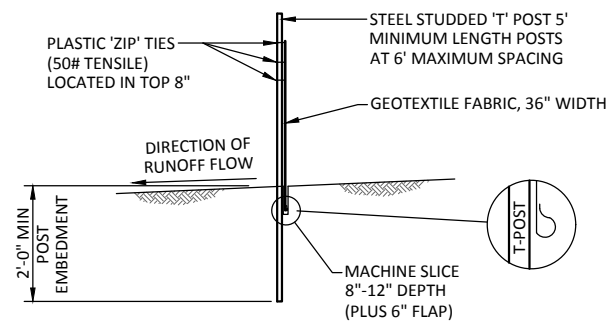


NOTE:
ANCHOR, OVERLAP & STAPLE
PER MANUFACTURER'S SPECIFICATIONS

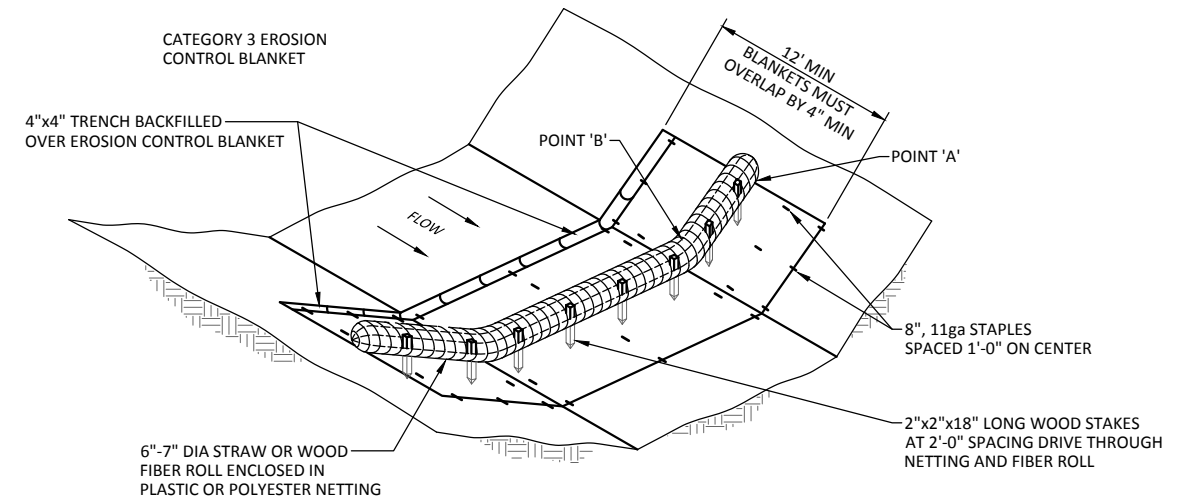
EROSION CONTROL BLANKET INSTALLATION



**EROSION CONTROL BLANKET
AT POND EOF**

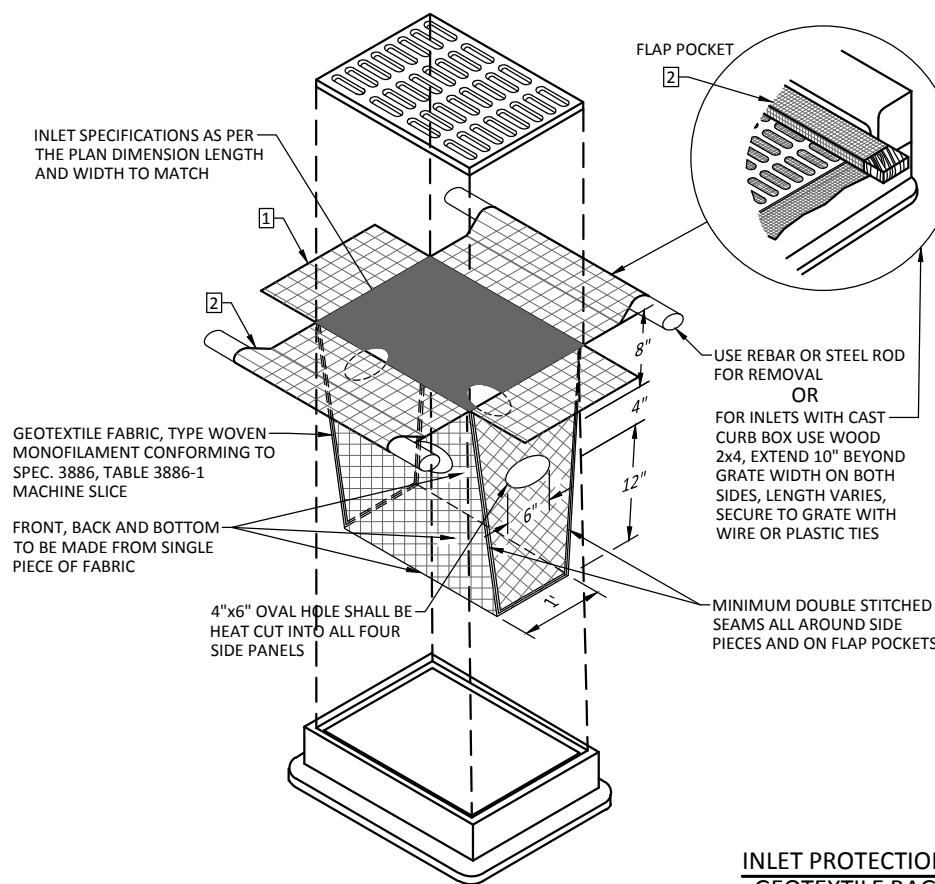


SILT FENCE - MACHINE SLICED



DITCH CHECK - BIOROLL

NOTE:
POINT 'A' MUST BE 1'-0\"/>



**INLET PROTECTION
GEOTEXTILE BAG**

NOTES:
1 INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENTS EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL IN THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
2 FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10\"/>

FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

INSTALLATION NOTES:
DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30\", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3\"/>

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3\"/>

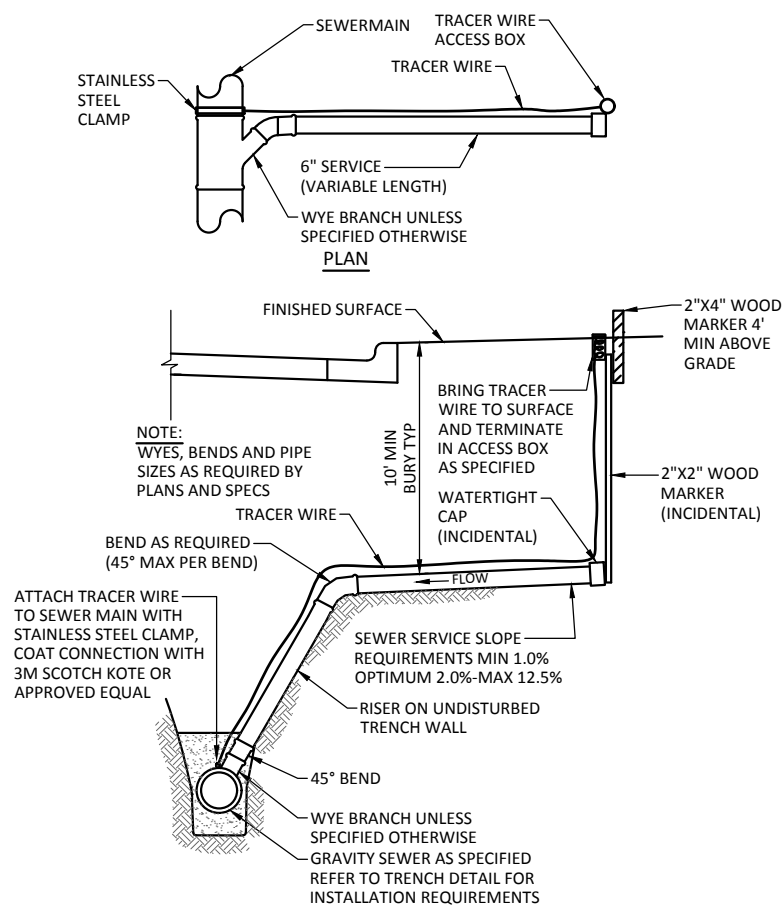
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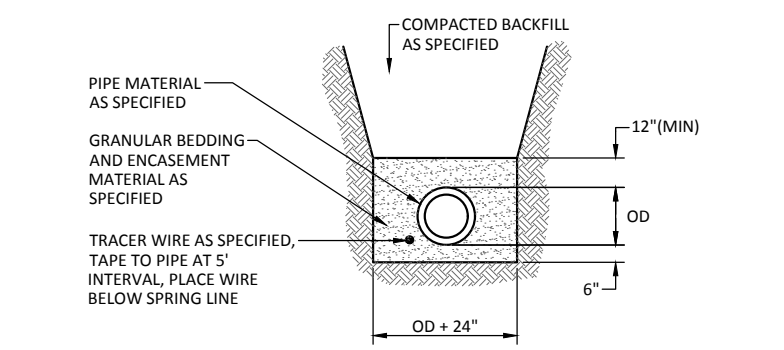
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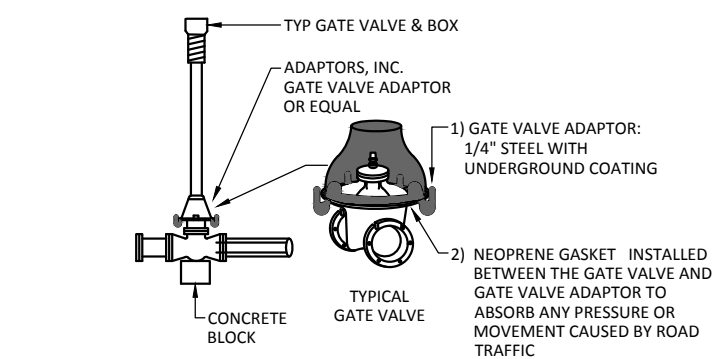
CITY OF WINSTED, MINNESOTA
INDUSTRIAL PARK EXPANSION - PHASE 1
CONSTRUCTION DETAILS



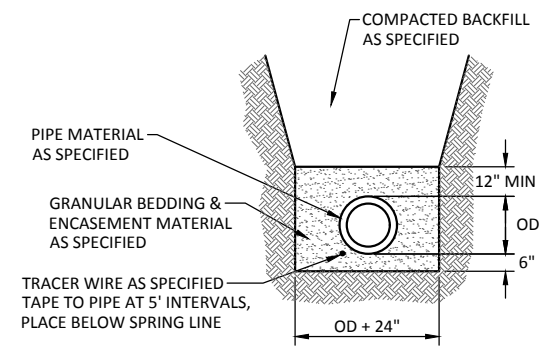
**SANITARY SEWER SERVICE
NEW CONSTRUCTION
WITH TRACER WIRE ACCESS BOX**



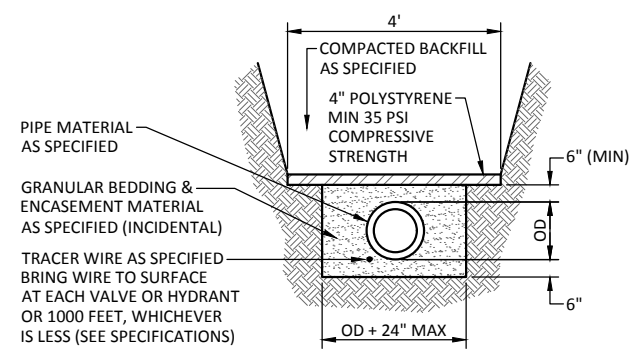
NON-RIGID SANITARY SEWER TRENCH



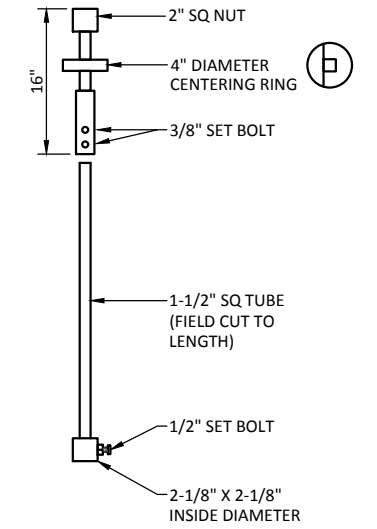
GATE VALVE ADAPTOR



PVC WATERMAIN TRENCH

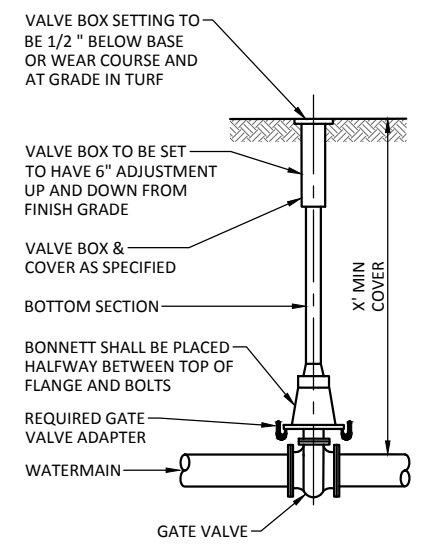


WATERMAIN INSULATION



ADJUSTABLE VALVE EXTENSION STEM

- 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 "GV" SIGN
 3. DEEP VALVES SHALL HAVE NUT EXTENSIONS INSTALLED TO ELEVATION TO ACCOMMODATE STANDARD 4' KEY
 4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION
 5. GATE VALVES LOCATED WITHIN THE CONCRETE SIDEWALK SHALL INCLUDE A METAL SEPARATOR BETWEEN THE VALVE BOX AND THE CONCRETE



GATE VALVE BOX INSTALLATION

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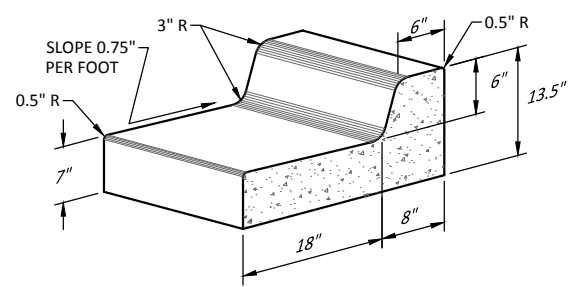
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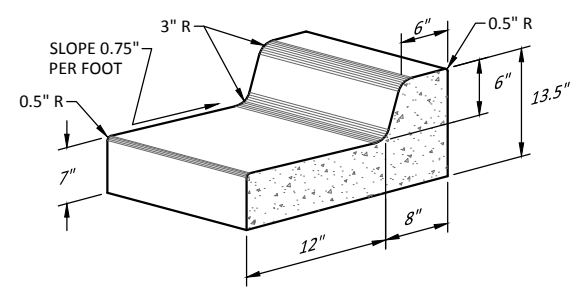
DESIGNED: JZE
 DRAWN: A.S.
 CHECKED: JSS

CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 CONSTRUCTION DETAILS

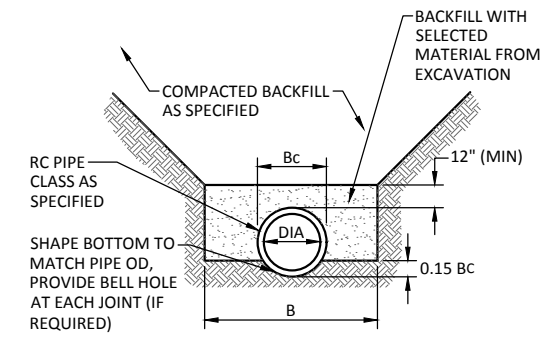
SHEET
C5



**CONCRETE CURB & GUTTER
DESIGN B618**

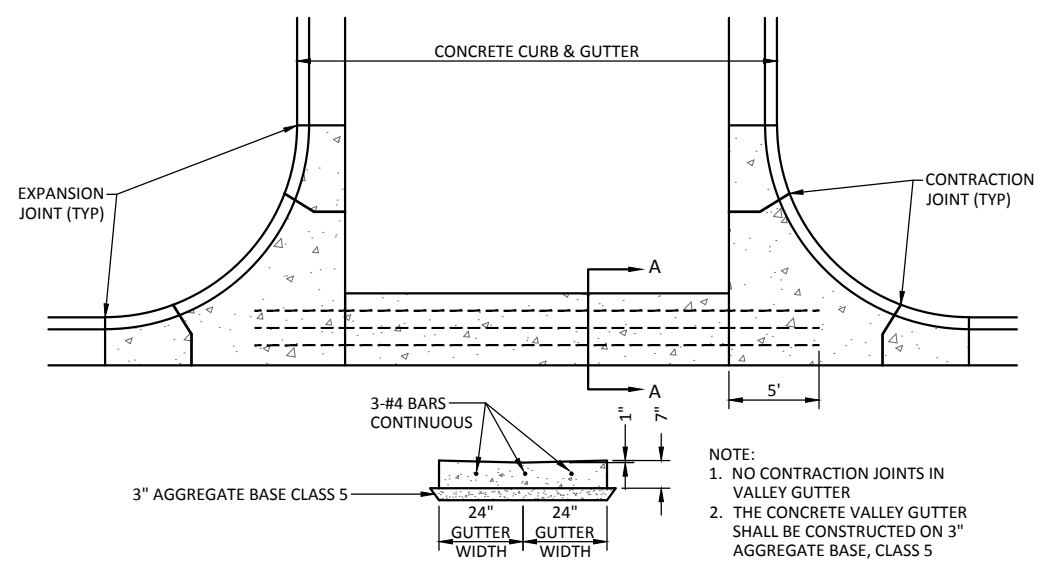


**CONCRETE CURB & GUTTER
DESIGN B612**



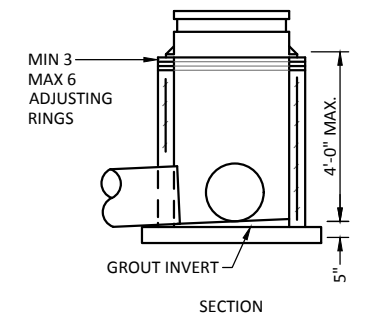
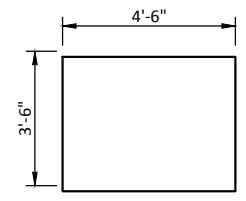
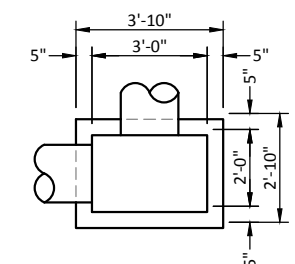
PIPE DIA	B
36" OR LESS	$B_c + 24"$
42" TO 54"	$1.5 \times B_c$
60" OR OVER	$B_c + 36"$

**RC PIPE
CLASS "C" BEDDING**



**SECTION A
CONCRETE VALLEY GUTTER**

- NOTE:
1. NO CONTRACTION JOINTS IN VALLEY GUTTER
 2. THE CONCRETE VALLEY GUTTER SHALL BE CONSTRUCTED ON 3" AGGREGATE BASE, CLASS 5



**CATCH BASIN STRUCTURE
DESIGN R-1 (2'x3')**

- NOTES:
1. CASTING PER CONSTRUCTION DOCUMENTS
 2. PIPE CUT-OUTS PER CONSTRUCTION DOCUMENTS
 3. ALTERNATE CAST-IN-PLACE BASE CAN BE USED
 4. MIN REINFORCING SHALL BE WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ IN PER FOOT IN BOTH DIRECTIONS

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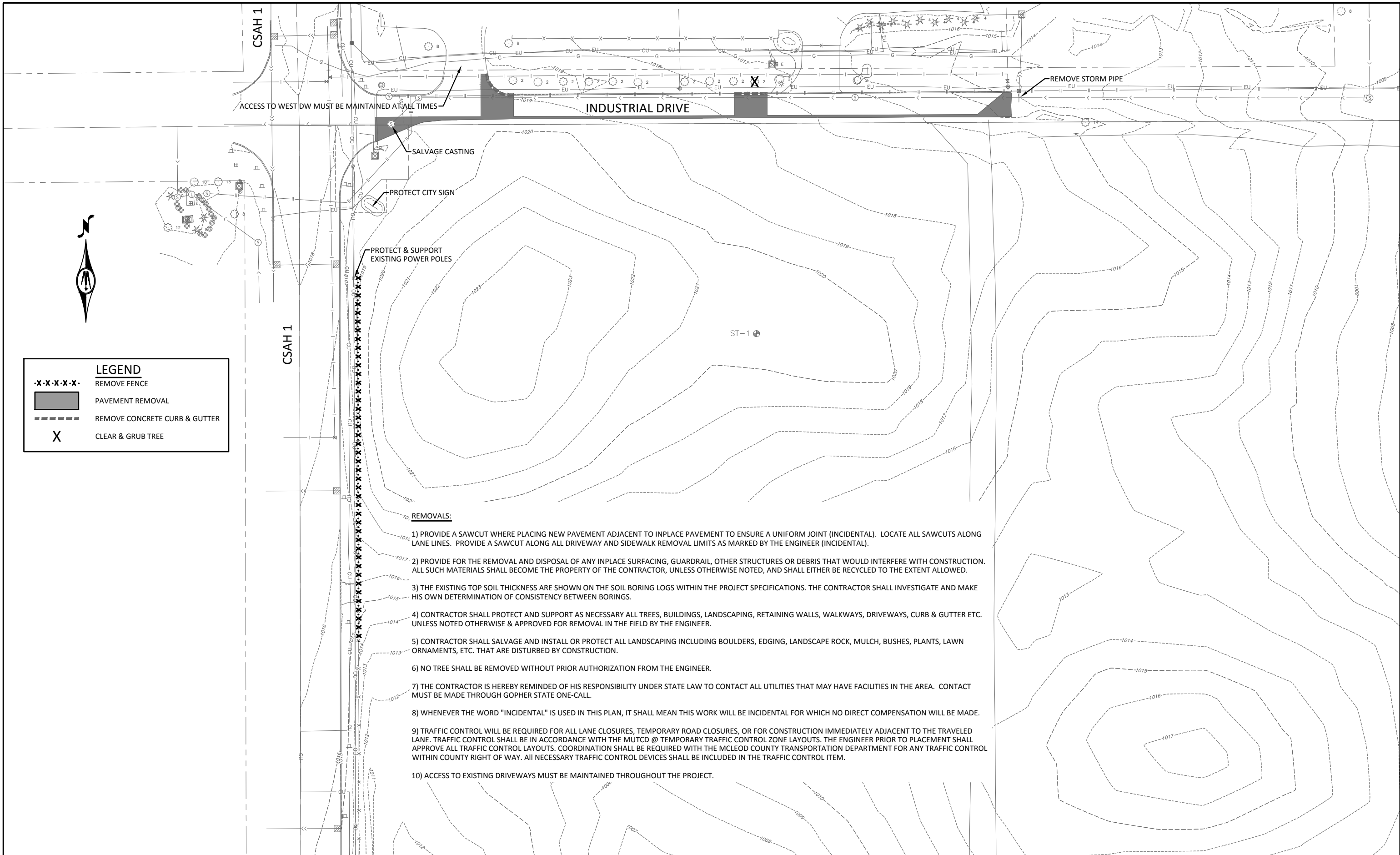
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 INDUSTRIAL PARK EXPANSION - PHASE 1
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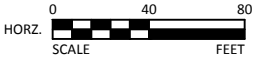
SHEET
C6



LEGEND	
-X-X-X-X-X-	REMOVE FENCE
[Solid Grey Box]	PAVEMENT REMOVAL
[Dashed Line]	REMOVE CONCRETE CURB & GUTTER
X	CLEAR & GRUB TREE

REMOVALS:

- 1) PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT (INCIDENTAL). LOCATE ALL SAWCUTS ALONG LANE LINES. PROVIDE A SAWCUT ALONG ALL DRIVEWAY AND SIDEWALK REMOVAL LIMITS AS MARKED BY THE ENGINEER (INCIDENTAL).
- 2) PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED, AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED.
- 3) THE EXISTING TOP SOIL THICKNESS ARE SHOWN ON THE SOIL BORING LOGS WITHIN THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL INVESTIGATE AND MAKE HIS OWN DETERMINATION OF CONSISTENCY BETWEEN BORINGS.
- 4) CONTRACTOR SHALL PROTECT AND SUPPORT AS NECESSARY ALL TREES, BUILDINGS, LANDSCAPING, RETAINING WALLS, WALKWAYS, DRIVEWAYS, CURB & GUTTER ETC. UNLESS NOTED OTHERWISE & APPROVED FOR REMOVAL IN THE FIELD BY THE ENGINEER.
- 5) CONTRACTOR SHALL SALVAGE AND INSTALL OR PROTECT ALL LANDSCAPING INCLUDING BOULDERS, EDGING, LANDSCAPE ROCK, MULCH, BUSHES, PLANTS, LAWN ORNAMENTS, ETC. THAT ARE DISTURBED BY CONSTRUCTION.
- 6) NO TREE SHALL BE REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
- 7) THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.
- 8) WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
- 9) TRAFFIC CONTROL WILL BE REQUIRED FOR ALL LANE CLOSURES, TEMPORARY ROAD CLOSURES, OR FOR CONSTRUCTION IMMEDIATELY ADJACENT TO THE TRAVELED LANE. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MUTCD @ TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. THE ENGINEER PRIOR TO PLACEMENT SHALL APPROVE ALL TRAFFIC CONTROL LAYOUTS. COORDINATION SHALL BE REQUIRED WITH THE MCLEOD COUNTY TRANSPORTATION DEPARTMENT FOR ANY TRAFFIC CONTROL WITHIN COUNTY RIGHT OF WAY. ALL NECESSARY TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE TRAFFIC CONTROL ITEM.
- 10) ACCESS TO EXISTING DRIVEWAYS MUST BE MAINTAINED THROUGHOUT THE PROJECT.



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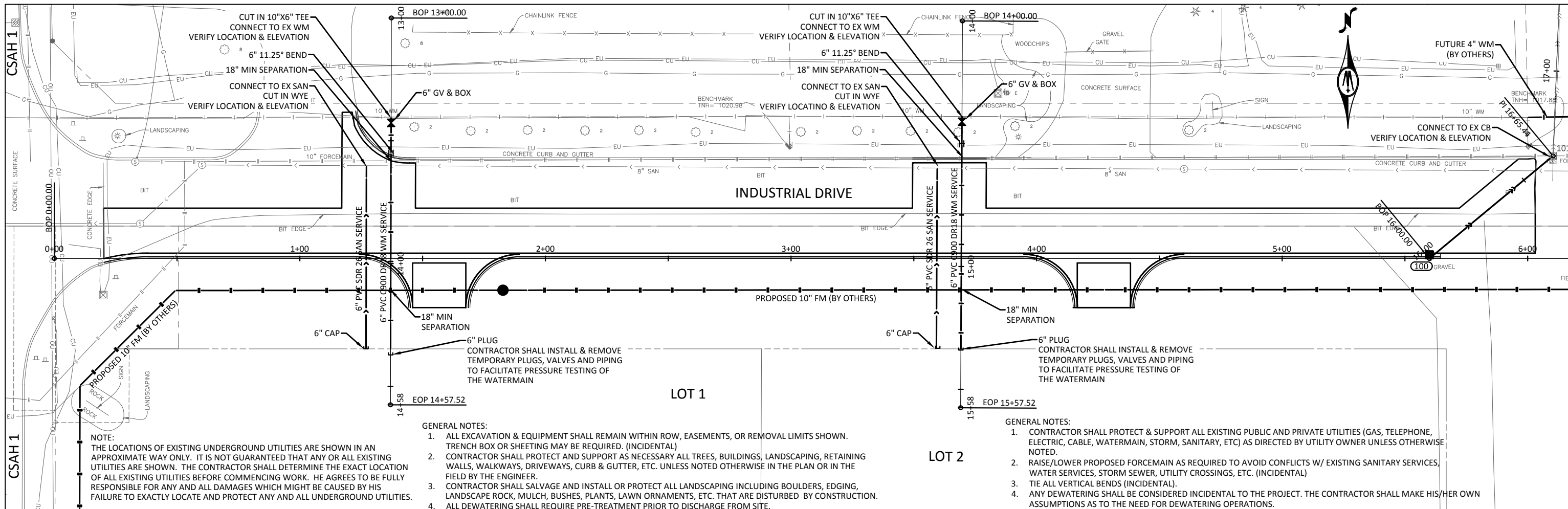
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DRAWN A.S
CHECKED JSS

CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 EXISTING CONDITIONS & REMOVAL PLAN



LOT 1 SERVICES			LOT 2 SERVICES			STORM SEWER		
1030	1030	1030	1030	1030	1030	1030	1030	1030
1025	1025	1025	1025	1025	1025	1025	1025	1025
1020	1020	1020	1020	1020	1020	1020	1020	1020
1015	1015	1015	1015	1015	1015	1015	1015	1015
1010	1010	1010	1010	1010	1010	1010	1010	1010
1005	1005	1005	1005	1005	1005	1005	1005	1005
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www.bolton-menk.com

DESIGNED: JZE
DRAWN: A.S.
CHECKED: JSS

CITY OF WINSTED, MINNESOTA
INDUSTRIAL PARK EXPANSION - PHASE 1
SEWER & WATER SERVICE PLAN

SHEET
C8

CONSTRUCTION / SOILS NOTES

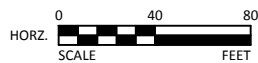
GRADING, BASE AND SURFACE:

- 1) TOP OF THE GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
- 2) SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL. NO ORGANIC SOIL SHALL BE ALLOWED IN THE TOP 3 FEET BELOW THE SUBGRADE. FOR FIELD PURPOSES, ORGANIC SOIL WILL BE IDENTIFIED AS BEING BLACK IN COLOR.
- 3) STRIP ALL INPLACE TOPSOIL AND SLOPE DRESSING IN AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCKPILE IN DESIGNATED AREAS. ALL TOPSOIL STRIPPING IS INCLUDED IN COMMON EXCAVATION.
- 4) UNLESS OTHERWISE NOTED, IN ANY EMBANKMENT CONSTRUCTION, PROVIDE FOR SUBCUTS TO THE DEPTHS AND LOCATIONS SHOWN ON THE PLAN.
- 5) EXCESS TOPSOIL AND MULCH MATERIAL SHALL BE USED THROUGHOUT THE PROJECT AND AS DIRECTED BY THE ENGINEER.
- 6) IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE SURFACE, WITHIN THE GRADING LIMITS SHOWN ON THE PLAN.
- 7) TEST ROLLING SHALL BE REQUIRED ON ALL STREET & FUTURE STREET SECTIONS.
- 8) IN ANY PROPOSED CONSTRUCTION, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5 FEET OF THE ROADWAYS. GRANULAR BACKFILL SHALL NOT BE PERMITTED ADJACENT TO NON-GRANULAR SOILS IN ORDER TO PREVENT AN ABRUPT SOILS DIFFERENTIAL.
- 9) WHERE SUBCUTS RUN INTO ANY ROADWAY, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1(V):4(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- 10) WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER, THEN AT A 1(V):20(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION, UNLESS OTHERWISE NOTED.
- 11) IN ANY CASE WHERE GRANULAR EMBANKMENTS OR BACKFILL JOIN PLASTIC SOIL EMBANKMENTS OR BACKFILL, PROVIDE A 1(V):20(H) TRANSITION TAPER BETWEEN THE CHANGE IN MATERIAL TO PREVENT AN ABRUPT SOILS DIFFERENTIAL. THE 1(V):20(H) TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT PLASTIC SOIL BACKFILL.
- 12) PROVIDE 1(V):20(H) TAPERS WHEN CHANGING SUBCUT DEPTHS OR WHEN GOING FROM GRANULAR MATERIAL TO SUITABLE GRADING MATERIAL.
- 13) DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
- 14) DRIVEWAY ACCESS MUST BE MAINTAINED THROUGHOUT THE PROJECT.

NOTE:
ALL FINISH GRADES WILL INCLUDE 6" TOPSOIL PLACEMENT

NOTE:
1. TEMPORARY STOCKPILE OF TOPSOIL IS ALLOWED IN THIS REGION OR IN LOTS 1 & 2 DURING CONSTRUCTION PROCESS. ANY EXCESS TOPSOIL SHALL BE STOCKPILED IN THIS LOCATION.
2.

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



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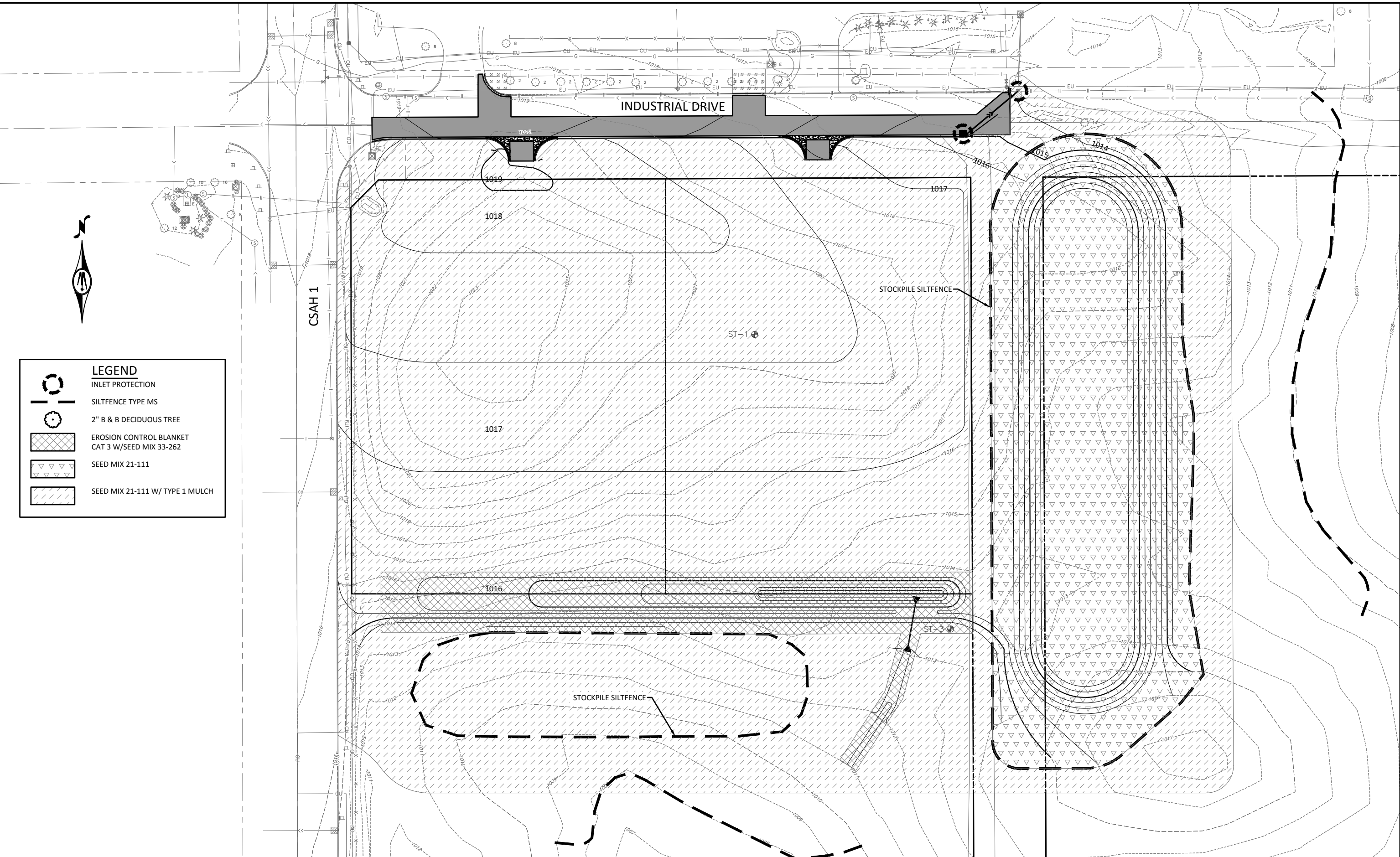
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Joshua Eckstein
 JOSEPH A. ECKSTEIN
 LIC. NO. 48224 DATE 05/17/2016

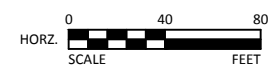
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CHECKED	JSS

CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 GRADING PLAN

SHEET
C10



LEGEND	
	INLET PROTECTION
	SILTFENCE TYPE MS
	2" B & B DECIDUOUS TREE
	EROSION CONTROL BLANKET CAT 3 W/SEED MIX 33-262
	SEED MIX 21-111
	SEED MIX 21-111 W/ TYPE 1 MULCH



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Joshua Eckstein
 JOSHUA ECKSTEIN
 LIC. NO. 48224 DATE 05/17/2016

DESIGNED	JZE
DRAWN	A.S
CHECKED	JSS

CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 TURF ESTABLISHMENT & EROSION CONTROL

SHEET
C11

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Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN R100001 as they apply to this project. All provisions of the permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the permit is available at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/construction-stormwater/mpca-to-re-issue-construction-stormwater-general-permit.html>

SWPPP AMENDMENTS

Permittee must amend SWPPP as necessary to include additional requirements to correct problems identified or address the following situations.

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions.
2. Inspections or investigations by site owner or operators, USEPA or MPCA officials determine the SWPPP is not minimizing discharge of pollutants to surface waters or underground waters or discharges are causing water quality standard exceedances.
3. The SWPPP is not achieving the objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of the permit.
4. The MPCA determines that the project's stormwater discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or the SWPPP does not incorporate the applicable requirements of the permit.

EROSION PREVENTION PRACTICES

The location of areas not to be disturbed must be delineated on the project before site work begins.

Disturbance on steep slopes (>33.3%) shall be minimized. Where required, techniques such as phasing and stabilizing practices designed for steep slopes shall be used.

All exposed soils must be stabilized as soon as possible, but in no case later than 14 days after the construction activity has temporarily or permanently ceased.

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period.

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Stabilization of the remaining portions of any temporary or permanent ditches or swales within 14 calendar days after connecting to a surface water or property edge and construction in that portion of the ditch has temporary or permanently ceased.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of a temporary or permanent drainage ditch. Refer to erosion and sediment control plan for temporary and permanent stabilization measures for ditches and swales.

Stormwater discharges shall be directed to vegetated areas where feasible. Velocity dissipation devices shall be used at discharge point.

Phased construction will be used to extent practical or as indicated in the plans to minimize exposed soils.

Rapid stabilization shall be of type and quantity indicated in the project specifications. Additional rapid stabilization may be necessary to minimize erosion throughout the duration of the project. Type and quantity shall be determined by the engineer or inspector prior to installation. In extreme cases, the contractor shall use any available rapid stabilization to immediately mitigate erosion, then further remedy the situation with approval by owner or engineer.

SEDIMENT CONTROL PRACTICES

Practices must be established on all down gradient perimeters and be located up gradient of any buffer zones. Perimeter controls must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.

All sediment controls practices shall be re-installed if they have been adjusted or removed to accommodate short-term activities and replaced immediately after the short term activity has ceased. Short term activities shall be performed as quickly as possible. Sediment control practices shall be re-installed even before the next precipitation event if the activity is not complete.

All storm drains must be protected by appropriate BMPs during construction until all sources to the inlet have

been stabilized. Inlet protection may be removed for specific safety concerns identified by the Permittee or jurisdictional authority. The removal shall be documented in the SWPPP and retained on site. Temporary stockpiles must have silt fence or other effective sediment controls and shall not be placed in surface waters or natural buffers.

Vehicle tracking BMPs shall be installed to minimize track out of sediment from the construction site. Method shall be approved by engineer prior to commencement of construction activities. Street sweeping shall be used if vehicle tracking BMPs are not adequate to prevent sediment from being tracked onto the street.

Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.

A 50 foot natural buffer, or redundant BMPs (where a buffer is infeasible) must be maintained when a surface water is located within 50 feet of disturbance activities and site runoff flows to the surface water.

If polymers, flocculants, or other sedimentation treatment chemicals are used on site, 1) conventional erosion and sediment controls shall be sowed prior to chemical placement, 2) chemicals shall be chosen based on soil types, and expected turbidity, pH, and flow rate of stormwater flowing into the treatment system, and 3) chemicals shall be used with accepted engineering practices and dosing specifications.

TEMPORARY SEDIMENTATION BASINS

The temporary sedimentation basin shall be constructed and made operational prior to disturbance of 10 or more acres draining to a common location.

Temporary sedimentation basins are required prior to runoff leaving the construction site or entering surface waters when 10 or more acres of disturbed soils drain to a common location. The basin must provide 3,600 cubic feet of "storage below the outlet per acre drained. If hydraulic calculations are available, the temporary sedimentation basin must provide a storage volume equivalent to the 2-year, 24-hour storm, but in no case less than 1800 cubic feet per acre drained. The temporary sedimentation basin must be constructed and made operational concurrent with the start of soil disturbance up gradient of the pond. The temporary sedimentation basin shall be designed to prevent short circuiting. The outfall shall be designed to remove floatable debris, allow for complete drawdown of the pond for maintenance activities, and have energy dissipation. The emergency spillway shall be stabilized.

Temporary sedimentation basins shall be situated outside of surface waters and any required buffer zone, and must be designed to avoid draining wetlands, unless the impact is in compliance with the requirements of this permit.

Excessive sediment-laden water that is not properly filtered will not be permitted to discharge from site.

DEWATERING AND BASIN DRAINING

Turbid or sediment-laden waters related to dewatering or basin draining shall be discharged to a temporary or permanent sedimentation basin on the project site unless infeasible. The temporary or permanent basin may discharge to surface waters if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that the nuisance conditions will not result from the discharge. Discharge points shall be adequately protected from erosion and proper velocity dissipation provided.

All water from dewatering or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in the receiving channels or on down slope properties, or inundation in wetlands causing significant adverse impacts to the wetland.

If filters with backwash waters are used, the backwash water shall be hauled away for disposal, returned to the beginning of the treatment process, or incorporated into site in a manner that does not cause erosion. Backwash water may be discharged to sanitary sewer if permission is granted by the sanitary sewer authority.

POLLUTION PREVENTION

Building products that have the potential to leach pollutants must be under cover to prevent discharge or protected by an effective means designed to minimize contact with stormwater.

Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover.

Hazardous materials and toxic waste must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism.

Solid waste must be stored, collected and disposed of in compliance with Minn. R. CH 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded shall be prevented using drip pans or absorbents. Supplies shall be available at all times to clean up discharged materials and that an appropriate disposal method must be available for recovered spilled materials.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. Runoff from the washing area shall be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. No engine degreasing is allowed on site. Effective containment for all liquid and solid wastes generated by concrete and other washout operations related to construction activity shall be effectively contained. Liquid and solid washout waste shall not contact the ground, and containment must be designed so that it does not result in runoff from the washout operations or areas. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

INFESTED WATERS:

MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by and Infested Waters Permit or written notification from MN DNR that an Infested Waters Permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Water Permit or written notification that in Infested Water is not required is obtained.

INSPECTION & MAINTENANCE

A trained person shall routinely inspect the entire construction site at least once every 7 days during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted within 7 days.

All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and records must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

Where parts of the project site have permanent cover, but work remains on other parts of the site, inspections may be reduced on these areas to once per month.

Where the site has permanent cover on all exposed areas and no construction activity is occurring anywhere on site, the site must be inspected during non-frozen conditions at least once per month for 12 months. Following the 12th month of permanent cover and no construction activity, inspections shall be terminated until construction activity resumes or notification from MPCA has been issued that erosion has been detected at the site.

During frozen ground conditions, inspections may be suspended and shall resume within 24 hours after runoff occurs or 24 hours prior to resuming construction activity, whichever is first.

Inspection and maintenance shall resume until another Permittee has obtained coverage under this Permit or the project has undergone Final Stabilization, and an NOT has been submitted.

All erosion prevention and sediment control BMPs shall be inspected to ensure integrity and effectiveness during all routine and post-rainfall inspections. All non-functioning BMPs must be repaired, replaced, or supplemented with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow access.

All perimeter control devices must be repaired, replaced, or supplemented when they become non-functional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or as soon as field conditions allow.

Temporary and permanent sediment basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and sediment removal must be completed within 72 hours of discovery, or as soon as field conditions allow.

Surface waters, including drainage ditches and conveyance systems, must be inspected for erosion and sediment deposition during each inspection. All deltas and sediment deposited in drainage ways, catch basins, and other drainage systems shall be removed. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The Permittee is responsible for obtaining all applicable permits prior to conducting any work in surface waters.

Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24-hours of discovery, or if applicable, within a shorter time to comply with the permit.


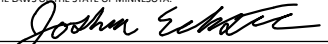
Streets and other areas adjacent to the project must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a sufficient frequency to minimize off-site impacts.

All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

FINAL STABILIZATION

Final Stabilization is not complete until all of the following requirements have been met:

1. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70% of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. Permanent stormwater management system is constructed, meets all requirements of the Permit, and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems, and ditches are stabilized with permanent cover.
3. All temporary synthetic and structural erosion prevention and sediment control BMPs have been removed. BMPs designed to decompose on site may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished, temporary erosion protection and down gradient perimeter control has been completed and the residence has been sold to the homeowner. Also, the "Homeowner Fact Sheet" has been provided to the homeowner

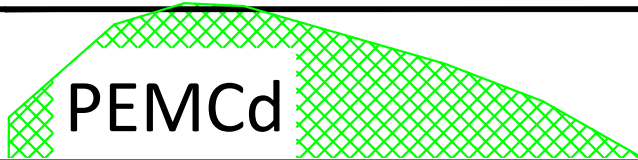
 BOLTON & MENK, INC. Consulting Engineers & Surveyors 2638 SHADOW LANE, SUITE 200 - CHASKA, MINNESOTA 55318 Phone: (952)-448-8838 Email: Chaska@bolton-menk.com www.bolton-menk.com	REV	ISSUED FOR	DATE	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  JOSHUA A. STEIN LIC. NO. 48224 DATE 05/17/2016	DESIGNED	JZE	CITY OF WINSTED, MINNESOTA INDUSTRIAL PARK EXPANSION - PHASE 1 SWPPP NARRATIVE	SHEET
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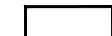

239, LeSueur

L107A, Canisteo-Glencoe

1901B,
Lester



LEGEND

-  PROJECT BOUNDARY
-  SOIL TYPE
-  NATIONAL WETLANDS INVENTORY

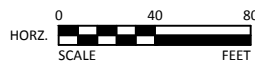
SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
MUSYM	MUNAME	HYDGRP	MUHELCL
239	LeSueur loam, 1 to 3% slopes	B	NHEL
1901 B	Lester-LeSueur complex, 1 to 6% slopes	B	NHEL
L107A	Canisteo-Glencoe complex, 0 to 2% slopes	B	NHEL

NHEL - Not Highly Erodible Land
 PHEL - Potentially Highly Erodible Land
 HEL - Highly Erodible Land

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	SHEET NO.
SITE MAP	C1
DIRECTION OF FLOW	C10
FINAL STABILIZATION	C11
SOILS	C14
DRAINAGE STRUCTURES	C10
STORM SEWER PLAN/PROFILE SHEETS	C8
EROSION & SEDIMENT CONTROL DETAILS	C11
EROSION CONTROL TABULATION	C13
NARRATIVE & NOTES	C12-C13



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 JOSHUA ECKSTEIN
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CITY OF WINSTED, MINNESOTA
 INDUSTRIAL PARK EXPANSION - PHASE 1
 SWPPP SOILS MAP

SHEET
C14

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