

SUNRISE PINES

TITLE SHEET, LEGEND, & EXISTING CONDITIONS

LINWOOD TOWNSHIP, MINNESOTA

LEGEND *

OHW	EXISTING OVERHEAD ELECTRIC
TEL	EXISTING UNDERGROUND TELEPHONE
CBL	EXISTING UNDERGROUND CABLE
TEL	EXISTING TELEPHONE PEDESTAL
ELEC	EXISTING ELECTRICAL PEDESTAL
CBL	EXISTING CABLE PEDESTAL
POLE	EXISTING UTILITY POLE
LIGHT	EXISTING LIGHT POLE
STORM	EXISTING STORM SEWER
WATER	EXISTING WATER MAIN
SEWER	EXISTING SANITARY SEWER
FM	EXISTING FORCEMAN
SM	EXISTING STORM MANHOLE
CB	EXISTING CATCH BASIN
FE	EXISTING FLARED-END SECTION
GV	EXISTING GATE VALVE
HYDRANT	EXISTING HYDRANT
WELL	EXISTING WELL
SSM	EXISTING SANITARY SEWER MANHOLE
CONTOUR	EXISTING CONTOUR
SPOT	EXISTING SPOT ELEVATION
BITUMINOUS	EXISTING BITUMINOUS
TREES	EXISTING TREES
REMOVED	EXISTING TREE TO BE REMOVED
DR	SURFACE DRAINAGE DIRECTION
FENCE	EXISTING FENCE
RETAINING	EXISTING RETAINING WALL
WETLAND	EXISTING WETLAND
* NOT ALL SYMBOLS ARE APPLICABLE.	

GENERAL NOTES

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF EXISTING UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UTILITIES AS NECESSARY TO AVOID DAMAGE TO THESE UTILITIES.

CALL "811" FOR EXISTING UTILITIES LOCATIONS PRIOR TO ANY EXCAVATIONS.

THE CONTRACTOR SHALL VERIFY SIZE, ELEVATION, AND LOCATION OF EXISTING SANITARY SEWER, STORM SEWER, AND WATER MAIN AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO THE START OF INSTALLATIONS.

INSTALLATIONS SHALL CONFORM TO THE CITY STANDARD SPECIFICATIONS AND DETAIL PLATES.

ALL UTILITIES THAT WILL BE OWNED AND MAINTAINED BY THE CITY AFTER CONSTRUCTION SHALL BE BUILT TO CITY STANDARDS.

THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE CITY PRIOR TO ANY WORK.

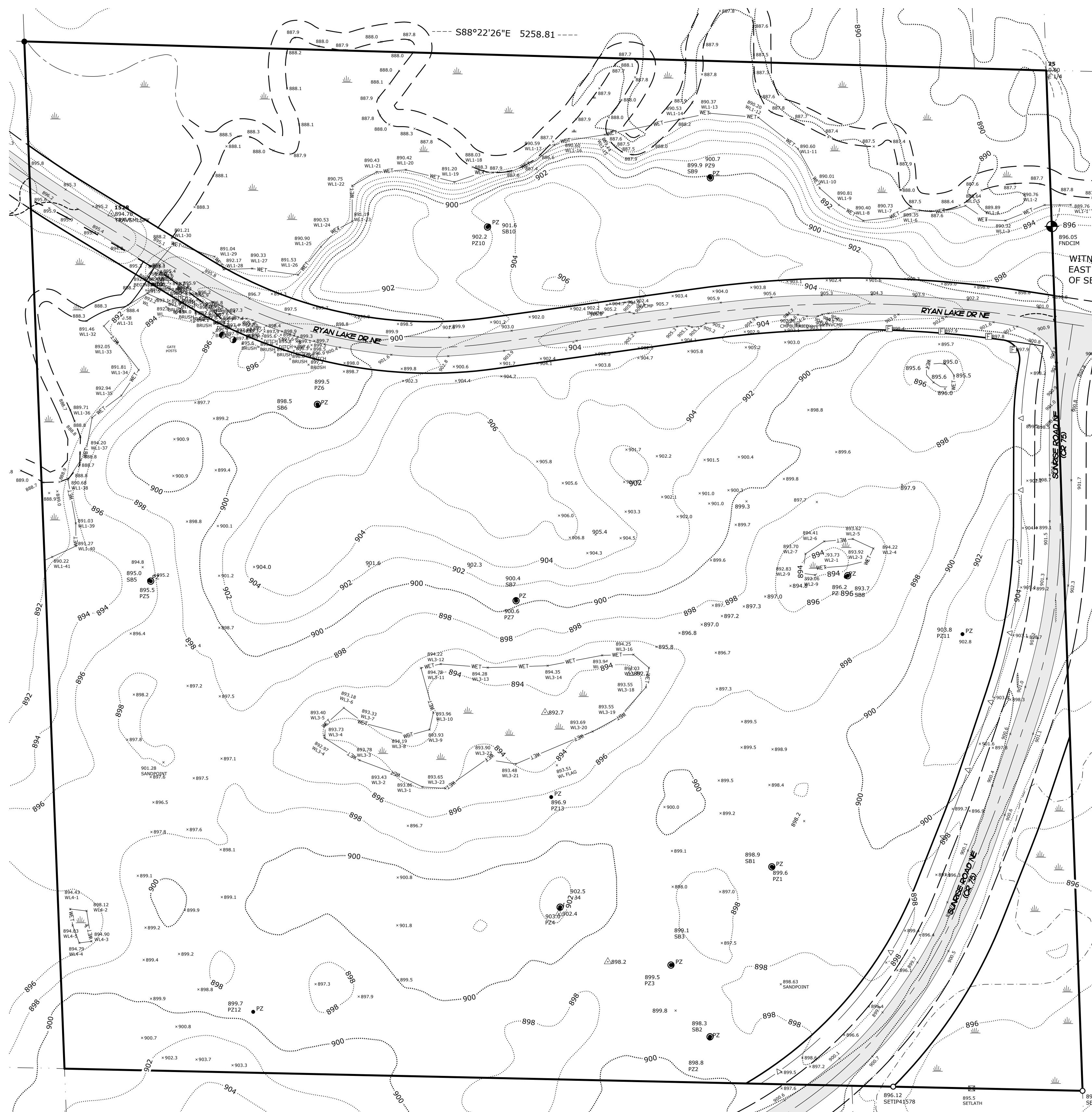
STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT-OF-WAY.

NOTIFY CITY A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

ALL ELECTRIC, TELEPHONE, AND GAS EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.



below.
Call before you dig.



VICINITY MAP



DRAWN BY: C.D.W.
DESIGN BY: C.W.P.
CHECKED BY: M.Q.A.
PROJ. NO. 21-2008
ORIGINAL DATE: DECEMBER 30, 2021

DATE: 2/10/22 REVISION DESCRIPTION: CITY REVIEW #2
2/25/22 CITY REVIEW #2

I hereby certify that this plan 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.
Charles W. Plowe
LIC. NO. 18227
DATE: 02/25/2022

SUNRISE PINES
LINWOOD TOWNSHIP, MINNESOTA
TITLE SHEET, EXISTING CONDITIONS & LEGEND

DEVELOPER

CARRINGTON DEVELOPMENT, LLC
STEVE STRANDLUND
P.O. Box 169
EAST BETHEL, MN 55011
(612) 221-4476

ENGINEER

PLOWE ENGINEERING, INC.
6776 LAKE DRIVE NE, SUITE 110
LINO LAKES, MN 55014
(651) 361-8210

SURVEYOR

E.G. RUD & SONS, INC.
6776 LAKE DRIVE NE, SUITE 110
LINO LAKES, MN 55014
(651) 361-8200



SITE PLANNING & ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

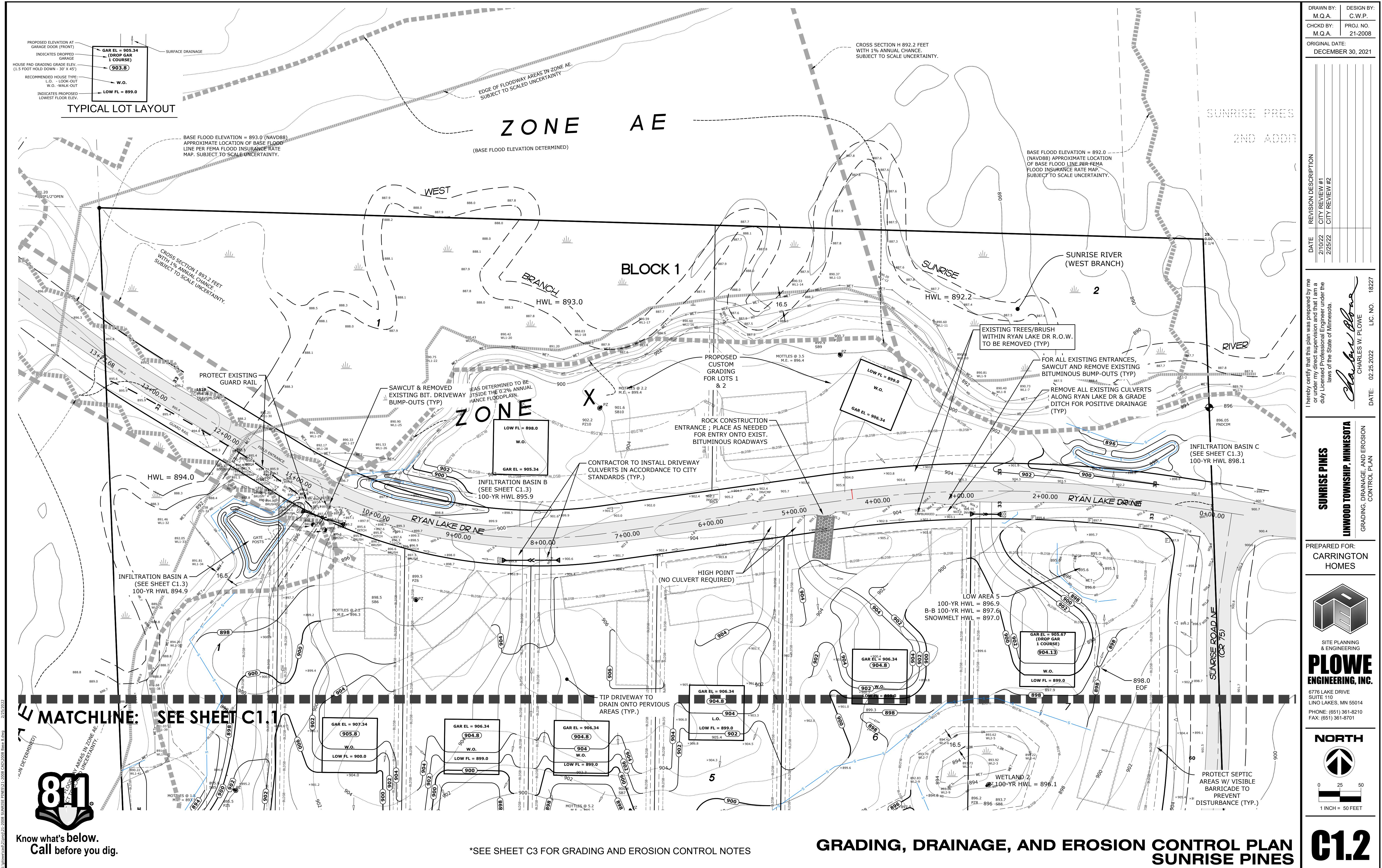
SHEET INDEX

- C0 TITLE SHEET, LEGEND & EXISTING CONDITIONS
- C1.1 GRADING, DRAINAGE & EROSION CONTROL PLAN
- C1.2 GRADING, DRAINAGE & EROSION CONTROL PLAN
- C1.3 INFILTRATION BASIN DETAILS
- C1.4 RYAN LAKE DRIVE CROSS-SECTIONS
- C2 UTILITY PLAN
- C3 DETAILS & NOTES
- C4.1 STORM WATER POLLUTION PREVENTION PLAN
- C4.2 STORM WATER POLLUTION PREVENTION PLAN



NOTE: THIS PLAN SET IS INTENDED TO ACCOMPANY THE PRELIMINARY PLAT SHEET(S), PROVIDED BY OTHERS.

C0

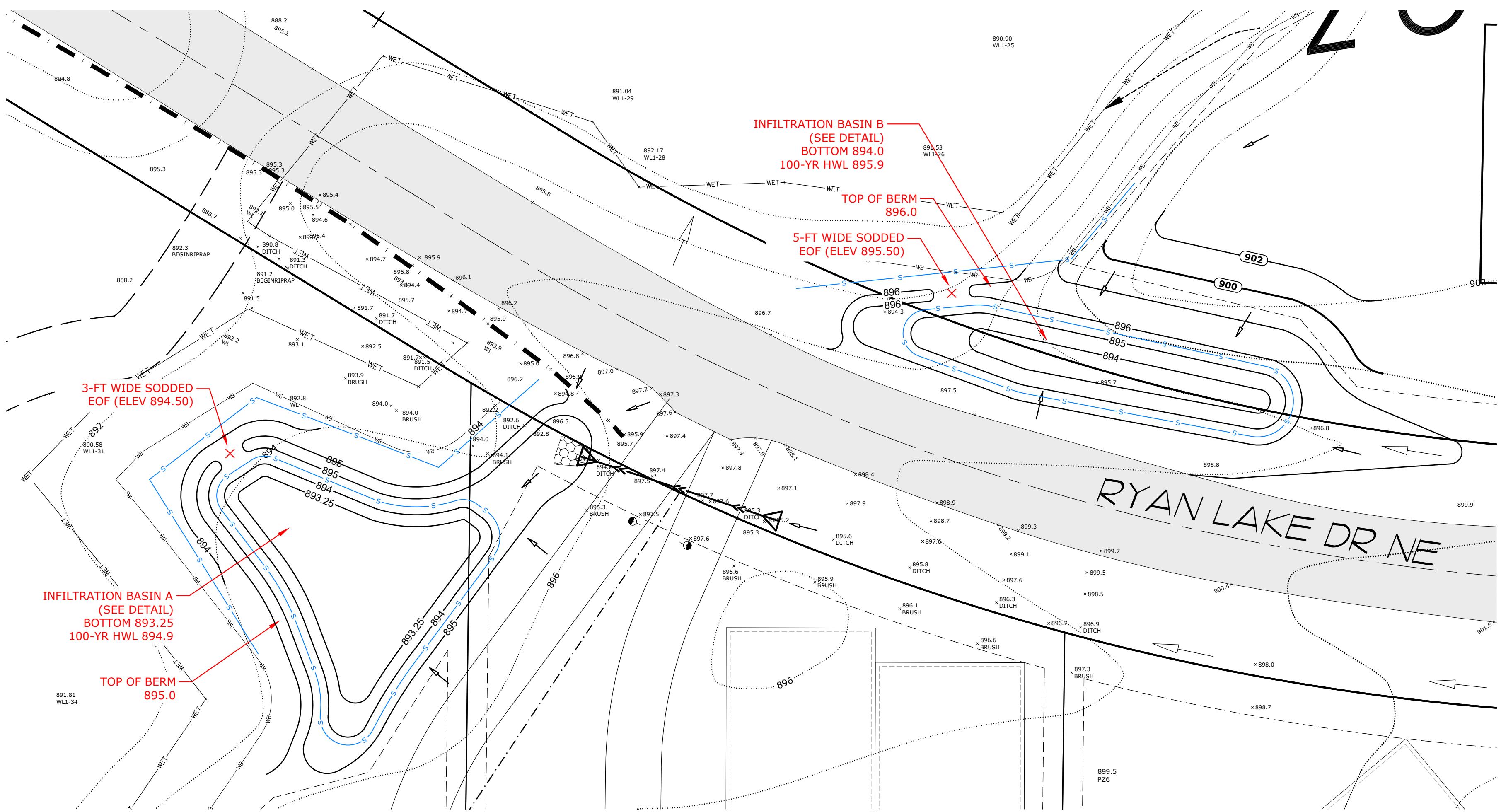


**Know what's below.
Call before you dig.**

*SEE SHEET C3 FOR GRADING AND EROSION CONTROL NOTES

GRADING, DRAINAGE, AND EROSION CONTROL PLAN SUNRISE PINES

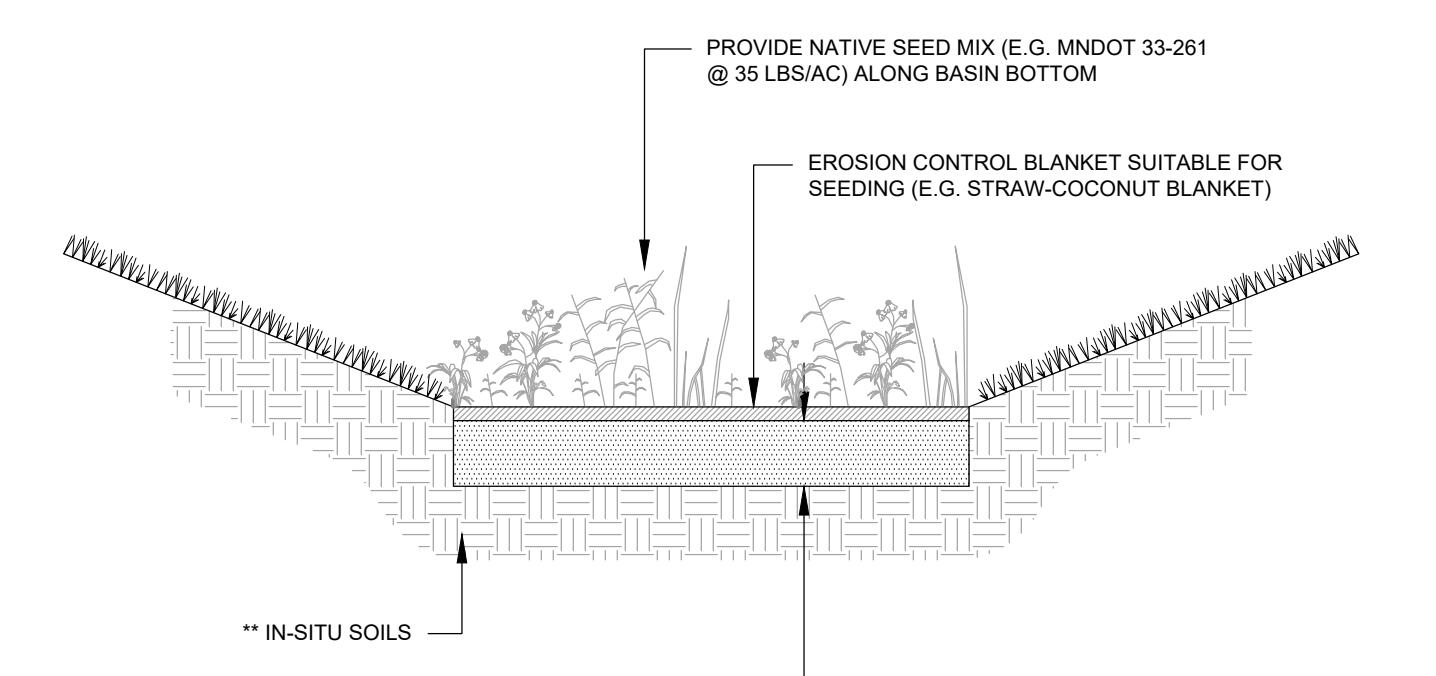
C1.2



NOTES

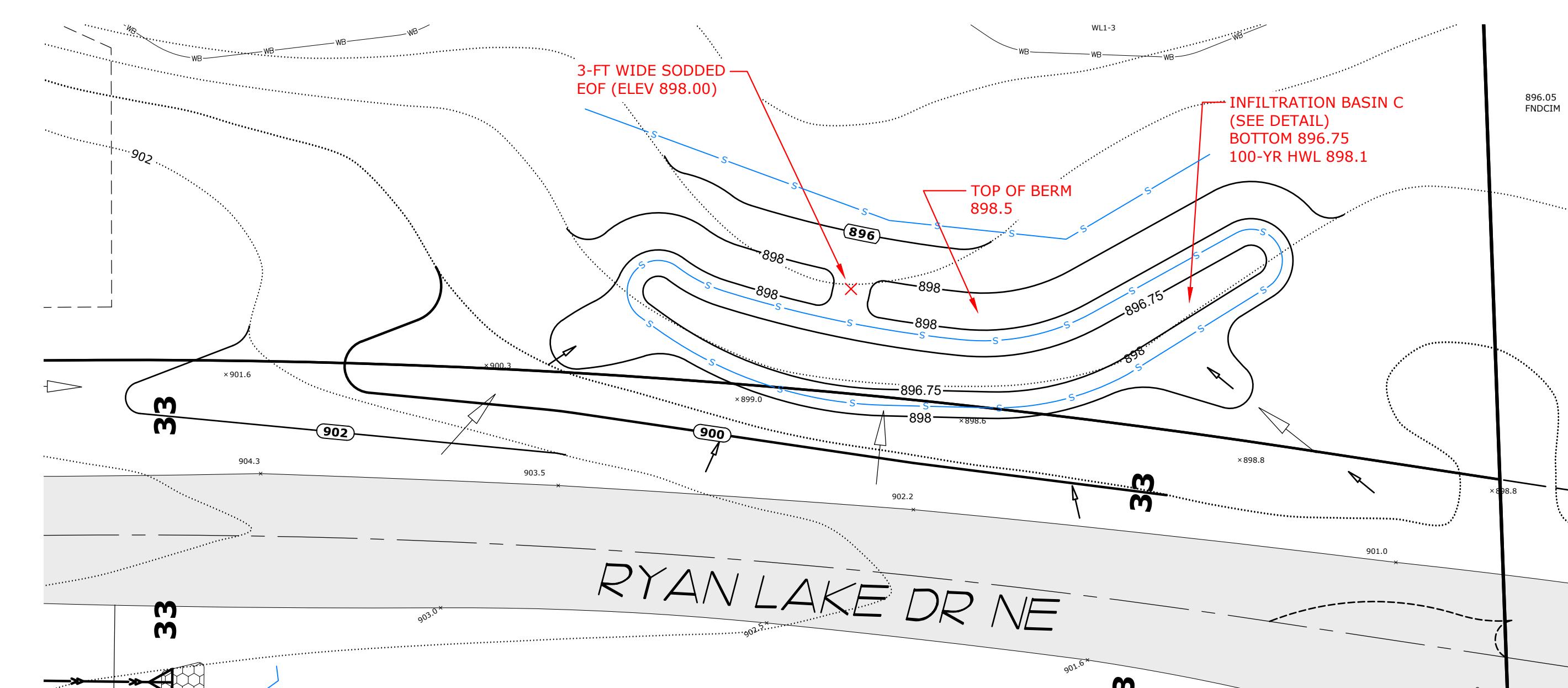
1. MARK-OFF BASIN AREA (E.G. FENCING, SILT FENCE, ETC.) TO PREVENT CONSTRUCTION TRAFFIC FROM ENTERING BASIN AREA.
2. USE LOW-IMPACT, EARTH MOVING EQUIPMENT (WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT-EQUIPMENT WITH TURF-TYPE TIRES) WITHIN BASIN.
3. PROTECT BASIN FROM RUN-OFF DURING CONSTRUCTION ACTIVITIES.
4. DO NOT EXCAVATE BASIN TO FINAL GRADE UNTIL UPSTREAM DRAINAGE AREAS HAVE BEEN STABILIZED.
5. REMOVE ANY TOPSOIL AND/OR UNSUITABLE SOILS WITHIN INFILTRATION BASIN FOOTPRINT. ANY SEDIMENT THAT IS WASHED INTO THE BASIN SHALL BE REMOVED.
6. NO TOPSOIL OR SALVAGED SOILS LOCATED IN BASIN AREAS.
7. EXCAVATE BASIN TO FINAL GRADE ONLY UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREAS. ALLEVIATE ANY COMPACTED SOILS DUE TO FINAL GRADING OPERATIONS PRIOR TO SEEDING.

AFTER INFILTRATION BASIN AREA HAS BEEN EXCAVATED TO FINAL GRADE, PERFORM A DOUBLE-RING INFILTROMETER TEST(S) TO VERIFY INFILTRATION CAPACITY OF IN-SITU SOILS.



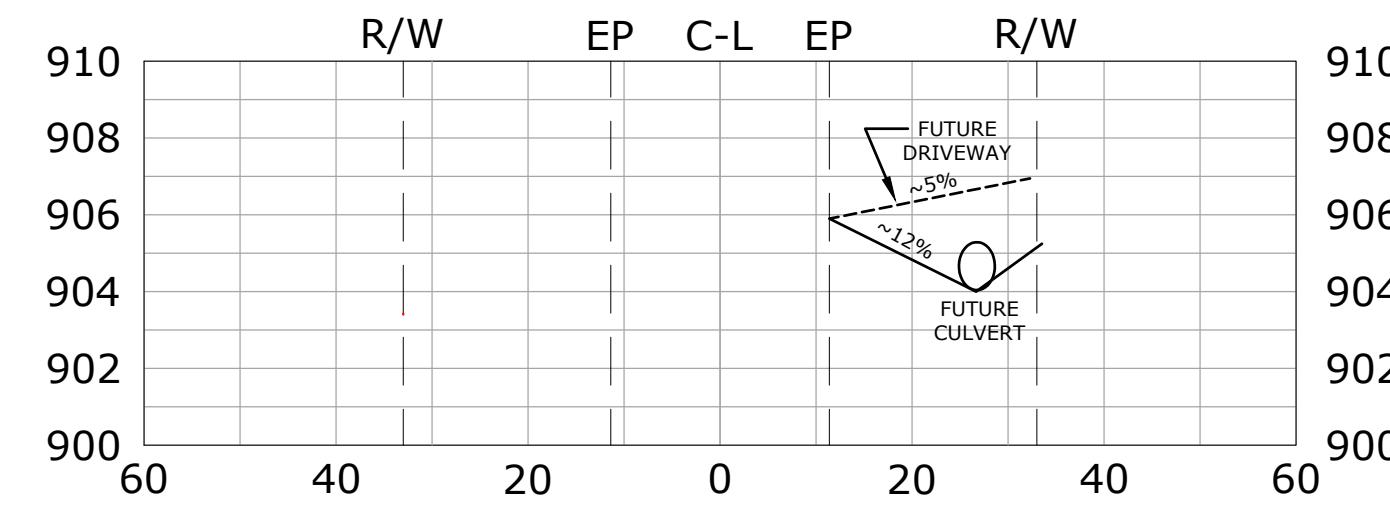
** IN-SITU SOILS
** ALLEVIATE ANY COMPACTED SOILS (BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER OR SUBSOILER) TO A DEPTH NECESSARY TO ALLEVIATE COMPACTION

5
C4.01
INfiltration Basin

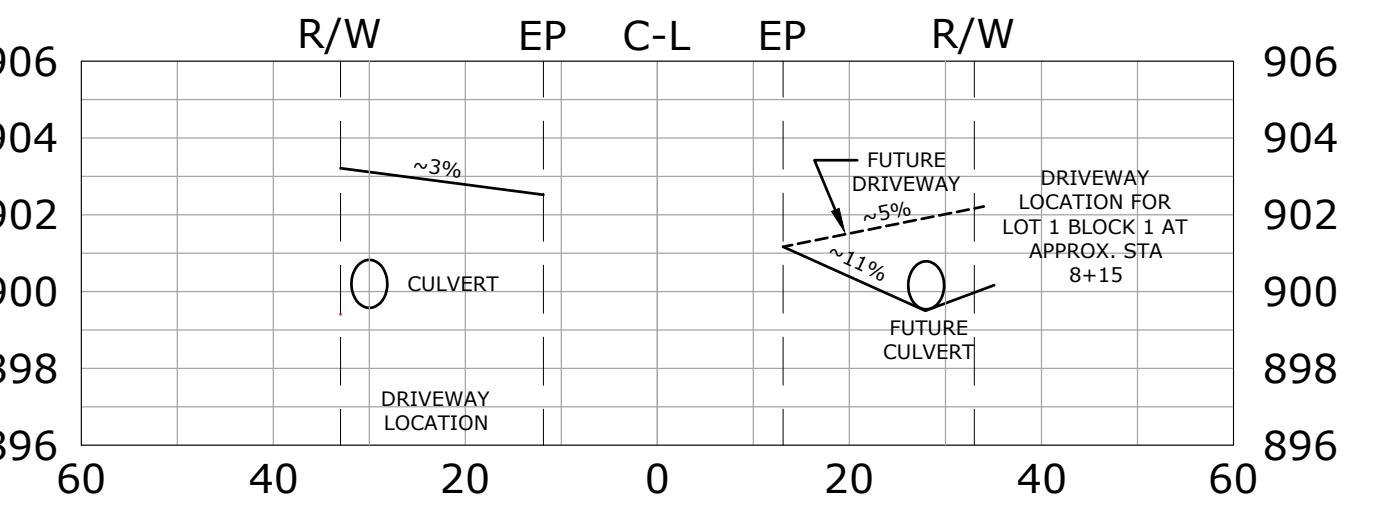




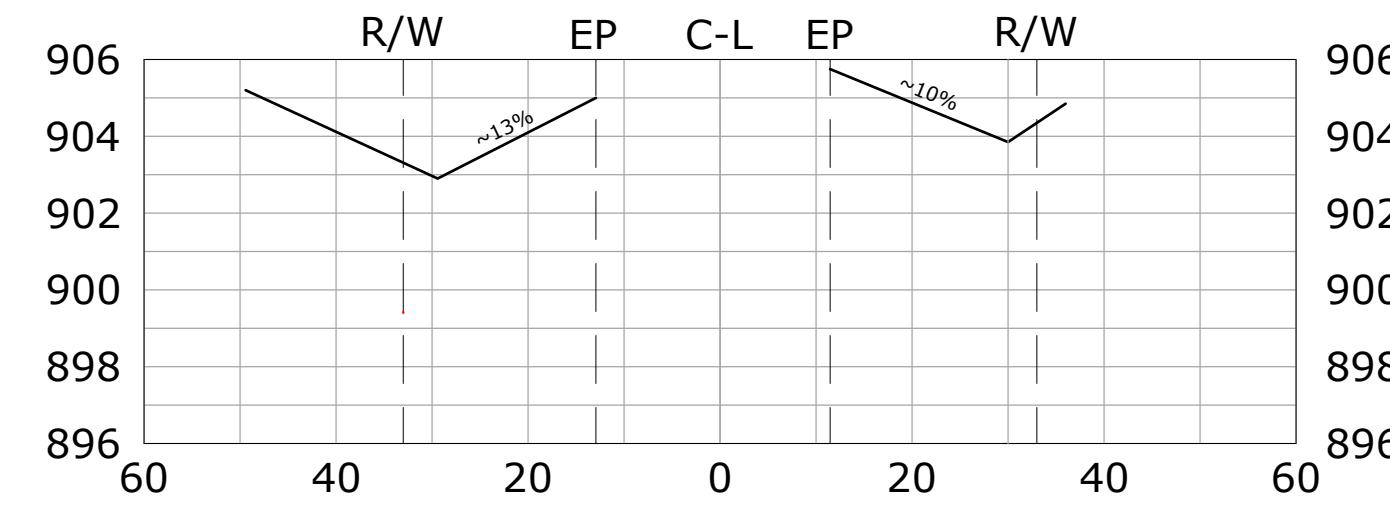
4+40 (DRIVEWAY)



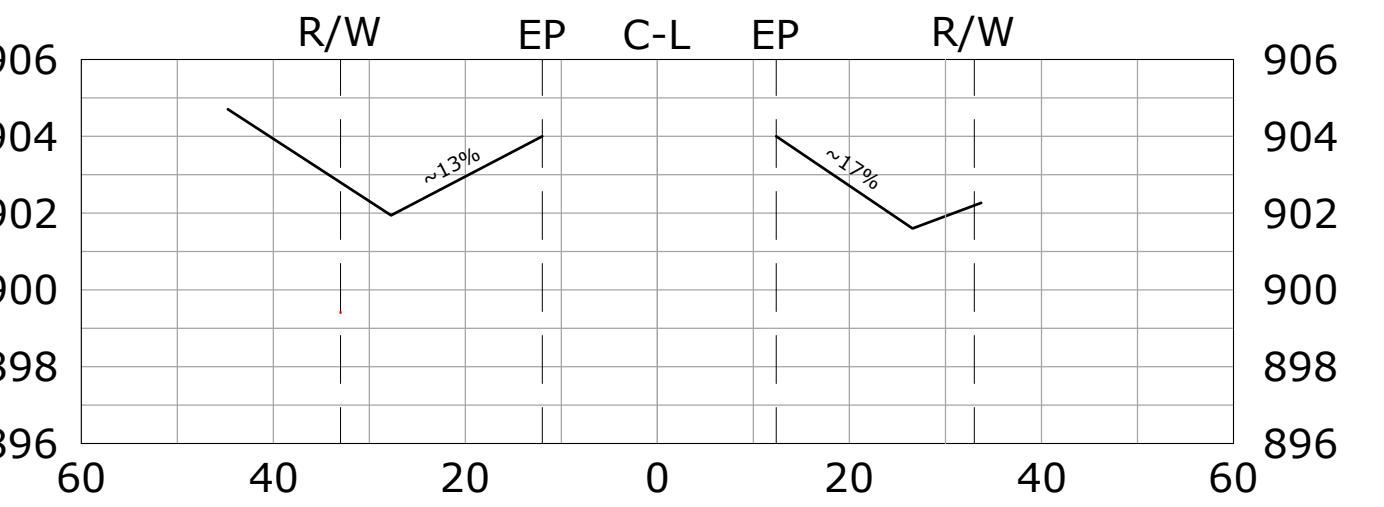
8+00



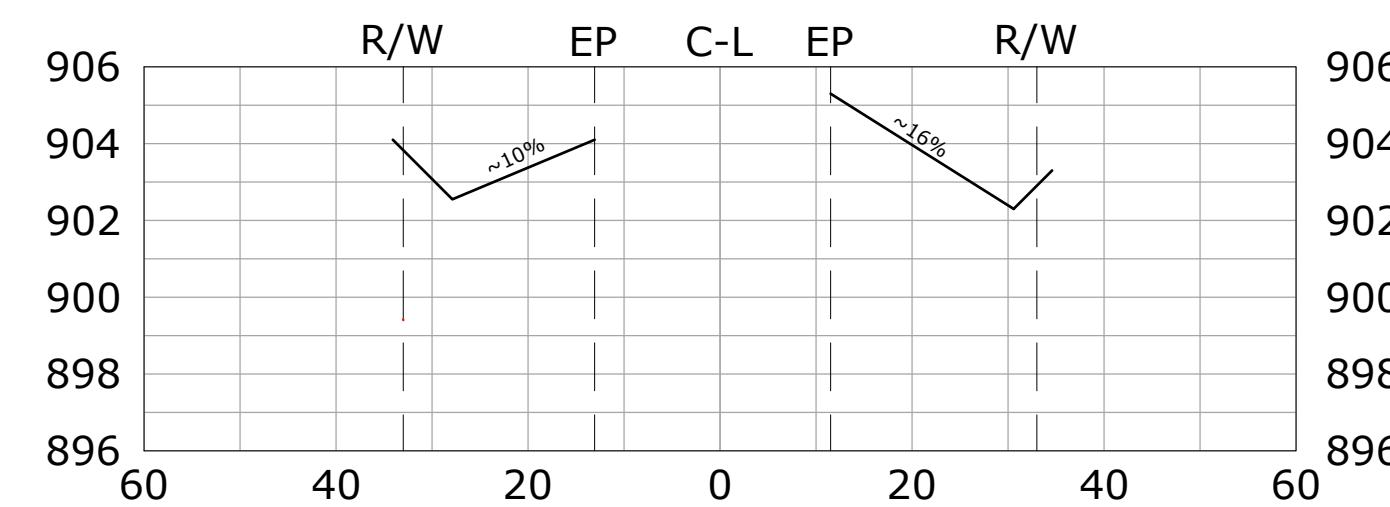
4+00



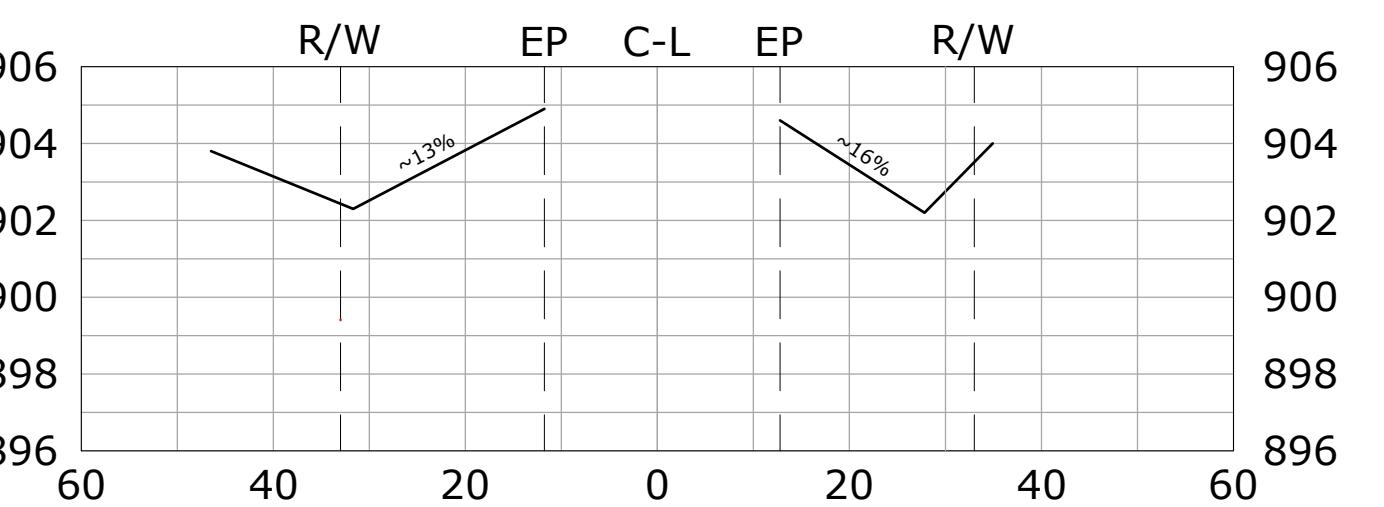
7+00



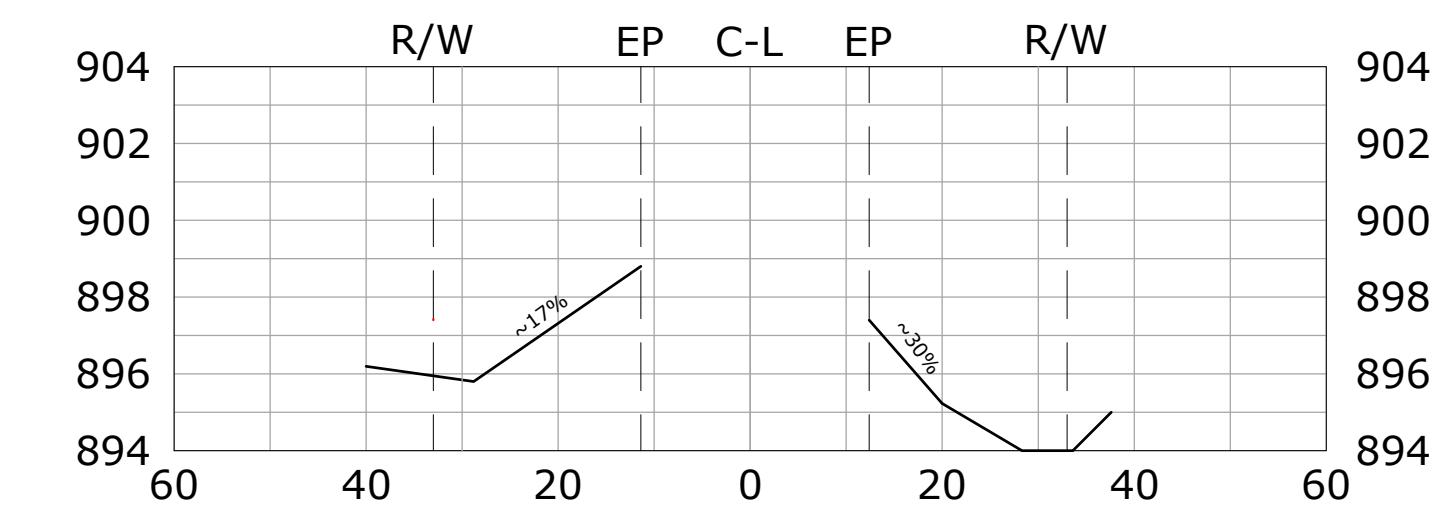
3+00



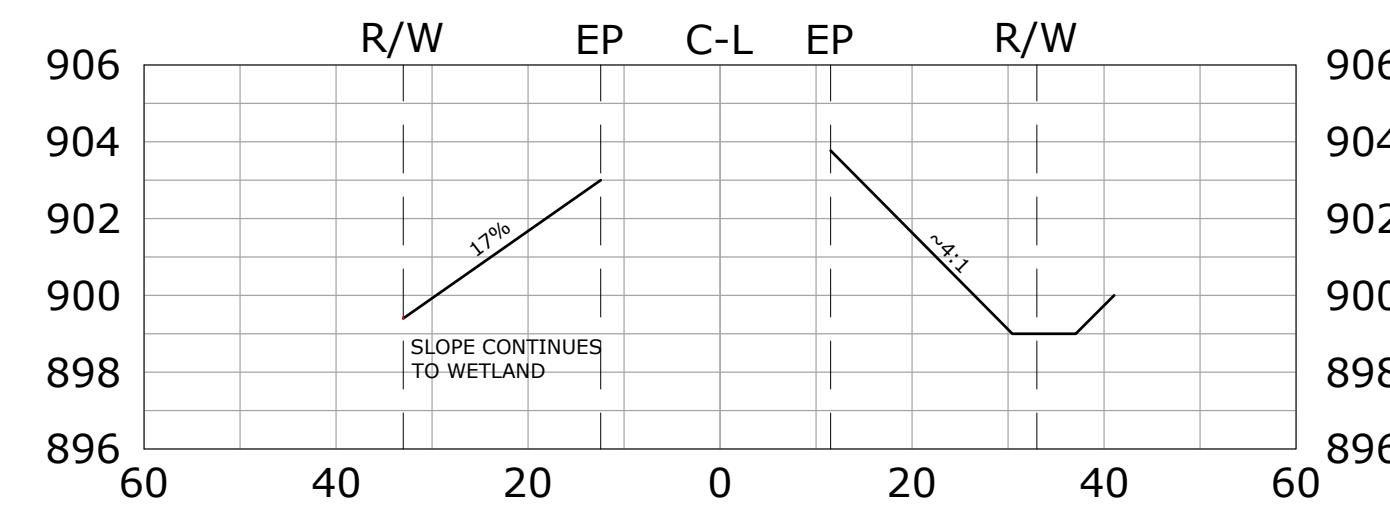
6+00



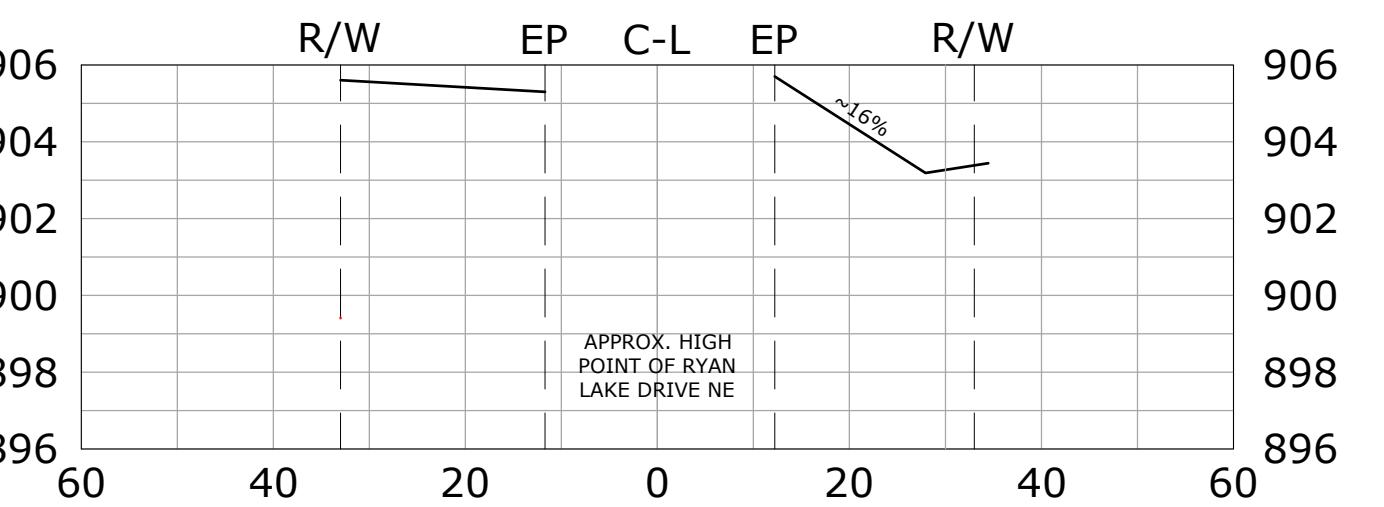
10+00



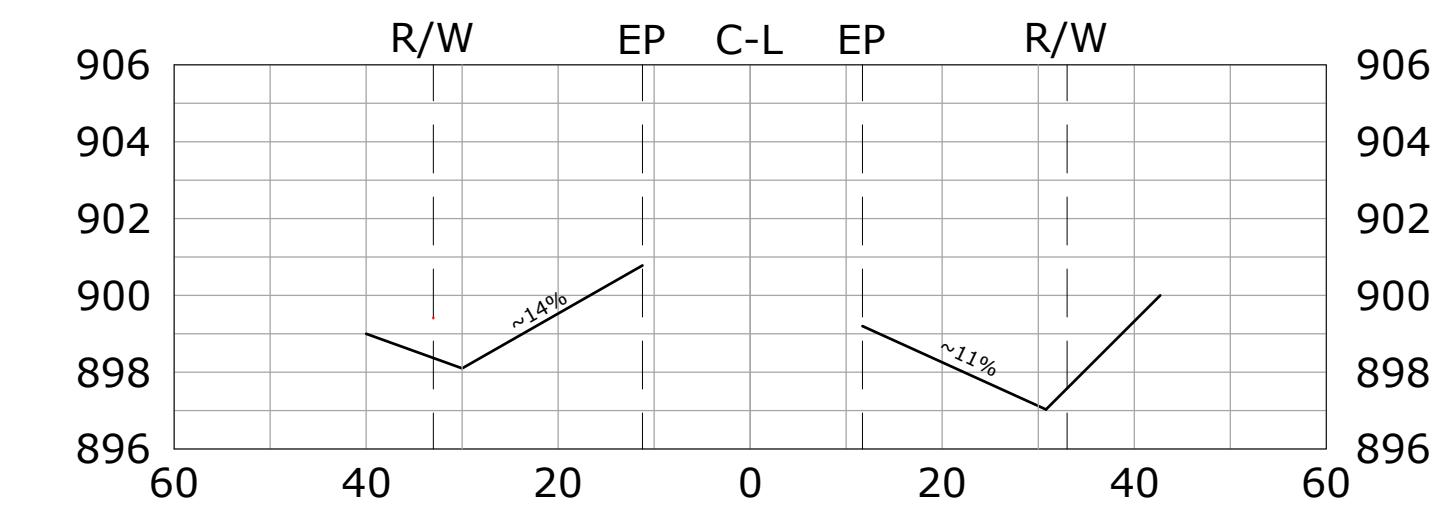
2+00



5+00



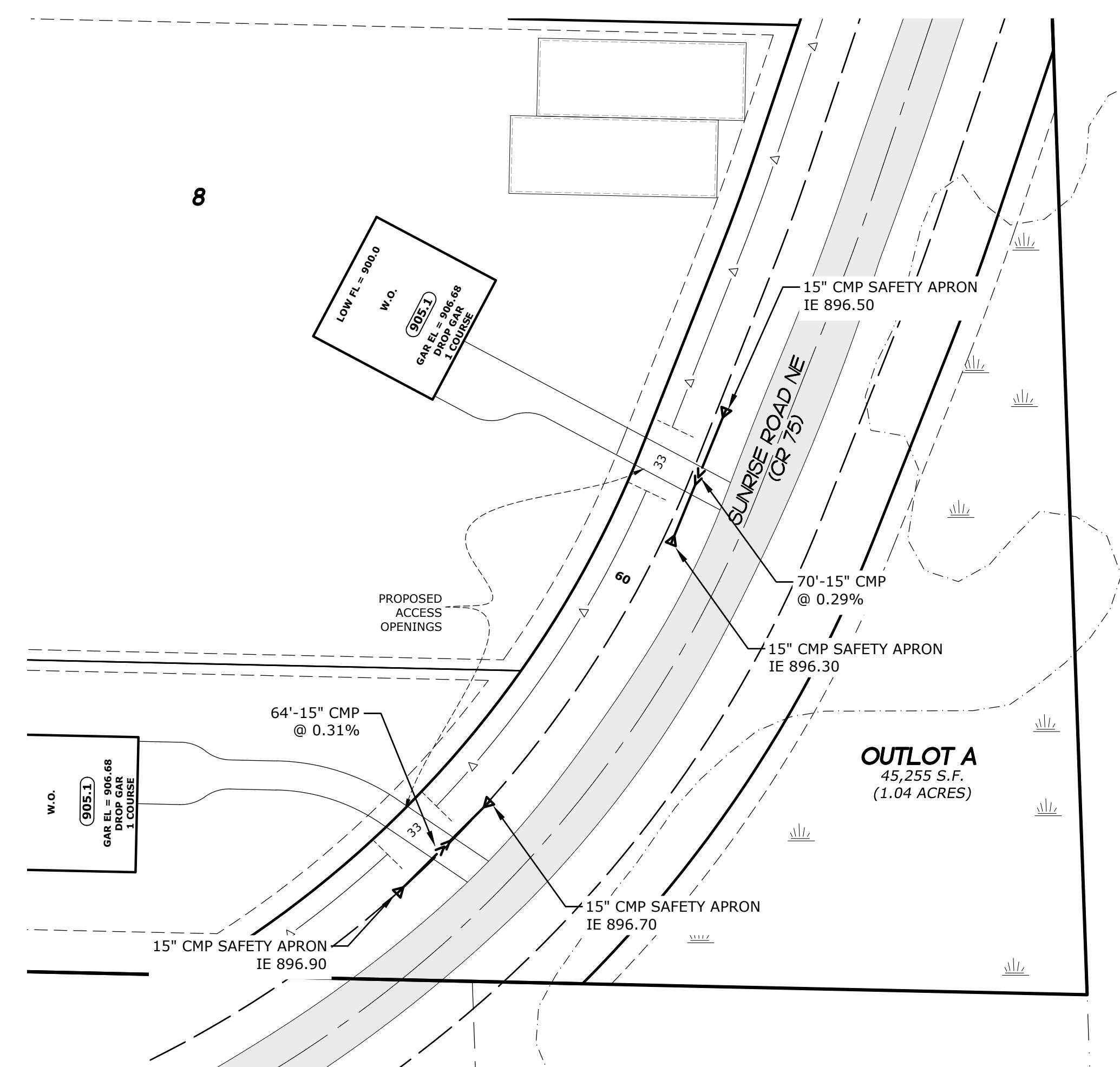
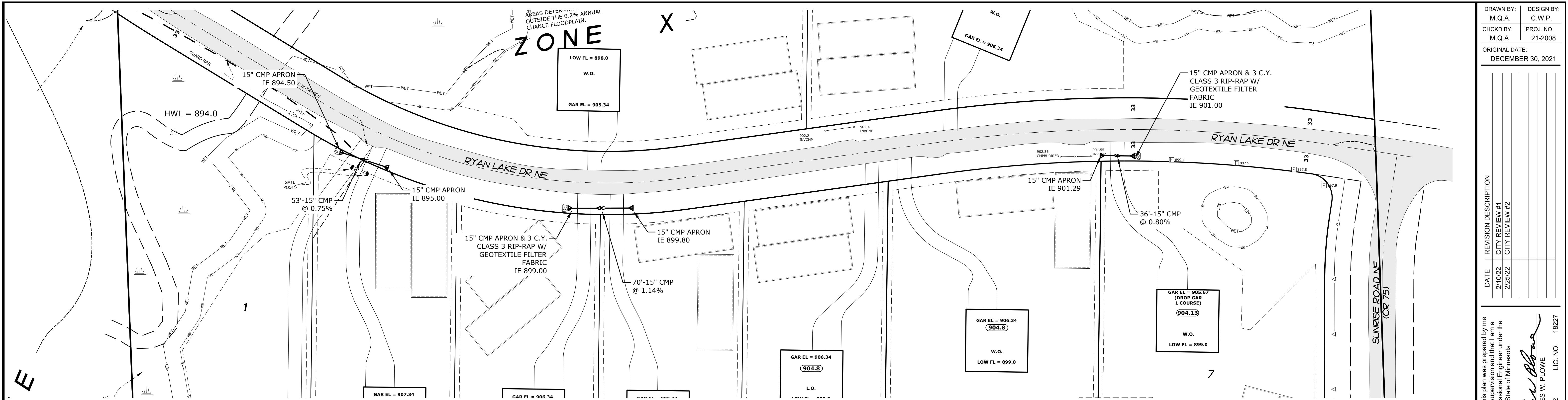
9+00



Know what's below.
 Call before you dig.

RYAN LAKE DRIVE X-SECTIONS
 SUNRISE PINES

C1.4



UTILITY PLAN
SUNRISE PINES

C2

SITE SEQUENCING

- PRIOR TO ANY GRADING OPERATIONS, THE CONTRACTOR SHALL INSTALL ROCK CONSTRUCTION ENTRANCE (LOCATIONS TO BE DETERMINED - COORDINATE WITH OWNER) AND PERIMETER SILT FENCE AS SHOWN ON PLAN. (CONTACT CITY TO INSPECT EROSION CONTROL MEASURES PRIOR TO GRADING OPERATIONS, IF NECESSARY.) ADDITIONAL SILT FENCE MAY BE NECESSARY IF LOCAL CONDITIONS REQUIRE.
- THE CONTRACTOR SHALL PROVIDE ALL SOD, SEED, MULCH AND FERTILIZER WHICH SHALL CONFORM WITH THE FOLLOWING MNDOT SPECIFICATIONS AS MODIFIED BELOW.

ITEM	MNDOT SPECIFICATION/NOTES
SOD	3878
SEED **	3876
* FOR TURF ESTABLISHMENT	
COMMERCIAL TURF	MNDOT MIX 25-131 (220 LBS/ACRE)
RESIDENTIAL TURF	MNDOT MIX 25-131 (120 LBS/ACRE)
TEMPORARY	
FALL COVER	MNDOT MIX 21-112 (100 LBS/ACRE)
SPRING/SUMMER	MNDOT MIX 21-111 (100 LBS/ACRE)
SOIL-BUILDING COVER	MNDOT MIX 21-113 (110 LBS/ACRE)
1-2 YEARS COVER	MNDOT MIX 22-111 (30.5 LBS/ACRE)
2-5 YEARS COVER	MNDOT MIX 22-112 (40 LBS/ACRE)
MULCH	3882 (TYPE 1 - DISC ANCHORED)
FERTILIZER	3881
WOOD FIBER BLANKET	3885 (CATEGORY 2)

* MOW A MINIMUM OF ONCE PER 2 WEEKS
** SEEDED AREAS SHALL BE EITHER MULCHED OR COVERED BY FIBROUS BLANKETS
TO PROTECT SEEDS AND LIMIT EROSION.

- ALL EXPOSED SOILS MUST HAVE TEMPORARY EROSION CONTROL PROTECTION OR PERMANENT COVER WITHIN SEVEN (7) DAYS.
- THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO ALL ADJACENT PROPERTY LINES AND MAKE SURE THE EROSION CONTROL PRACTICES IN PLACE IN THOSE AREAS PREVENT MIGRATION OF SEDIMENT ONTO ADJACENT PROPERTIES.
- THE CONTRACTOR SHALL MAINTAIN SILT FENCE, INCLUDING THE REMOVAL OF ACCUMULATED SEDIMENT, THROUGH COMPLETION OF BUILDING CONSTRUCTION. SILT FENCE TO BE REMOVED ONLY AFTER COMPLETION OF BUILDING CONSTRUCTION AND UPON ESTABLISHMENT OF VEGETATION.
- PROTECT ALL STORM WATER MANAGEMENT FACILITIES FROM CONSTRUCTION RUN-OFF. CONTRACTOR TO INSTALL AND CONSTRUCT SAID FACILITIES ONCE SITE HAS BEEN STABILIZED.
- IF ANY SLOPES APPEAR TO BE FAILING, THE CONTRACTOR SHALL PROVIDE ADDITIONAL SILT FENCE, BIOROLLS AND EROSION CONTROL BLANKET AS NEEDED.
- THE CONTRACTOR SHALL FINAL GRADE SWALE AREAS UPON STABILIZATION OF UPSTREAM AREAS.
- UPON GRADING COMPLETION THE CONTRACTOR SHALL PROVIDE NATIVE TOPSOIL WITH SOD OR SEED, AND MULCH ANCHORED WITH A STRAIGHT SET DISC WITHIN 48 HOURS OF FINAL GRADING.
- EXCESS SOIL SHOULD BE TREATED LIKE OTHER EXPOSED SOIL AND STABILIZED WITHIN 72 HOURS. ANY SOIL STOCKPILES ARE TO HAVE SILT FENCE PLACED ON DOWNSTREAM SIDES.
- IF A STREET, ALLEY, SIDEWALK OR OTHER PUBLIC PLACE SHOULD BECOME SOILED OR LITTERED, THE CONTRACTOR SHALL CAUSE SUCH SOILING OR LITTERING TO BE CLEANED UP BY SWEEPING NOT LATER THAN THE END OF THE WORKING DAY IN WHICH SUCH SOILING OR LITTERING SHALL HAVE OCCURRED OR BEEN OBSERVED.

OTHER POLLUTION CONTROL MEASURES

CONSTRUCTION WASTE MATERIALS - ALL WASTE MATERIALS GENERATED AS A RESULT OF SITE CONSTRUCTION SHALL BE COLLECTED AND REMOVED ACCORDING TO ALL LOCAL AND/OR STATE WASTE MANAGEMENT REGULATIONS BY A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE CONTRACTOR WILL ENSURE THAT ALL SITE PERSONNEL ARE INSTRUCTED IN THESE PRACTICES.

HAZARDOUS WASTES - ALL HAZARDOUS WASTE MATERIALS SHALL BE STORED PROPERLY TO PREVENT SPILLS AND VANDALISM. WHEN NECESSARY, HAZARDOUS WASTES WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL AND/OR STATE REGULATION OR BY THE MANUFACTURER.

SANITARY WASTE - ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS BY A LOCAL, LICENSED WATER MANAGEMENT COMPANY, AS REQUIRED BY LOCAL REGULATION.

OFFSITE VEHICLE TRACKING - A ROCK CONSTRUCTION ENTRANCE HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. IF A STREET, ALLEY, SIDEWALK OR OTHER PUBLIC PLACE SHOULD BECOME SOILED OR LITTERED, THE CONTRACTOR SHALL CAUSE SUCH SOILING OR LITTERING TO BE CLEANED UP BY SWEEPING NOT LATER THAN THE END OF THE WORKING DAY IN WHICH SUCH SOILING OR LITTERING SHALL HAVE OCCURRED OR BEEN OBSERVED. DUMP TRUCKS HAULING LOOSE MATERIALS (SAND, TOPSOIL, ETC.) TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPULIN.

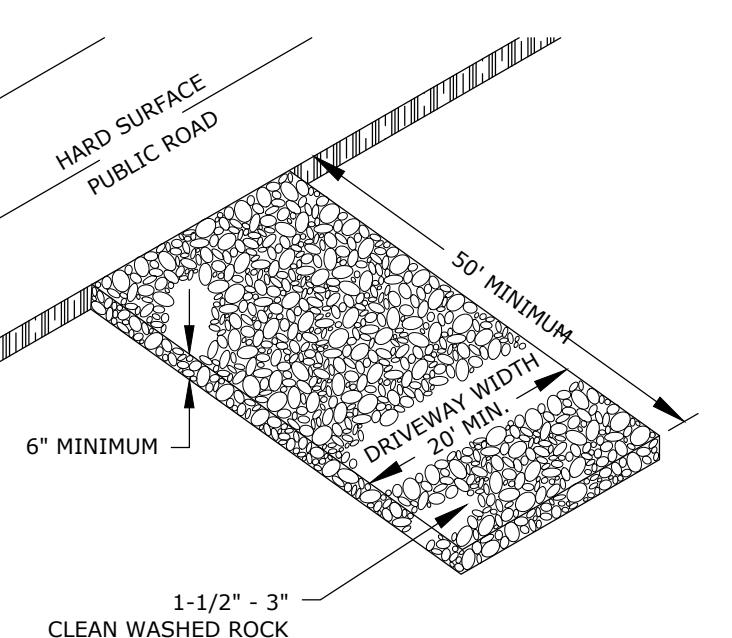
VEHICLE CLEANING - NO ENGINE DEGREASING IS ALLOWED ON-SITE. EXTERNAL WASHING OF VEHICLES TO BE CONFINED TO A DEFINED AREA ("BONE YARD") ON-SITE. CONTRACTOR TO PROVIDE DESIGNATED TRUCK WASHOUT AREA WITH APPROPRIATE SIGNAGE. WASHOUT AREA IS TO BE A MINIMUM OF 50' FROM DITCHES, PONDS, OR OTHER STORMWATER FEATURES. ALL LIQUID AND SOLID WASTE GENERATED BY WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER (E.G. COMPACTED CLAY LINER, IMPERMEABLE GEO-MEMBRANE) AND DISPOSED OF PROPERLY.

SPILL PREVENTION AND CONTROL - ALL VEHICLES WILL BE CHECKED FOR LEAKING OIL AND FLUIDS. VEHICLES LEAKING FLUIDS WILL NOT BE ALLOWED ON-SITE. SPILL KITS WILL BE STORED ON-SITE AND ALL SPILLS WILL BE CLEANED UP IMMEDIATELY DISCOVERY. SPENT ABSORBENT MATERIALS AND RAGS WILL BE HAULED OFF-SITE IMMEDIATELY AFTER THE SPILL IS CLEANED UP AND PROPERTY DISPOSED OF. SPILL PREVENTION AND CONTROL MEASURES SHALL BE IMPLEMENTED ONCE CONSTRUCTION BEGINS.

SOIL STOCKPILES - INSTALL SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AROUND ALL TEMPORARY SOIL STOCKPILES. LOCATE SOIL OR DIRT STOCKPILES SUCH THAT DOWNSLOPE DRAINAGE LENGTH IS NO LESS THAN 8 M (25 FEET) FROM THE TOE OF THE PILE TO A SURFACE WATER, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER. IF REMAINING FOR MORE THAN 7 DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. DURING STREET REPAIR, COVER CONSTRUCTION SOIL OR DIRT STOCKPILES LOCATED CLOSER THAN 8 M (25 FEET) TO A ROADWAY OR DRAINAGE CHANNEL WITH TARPS, AND PROTECT STORM SEWER INLETS WITH SILT SOCKS OR STAKED SILT FENCE.

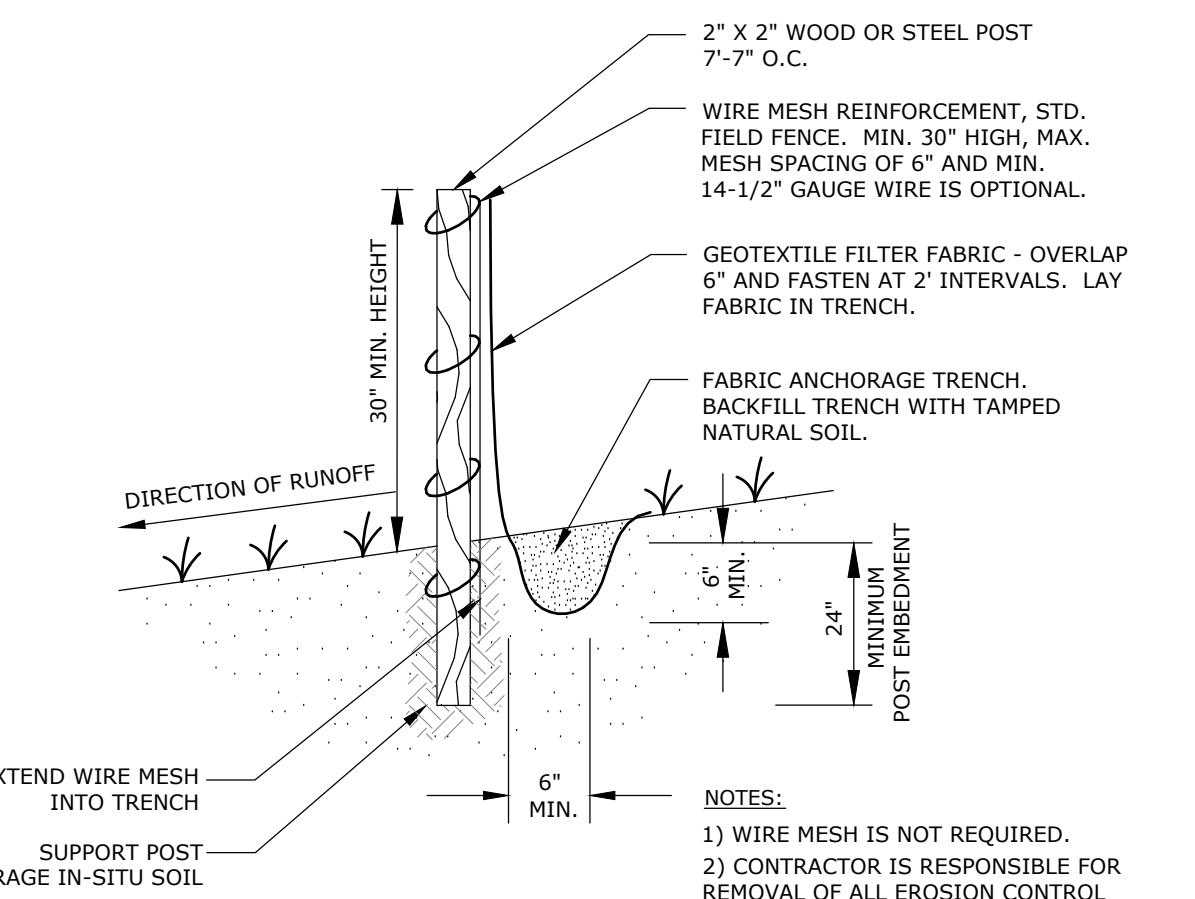
CONTRACTOR TO PROVIDE DESIGNATED CONCRETE TRUCK WASHOUT AREA WITH APPROPRIATE SIGNAGE. KEEP WASHOUT AREAS AS FAR AS PRACTICAL FROM STORM DRAINS, DITCHES AND PONDS. DO NOT ALLOW RUN-OFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE. AFTER WASTE CONCRETE IS SET, BREAK-UP AND DISPOSE OF PROPERLY.

THE CONTRACTOR MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. THE CONTRACTOR MAY DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASINS TO SURFACE WATERS IF THE BASIN WATER HAS BEEN VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPs, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM PROPERTIES.



ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE



SILT FENCE

NOT TO SCALE

DRAWN BY: M.Q.A. DESIGN BY: C.W.P.
CHECKED BY: M.Q.A. PROJ. NO. 21-2008
ORIGINAL DATE: DECEMBER 30, 2021

DATE	REVISION DESCRIPTION
2/10/22	CITY REVIEW #1
2/25/22	CITY REVIEW #2

I hereby certify that this plan 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.
CHARLES W. PLOWE
LIC. NO. 18227
DATE: 02/25/2022

SUNRISE PINES
UNWOOD TOWNSHIP, MINNESOTA
DETAILS & NOTES

PREPARED FOR:
CARRINGTON
HOMES



SITE PLANNING & ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8201
FAX: (651) 361-8701

C3

DETAILS & NOTES
SUNRISE PINES

REVISION DESCRIPTION

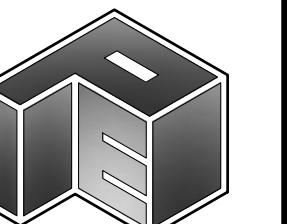
DATE

Charles W. Plowe
CHARLES W. PLOWE
LIC. NO. 18227
I hereby certify that this plan was prepared by me
or under my direct supervision and that I am a
fully licensed Professional Engineer under the
laws of the State of Minnesota.

CHARLES W. PLOWE
CHARLES W. PLOWE
LIC. NO. 18227
DATE: 02/25/2022

SUNRISE PINES
STORM WATER POLLUTION PREVENTION
UNWOOD TOWNSHIP, MINNESOTA

PREPARED FOR:
CARRINGTON
HOMES



SITE PLANNING & ENGINEERING
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

C4.1

4.1 TERMINATION OF COVERAGE. [MINN. R. 7090]

4.2 PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ALL TERMINATION CONDITIONS LISTED IN SECTION 13 ARE COMPLETE. [MINN. R. 7090]
4.3 PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT. [MINN. R. 7090]
4.4 PERMITTEES MAY TERMINATE PERMIT COVERAGE PRIOR TO COMPLETION OF ALL CONSTRUCTION ACTIVITY IF THEY MEET ALL OF THE FOLLOWING CONDITIONS:
A. CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 90 DAYS; AND
B. AT LEAST 90 PERCENT (BY AREA) OF ALL ORIGINALLY PROPOSED CONSTRUCTION ACTIVITY HAS BEEN COMPLETED AND PERMANENT COVER HAS BEEN ESTABLISHED ON THOSE AREAS; AND
C. ON AREAS WHERE CONSTRUCTION ACTIVITY IS NOT COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED; AND
D. THE SITE COMPLETES WITH ITEM 13.3 THROUGH 1.7.
AFTER PERMIT COVERAGE IS TERMINATED UNDER THIS ITEM, ANY SUBSEQUENT DEVELOPMENT ON THE REMAINING PORTIONS OF THE SITE WILL REQUIRE PERMIT COVERAGE IF THE SUBSEQUENT DEVELOPMENT ITSELF OR AS PART OF THE REMAINING COMMON PLANS OF DEVELOPMENT OR SALE WILL RESULT IN LAND DISTURBING ACTIVITIES OF ONE (1) OR MORE ACRES IN SIZE. [MINN. R. 7090]
4.5 PERMITTEES MAY TERMINATE COVERAGE UPON MPCA APPROVAL AFTER SUBMITTING INFORMATION DOCUMENTING THE OWNER CANCELED THE PROJECT. [MINN. R. 7090]

5.1 STORMWATER POLLUTION PREVENTION PLAN (SWPPP) CONTENT [MINN. R. 7090]

5.3 THE SWPPP MUST INCORPORATE SPECIFIC BEST MANAGEMENT PRACTICES (BMP) USED TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT. [MINN. R. 7090]
5.4 THE SWPPP MUST INCLUDE A NARRATIVE DESCRIBING THE TIMING FOR INSTALLATION OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs AND A DESCRIPTION OF THE PERMANENT STORMWATER TREATMENT SYSTEMS. [MINN. R. 7090]
5.5 THE SWPPP MUST INCLUDE THE LOCATION AND TYPE OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMPs ALONG WITH PROCEDURES USED TO ESTABLISH ADDITIONAL TEMPORARY BMPs AS NECESSARY FOR THE SITE CONDITIONS DURING CONSTRUCTION. STANDARD DETAILS AND/OR SPECIFICATIONS FOR BMPs MUST BE INCLUDED IN THE FINAL PLANS AND SPECIFICATIONS FOR THE PROJECT. [MINN. R. 7090]
5.6 THE SWPPP MUST INCLUDE THE CALCULATIONS AND OTHER INFORMATION USED FOR THE DESIGN OF TEMPORARY SEDIMENT BASINS AND ANY OF THE PERMANENT STORMWATER TREATMENT SYSTEMS REQUIRED IN SECTION 15. [MINN. R. 7090]
5.7 THE SWPPP MUST INCLUDE ESTIMATED QUANTITIES ANTICIPATED AT THE START OF THE PROJECT FOR THE LIFE OF THE PROJECT FOR ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs (E.G., LINEAR FEET OF SILT FENCE OR SQUARE FEET OF EROSION CONTROL BLANKET). [MINN. R. 7090]
5.8 THE SWPPP MUST INCLUDE THE NUMBER OF ACRES OF IMPERVIOUS SURFACE FOR BOTH PRE- AND POST-CONSTRUCTION. [MINN. R. 7090]

5.9 THE SWPPP MUST INCLUDE A SITE MAP WITH EXISTING AND FINAL GRADES, INCLUDING DRAINAGE AREA BOUNDARIES, DIRECTION OF FLOW AND ALL DISCHARGE POINTS WHERE STORMWATER IS LEAVING THE SITE OR ENTERING A SURFACE WATER. THE SITE MAP MUST INCLUDE IMPERVIOUS SURFACES, SOIL TYPES AND LOCATIONS OF POTENTIAL POLLUTANT-GENERATING ACTIVITIES AS IDENTIFIED IN SECTION 12. [MINN. R. 7090]
5.10 THE SWPPP MUST INCLUDE A MAP OF ALL SURFACE WATERS, EXISTING WETLANDS, AND STORMWATER PONDS OR BASINS THAT CAN BE IDENTIFIED ON MAPS SUCH AS UNITED STATES GEOLOGICAL SURVEY 7.5 MINUTE QUADRANGLE MAPS, THE NATIONAL WETLAND INVENTORY MAP OR EQUIVALENT MAPS AND ARE WITHIN ONE MILE (AERIAL RADIUS MEASUREMENT) FROM THE PROJECT BOUNDARIES THAT WILL RECEIVE STORMWATER FROM THE CONSTRUCTION SITE DURING OR AFTER CONSTRUCTION. THE SWPPP MUST IDENTIFY IF THE SURFACE WATERS ARE SPECIAL OR IMPAIRED WATERS. [MINN. R. 7090]
5.11 THE SWPPP MUST INCLUDE A SITE MAP SHOWING CONSTRUCTION ACTIVITY AREAS THAT ARE ADJACENT TO AND DRAIN TO PUBLIC WATERS FOR WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES. [MINN. R. 7090]
5.12 PERMITTEES MUST IDENTIFY LOCATIONS OF 50' BUFFER ZONES AS REQUIRED IN ITEM 9.17 AND 100' PERMANENT BUFFER ZONES AS REQUIRED IN ITEM 23.11, ON PLAN SHEETS IN THE SWPPP. [MINN. R. 7090]
5.13 IF PERMITTEES DETERMINE COMPLIANCE WITH THE FOLLOWING REQUIREMENTS IS INFEASIBLE, THEY MUST DOCUMENT THE DETERMINATION IN THE SWPPP:
a. TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14; AND
b. FOR LINEAR PROJECTS, IF THE PERMANENT STORMWATER TREATMENT SYSTEM CANNOT BE CONSTRUCTED WITHIN THE RIGHT-OF-WAY, A REASONABLE ATTEMPT MUST BE MADE TO OBTAIN ADDITIONAL RIGHT-OF-WAY (ITEM 15.9); AND
c. BUFFER ZONES AS DESCRIBED IN ITEM 9.17 AND ITEM 23.11. [MINN. R. 7090]

5.14 IF PERMITTEES DETERMINE THAT A TEMPORARY SEDIMENT BASIN IS INFEASIBLE AS DESCRIBED IN ITEM 14.10, THE SWPPP MUST DESCRIBE THE ALTERNATIVE BMPs USED. [MINN. R. 7090]
5.15 WHERE SYSTEMS CANNOT MEET THE FULL VOLUME REDUCTION REQUIREMENT ON SITE, (E.G., THE SITE HAS INFILTRATION PROBLEMS, SEE ITEM 16.14 THROUGH ITEM 16.21) THE PERMITTEE MUST DOCUMENT THE REASONS IN THE SWPPP.

5.16 THE SWPPP MUST INCLUDE ANY STORMWATER MITIGATION MEASURES PROPOSED TO BE PART OF THE FINAL PROJECT IN ANY ENVIRONMENTAL REVIEW DOCUMENT, ENDANGERED SPECIES REVIEW, ARCHAEOLOGICAL OR OTHER REQUIRED LOCAL, STATE OR FEDERAL REVIEW CONDUCTED FOR THE PROJECT. FOR PURPOSES OF THIS PERMIT, MITIGATION MEASURES MEANS ACTIONS NECESSARY TO AVOID, MINIMIZE, OR MITIGATE FOR IMPACTS RELATED TO EROSION PREVENTION, SEDIMENT CONTROL, THE PERMANENT STORMWATER TREATMENT SYSTEM, POLLUTION PREVENTION MANAGEMENT MEASURES AND DISCHARGES ASSOCIATED WITH THE PROJECT'S CONSTRUCTION ACTIVITY. [MINN. R. 7090]
5.17 THE SWPPP MUST DESCRIBE THE METHODS USED FOR PERMANENT COVER OF ALL EXPOSED SOIL AREAS. [MINN. R. 7090]
5.18 PERMITTEES MUST IDENTIFY THE LOCATIONS OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE THE DURATION OF EXPOSED SOIL AREAS IN THE SWPPP. [MINN. R. 7090]
5.19 FOR PROJECTS WITH A DISCHARGE POINT ON THE PROJECT WITHIN ONE (1) MILE (AERIAL RADIUS MEASUREMENT) OF AND WHICH FLOWS TO AN IMPAIRED WATER, PERMITTEES MUST IDENTIFY THE IMPAIRED WATER(S), AND ANY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)-APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) FOR THE POLLUTANT(S) OR STRESSOR(S) DESCRIBED IN ITEM 23.7. PERMITTEES' IDENTIFICATION MUST INCLUDE THOSE TMDLS APPROVED AT ANY TIME PRIOR TO PERMIT APPLICATION SUBMITTAL, AND ARE STILL IN EFFECT. [MINN. R. 7090]
5.20 PERMITTEES MUST DOCUMENT IN THE SWPPP, ALL TRAINED INDIVIDUALS IDENTIFIED IN ITEM 21.2. DOCUMENTATION MUST INCLUDE:
a. NAMES OF PERSONNEL REQUIRED TO BE TRAINED; AND
b. DATES OF TRAINING AND NAME OF INSTRUCTOR(S) AND ENTITY PROVIDING TRAINING; AND
c. CONTENT OF TRAINING COURSE.

IF PERMITTEES DO NOT KNOW THE NAMES OF THE INDIVIDUALS AT THE TIME OF APPLICATION, THE PERMITTEES MUST ENSURE THEY DOCUMENT TRAINING BEFORE CONSTRUCTION ACTIVITY COMMENCES. [MINN. R. 7090]

5.21 THE SWPPP MUST IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP. [MINN. R. 7090]
5.22 THE SWPPP MUST DESCRIBE ANY SPECIFIC CHEMICALS AND CHEMICAL TREATMENT SYSTEMS USED FOR ENHANCING THE SEDIMENTATION PROCESS AND HOW IT ACHIEVES COMPLIANCE WITH ITEM 9.18. [MINN. R. 7090]

5.23 THE SWPPP MUST IDENTIFY THE PERSON(S), ORGANIZATIONS, OR ENTITIES RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PERMANENT STORMWATER TREATMENT SYSTEMS. [MINN. R. 7090]

5.24 THE SWPPP MUST DESCRIBE METHODS TO MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL, MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DictATES COMPACTION. [MINN. R. 7090]
5.25 THE SWPPP MUST INCLUDE ANY SITE ASSESSMENTS FOR GROUNDWATER OR SOIL CONTAMINATION REQUIRED IN ITEM 16.15. [MINN. R. 7090]

5.26 THE SWPPP MUST ACCOUNT FOR THE FOLLOWING FACTORS IN DESIGNING TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMPs:
a. THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION; AND
b. THE NATURE OF STORMWATER RUNOFF AND RUN-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES; AND

c. THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS; AND
d. THE RANGE OF SOIL PARTICLES SIZES EXPECTED TO BE PRESENT. [MINN. R. 7090]

6.1 SWPPP AMENDMENTS. [MINN. R. 7090]
6.2 ONE OF THE INDIVIDUALS DESCRIBED IN ITEM 21.2.A OR ITEM 21.2.B OR ANOTHER QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS. [MINN. R. 7090]

6.3 PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPs AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. [MINN. R. 7090]

6.4 PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPs AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G., NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP. 2) OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA APPROVED TMDL. [MINN. R. 7050.0210]

7.1 BMP SELECTION AND INSTALLATION. [MINN. R. 7090]

7.2 PERMITTEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPs IDENTIFIED IN THE SWPPP AND IN THIS PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES. [MINN. R. 7090]
7.3 PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT. [MINN. R. 7090]
7.4 PERMITTEES MAY TERMINATE PERMIT COVERAGE PRIOR TO COMPLETION OF ALL CONSTRUCTION ACTIVITY IF THEY MEET ALL OF THE FOLLOWING CONDITIONS:
A. CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 90 DAYS; AND
B. AT LEAST 90 PERCENT (BY AREA) OF ALL ORIGINALLY PROPOSED CONSTRUCTION ACTIVITY HAS BEEN COMPLETED AND PERMANENT COVER HAS BEEN ESTABLISHED ON THOSE AREAS; AND
C. ON AREAS WHERE CONSTRUCTION ACTIVITY IS NOT COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED; AND
D. THE SITE COMPLETES WITH ITEM 13.3 THROUGH 1.7.

AFTER PERMIT COVERAGE IS TERMINATED UNDER THIS ITEM, ANY SUBSEQUENT DEVELOPMENT ON THE REMAINING PORTIONS OF THE SITE WILL REQUIRE PERMIT COVERAGE IF THE SUBSEQUENT DEVELOPMENT ITSELF OR AS PART OF THE REMAINING COMMON PLANS OF DEVELOPMENT OR SALE WILL RESULT IN LAND DISTURBING ACTIVITIES OF ONE (1) OR MORE ACRES IN SIZE. [MINN. R. 7090]

7.5 PERMITTEES MAY TERMINATE COVERAGE UPON MPCA APPROVAL AFTER SUBMITTING INFORMATION DOCUMENTING THE OWNER CANCELED THE PROJECT. [MINN. R. 7090]

8.1 EROSION PREVENTION PRACTICES. [MINN. R. 7090]

8.2 BEFORE WORK BEGINS, PERMITTEES MUST DELINATE THE LOCATION OF AREAS NOT TO BE DISTURBED. [MINN. R. 7090]

8.3 PERMITTEES MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES (E.G., SLOPE DRAINING AND TERRACING). [MINN. R. 7090]
8.4 PERMITTEES MUST STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT REQUIRE FOR A PERIOD EXCEEDING 7 CALENDAR DAYS. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS CEASED. STABILIZATION IS NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) BUT PERMITTEES MUST PROVIDE SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE. [MINN. R. 7090]

8.5 FOR PUBLIC WATERS THAT THE MINNESOTA DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES, PERMITTEES MUST COMPLETE STABILIZATION OF ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF THE WATER'S EDGE, AND THAT DRAINS THESE WATERS, WITHIN 24 HOURS DURING THE RESTRICTION PERIOD. [MINN. R. 7090]

8.6 PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 FEET OF TEMPORARY OR PERMANENT DRAINS, DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 7 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES. [MINN. R. 7090]

8.7 TEMPORARY OR PERMANENT DITCHES OR SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION (WITH PROPERLY DESIGNED ROCK-DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. PERMITTEES MUST STABILIZE THESE AREAS WITHIN 24 HOURS AFTER THEIR USE AS A SEDIMENT CONTAINMENT SYSTEM CEASES. [MINN. R. 7090]

8.8 PERMITTEES MAY USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT. [MINN. R. 7090]

8.9 PERMITTEES MUST PROVIDE TEMPORARY OR PERMANENT ENERGY DISSIPATION AT ALL PIPE OUTLETS WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR PERMANENT STORMWATER TREATMENT SYSTEM. [MINN. R. 7090]

8.10 PERMITTEES MUST NOT DISTURB MORE LAND (I.E., PHASING) THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11. [MINN. R. 7090]

9.1 SEDIMENT CONTROL PRACTICES. [MINN. R. 7090]

9.2 PERMITTEES MUST ESTABLISH SEDIMENT CONTROL BMPs ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND DOWNGRADIENT AREAS OF THE SITE THAT DRAIN TO ANY SURFACE WATER, INCLUDING CURB AND GUTTER SYSTEMS. PERMITTEES MUST LOCATE SEDIMENT CONTROL PRACTICES UPGRADE OF ANY BUFFER ZONES. PERMITTEES MUST INSTALL SEDIMENT CONTROL PRACTICES BEFORE ANY UPGRADE LAND-DISTURBING ACTIVITIES BEGIN AND MUST KEEP THE SEDIMENT CONTROL PRACTICES IN PLACE UNTIL THEY ESTABLISH PERMANENT COVER. [MINN. R. 7090]

9.3 IF DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED, BASED ON FREQUENCY OF USE OR EXCESSIVE MAINTENANCE REQUIREMENTS, PERMITTEES MUST ADDITIONAL UPGRADE SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPs TO ELIMINATE THE OVERLOADING AND RELOCATE THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN ITEM 6.3. [MINN. R. 7090]

9.4 TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS. [MINN. R. 7090]

9.5 A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY (E.G., INSTALLATION OF RIP RAP ALONG THE SHORELINE) IN THAT AREA IS COMPLETE, PERMITTEES MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER. [MINN. R. 7090]

9.6 PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY IS COMPLETE, PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. [MINN. R. 7090]

9.7 PERMITTEES MUST PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPs DURING CONSTRUCTION UNTIL THEY ESTABLISH PERMANENT COVER ON ALL AREAS WITH POTENTIAL FOR DISCHARGING TO THE INLET. [MINN. R. 7090]

9.8 PERMITTEES MAY REMOVE INLET PROTECTION FOR A PARTICULAR INLET IF A SPECIFIC WATER CONCERN (E.G. STREET FLOODING/FREEZING) IS IDENTIFIED BY THE PERMITTEES OR THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MINNESOTA DEPARTMENT OF TRANSPORTATION ENGINEER). PERMITTEES MUST DOCUMENT THE NEED FOR REMOVAL IN THE SWPPP. [MINN. R. 7090]

9.9 PERMITTEES MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AT THE BASE OF STOCKPILES ON THE DOWNGRADIENT PERIMETER. [MINN. R. 7090]

9.10 PERMITTEES MUST LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER. [MINN. R. 7090]

9.11 PERMITTEES MUST INSTALL A VEHICLE TRACKING BMP TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM THE CONSTRUCTION SITE OR ONTO PAVED ROADS WITHIN THE SITE. [MINN. R. 7090]

18.1 WET SEDIMENTATION BASIN. [MINN. R. 7090]
 18.2 PERMITTEES USING A WET SEDIMENTATION BASIN TO MEET THE PERMANENT STORMWATER TREATMENT REQUIREMENTS OF THIS PERMIT MUST INCORPORATE THE DESIGN PARAMETERS IN ITEM 18.3 THROUGH 18.10. [MINN. R. 7090]
 18.3 PERMITTEES MUST DESIGN THE BASIN TO HAVE A PERMANENT VOLUME OF 1.000 CUBIC FEET OF STORAGE BELOW THE OUTLET PIPE FOR EACH ACRE THAT DRAINS TO THE BASIN. THE BASIN'S PERMANENT VOLUME MUST REACH A MINIMUM DEPTH OF AT LEAST THREE (3) FEET AND MUST HAVE NO DEPTH GREATER THAN 10 FEET. PERMITTEES MUST CONFIGURE THE BASIN TO MINIMIZE SCOUR AND RESUSPENSION OF SOLIDS. [MINN. R. 7090]
 18.4 PERMITTEES MUST DESIGN THE BASIN TO PROVIDE LIVE STORAGE FOR A WATER QUALITY VOLUME (CALCULATED AS AN INSTANTANEOUS VOLUME) OF ONE (1) INCH OF RUNOFF, OR ONE (1) INCH MINUS THE VOLUME OF STORMWATER TREATED BY ANOTHER SYSTEM ON THE SITE, FROM THE NET INCREASE IN IMPERVIOUS SURFACES CREATED BY THE PROJECT. [MINN. R. 7090]
 18.5 PERMITTEES MUST DESIGN BASIN OUTLETS SO THE WATER QUALITY VOLUME DISCHARGES AT NO MORE THAN 5.6 CUBIC FEET PER SECOND (CFS) PER ACRE OF SURFACE AREA OF THE BASIN. [MINN. R. 7090]
 18.6 PERMITTEES MUST DESIGN BASIN OUTLETS TO PREVENT SHORT-CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS. BASIN OUTLETS MUST HAVE ENERGY DESIGN. [MINN. R. 7090]
 18.7 PERMITTEES MUST DESIGN THE BASIN TO INCLUDE A STABILIZED EMERGENCY OVERFLOW TO ACCOMMODATE STORM EVENTS IN EXCESS OF THE BASIN'S HYDRAULIC DESIGN. [MINN. R. 7090]
 18.8 PERMITTEES MUST DESIGN A MAINTENANCE ACCESS, TYPICALLY EIGHT (8) FEET WIDE, FOR THE BASIN. [MINN. R. 7090]
 18.9 PERMITTEES MUST LAKE BASINS OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONE REQUIRED IN ITEM 25.11. PERMITTEES MUST DESIGN BASINS TO AVOID DRAINING WATER FROM WETLANDS UNLESS THE IMPACT TO THE WETLAND COMPLIES WITH THE REQUIREMENTS OF SECTION 22. [MINN. R. 7090]
 18.10 PERMITTEES MUST DESIGN BASINS USING AN IMPERMEABLE LINER IF LOCATED WITHIN ACTIVE KARST TERRAIN. [MINN. R. 7090]

19.1 REGIONAL WET SEDIMENTATION BASINS. [MINN. R. 7090]
 19.2 WHEN THE ENTIRE WATER QUALITY VOLUME CANNOT BE RETAINED ON SITE, PERMITTEES CAN USE OR CREATE REGIONAL WET SEDIMENTATION BASINS PROVIDED THEY ARE CONSTRUCTED BASINS. NOT A NATURAL WETLAND OR WATER BODY. (WETLANDS USED AS REGIONAL BASINS MUST BE MITIGATED FOR, SEE SECTION 22). THE OWNER MUST ENSURE THE REGIONAL BASIN CONFORMS TO ALL REQUIREMENTS FOR A WET SEDIMENTATION BASIN AS DESCRIBED IN ITEMS 18.3 THROUGH 18.10 AND MUST BE LARGE ENOUGH TO ACCOUNT FOR THE ENTIRE AREA THAT DRAINS TO THE REGIONAL BASIN. PERMITTEES MUST VERIFY THAT THE REGIONAL BASIN IS LOCATED AT NO MORE THAN 5.6 CUBIC FEET PER SECOND (CFS) PER ACRE OF SURFACE AREA OF THE BASIN AND MUST PROVIDE A WATER VOLUME OF ONE (1) INCH MINUS THE VOLUME OF IMPERVIOUS SURFACES DRAINING TO THE BASIN. PERMITTEES CAN SIGNIFICANTLY DEGRADE WATERWAYS BETWEEN THE PROJECT AND THE REGIONAL BASIN. THE OWNER MUST OBTAIN WRITTEN AUTHORIZATION FROM THE APPLICABLE LGU OR PRIVATE ENTITY THAT OWNS AND MAINTAINS THE REGIONAL BASIN. [MINN. R. 7090]

20.1 SWPPP AVAILABILITY. [MINN. R. 7090]
 20.2 PERMITTEES MUST KEEP THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS AT THE SITE DURING NORMAL WORKING HOURS BY PERMITTEES WHO HAVE OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. [MINN. R. 7090]

21.1 TRAINING REQUIREMENTS. [MINN. R. 7090]
 21.2 PERMITTEES MUST ENSURE ALL OF THE FOLLOWING INDIVIDUALS RECEIVE TRAINING AND THE CONTENT AND EXTENT OF THE TRAINING IS COMMENSURATE WITH THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES WITH REGARD TO ACTIVITIES COVERED UNDER THIS PERMIT:
 A. INDIVIDUALS PREPARING THE SWPPP FOR THE PROJECT.
 B. INDIVIDUALS OVERSEEING IMPLEMENTATION, REVISING AND/OR AMENDING THE SWPPP AND INDIVIDUALS PERFORMING INSPECTIONS FOR THE PROJECT. ONE OF THESE INDIVIDUALS MUST BE AVAILABLE FOR AN ON SITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE MPCA.
 C. INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPs. [MINN. R. 7090]

21.3 TRAINING FOR MANAGEMENT INDIVIDUALS IDENTIFIED IN SECTION 21 RECEIVE TRAINING FROM LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PROFESSIONAL STORMWATER TREATMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT. PERMITTEES MUST ENSURE THESE INDIVIDUALS ATTEND A REFRESHER-TRAINING COURSE EVERY THREE (3) YEARS. [MINN. R. 7090]

23.1 ADDITIONAL REQUIREMENTS FOR DISCHARGES TO SPECIAL (PROHIBITED, RESTRICTED, OTHER) AND IMPAIRED WATERS. [MINN. R. 7090]
 23.6 DISCHARGES TO THE TROUT STREAMS (OTHER SPECIAL WATER) LISTED IN MINN. R. 6264.0050, SUBP. 4 MUST INCORPORATE THE BMPS OUTLINED IN ITEMS 23.9, 23.10, 23.11, AND 23.12. [MINN. R. 6264.0050, SUBP. 4]

23.9 PERMITTEES MUST IMMEDIATELY INITIATE STABILIZATION OF EXPOSED SOIL AREAS, AS DESCRIBED IN ITEM 8.4 AND COMPLETE STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE TEMPORARILY OR PERMANENTLY CEASES. [MINN. R. 7090]

23.10 PERMITTEES MUST PROVIDE A TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14 FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA OF ONE (1) OR MORE ACRES DRAINED AT ONCE. [MINN. R. 7090]

23.11 PERMITTEES MUST PROVIDE AN UNSTABILIZED BUFFER ZONE OF AT LEAST 50 FEET (100 LINEAR FEET) FROM A SPECIAL WATER (NOT INCLUDING TRIBUTARIES) AND MUST MAINTAIN THIS BUFFER ZONE AT ALL TIMES, BOTH DURING CONSTRUCTION AND AS A PERMANENT FEATURE POST CONSTRUCTION, EXCEPT WHERE A WATER CROSSING OR OTHER ENCROACHMENT IS NECESSARY TO COMPLETE THE PROJECT. PERMITTEES MUST FULLY DOCUMENT THE CIRCUMSTANCES AND REASONS THE BUFFER ENCROACHMENT IS NECESSARY IN THE SWPPP AND INCLUDE RESTORATION ACTIVITIES. THIS PERMIT ALLOWS REPLACEMENT OF EXISTING IMPERVIOUS SURFACE WITHIN THE BUFFER. PERMITTEES MUST MINIMIZE ALL POTENTIAL WATER QUALITY, SCENIC AND OTHER ENVIRONMENTAL IMPACTS OF THESE EXCEPTIONS BY THE USE OF ADDITIONAL OR REDUNDANT (DOUBBLE) BMPS. PERMITTEES MUST THIS INFORMATION BE DOCUMENTED IN THE SWPPP. [MINN. R. 7090]

23.12 PERMITTEES MUST DESIGN THE PROJECT STORMWATER TREATMENT SYSTEM SO THE DISCHARGE FROM THE PROJECT MINIMIZES ANY INCREASE IN THE TEMPERATURE OF TROUT STREAMS RESULTING FROM THE ONE (1) AND TWO (2) YEAR 24-HOUR PRECIPITATION EVENTS. THIS INCLUDES ALL TRIBUTARIES OF DESIGNATED TROUT STREAMS LOCATED WITHIN THE SAME PUBLIC LAND SURVEY SYSTEM (PLSS) SECTION. PERMITTEES MUST INCORPORATE ONE OR MORE OF THE FOLLOWING MEASURES, IN ORDER OF PREFERENCE:
 a. PROVIDE STORMWATER INFILTRATION OR OTHER VOLUME REDUCTION PRACTICES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 b. PROVIDE STORMWATER FILTRATION AS DESCRIBED IN SECTION 17. FILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 c. MINIMIZE THE DISCHARGE FROM CONNECTED IMPERVIOUS SURFACED BY DISCHARGING TO VEGETATED AREAS, OR GRASS SWALES, AND THROUGH THE USE OF NON-STRUCTURAL CONTROLS.
 d. IF PONDING IS USED, THE DESIGN MUST INCLUDE AN APPROPRIATE COMBINATION OF MEASURES SUCH AS SHADING, VEGETATED SWALE DISCHARGES OR CONSTRUCTED WETLAND TREATMENT CELLS THAT LIMIT TEMPERATURE INCREASES. THE POND MUST BE DESIGNED AS A DRY POND AND SHOULD DRAW DOWN IN 24 HOURS OR LESS.
 e. OTHER METHODS THAT MINIMIZE ANY INCREASE IN THE TEMPERATURE OF THE TROUT STREAM. [MINN. R. 7090]

24.1 GENERAL PROVISIONS. [MINN. R. 7090]
 24.2 IF THE MPCA DETERMINES THAT AN INDIVIDUAL PERMIT WOULD MORE APPROPRIATELY REGULATE THE CONSTRUCTION ACTIVITY, THE MPCA MAY REQUIRE AN INDIVIDUAL PERMIT TO CONTINUE THE CONSTRUCTION ACTIVITY. COVERAGE UNDER THIS GENERAL PERMIT WILL REMAIN IN EFFECT UNTIL THE MPCA ISSUES AN INDIVIDUAL PERMIT. [MINN. R. 7001.0210, SUBP. 6]

24.3 IF THE PERMITTEE CANNOT MEET THE TERMS AND CONDITIONS OF THIS GENERAL PERMIT, AN OWNER MAY REQUEST AN INDIVIDUAL PERMIT, IN ACCORDANCE WITH MINN. R. 7001.0210, SUBP. 6]

24.4 ANY INTERESTED PERSON MAY PETITION THE MPCA TO REQUIRE AN INDIVIDUAL NPDES/SDS PERMIT IN ACCORDANCE WITH 40 CFR 122.28(b)(3). [40 CFR 122.28(b)(3)]

24.5 PERMITTEES MUST MAKE THE SWPPP, INCLUDING ALL INSPECTION REPORTS, MAINTENANCE RECORDS, TRAINING RECORDS AND OTHER INFORMATION REQUIRED BY THIS PERMIT, AVAILABLE TO FEDERAL, STATE, AND LOCAL OFFICIALS WITHIN THREE (3) DAYS UPON REQUEST FOR THE DURATION OF THE PERMIT AND FOR THREE (3) YEARS FOLLOWING THE NOT. [MINN. R. 7090]

24.6 PERMITTEES MAY NOT ASSIGN OR TRANSFER THIS PERMIT EXCEPT WHEN THE TRANSFER OCCURS IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ITEM 3.7 AND 3.8. [MINN. R. 7090]

24.7 NOTHING IN THIS PERMIT MUST BE CONSTRUED TO RELIEVE THE PERMITTEES FROM CIVIL OR CRIMINAL PENALTIES FOR NONCOMPLIANCE WITH THE TERMS AND CONDITIONS PROVIDED HEREIN. NOTHING IN THIS PERMIT MUST BE CONSTRUED TO PRECLUDE THE INITIATION OF ANY LEGAL ACTION OR RELIEVE THE PERMITTEES FROM ANY RESPONSIBILITIES, LIABILITIES, OR PENALTIES TO WHICH THE PERMITTEES IS/ARE OR MAY BE SUBJECT TO UNDER SECTION 311 OF THE CLEAN WATER ACT AND MINN. STAT. SECT. 115 AND 116, AS AMENDED. PERMITTEES ARE NOT LIABLE FOR PERMIT REQUIREMENTS FOR ACTIVITIES OCCURRING OUTSIDE OF THE PROJECT SITE, UNLESS THE PERMIT HAS BEEN TRANSFERRED TO ANOTHER PARTY AS REQUIRED IN ITEM 3.7 AND THE PERMITTEES HAVE ABBREVIATED THE REQUIRED INFORMATION IN SECTION 4. [MINN. R. 7090]

24.8 THE PROVISIONS OF THIS PERMIT ARE SEVERABLE. IF ANY PROVISION OF THIS PERMIT OR THE APPLICATION OF ANY PROVISION OF THIS PERMIT TO ANY CIRCUMSTANCES IS HELD INVALID, THE APPLICATION OF SUCH PROVISION TO OTHER CIRCUMSTANCES, AND THE REMAINDER OF THIS PERMIT MUST NOT BE AFFECTED THEREBY. [MINN. R. 7090]

24.9 THE PERMITTEES MUST COMPLY WITH THE PROVISIONS OF MINN. R. 7001.0150, SUBP. 3 AND MINN. R. 7001.1090, SUBP. 1(A), (B), (C), (D), (E), (F), (G), (H), (I), (J), (K), (L) AND (M). [MINN. R. 7090]

24.10 THE PERMITTEES MUST ALLOW ACCESS AS PROVIDED IN 40 CFR 122.41(I) AND MINN. STAT. SECT. 115.04. THE PERMITTEES MUST ALLOW REPRESENTATIVES OF THE MPCA OR ANY MEMBER, EMPLOYEE OR AGENT THEREOF, WHEN AUTHORIZED BY IT, UPON PRESENTATION OF CREDENTIALS, TO ENTER UPON ANY PROPERTY, PUBLIC OR PRIVATE, FOR THE PURPOSE OF OBTAINING INFORMATION OR EXAMINATION OF RECORDS OR CONDUCTING SURVEYS OR INVESTIGATIONS. [40 CFR 122.41(I)]

24.11 FOR THE PURPOSES OF MINN. R. 7090 AND OTHER DOCUMENTS THAT REFERENCE SPECIFIC SECTIONS OF THIS PERMIT, "STORMWATER DISCHARGE DESIGN REQUIREMENTS" CORRESPONDS TO SECTIONS 5, 6 AND 14 THROUGH 21; "CONSTRUCTION ACTIVITY REQUIREMENTS" CORRESPONDS TO SECTIONS 7 THROUGH 13; AND "APPENDIX A" CORRESPONDS TO SECTIONS 22 AND 23. [MINN. R. 7090]

DOCUMENTATION OF TRAINED INDIVIDUALS

A. INDIVIDUAL WHO PREPARED THE SWPPP:
 ADAM GINKEL
 PLOWE ENGINEERING, INC.
 6776 LAKE DRIVE
 LINO LAKES MN 55014
 (651) 361-8234
 ADAM@plowe.com

UNIVERSITY OF MINNESOTA
 Adam Ginkel
 Design of Construction SWPPP (May 31 2023)

Erosion and Stormwater Management
 The bearer of this card has been tested and is certified in the area(s) shown on the reverse of this card. Certification expiration date appears after each certification area.
 Gary Sank, Jr.
 Department of Ecosystems Engineering
 University of Minnesota
 http://www.eeb.umn.edu
 Card issued: 6/1/2023

PROJECT NAME

SUNRISE PINES
 PID: 35-34-22-41-0001

LATITUDE: 45.388
 LONGITUDE: -93.042

DEVELOPER

CARRINGTON HOMES
 CONTACT NAME: STEVE STRANLUND, SR.
 OFFICE: (763) 434-4771
 CONTACT PHONE: (612) 221-4476
 CONTACT E-MAIL: STEVE@DIRTWORKS.COM

SITE IMPERVIOUS AREAS

	BEFORE CONSTRUCTION	AFTER CONSTRUCTION
TOTAL SITE AREA	39.37 ACRES	
TOTAL ESTIMATED IMPERVIOUS	1.35 ACRES	3.09 ACRES
TOTAL ESTIMATED PERVIOUS	38.02 ACRES	36.28 ACRES

APPROX. 1.74 ACRE INCREASE IN IMPERVIOUS

TOTAL DISTURBED AREA

14.00 ACRES

SITE MAP W/ EXISTING AND FINAL GRADES AND DESIGN CALCULATIONS
 SEE "STORMWATER DRAINAGE REPORT" FOR EXISTING AND PROPOSED AREA MAPS, DENOTING DRAINAGE AREA BOUNDARIES, DIRECTIONS OF FLOW, AND DISCHARGE POINTS WHERE STORMWATER LEAVES THE SITE.

RECEIVING WATERS WITHIN ONE MILE

NAME OF WATER BODY	TYPE OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
SUNRISE RIVER, WEST BRANCH	CREEK	NO	YES
UNNAMED WETLANDS	WETLAND	NO	NO

BUFFER TO SURFACE WATER

IF THE SITE DRAINS TO A SURFACE WATER, IS A 50-FT NATURAL BUFFER ADJACENT TO THE SURFACE WATER PRESERVED?
 YES NO N/A

NOTE: NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES, JUDICIAL DITCHES, COUNTY DITCHES, STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS, AND SEDIMENT BASINS.

WHERE A 50-FT NATURAL BUFFER CANNOT BE MAINTAINED, A SECOND SEDIMENT CONTROL MEASURE (E.G. SECOND ROW OF SILT FENCE, BIOROLLS, OR OTHER ENGINEER APPROVED EQUAL) SHALL BE PROVIDED

23.11 PERMITTEES MUST PROVIDE A TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14 FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA OF ONE (1) OR MORE ACRES DRAINED AT ONCE. [MINN. R. 7090]

23.12 PERMITTEES MUST PROVIDE AN UNSTABILIZED BUFFER ZONE OF AT LEAST 50 FEET (100 LINEAR FEET) FROM A SPECIAL WATER (NOT INCLUDING TRIBUTARIES) AND MUST MAINTAIN THIS BUFFER ZONE AT ALL TIMES, BOTH DURING CONSTRUCTION AND AS A PERMANENT FEATURE POST CONSTRUCTION, EXCEPT WHERE A WATER CROSSING OR OTHER ENCROACHMENT IS NECESSARY TO COMPLETE THE PROJECT. PERMITTEES MUST FULLY DOCUMENT THE CIRCUMSTANCES AND REASONS THE BUFFER ENCROACHMENT IS NECESSARY IN THE SWPPP AND INCLUDE RESTORATION ACTIVITIES. THIS PERMIT ALLOWS REPLACEMENT OF EXISTING IMPERVIOUS SURFACE WITHIN THE BUFFER. PERMITTEES MUST MINIMIZE ALL POTENTIAL WATER QUALITY, SCENIC AND OTHER ENVIRONMENTAL IMPACTS OF THESE EXCEPTIONS BY THE USE OF ADDITIONAL OR REDUNDANT (DOUBBLE) BMPS. PERMITTEES MUST THIS INFORMATION BE DOCUMENTED IN THE SWPPP. [MINN. R. 7090]

23.13 PERMITTEES MUST DESIGN THE PROJECT STORMWATER TREATMENT SYSTEM SO THE DISCHARGE FROM THE PROJECT MINIMIZES ANY INCREASE IN THE TEMPERATURE OF TROUT STREAMS RESULTING FROM THE ONE (1) AND TWO (2) YEAR 24-HOUR PRECIPITATION EVENTS. THIS INCLUDES ALL TRIBUTARIES OF DESIGNATED TROUT STREAMS LOCATED WITHIN THE SAME PUBLIC LAND SURVEY SYSTEM (PLSS) SECTION. PERMITTEES MUST INCORPORATE ONE OR MORE OF THE FOLLOWING MEASURES, IN ORDER OF PREFERENCE:
 a. PROVIDE STORMWATER INFILTRATION OR OTHER VOLUME REDUCTION PRACTICES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 b. PROVIDE STORMWATER FILTRATION AS DESCRIBED IN SECTION 17. FILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 c. MINIMIZE THE DISCHARGE FROM CONNECTED IMPERVIOUS SURFACED BY DISCHARGING TO VEGETATED AREAS, OR GRASS SWALES, AND THROUGH THE USE OF NON-STRUCTURAL CONTROLS.
 d. IF PONDING IS USED, THE DESIGN MUST INCLUDE AN APPROPRIATE COMBINATION OF MEASURES SUCH AS SHADING, VEGETATED SWALE DISCHARGES OR CONSTRUCTED WETLAND TREATMENT CELLS THAT LIMIT TEMPERATURE INCREASES. THE POND MUST BE DESIGNED AS A DRY POND AND SHOULD DRAW DOWN IN 24 HOURS OR LESS.
 e. OTHER METHODS THAT MINIMIZE ANY INCREASE IN THE TEMPERATURE OF THE TROUT STREAM. [MINN. R. 7090]

23.14 PERMITTEES MUST DOCUMENT THE MITIGATION MEASURES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.

23.15 PERMITTEES MUST DESIGN THE PROJECT STORMWATER TREATMENT SYSTEM SO THE DISCHARGE FROM THE PROJECT MINIMIZES ANY INCREASE IN THE TEMPERATURE OF TROUT STREAMS RESULTING FROM THE ONE (1) AND TWO (2) YEAR 24-HOUR PRECIPITATION EVENTS. THIS INCLUDES ALL TRIBUTARIES OF DESIGNATED TROUT STREAMS LOCATED WITHIN THE SAME PUBLIC LAND SURVEY SYSTEM (PLSS) SECTION. PERMITTEES MUST INCORPORATE ONE OR MORE OF THE FOLLOWING MEASURES, IN ORDER OF PREFERENCE:
 a. PROVIDE STORMWATER INFILTRATION OR OTHER VOLUME REDUCTION PRACTICES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 b. PROVIDE STORMWATER FILTRATION AS DESCRIBED IN SECTION 17. FILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
 c. MINIMIZE THE DISCHARGE FROM CONNECTED IMPERVIOUS SURFACED BY DISCHARGING TO VEGETATED AREAS, OR GRASS SWALES, AND THROUGH THE USE OF NON-STRUCTURAL CONTROLS.
 d. IF PONDING IS USED, THE DESIGN MUST INCLUDE AN APPROPRIATE COMBINATION OF MEASURES SUCH AS SHADING, VEGETATED SWALE DISCHARGES OR CONSTRUCTED WETLAND TREATMENT CELLS THAT LIMIT TEMPERATURE INCREASES. THE POND MUST BE DESIGNED AS A DRY POND AND SHOULD DRAW DOWN IN 24 HOURS OR LESS.
 e. OTHER METHODS THAT MINIMIZE ANY INCREASE IN THE TEMPERATURE OF THE TROUT STREAM. [MINN. R. 7090]

23.16 PERMITTEES MUST DOCUMENT THE MITIGATION MEASURES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.

23.17 PERMITTEES MUST DESIGN THE PROJECT STORMWATER