

PLAN REVISIONS		
REV	ISSUED FOR	DATE

CITY OF WINDOM, MINNESOTA

CONSTRUCTION PLANS FOR

2016 SANITARY SEWER REHABILITATION

SANITARY SEWER RECONSTRUCT & LINING, MANHOLE LINING
AUGUST, 2016

RESOURCE LIST

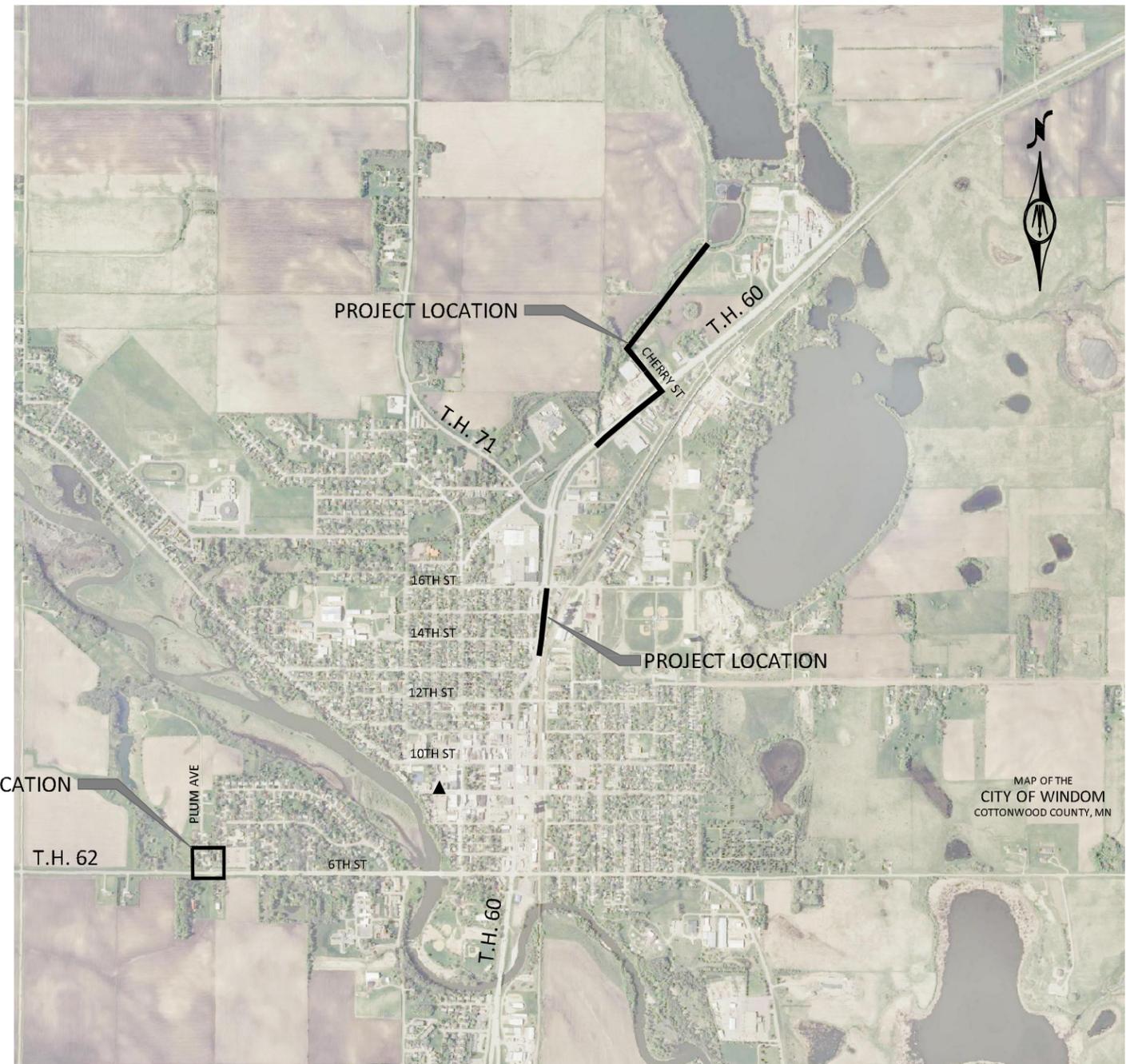
<p>CITY OF WINDOM</p> <p>City Hall 444 9th Street, P.O. Box 38 Windom, MN 56101-0038 507.831.6129</p> <p>City Administrator: Steve Nasby</p> <p>Mayor: Corey Maricle</p> <p>City Council Members: Dominic Jones Paul Johnson Bryan Joyce Brian Cooley JoAnn Ray</p> <p>Consultant Engineer: Travis L. Winter P.E. Bolton & Menk, Inc. 219 North Main St Fairmont, MN 56031 507.238.4738</p> <p>Street Superintendent: Bruce Caldwell 507.831.6129</p>	<p>PUBLIC UTILITIES</p> <p>GAS Minnesota Energy Resources Phil Armstrong 304 North Park Street Fairmont, MN 56031 507.235.6667</p> <p>TELEPHONE Windomnet Jeff Dahna 507.832.8000</p> <p>CABLE Windomnet Jeff Dahna 507.832.8000</p> <p>SANITARY & WATER Mike Haugen 507.831.6138</p> <p>ELECTRIC Brent Brown 507.831.6151</p>
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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."



MAP LEGEND

	PROJECT LIMITS
	BID LOCATION



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Consulting Engineers & Surveyors
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Phone: (507)-238-4738 Email: Fairmont@bolton-menk.com
www.bolton-menk.com

PROJECT DATUM: COTTONWOOD CNTY
HORIZONTAL: NAD 88 (96 ADJ)
VERTICAL: NAVD 83

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.

TRAVIS L. WINTER
LIC. NO. 46649 DATE: XX/XX/XXXX

RECORD DRAWING INFORMATION	WINDOM, MINNESOTA	SHEET
OBSERVER:	2016 SANITARY SEWER REHABILITATION	G0.01
CONTRACTOR:	TITLE SHEET	
DATE:		

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

—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

PROPOSED

22+00	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
▷	APRON
-----	STORM SEWER
-----	PERFORATED PIPE DRAIN
-----	STORM DRAIN TILE
-----	CULVERT W/APRON
①	STORM MANHOLE NUMBER
-----	SANITARY SEWER
=====	CIPP LINING OF SANITARY SEWER
-----	SANITARY FORCEMAIN
-----	SANITARY SEWER SERVICE
-----	SANITARY LIFT STATION
○	SANITARY MANHOLE
○	LINING EXISTING 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

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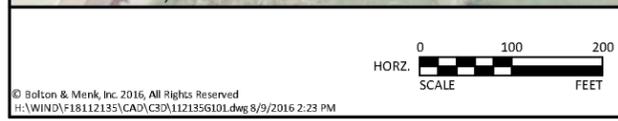
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TRAVIS L. WINTER
 LIC. NO. 46649 DATE XX/XX/XXXX

DESIGNED TLW
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WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 LEGEND



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DESIGNED TLW	WINDOM, MINNESOTA 2016 SANITARY SEWER REHABILITATION LOCATION & REMOVAL PLAN	SHEET G1.01
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WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 LOCATION & LINING PLAN - 1ST AVENUE

SHEET
G1.02



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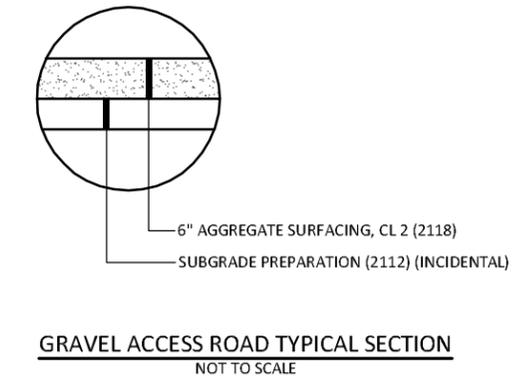
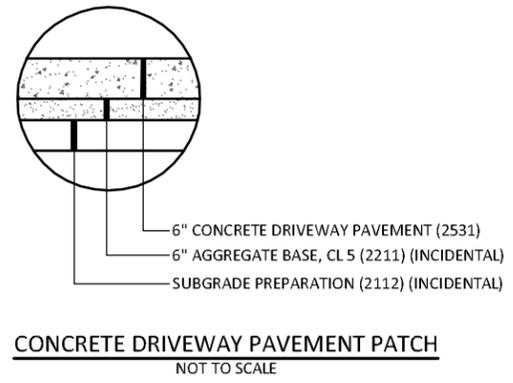
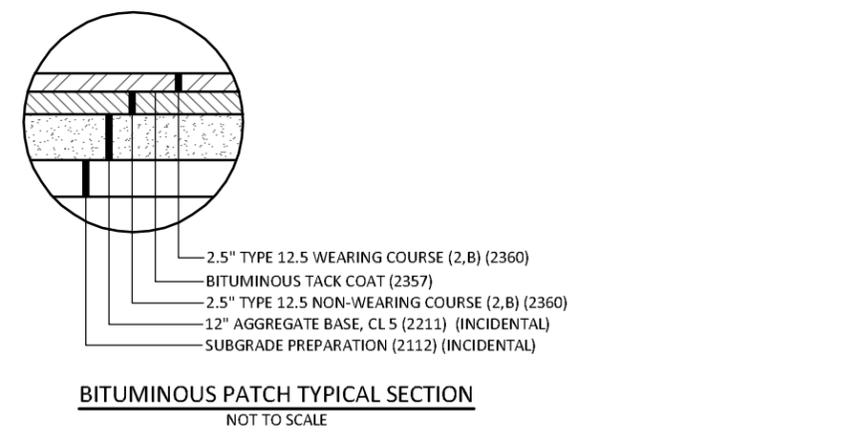
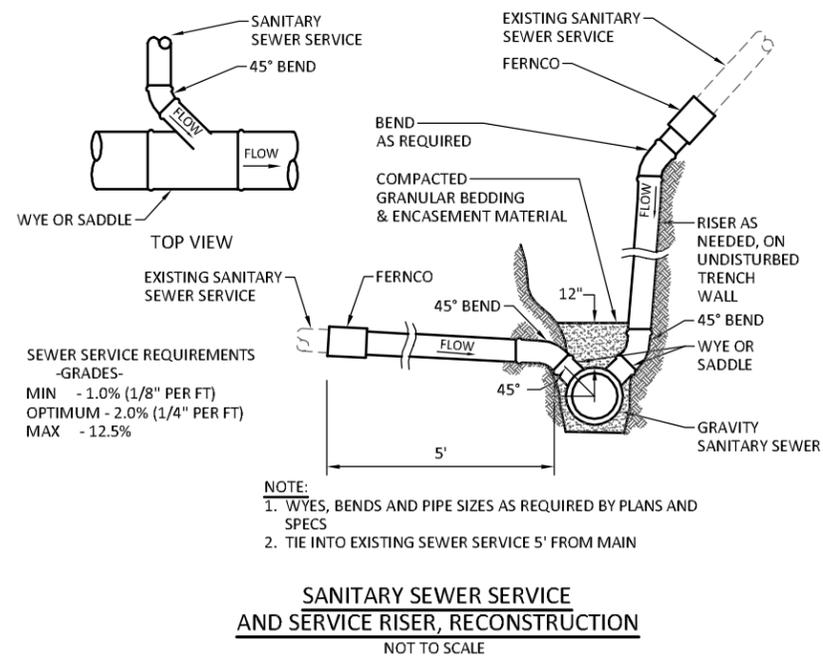
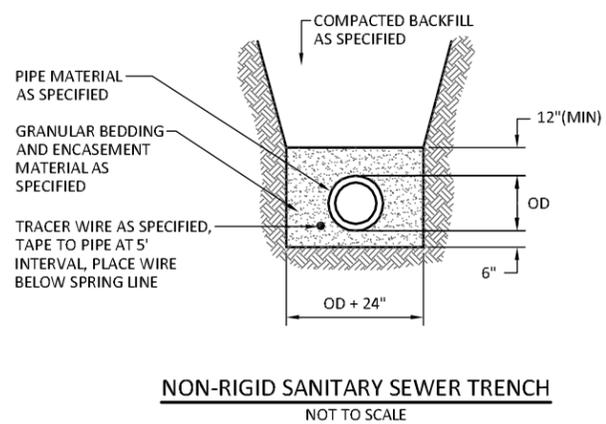
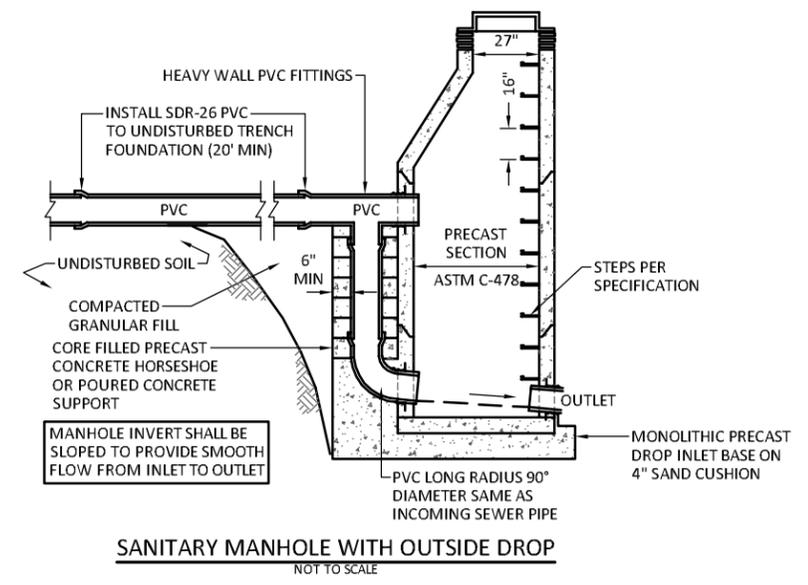
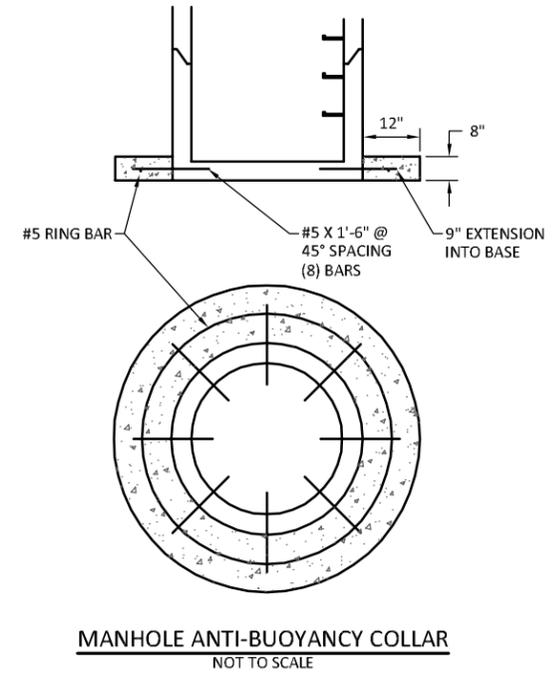
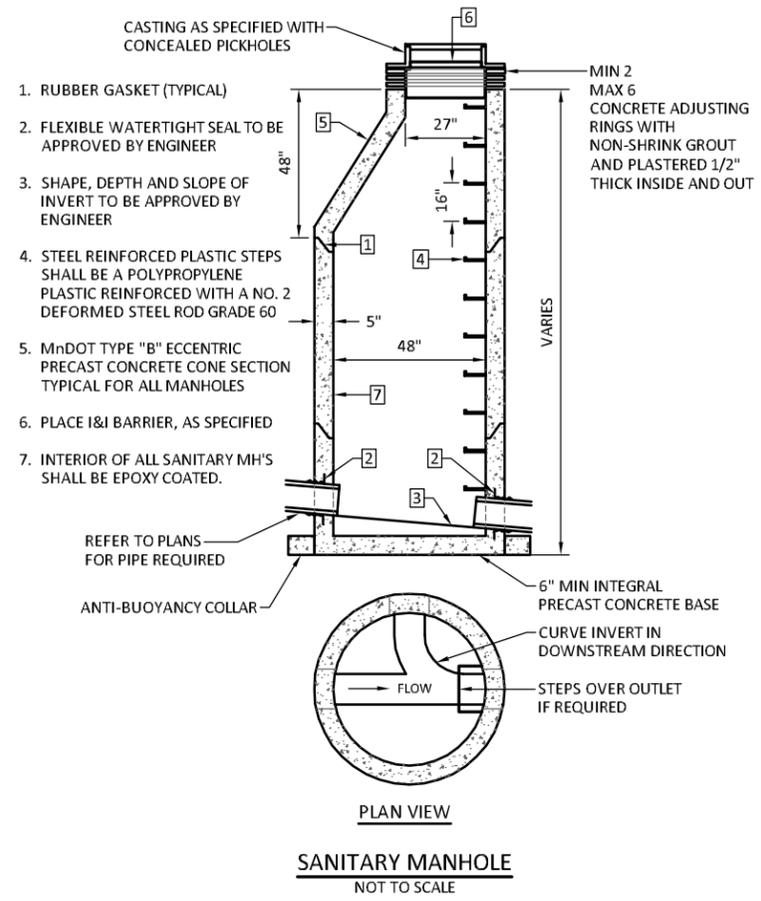
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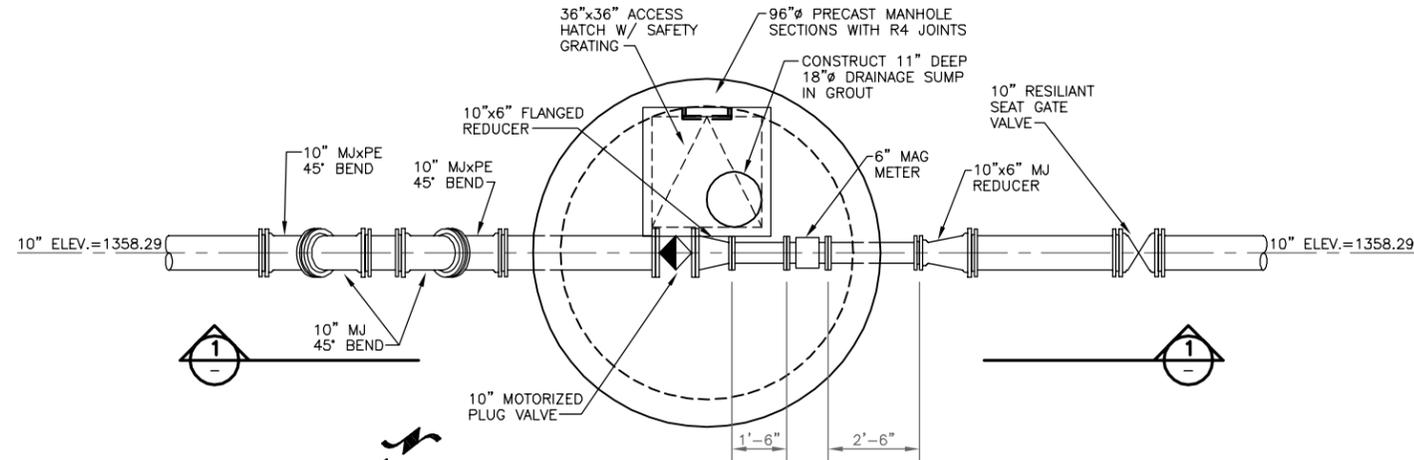
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WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 LOCATION & LINING PLAN - PLUM AVENUE

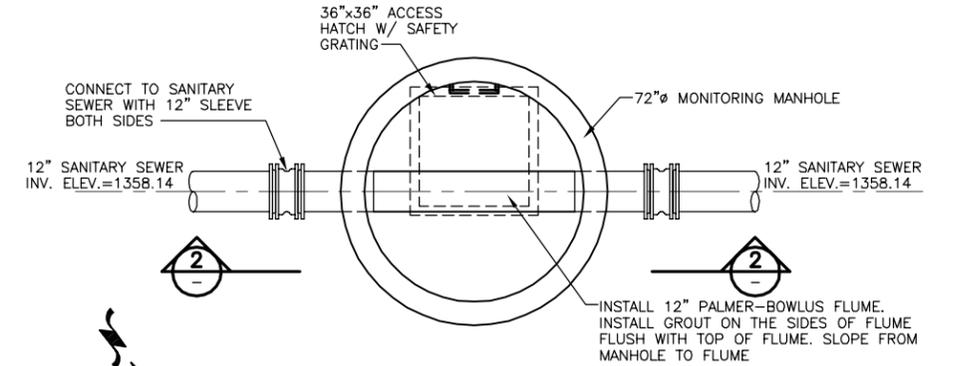
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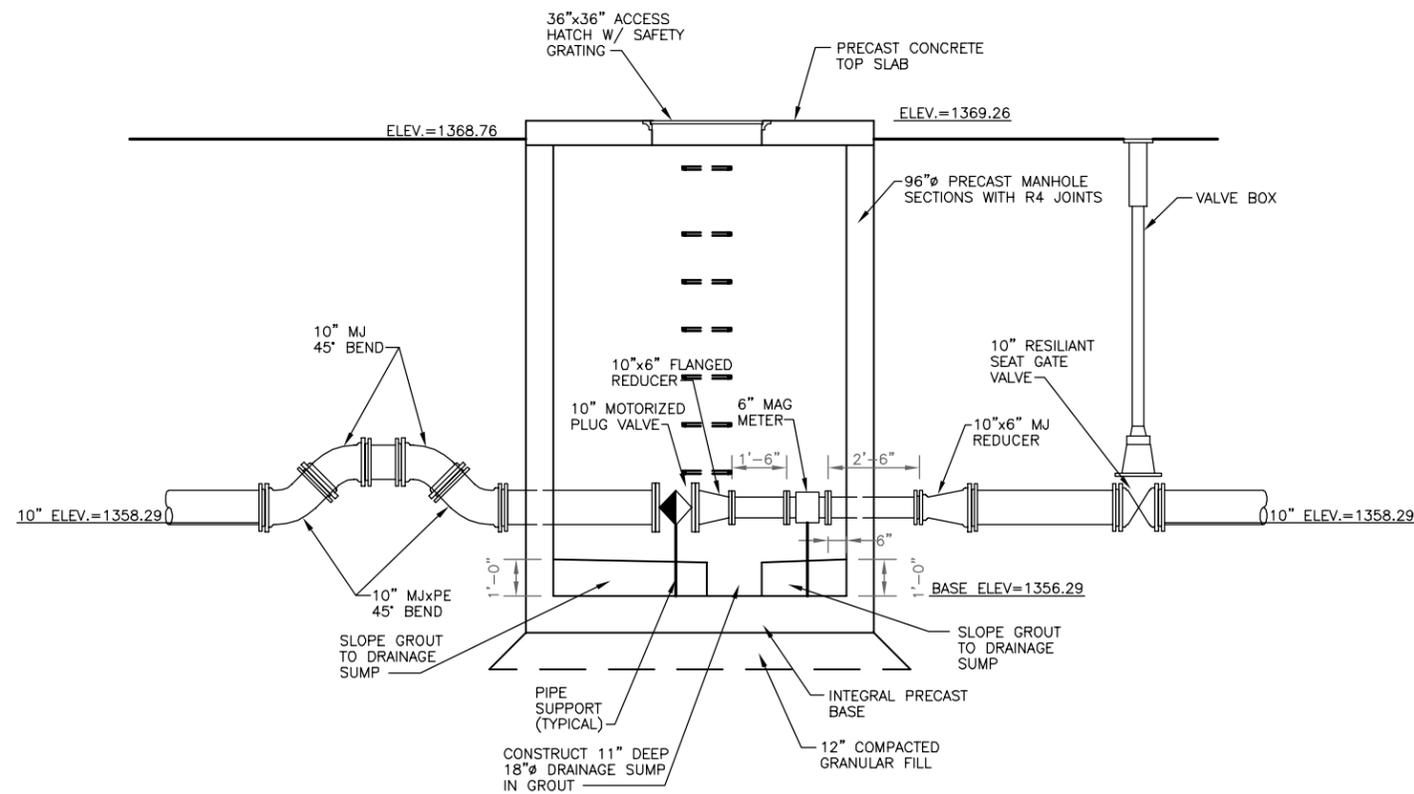
PLAN - PRIME PORK MONITORING STATION

SCALE: 3/8"=1'-0"



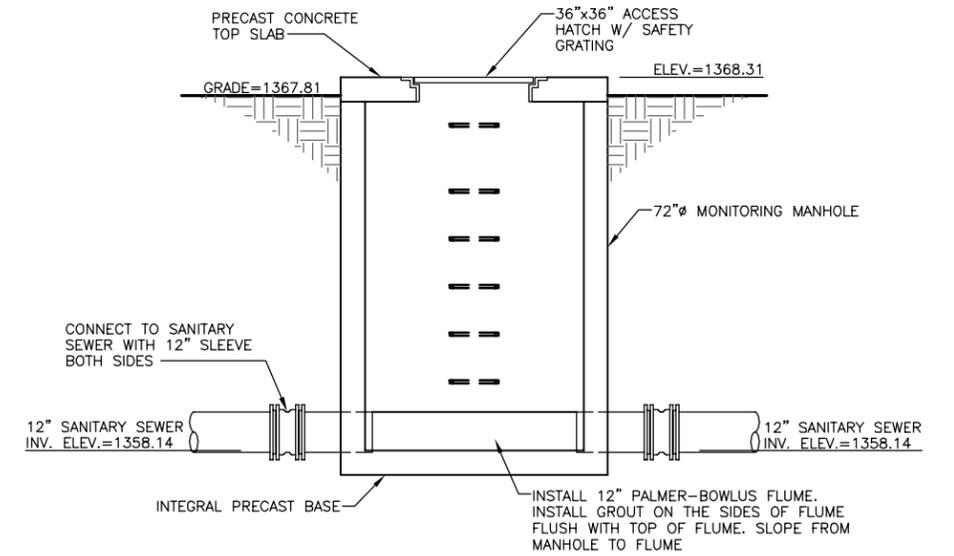
PLAN - TRUCK WASH MONITORING MANHOLE

SCALE: 3/8"=1'-0"



1 SECTION - PRIME PORK MONITORING STATION

SCALE: 3/8"=1'-0"



2 SECTION - TRUCK WASH MONITORING MANHOLE

SCALE: 3/8"=1'-0"

NOTE: DETAILS ARE NOT TO SCALE

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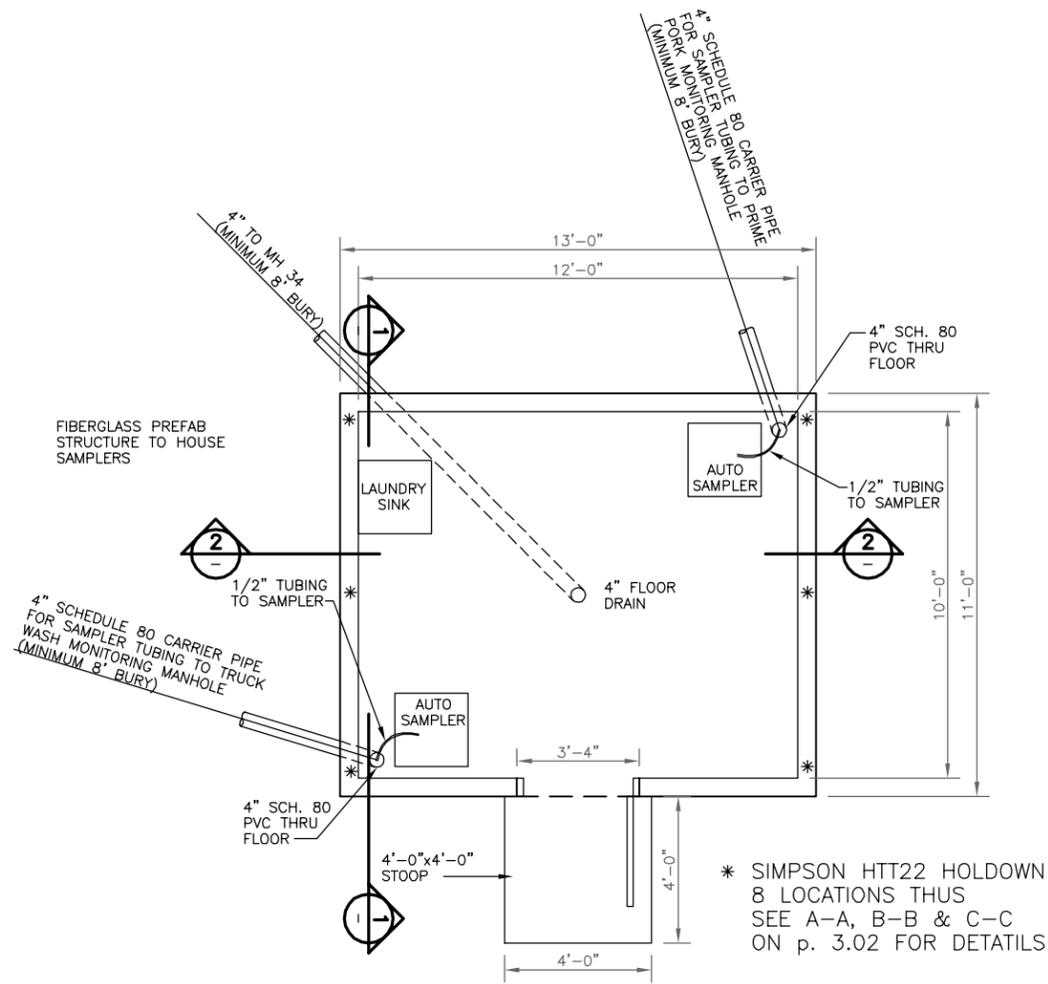
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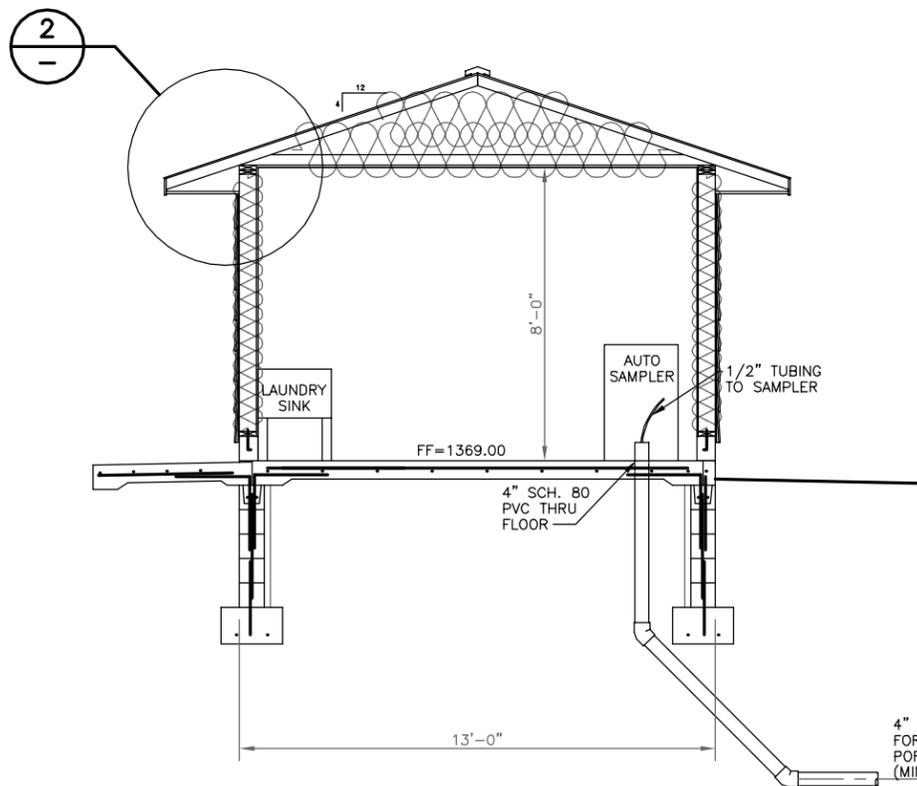
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WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 SANITARY DETAILS
 MONITORING STATIONS

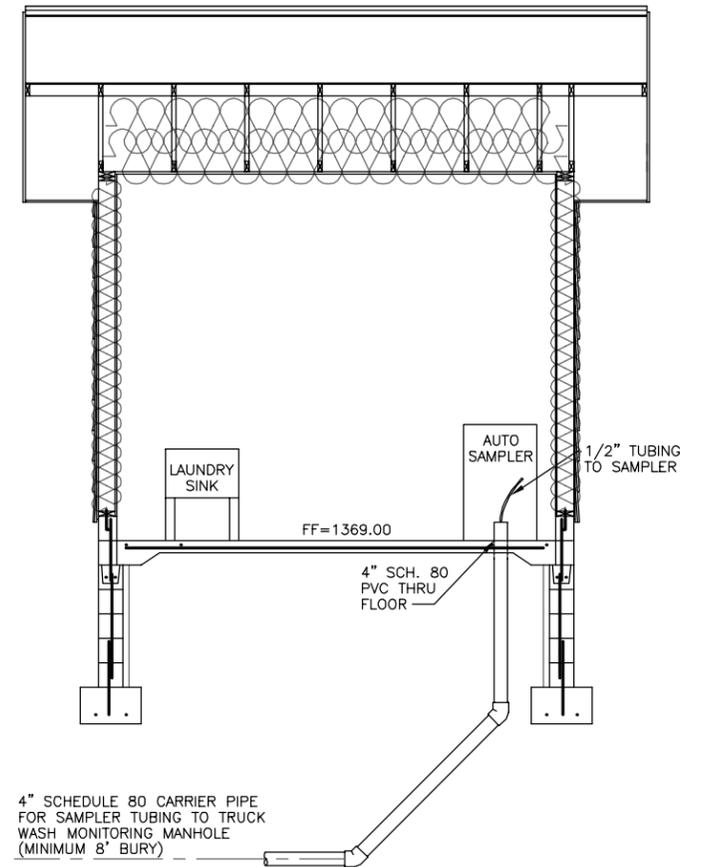
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PLAN - SAMPLER BUILDING
SCALE: 3/8"=1'-0"



2 SECTION - SAMPLER BUILDING
SCALE: 3/8"=1'-0"



1 SECTION - SAMPLER BUILDING
SCALE: 3/8"=1'-0"

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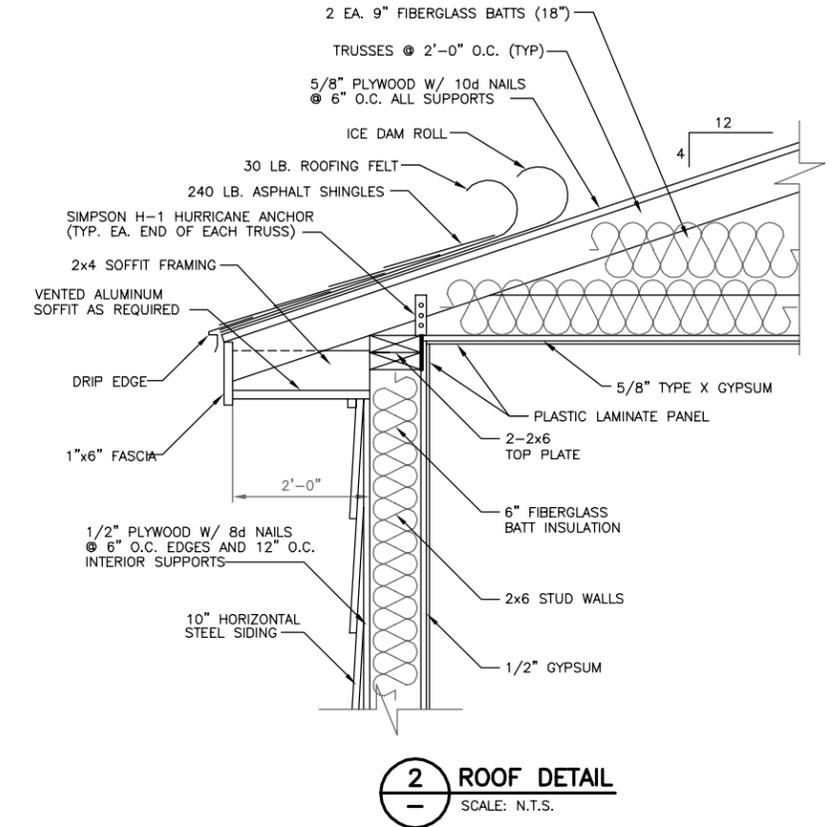
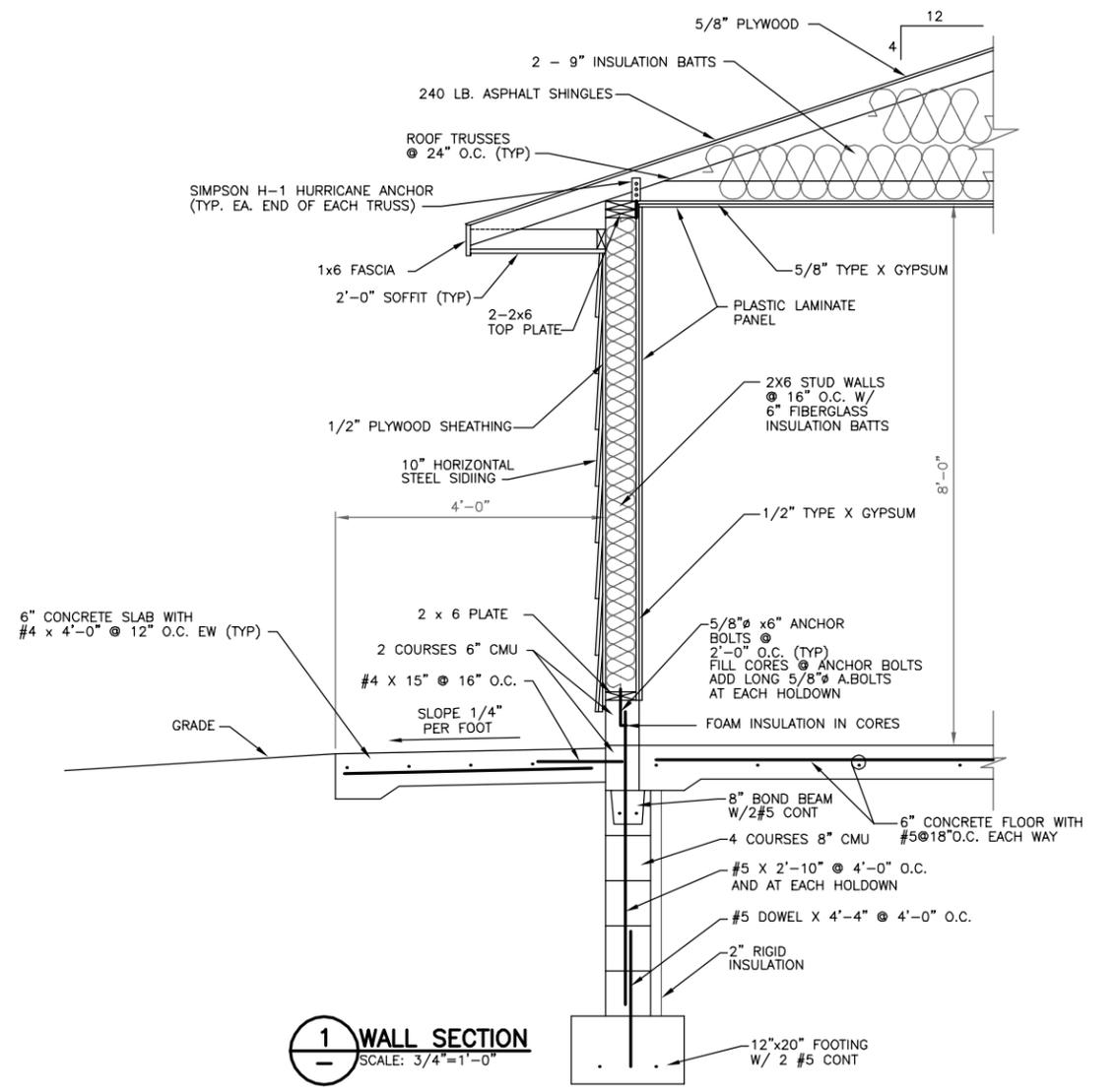
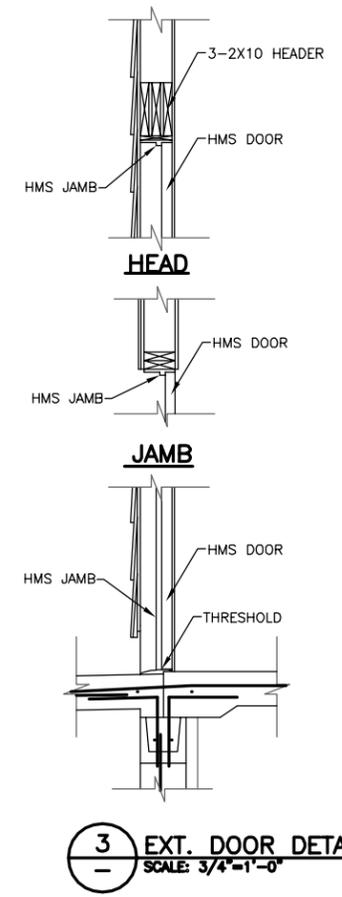
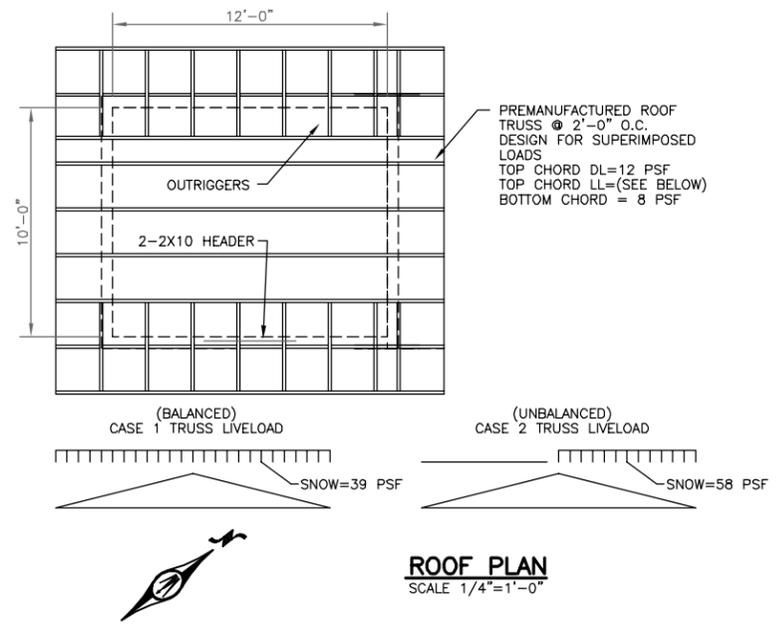
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TRAVIS L. WINTER
LIC. NO. 46649 DATE XX/XX/XXXX

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WINDOM, MINNESOTA
2016 SANITARY SEWER REHABILITATION
SANITARY DETAILS
SAMPLING STATION BUILDING

SHEET
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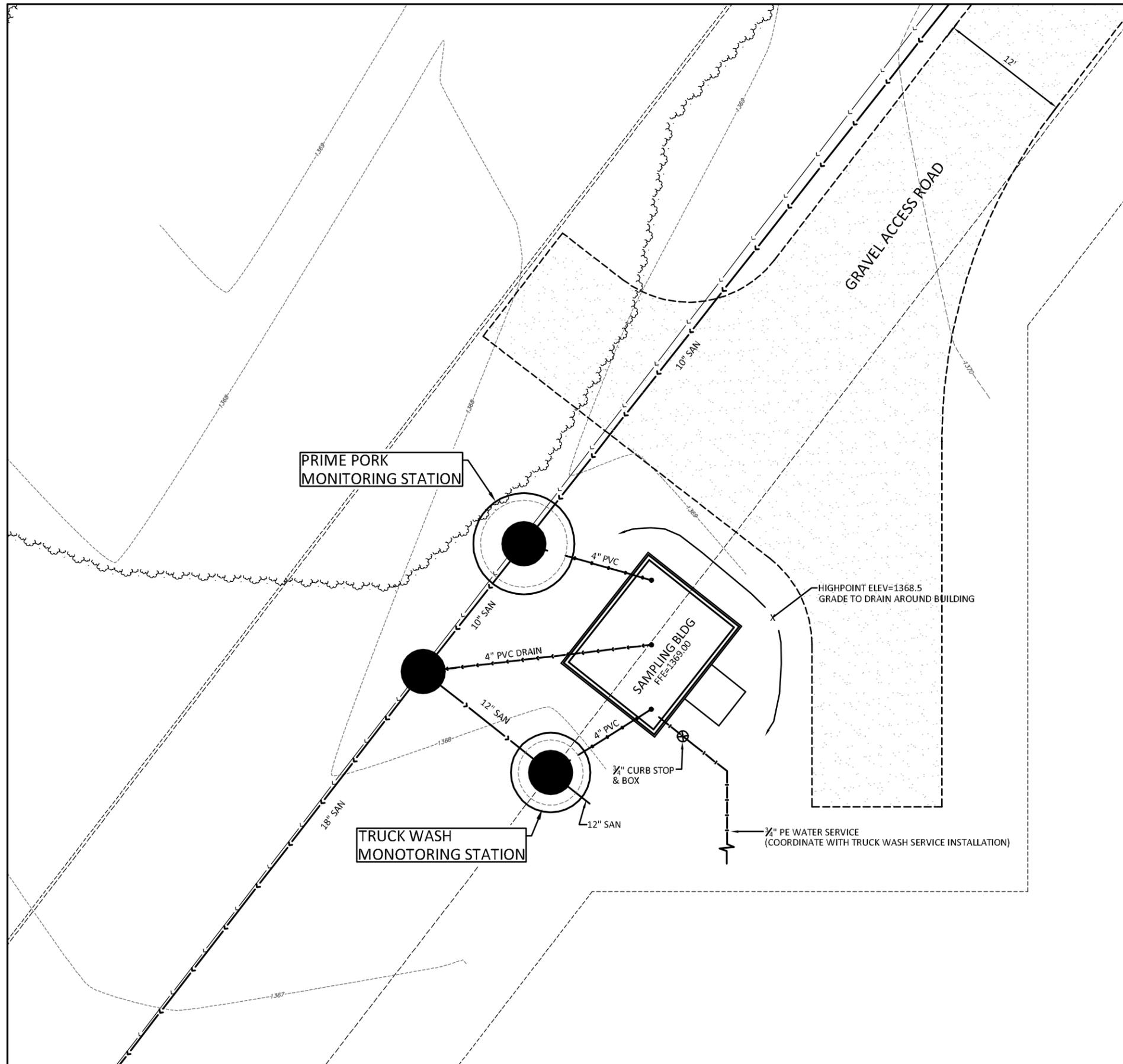
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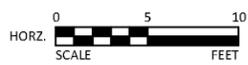
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DESIGNED TLW	WINDOM, MINNESOTA	SHEET C1.04
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CHECKED TLW	SANITARY DETAILS SAMPLING STATION BUILDING	

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TRUCK WASH FACILITY BUILDING



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DESIGNED TLW
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WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 SANITARY DETAILS
 MONITORING & SAMPLING STATION PLAN

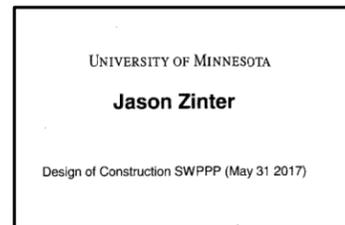
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STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

2016 SANITARY SEWER REHAB CITY OF WINDOM COTTONWOOD COUNTY, MINNESOTA

SWPPP DESIGNER



CITY OF WINDOM
COTTONWOOD COUNTY,
MINNESOTA

LEGEND

- PROJECT BOUNDARY
- NATIONAL WETLANDS INVENTORY
- IMPAIRED, SPECIAL OR PROTECTED WATERS
- IMPAIRED, SPECIAL OR PROTECTED WATERS

PROJECT AREAS:

Total Project Size (disturbed area) =	2.0	ACRES
Existing area of impervious surface =	0.1	ACRES
Post construction area of impervious surface =	0.1	ACRES
Total new impervious surface area created =	0.0	ACRES

Planned Construction Start Date:	09/01/16
Estimated Construction Completion Date:	11/15/16

PERMANENT STORMWATER MANAGEMENT SYSTEM:

Type of storm water management used if more than 1 acre of new impervious surface is created:

<input type="checkbox"/>	Wet Sedimentation Basin
<input type="checkbox"/>	Infiltration/Filtration
<input type="checkbox"/>	Regional Pond
<input checked="" type="checkbox"/>	Permanent Storm Water Management Not Required

Storm water management not required because the new impervious surface being created is under 1 acre.

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
COTTONWOOD	105	36	24	43.8820	-95.1089

BMP SUMMARY	QUANTITY	UNIT
DITCH CHECK, BIOROLL	70	LIN FT
EROSION CONTROL BLANKET, CATEGORY 3	375	SQ YD
ROCK CONSTRUCTION EXIT	1	EACH
SEEDING, MIX 25-141 OR 34-171 & MULCH	2.0	ACRE
SILT FENCE, MACHINE SLICED	1430	LIN FT
STORM DRAIN INLET PROTECTION	1	EACH

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

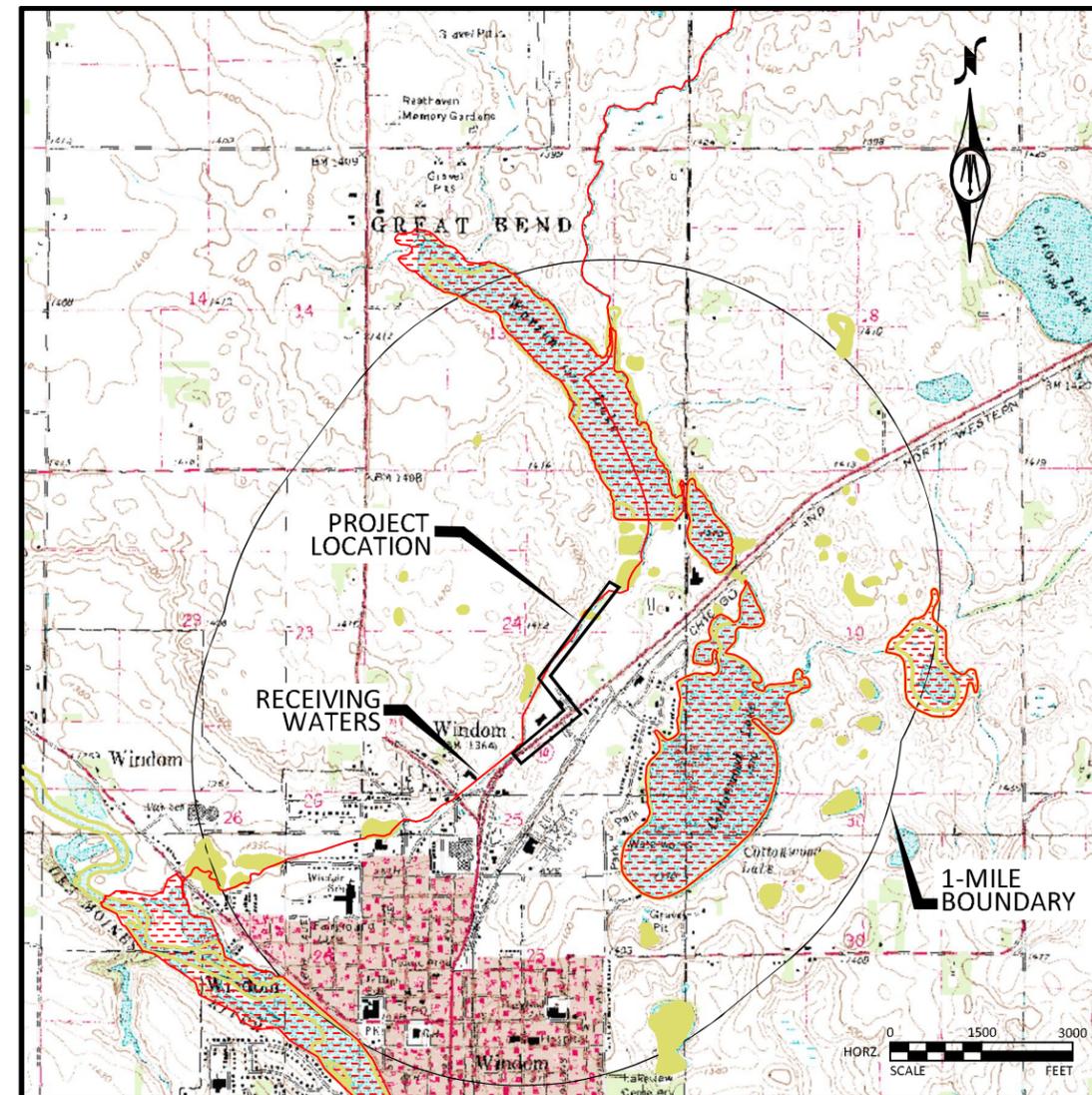
Construction activities include: Grading, sanitary sewer reconstruct and lining, bituminous and concrete patch, temporary erosion and sediment control, and permanent stabilization.

The 2016 Sanitary Sewer Rehabilitation project consists of reconstructing and CIPP lining the sanitary sewer from MH 25 on T.H. 60 to MH 34A at the wastewater pond NW of T.H. 60. CIPP lining of the existing sanitary sewer main and lining of existing manholes will start at MH 25 on T.H. 60 and will end at MH 29 on Cherry St, NE of Runnings parking lot. This portion of the project will be untouched at the surface. A total reconstruct of the sanitary sewer system including new sewer pipe and manholes will start at MH 29 and go to MH 34A just south of the wastewater pond. Under existing conditions this portion of the site either drains into the creek on the NW side of the project or it drains SE to a grass field. Prior drainage of this project will not be changed.

DOCUMENT RETENTION

The following documentation will be retained for a period of not less than 3-years from the date of submittal of the NOT in compliance with Part III.E of the Permit.

- The final SWPPP
- Copies of all stormwater related permits required for the project
- Records of all inspection and maintenance conducted during construction
- Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance, and
- All required calculations for design of the temporary and permanent BMPs.



RECEIVING WATERS:

Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, are identified on the USGS 7.5 min quad map within one mile of the project boundary. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Appendix A Special Water?	Flows to Impaired Water Within 1 Mile?	USEPA Approved TMDL?
UNNAMED CREEK	CREEK	NO	NO	NO

Impairments:

IMPLEMENTATION SCHEDULE AND PHASING:

- Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- Install perimeter sediment control, inlet protection, and construction exit.
- Construct new sanitary sewer main and structures.
- Complete turf establishment.
- Construct concrete, bituminous, and gravel patches.
- Construct cipp lining of existing sanitary sewer main.
- Construct manhole lining of existing sanitary manholes.
- Add additional temporary BMPs as necessary during construction based on inspection reports.
- Ensure final stabilization measures are complete.
- Submit Notice of Termination (NOT) to MPCA within 30 days of final stabilization.

RESPONSIBLE PARTIES:

The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. [Longer time frames apply to sites that disturb areas greater than 50 acres.]

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs. A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	CITY OF WINDOM	STEVE NASBY	507.831.6129
SWPPP DESIGNER:	Bolton & Menk, Inc.	JASON ZINTER	507.238.4738
CONTRACTOR:	TBD		
CONSTRUCTION SWPPP MANAGER:	TBD		
PARTY RESPONSIBLE FOR LONG TERM O&M:	CITY OF WINDOM	STEVE NASBY	507.831.6129

The SWPPP Designer and Construction SWPPP Manager must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on this sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION

Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Storm Water Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

1)	Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2)	Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3)	Does any portion of this site discharge to a Calcareous fen.	NO
4)	Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5)	Have any Karst features been identified in the project vicinity?	NO
6)	Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7)	Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning?	NO

GENERAL STORMWATER DISCHARGE REQUIREMENTS

All requirements listed in Part III of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

- The expected amount, frequency, intensity, and duration of precipitation.
- The nature of stormwater runoff and run-on at the site
- Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
- The range of soil particle sizes expected to be present on the site.



REV	ISSUED FOR	DATE
?	?	?

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TRAVIS L. WINTER
LIC. NO. 46649 DATE XX/XX/XXXX

DESIGNED TLW
DRAWN BRR
CHECKED TLW

WINDOM, MINNESOTA
2016 SANITARY SEWER REHABILITATION
STORMWATER POLLUTION PREVENTION PLAN
PROJECT INFORMATION AND LOCATION MAP

SHEET
C2.01

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
 219 NORTH MAIN ST - FAIRMONT, MINNESOTA 56031
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 www.bolton-menk.com

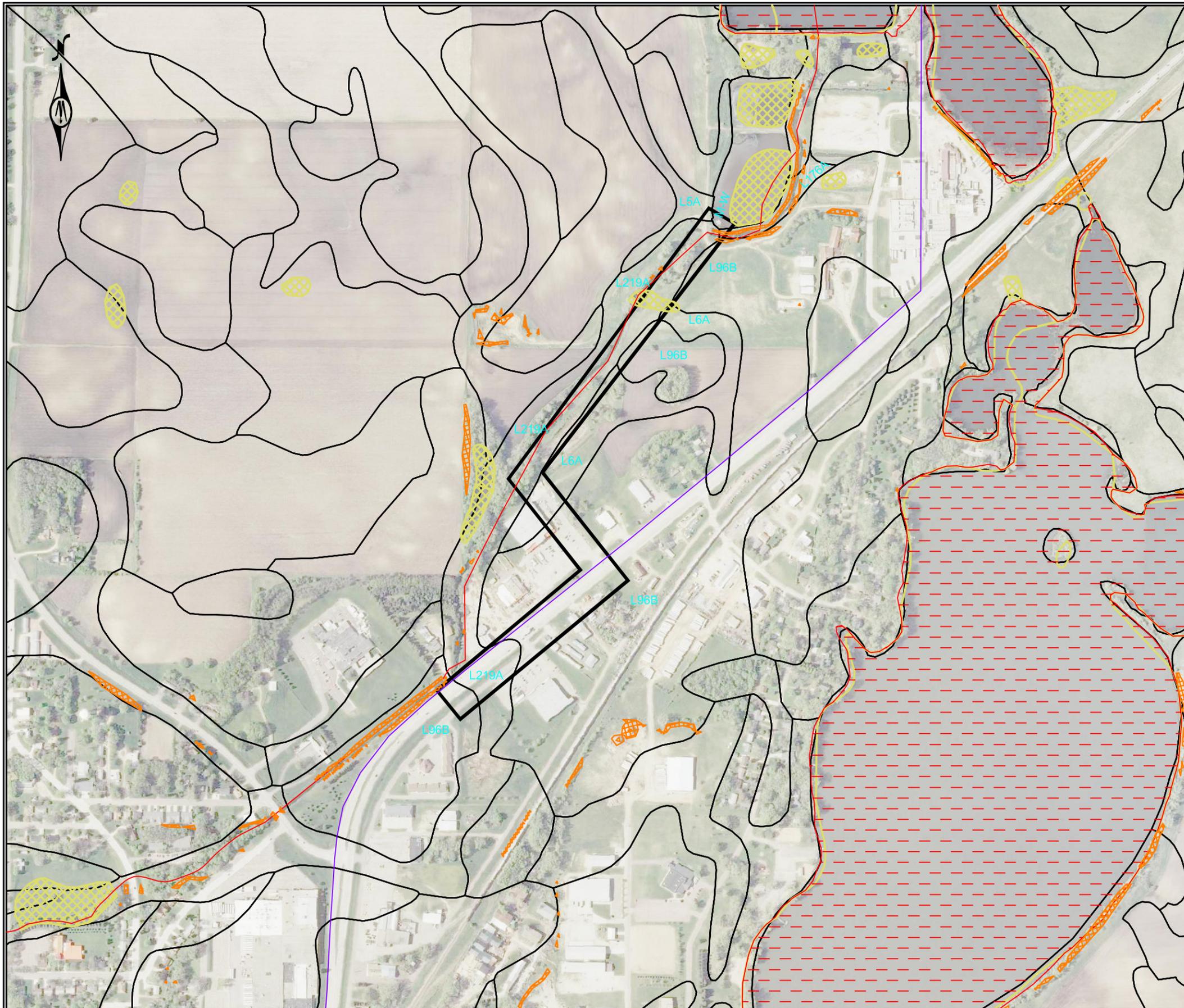
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TRAVIS L. WINTER
 LIC. NO. 46649 DATE XX/XX/XXXX

DESIGNED: TLW
 DRAWN: BRR
 CHECKED: TLW

WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 STORMWATER POLLUTION PREVENTION PLAN
 NARRATIVE



LEGEND

-  PROJECT BOUNDARY
-  SOIL TYPE
-  IMPAIRED, SPECIAL OR PROTECTED WATERS
-  IMPAIRED, SPECIAL OR PROTECTED WATERS
-  NATIONAL WETLANDS INVENTORY
-  STEEP SLOPES (>33.3%)

SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
L176A	SHANDEP CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	B/D	NHEL
L219A	COLAND CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	B/D	NHEL
L5A	DELFT, OVERWASH-DELFT COMPLEX, 1 TO 4 PERCENT SLOPES	C/D	NHEL
L6A	BISCAY LOAM, 0 TO 2 PERCENT SLOPES	B/D	NHEL
L96B	ESTERVILLE-HAWICK COMPLEX, 2 TO 6 PERCENT SLOPES	A	NHEL
M-W	WATER, MISCELLANEOUS		

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	C2.01
DIRECTION OF FLOW	C2.05-C2.07
FINAL STABILIZATION	C2.05-C2.07
SOILS	C2.03
EROSION & SEDIMENT CONTROL DETAILS	C2.04
EROSION CONTROL TABULATION	C2.01
TURF ESTABLISHMENT TABULATION	C2.01
NARRATIVE & NOTES	C2.01 - C2.02



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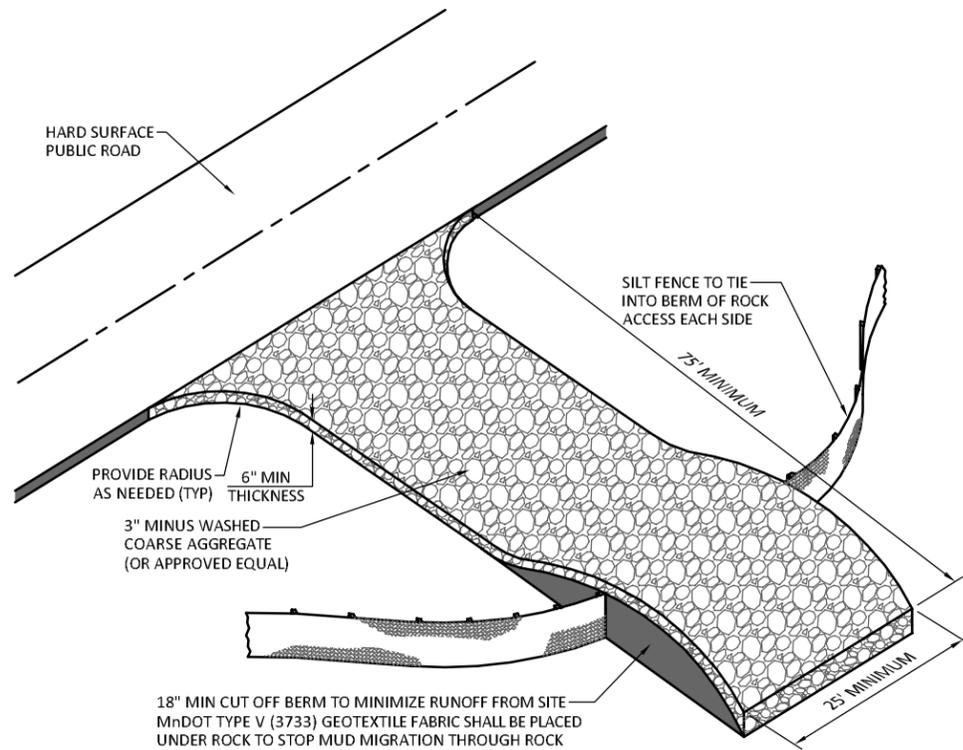
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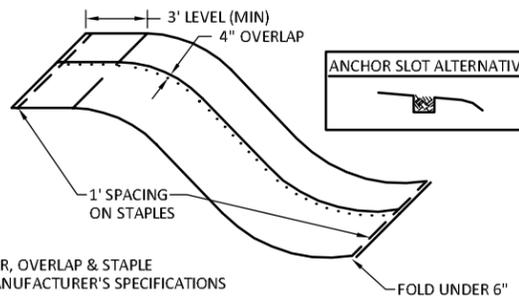
WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 STORMWATER POLLUTION PREVENTION PLAN
 SITE AND SOILS MAP

SHEET
C2.03

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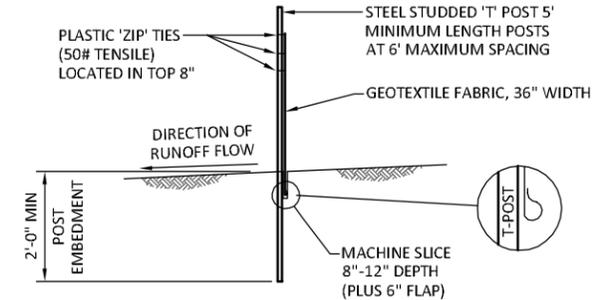


ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE

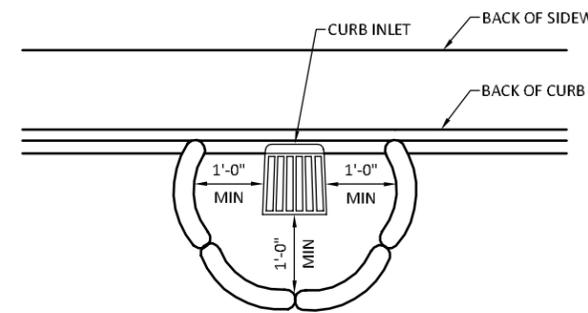


NOTE:
ANCHOR, OVERLAP & STAPLE
PER MANUFACTURER'S SPECIFICATIONS

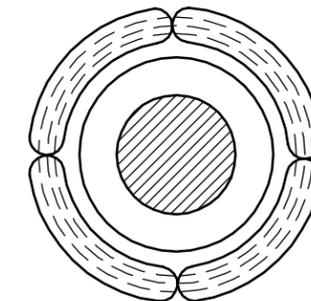
EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



SILT FENCE - MACHINE SLICED
NOT TO SCALE



PAYMENT SHALL INCLUDE ALL MATERIALS, FILLING OF LOG, PLACEMENT, MAINTENANCE & REMOVAL; 80% OF BID PRICE SHALL BE PAID UPON PROPER PLACEMENT WITH THE FINAL 20% PAID UPON REMOVAL



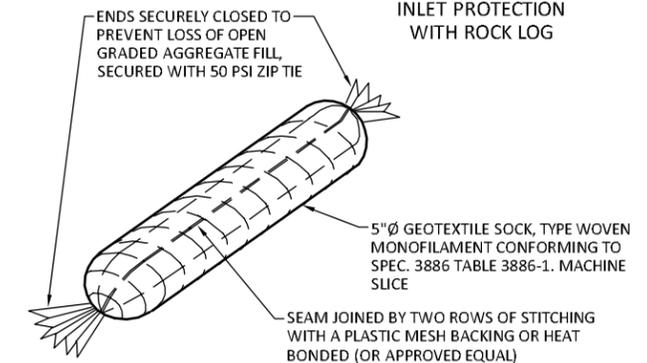
INLET PROTECTION WITH ROCK LOG

NOTE:
THIS INLET PROTECTION IS USED DURING ROUGH GRADING ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED

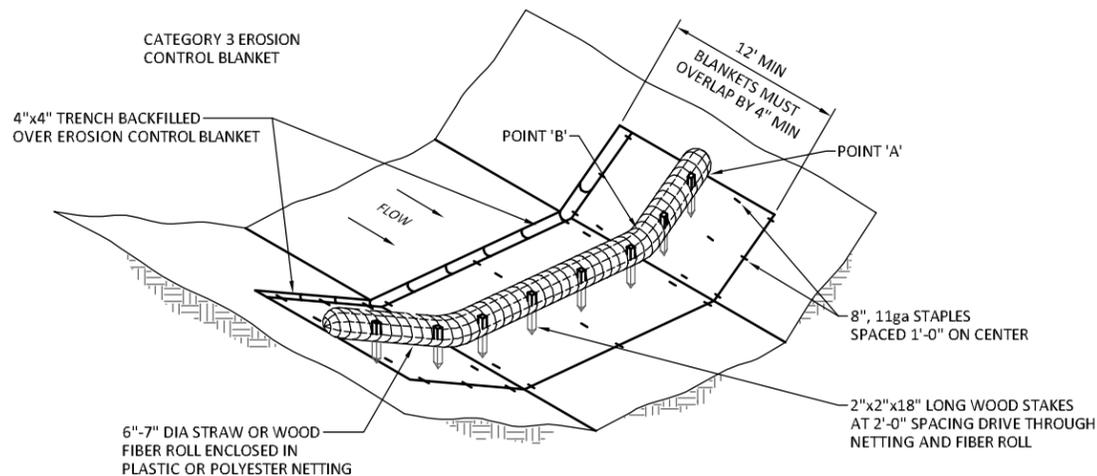
FILL ROCK LOG WITH 45 LBS. OF OPEN GRADED AGGREGATE CONSISTING OF SOUND, DURABLE PARTICLES OF CRUSHED QUARRY ROCK OR GRAVEL CONFORMING TO THE FOLLOWING GRADATION.

GRADATION	
SIEVE SIZE	PERCENT PASSING
1 1/2"	100
1"	95-100
3/4"	65-95
3/8"	30-65
NO 4	10-35
NO 10	3-20
NO 40	0-8
NO 200	0-3

NOTE:
CRUSHED CONCRETE OR BITUMINOUS SHALL NOT BE USED FOR OPEN GRADED AGGREGATE.



INLET PROTECTION ROCK BAG
NOT TO SCALE



NOTE:
POINT 'A' MUST BE 1'-0" MIN HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE DITCH CHECK AND NOT AROUND THE ENDS

DITCH CHECK - BIOROLL
NOT TO SCALE

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TRAVIS L. WINTER
LIC. NO. 46649 DATE XX/XX/XXXX

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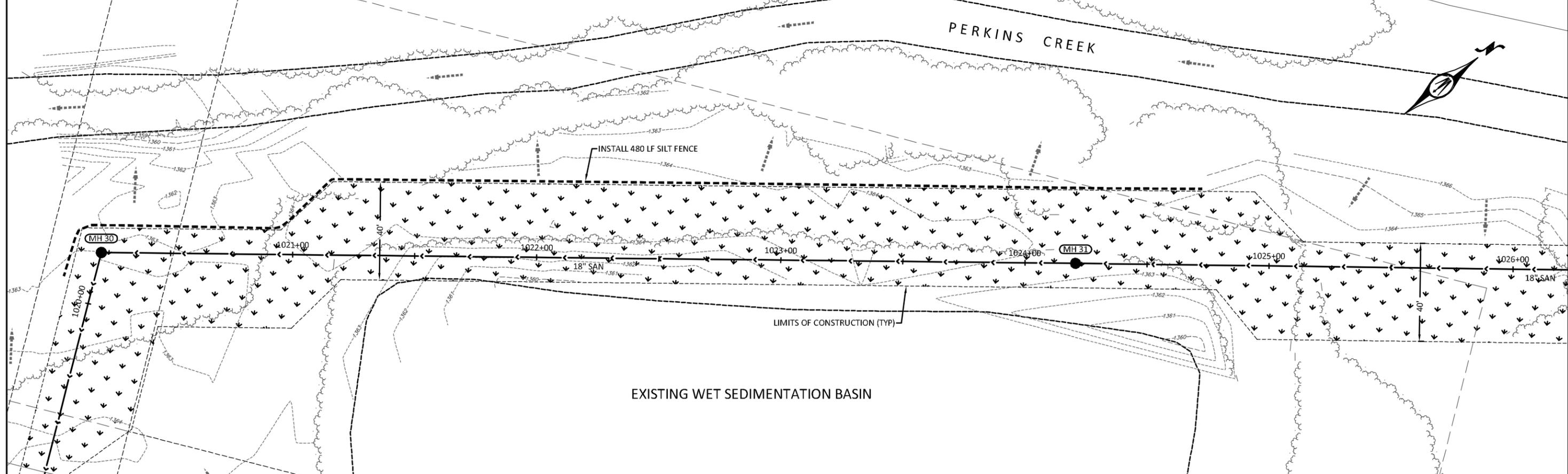
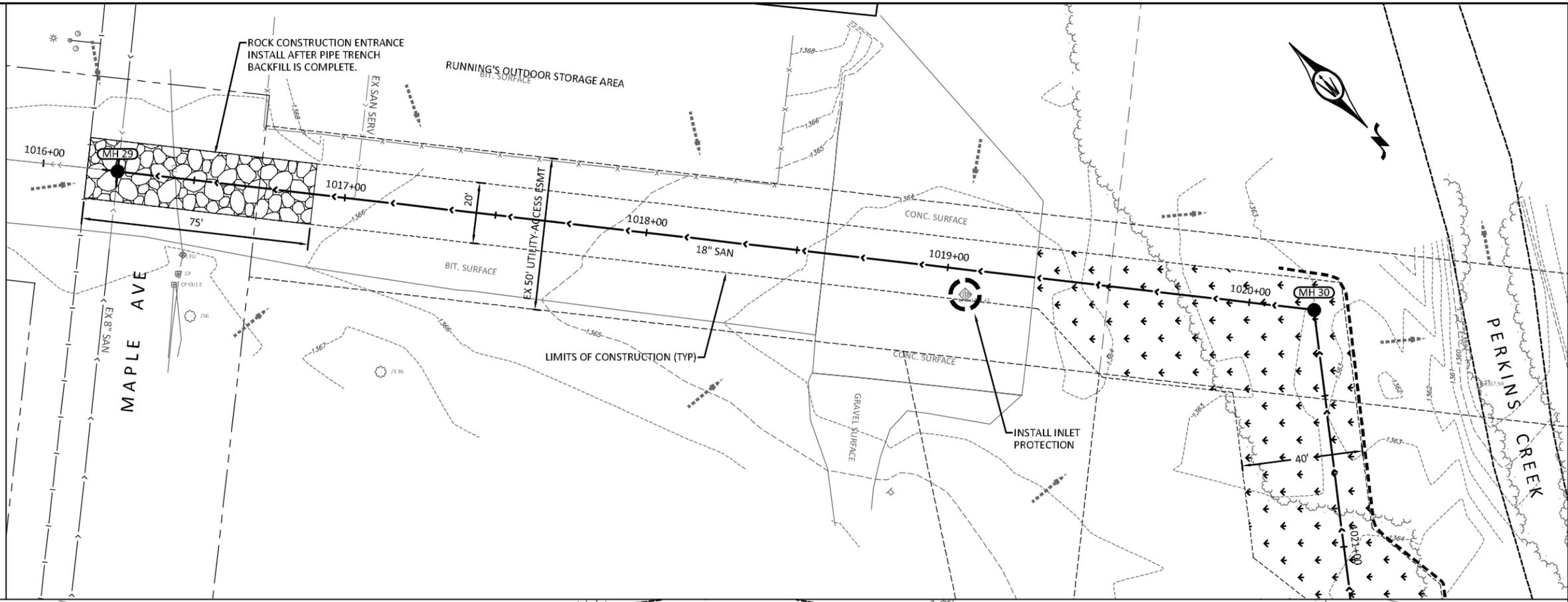
WINDOM, MINNESOTA
2016 SANITARY SEWER REHABILITATION
EROSION CONTROL DETAILS

STORMWATER POLLUTION PREVENTION PLAN NOTES:

1. ALL EXISTING CATCH BASINS, INLETS, AND FLARED END SECTIONS, SHALL HAVE INLET PROTECTION INSTALLED PRIOR TO DISTURBANCE OR AFTER CONSTRUCTION.
2. CONSTRUCT ROCK CONSTRUCTION EXITS AS NECESSARY THROUGHOUT THE PROJECT.
3. LIMITS OF CONSTRUCTION ARE AN ESTIMATE OF PROJECT DISTURBANCE. SEED ALL DISTURBED AREAS FOR PERMANENT STABILIZATION.
4. PROVIDE TEMPORARY STABILIZATION ON ALL AREAS AS NEEDED WITHIN THE TIMEFRAME REQUIRED BY THE CONSTRUCTION STORMWATER PERMIT.

LEGEND

- EXISTING DRAINAGE
 - - - LIMITS OF CONSTRUCTION
 - - - SILTFENCE
 - INLET PROTECTION
 - ⌒ DITCH CHECK
 - ▨ ROCK CONSTRUCTION ENTRANCE
 - ▩ RIPRAP
 - ▨ EROSION CONTROL BLANKET, CATEGORY 3
 - ▼ SEED, FERTILIZE & MULCH
- APPLICATION RATES:**
SEED MIXTURE 25-141: 90 LB/AC



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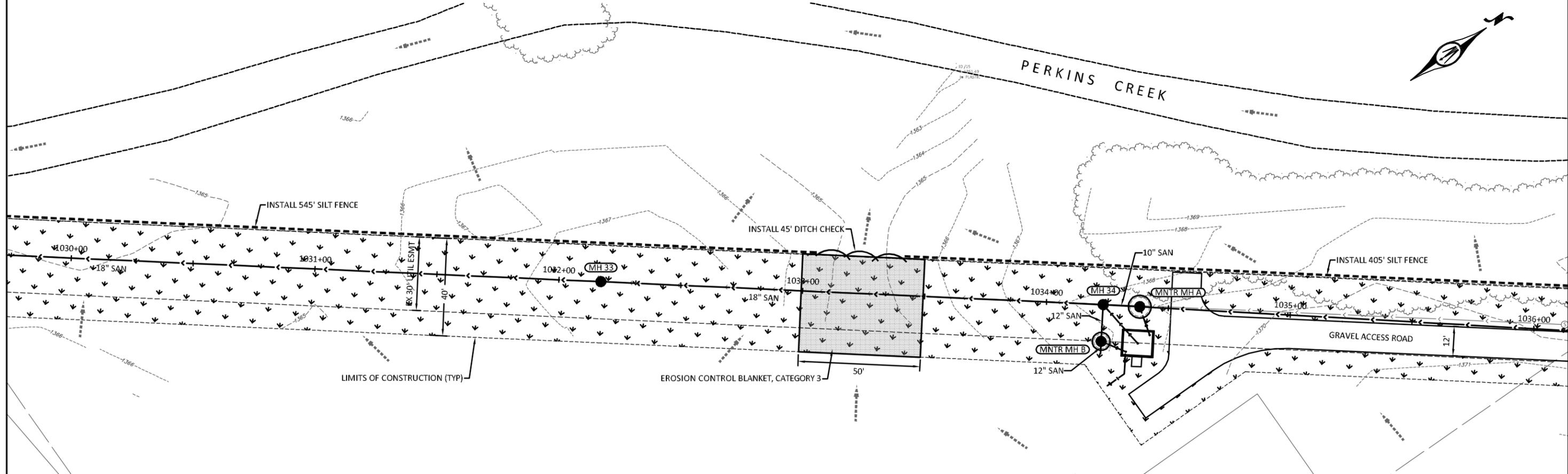
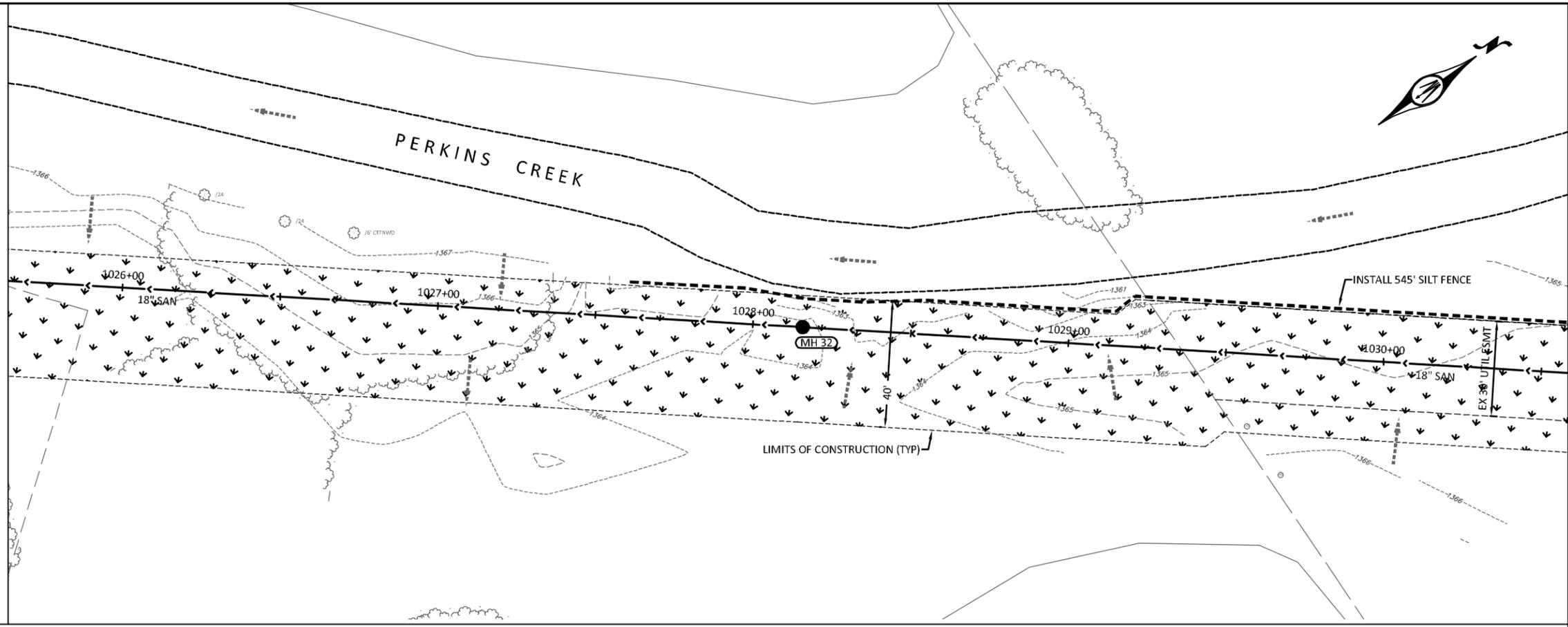
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3. LIMITS OF CONSTRUCTION ARE AN ESTIMATE OF PROJECT DISTURBANCE. SEED ALL DISTURBED AREAS FOR PERMANENT STABILIZATION.
4. PROVIDE TEMPORARY STABILIZATION ON ALL AREAS AS NEEDED WITHIN THE TIMEFRAME REQUIRED BY THE CONSTRUCTION STORMWATER PERMIT.

LEGEND

- - - - - EXISTING DRAINAGE
- - - - - LIMITS OF CONSTRUCTION
- - - - - SILTFENCE
- INLET PROTECTION
- ⌒ DITCH CHECK
- ▨ ROCK CONSTRUCTION ENTRANCE
- ▩ RIPRAP
- ▨ EROSION CONTROL BLANKET, CATEGORY 3
- ↓ SEED, FERTILIZE & MULCH

APPLICATION RATES:
SEED MIXTURE 25-141: 90 LB/AC



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Consulting Engineers & Surveyors
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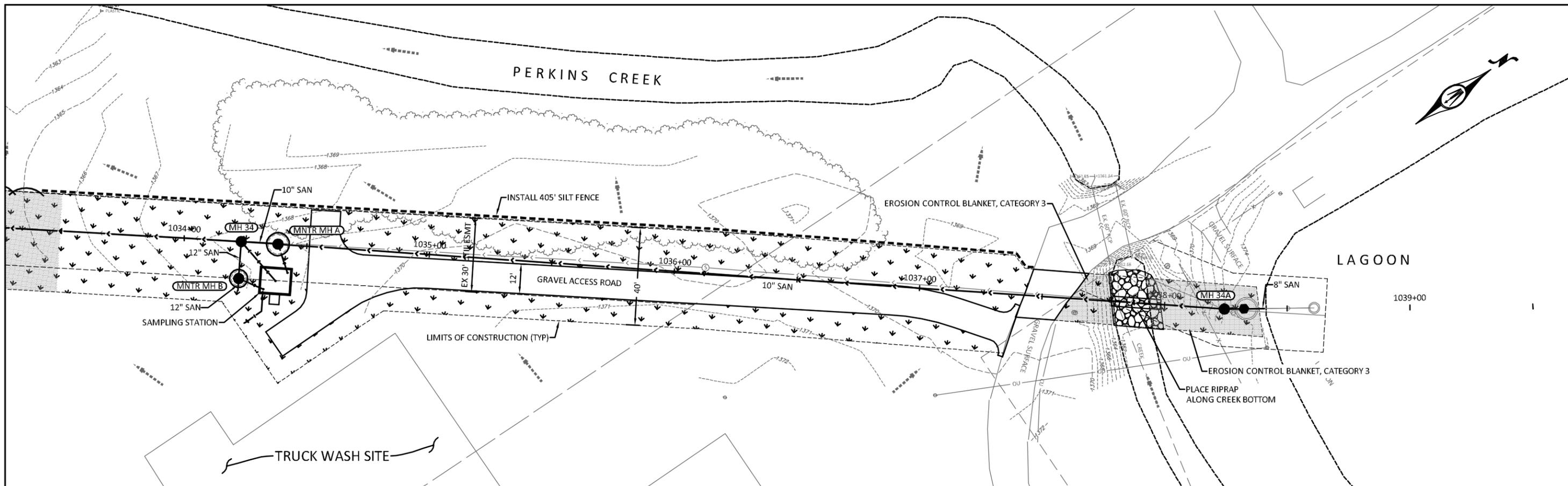
TRAVIS L. WINTER
LIC. NO. 46649 DATE XX/XX/XXXX

DESIGNED: TLW
DRAWN: BRR
CHECKED: TLW

WINDOM, MINNESOTA
2016 SANITARY SEWER REHABILITATION
STORMWATER POLLUTION PREVENTION PLAN
EROSION CONTROL PLAN

SHEET
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STORMWATER POLLUTION PREVENTION PLAN NOTES:

1. ALL EXISTING CATCH BASINS, INLETS, AND FLARED END SECTIONS, SHALL HAVE INLET PROTECTION INSTALLED PRIOR TO DISTURBANCE OR AFTER CONSTRUCTION.
2. CONSTRUCT ROCK CONSTRUCTION EXITS AS NECESSARY THROUGHOUT THE PROJECT.
3. LIMITS OF CONSTRUCTION ARE AN ESTIMATE OF PROJECT DISTURBANCE. SEED ALL DISTURBED AREAS FOR PERMANENT STABILIZATION.
4. PROVIDE TEMPORARY STABILIZATION ON ALL AREAS AS NEEDED WITHIN THE TIMEFRAME REQUIRED BY THE CONSTRUCTION STORMWATER PERMIT.

LEGEND

- EXISTING DRAINAGE
- LIMITS OF CONSTRUCTION
- SILTFENCE
- INLET PROTECTION
- ⤴ DITCH CHECK
- ⬜ ROCK CONSTRUCTION ENTRANCE
- ⬜ RIPRAP
- ⬜ EROSION CONTROL BLANKET, CATEGORY 3
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APPLICATION RATES:
SEED MIXTURE 25-141: 90 LB/AC



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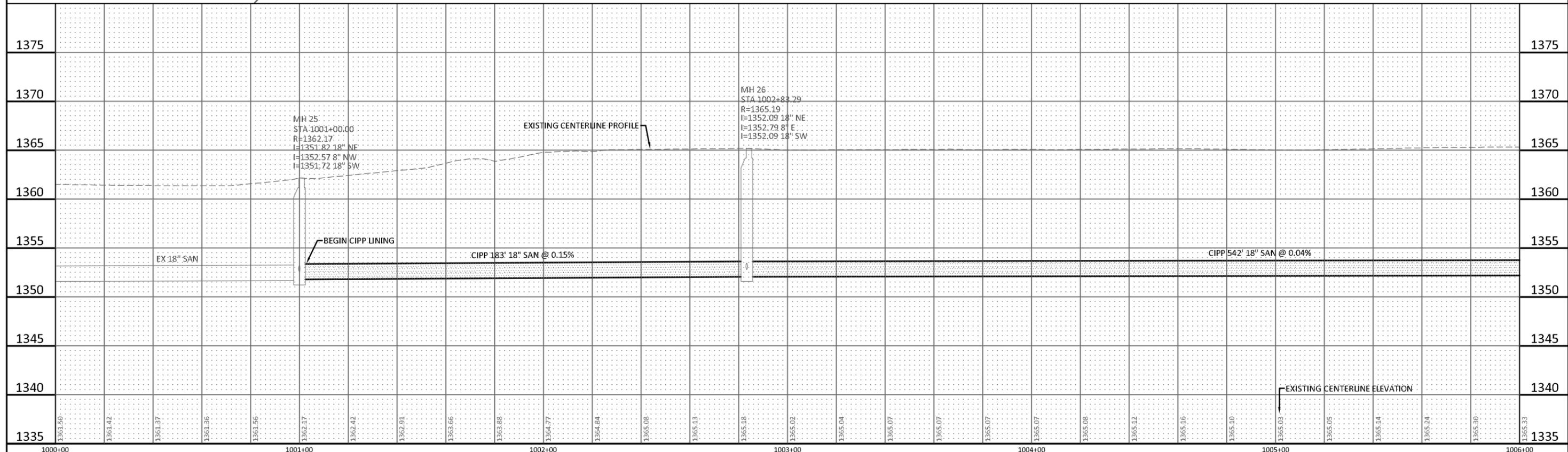
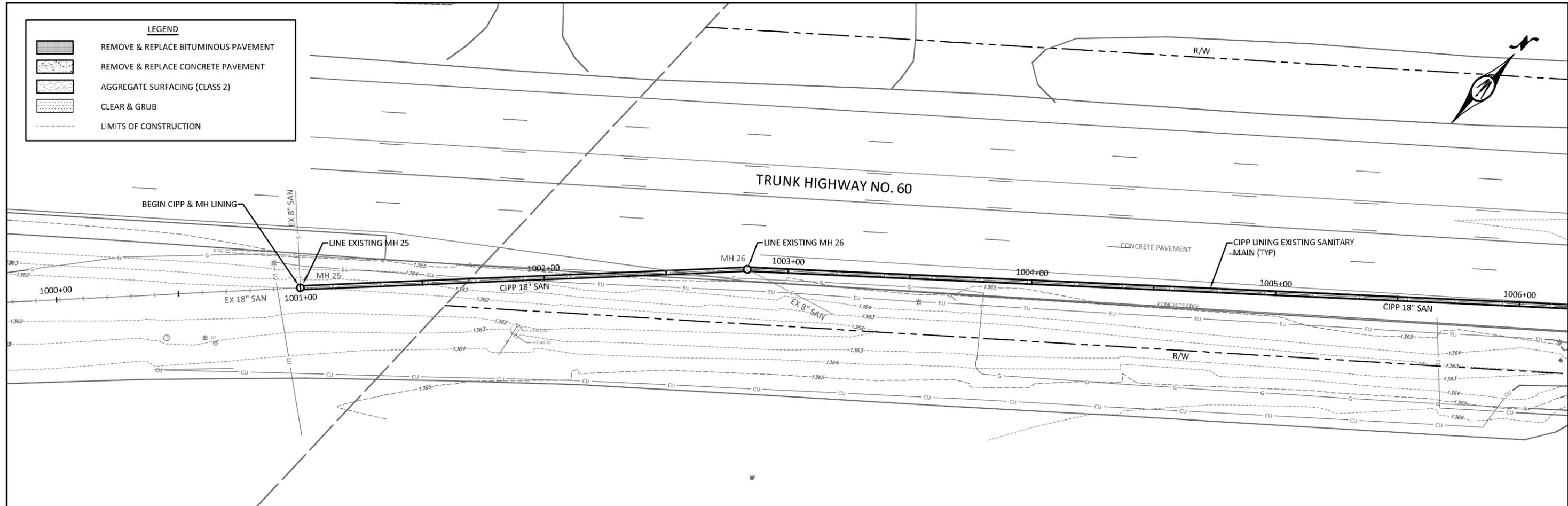
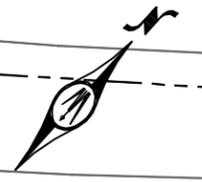
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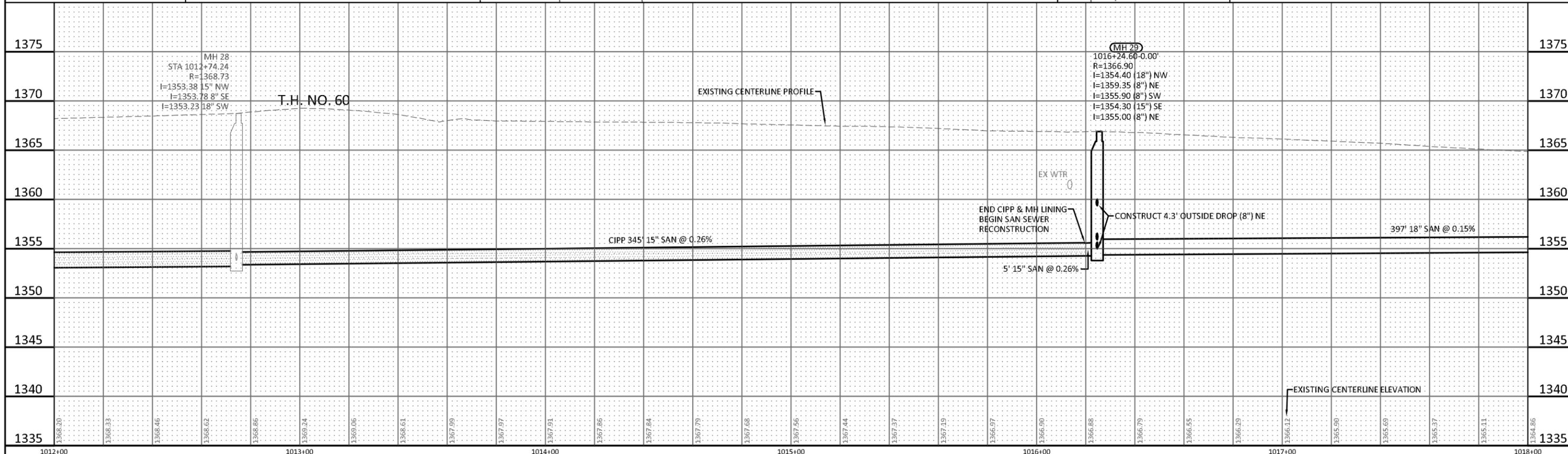
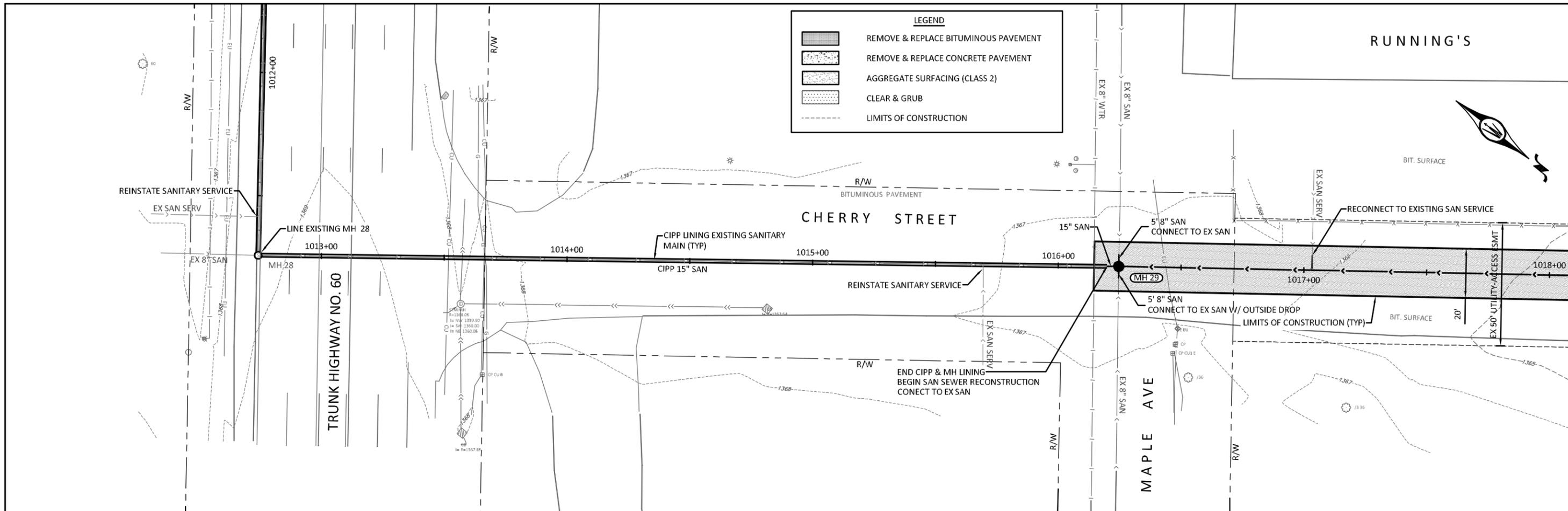
DESIGNED TLW
DRAWN BRR
CHECKED TLW

WINDOM, MINNESOTA
 2016 SANITARY SEWER REHABILITATION
 STORMWATER POLLUTION PREVENTION PLAN
 EROSION CONTROL PLAN

LEGEND	
	REMOVE & REPLACE BITUMINOUS PAVEMENT
	REMOVE & REPLACE CONCRETE PAVEMENT
	AGGREGATE SURFACING (CLASS 2)
	CLEAR & GRUB
	LIMITS OF CONSTRUCTION

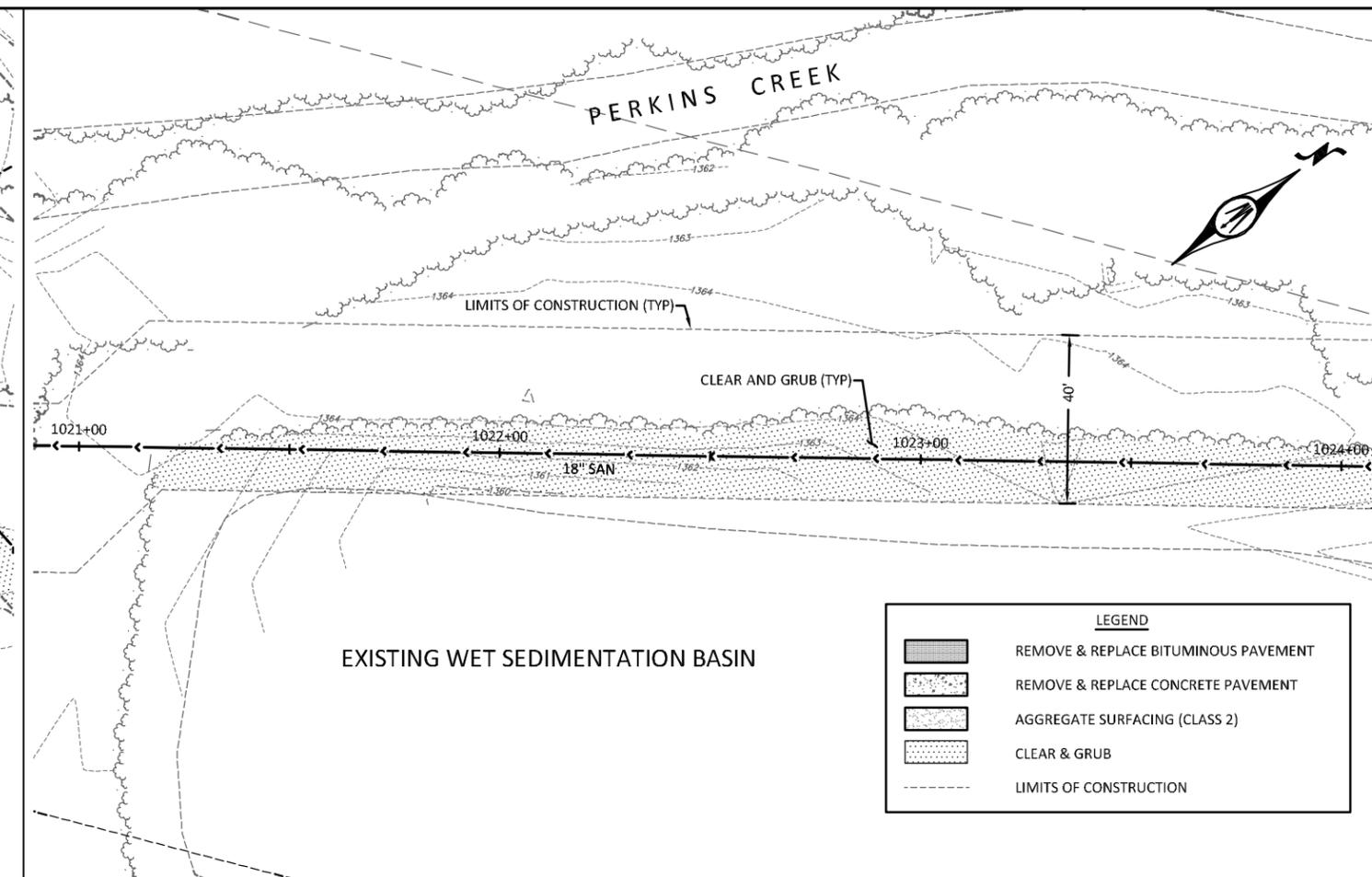
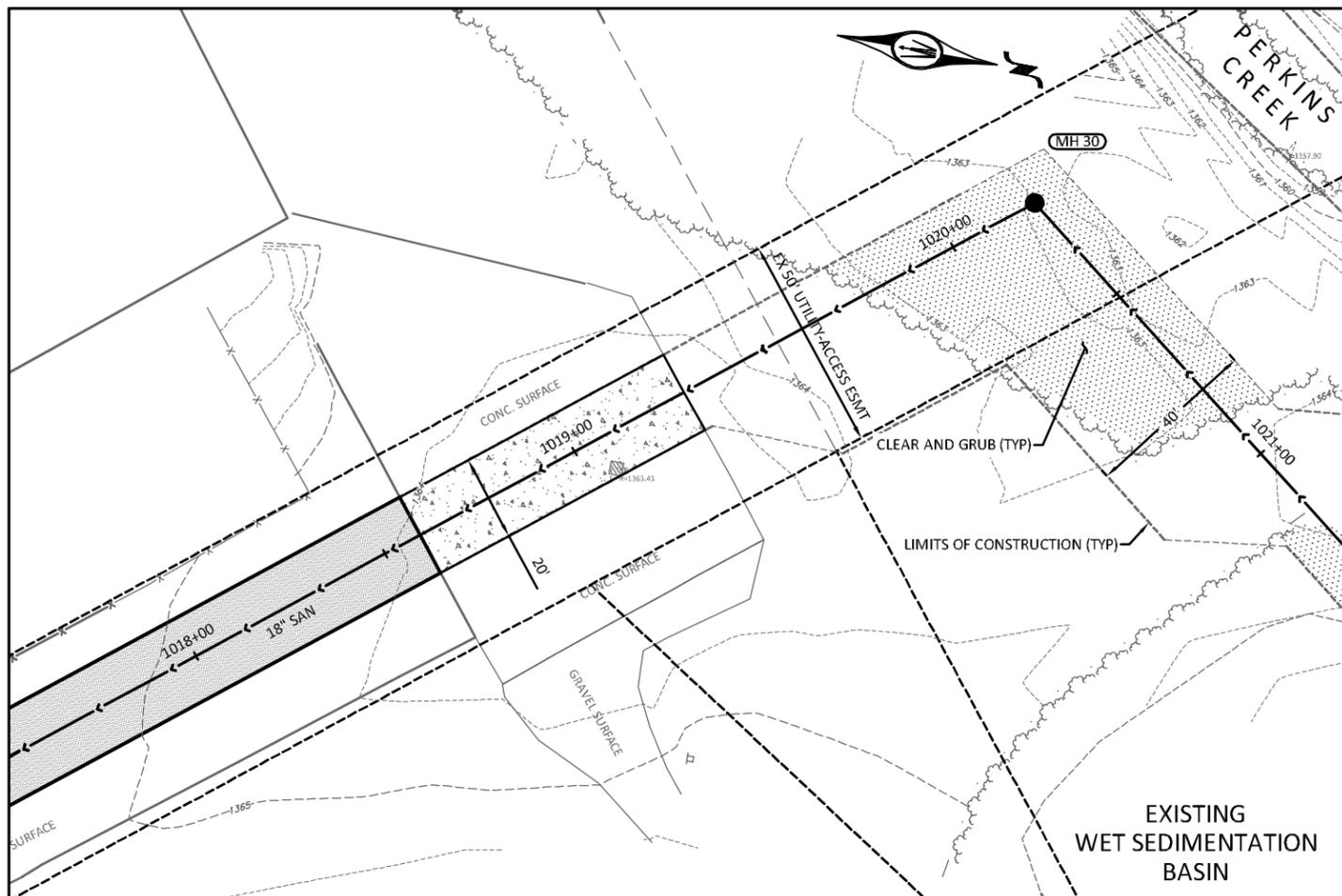


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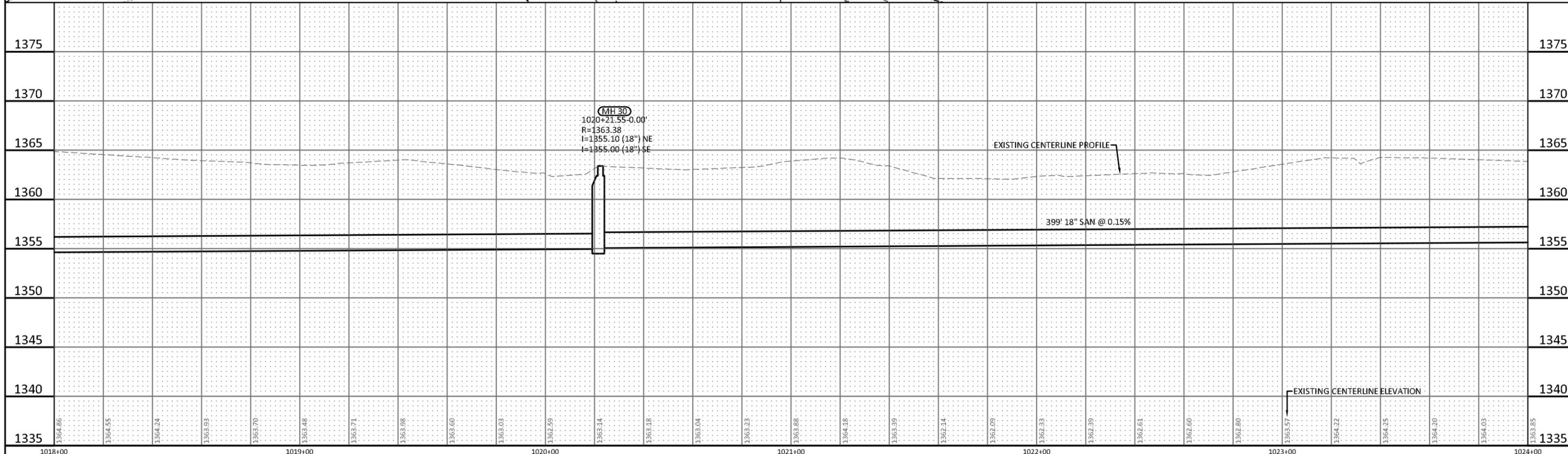


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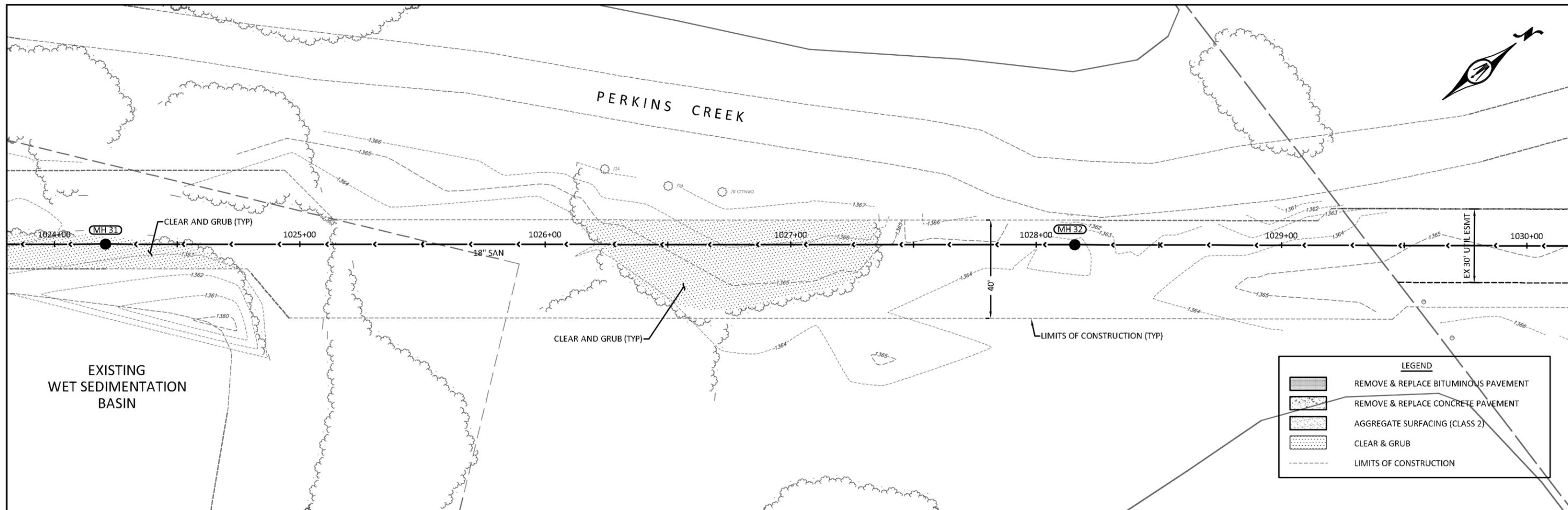


LEGEND	
	REMOVE & REPLACE BITUMINOUS PAVEMENT
	REMOVE & REPLACE CONCRETE PAVEMENT
	AGGREGATE SURFACING (CLASS 2)
	CLEAR & GRUB
	LIMITS OF CONSTRUCTION



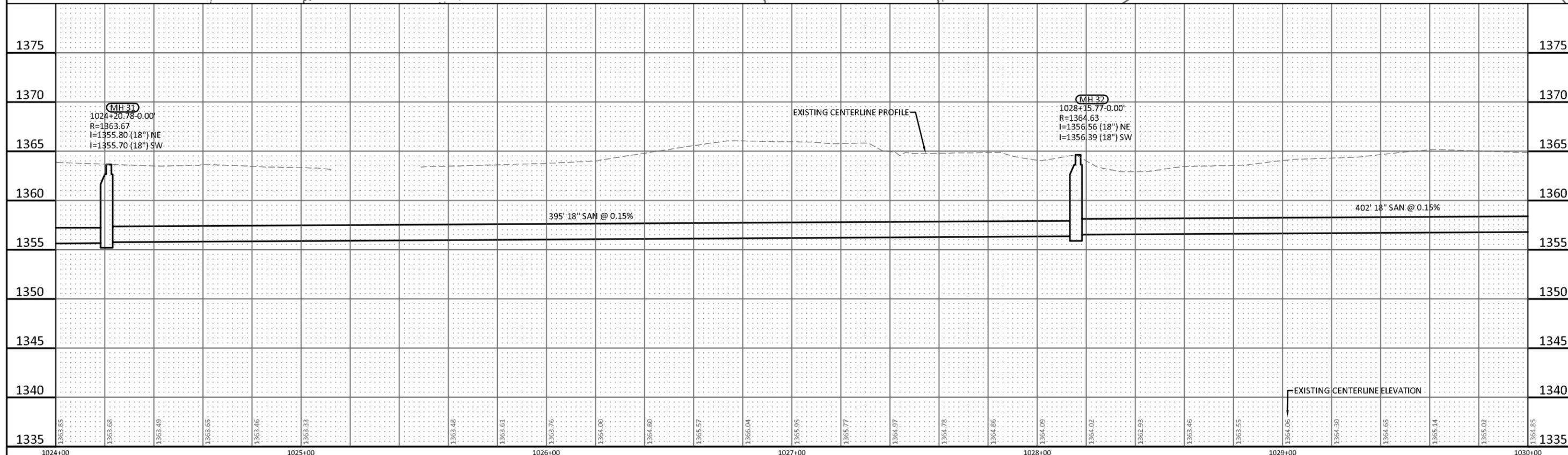
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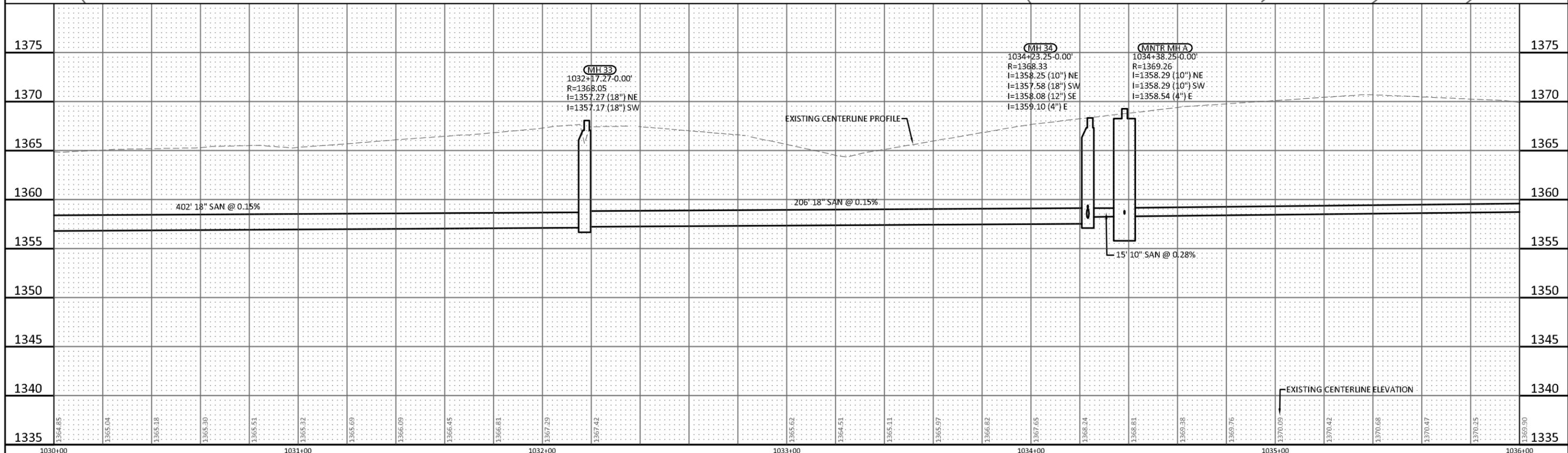
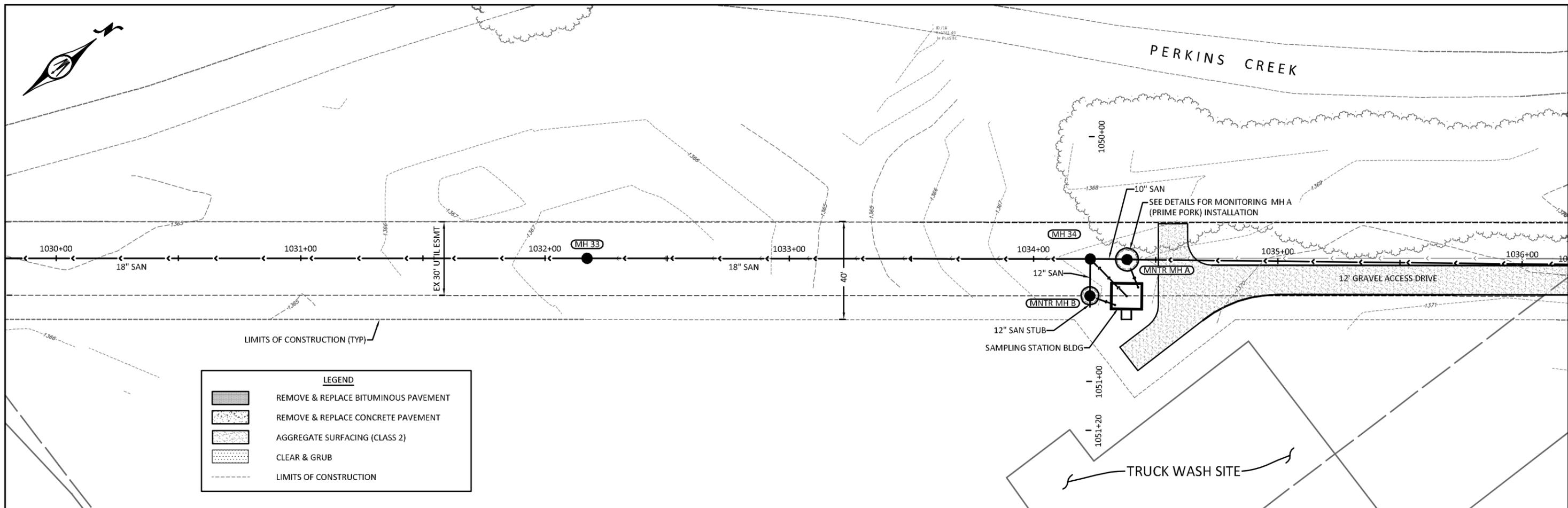
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	REMOVE & REPLACE BITUMINOUS PAVEMENT
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