DESIGN LOADS AND SOIL PROPERTIES
Combined load: Superstructure (L + Q + 8) 2 TFS maximum (service load, allowable stress design). roadway live load surcharge: 260 psf uniform vertical
Road Base unit weight = 140 psf, thickness = 33-inches
Soil Conditions:
Retained backfill: Unit weight = 130 psf, friction angle = 30°, cohesion = 0 psf
Reinforced fill: Unit weight = 110 psf, friction angle = 38°, cohesion = 0 psf
RSF Backfill: Unit weight = 110 psf, friction angle = 38°, cohesion = 0 psf
DESIGN SPECIFICATIONS
2. Design methods follow the AASHTO design methods presented in Chapter 4 of the reference manual. No seismic design assumed.
3. Design factor of safety against sliding is \( > 1.5 \); Factor of safety against bearing failure is \( > 2.5 \).
4. Design factor of safety against global failure is \( > 1.5 \).
5. Performance criteria: tolerable vertical strain = 0.5% of wall height (h); tolerable lateral strain = 1.0% of b and a (bearing width and setback)
6. Settlement below the RSF is assumed to be less than 2.0’. Less than a 1/2” differential settlement between abutments is assumed.
7. Sliding checks were conducted at the top and bottom of the RSF to meet the minimum factors of safety in the reference manual.
8. Road base thickness (h) assumes a 33-inch structure and 2 5/8-inch pavement thickness.

CONSTRUCTION SPECIFICATIONS
1. Site Layout/ Survey: Construct the base of the GRs abutment and wingwalls within 1.0 inch of the staked elevations. Construct the external GRs abutment and wingwalls to within 0.5 inches of the surveyed stake dimensions.
2. Excavation: Comply with Occupational Safety and Health Administration (OSHA) for all excavations.
3. Compaction: Compact backfill to a minimum of 95 percent of the maximum dry density according to AASHO-T-99 and a 2 percent optimum moisture content. In the bearing reinforcement zone, compact to 100 percent of the maximum dry density according to AASHO-T-99. Only hand-operated compaction equipment is allowed within 3-feet of the wall face. Reinforcement extends directly beneath each layer of CU blocks, covering > 85% of the full width of the wall to the front face of the wall.
4. Geosynthetic Reinforcement Placement: Pull the geosynthetic to remove any wrinkles and lay flat prior to placing and compacting the backfill material. Splices should be staggered at least 24-inches apart and splices are not allowed in the bearing reinforcement zone. No equipment is allowed directly on the geosynthetic. Place a minimum 6-layer of granular fill prior to operating any rubber-tired equipment over the geosynthetic at speeds less than 5 miles per hour, without sudden braking or sharp turning.
5. RSF Construction: The RSF should be encapsulated in geotextile reinforcement on all sides with minimum overlaps of 3.0 feet to prevent water infiltration. Wrapped corners need to be tight without exposed soil. Compact backfill material in lifts less than 6-inches in compacted height. Grade and level the top of the RSF prior to final encapsulation, as this will serve as the leveling pad for the CU blocks of the GRs abutment.
6. GRs Wall Face Alignment: Check for level alignment of the CU block row at least every other layer of the GRs abutment. Correct any alignment deviations greater than 0.25 inches.
7. Beam Seat Placement: Generally, the thickness of the beam seat is approximately 8 to 12-inches and consists of a minimum of two 4 1/2-inch lifts of wrapped-face GRs. Place precast 4-inch thick foam board on the top of the bearing back reinforcement built on the back face of the CU block. Seat half-height or full height (depending on wall height and required clear space) solid CU blocks on top of the foam board. Wrap two approximately 4-inch lifts across the beam seat. Before finalizing the wrap, it may be necessary to grade the surface aggregate of the beam seat slightly high, to about 0.5 inches, to aid in seating the superstructure and to maximize contact with the bearing area.

8. Superstructure Placement: The crane used for the placement of the superstructure can be positioned on the GRs abutment provided the outrigger pads are sized for loads of approximately 4,000 psf near the tops of the abutment wall. Loads could be supported with increasing distance from the abutment face if checked by the Engineer of Record. An additional layer of geosynthetic reinforcement can be placed between the beam seat and the concrete or steel beams to provide additional protection of the beam seat. Set beams to grade without dragging across the beam seat surface.

9. Integrated Approach Placement: Following the placement of the superstructure, geosynthetic-reinforcement layers are placed along the back of the superstructure, built in maximum lift thickness of 6-inches (maximum vertical space at reinforcement ≤ 6-inches). The top of the final wrap should be approximately 2-inches below the top of the superstructure to allow at least 2-inches of aggregate base cover over the geosynthetic to protect it from flat mix asphalt.

10. **(4" BATTER PER 7 1/2" IS SHOWN)** CONTRACTOR SHALL DESIGNED PLAN IF A DIFFERENT BATTER IS DESIRED, AND SHALL BE APPROVED BY THE ENGINEER.

11. PROTECT CU BLOCK DURING PLACEMENT OF STABILIZED AGGREGATE SLOPE PAYING.

12. **SEE WALL SECTIONS AND "GRS WALL INFORMATION" TABLE FOR REQUIRED LENGTHS OF GEOTEXTILE REINFORCEMENT.

13. PROVIDE CORNER BORDERS AND/OR DETAILS COMPATIBLE WITH THE SELECTED CU BLOCK SYSTEM.

14. **THE MINNESOTA DEPARTMENT OF TRANSPORTATION (MnDOT) IS INSTALLING SPECIAL GEOTEXTILE GEOMEMBRANE, BURIED BACKFILL EQUIPMENT AT THIS SITE AS PART OF A MONITORING PROGRAM. MULTIPLE SITES ARE TO BE INSTALLED DURING THE PROGRESS OF THE WORK AND BE ATTACHED TO DOUBLE LOCATORS AND PLACED WITHIN THE ABUTMENT EMBANKMENTS. THE SITES ARE TO BE TURNOVERED BY MnDOT AND INSTALLED BY MnDOT (OR BY A GEOENGINEERING CONCLUENT FOR MnDOT UNDER A SEPARATE CONTRACT). REFER TO THE CONTRACT SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

15. **THE FOLLOWING NOTICE OF USE FOR ADDITIONAL INFORMATION RELATED TO CONSTRUCTION OF GEOSYNTHETIC REINFORCED SOIL WALLS.

www.thedot.gov/energy/projects/technology/gps_354

REINFORCING STEEL
Provide reinforcing steel in accordance with SPEC. 3301.

CU BLOCK
In colder climates, freeze-thaw test (ASTM C1262-10) should be conducted to assess the durability of the CU block and ensure it follows the standard specification (ASTM C1372). Additives can be used to reduce efflorescence at the face of the blocks if they are at locations subject to de-icing chemicals.

Compressive strength = 4,000 psf minimum
Water absorption limit = 5 %

Note: in many construction applications CU blocks are placed with a 1/2” mortar joint to create an in place nominal dimension of 8" x 8" x 16".

HOLLOW CORE, SOLID CORE, CONCRETE FILLED, AND CORNER CU's SHALL ALL MEET THE ABOVE SPECIFICATIONS.

REINFORCED BACKFILL GRADATION
SEE SPECIAL PROVISIONS FOR INFORMATION.

GEOTEXTILE REINFORCEMENT TENSILE PROPERTIES

TYPE 1 - USE FOR BEARING BED ZONE, GRZ ZONE, AND WINGWALLS
Required ultimate tensile strength = 5,300 lb/ft by (ASTM D 4955 (geotextiles)

Tensile strength at 2% strain = 1,514 lb/ft

TYPE 2 - USE FOR RSF, BEAM SEAT ZONE, AND INTEGRATED APPROACH ZONE
Required ultimate tensile strength = 4,800 lb/ft by (ASTM D 4955 (geotextiles) ONLY)

Tensile strength at 2% strain = 900 lb/ft

POLYSTYRENE FOAM BOARD
Provide polystyrene foam board in accordance with SPEC 3769 and conforming to AASHTO M230, type VI.

GENERAL ABUTMENT NOTES
S.P. 067-598-010
Bridge No. 67564
CROSS HATCH KEY:
- Concrete filled CMU blocks
- Hollow core CMU blocks
- Solid core CMU blocks
- Reinforced soil foundation (RSP)

PLAN
- Geosynthetic reinforcement
- Centerline of abutment wall
- Back of abutment wall
- Geosynthetic reinforcement (TIP)
- Elevation
- Control joint detail
- Plan of abutment wall
- Blocks behind front face block shall be solid core CMU blocks

NOTES:
1. Along entire length of abutment wall and sidewalls insert 6" (152 mm) bolts or 3" (76 mm) dowel bars at 24" (610 mm) or 12" (305 mm) centers, respectively.
2. Along entire length of abutment wall and sidewalls the first 8 layers of blocks from the RSP shall be solid core CMU's (5 feet TIP).
3. CMU blocks are staggered, including corners, so there are no vertical joints greater than 1 CMU block height, except at control joints.
4. Geosynthetic reinforcement shall be blocked out to accommodate placement of guardrail posts. See guardrail sheets for details.
5. Working point "A" or "B"
6. Working point "C" or "D"
7. Working point "E" or "F"

ELEVATION
- Control joint detail
- Elevation of abutment wall
- Proposed groundline
- Solid core CMU blocks
- Concrete filled CMU blocks
- Hollow core CMU blocks

ABUTMENT DETAILS

S.P. 067-598-010
Bridge No. 67564
Sheet No. 6 of 26 Sheets

DES: JAS
CRC: RLL
DRN: JSP
CHK: JAS

www.erickson-eng.com 800-644-808

NOTES:
All elevations and dimensions are given at top of RSP. "RSP" of RSP shall be at or below these elevations.
Geosynthetic reinforcement thickness has been neglected between the block courses and 3.5" (89 mm) course height has been used to determine elevations shown on RSP plan.
NOTES

"X" denotes end of beam.
ELEVATION

SECTION A-A

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION,
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE: 67564
YEAR: 2012

NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)

SECTION B-B

NOTES:
- NO SEAM DRAWING REQUIRED.
- MATERIAL SHALL CONFORM TO MNDOT SPEC. 2327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A
  BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/8" X 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN
  DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH
  LETTERS AND NUMBERS.

INSIDE ELEVATION OF RAILING
AT END OF WINDWALL

NOTES:
- CONTRACTOR WILL TOOL, HI-DRI 600 AT
  DEFLECTION JOINTS AT TIME RAIL IS
  CAST AND SHALL EXTEND V-DRIVE
  AROUND ENTIRE PERIMETER OF RAIL.

FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.

FORM RAIL FOR A MINIMUM OF 3" ON
EACH SIDE OF EXPANSION DEVICES, LIGHT
STANDARD AND SEAL DRAIN BOX OUTS.

PAY QUANTITIES WILL NOT BE
ADJUSTED AS A RESULT OF SELECTING
THIS ALTERNATE

USE A SIMILAR METHOD FOR TALLER
RAILINGS OR MODIFIED VERSIONS OF
THIS RAILING.
RUB RAIL STRAIGHT SECTION
NON-STANDARD RUB RAIL LENGTH

ELEVATION

RUB RAIL BENT SECTION
NON-STANDARD RUB RAIL LENGTH

ELEVATION

NOTES:
- GALVANIZE ALL HARDWARE PER SPEC. 3292.
- USE END SHOE ON RUB RAIL IF TWO WAY TRAFFIC WITH NO MEDIAN.
- RUB RAIL IS CE x 8.2
- STRUCTURAL STEEL PER SPEC. 3386 UNLESS OTHERWISE NOTED.
- ALL SLOTTED HOLES ARE 1/16" x 2".
- ALL SQUARE HOLES ARE 1/16".
- GALVANIZE STRUCTURAL SHAPES PER SPEC. 3394 AFTER FABRICATION UNLESS OTHERWISE NOTED.
- VERIFY DIMENSIONS IN FIELD.

TRAFFIC BARRIER DESIGN SPECIAL
W-BEAM TRANSITION TO CONC. END POST WITH OR WITHOUT APPROACH CURB

S.P. 067-598-010

DES. JAS
ERICKSON ENGINEERING
WWW.ERICKSON-ENG.COM 918-834-8220
BRIDGE NO. 67564

Sheet No. 22 of 26 Sheets
END TREATMENT – TANGENT TERMINAL

1. PREMIUM LENGTH = 50'-0"
2. 6 SPACES AT 6'-0" = 36'-0"
3. 2 SPACES AT 6'-3" = 12'-6"

END OF LENGTH OF MEDIAN

GATING SECTION DOES NOT INTERCEPT VEHICLE

SHOW FLOW MARKER X4-S

EDGE OF SHOULDER OR CURB

DIRECTION OF TRAFFIC

PLAN VIEW

ATTACH RAIL TO POSTS NO. 3-8

(VERIFY WITH MANUFACTURER)

(TYP.)

TOP OF CURB OR GROUND

ELEVATION VIEW

GENERAL NOTES:

ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS, AND BEARING PLATES SHALL BE GALVANIZED.

THE DRAWING IS FOR INFORMATION ONLY. CONTACT THE MANUFACTURER FOR CURRENT DETAILS AND INSTALLATION INSTRUCTIONS.

ALL ITEMS ON THIS SHEET AND TO BE PROVIDED BY MANUFACTURER ARE INCLUDED IN PAY ITEM "END TREATMENT – TANGENT TERMINAL." PER EACH UNLESS NOTED OTHERWISE.

SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

KEYNOTES:

1. USE STEEL HINGED BRIDGEWAY (HBA) POSTS ONLY ON POSTS NO. 1-8
2. THE NON-BREAKAWAY SECTION OF THE HBA POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE THE FINISHED GROUND LINE.
3. THE GUARDRAIL IS DESIGNED TO EXIT THE TERMINAL HEAD ON THE BACK SIDE OF THE GUARDRAIL INSTALLATION.
4. PAYMENT FOR POST 9 IS INCLUDED IN ITEM "TRAFFIC BARRIER DESIGN 8B333" PER LHR. FT.
PLAN VIEW

EDGE OF SHOULDERS OR CURB — DIRECTION OF TRAFFIC

ATTACH RAIL TO POSTS NO. 5-8 (VERIFY WITH MANUFACTURER)

TOP OF CURB OR GROUND

ELEVATION VIEW

GENERAL NOTES:

ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS, AND RAILING PLATES SHALL BE GALVANIZED.

THIS DRAWING IS FOR INFORMATION ONLY. CONTACT THE MANUFACTURER FOR CURRENT DETAILS AND INSTALLATION INSTRUCTIONS. A COPY OF THE DISTRIBUTOR'S STANDARD PLANS FOR ADDITIONAL GUARDRAIL INSTALLATION INFORMATION.

ALL ITEMS ON THIS SHEET AND REQUIRED BY MANUFACTURER ARE INCLUDED IN PAY ITEM "END TREATMENT — TANGENT TERMINAL." PER EACH UNLESS NOTED OTHERWISE.

SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

KEYNOTES:

1. USE STEEL HANDED BREAKAWAY (HHA) POSTS OPTION ONLY ON POSTS NO. 1-4.

2. THE NON-BREAKAWAY SECTION OF THE HHA POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE THE FINISHED GROUND LINE.

3. THE GUARDRAIL IS DESIGNED TO EXIT THE TERMINAL HEAD ON THE BACK SIDE OF THE GUARDRAIL INSTALLATION.

4. PAYMENT FOR POST 5 IS INCLUDED IN ITEM "TRAFFIC BARRIER DESIGN SPECIAL." PER EACH.

ERICKSON ENGINEERING

S.P. 067-588-010  67564

BRIDGE NO.

NORTH CORNERS ONLY

SHEET NO. 24 OF 26 SHEETS
**SCALE**

- **SCALE:** Hor: | Ver: |

---

**MINNESOTA SOUTHERN RAILWAY**

---

- **PROP. FINISHED PROFILE GRADE**
- **COST, GROUNDLINE AT PROP. ROADWAY**
- **VERTICAL CURVE**
  - **V.C. STA. 7+65**, **EL. 1548.08**
  - **V.P. STA. 8+30**, **EL. 1548.03**
- **BEG. OF DECK**
  - **STA. 7+77.59**
  - **STA. 8+93.36**

---

- **CRITICAL VERTICAL CLEARANCE POINT "K"**
- **E BEARING, S. ABUT.**, **STA. 8+79.74**
- **E BEARING, N. ABUT.**, **STA. 9+57.24**

---

- **LIMITS OF STRUCTURE EXCAVATION**
- **BEG. OF DECK**, **STA. 7+77.59**
- **END OF DECK**, **STA. 8+93.36**

---

**ERICKSON ENGINEERING**

**BRIDGE SURVEY PLAN & PROFILE**

**SHEET NO. 28 OF 26 SHEETS**

**B. P. 067-598-010**

**APPROVED**

**BRIDGE NO. 87564**

---

**APPROACH DRAINAGE UNDER SEPARATE CONTRACT.**

1. **MEASURED PERPENDICULAR TO S RAILWAY.**
2. **BRIDGE CONTRACTOR SHALL EXCAVATE AND FILL TO THESE LINES FOR APPROX. 52' HT. OF S BRIDGE AT S.C. CORNER. APPROX. 40' LT. OF S BRIDGE AT S.M. CORNER, APPROX. 45' RT. OF S BRIDGE AT E.R. CORNER, AND APPROX. 55' LT. OF N BRIDGE AT N.W CORNER. THEN TAPER AT 1:3 SLOPE TO NATURAL SLOPES. INCLUDED IN PRICE BID FOR SLICE PREPARATION.**

3. **A SHORTERED VERSION OF THE BORING LOG DESCRIPTION IS GIVEN IN THE PLAN. THE COMPLETE GEOLOGICAL EXPLORATION REPORT AND BORING LOGS ARE AVAILABLE FOR INSPECTION IN THE COUNTY ENGINEER'S OFFICE.**

4. **SEE GRADING PLANS FOR DETAILS.**

5. **LIMITS OF STRUCTURE EXCAVATION, INCLUDED IN PRICE BID FOR STRUCTURE EXCAVATION. PLACEMENT BETWEEN MINIMUM ENDS WITH 1:3 BACKSLOPE. UNDERDUGS AND SLOPES ARE MEASURED PERPENDICULAR TO THE BACK OF THE ABUTMENT.**

6. **PROVIDE 3" OF CLAY OVER HATCHED AREA PRIOR TO PLACING TOPSOIL. TYPICAL ALL FOUR CORNERS OF BRIDGE, INCIDENTAL TO STRUCTURE EXCAVATION.**

**SEE GRADING PLANS FOR PROPOSED R/W INFORMATION.**
## ESTIMATED QUANTITIES

<table>
<thead>
<tr>
<th>SPEC. NO.</th>
<th>ITEM</th>
<th>UNIT</th>
<th>NON-PART</th>
<th>TOTAL ESTIMATED QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3106.0501</td>
<td>REMOVE PIPE CULVERT</td>
<td>LIN. FT.</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>2105.0501</td>
<td>COMMON EXCAVATION (8')</td>
<td>CU. YD.</td>
<td>9,179</td>
<td>9,179</td>
</tr>
<tr>
<td>2105.0523</td>
<td>COMMON BORROW (LY)</td>
<td>CU. YD.</td>
<td>15,435</td>
<td>15,435</td>
</tr>
<tr>
<td>2118.0501</td>
<td>AGGREGATE SURFACING, (CLASS 5 MOD.)</td>
<td>TON</td>
<td>852</td>
<td>852</td>
</tr>
<tr>
<td>2451.0509</td>
<td>AGGREGATE BEDDING (LY)</td>
<td>CU. YD.</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>2501.5111</td>
<td>18&quot; CORRUGATED STEEL PIPE CULVERT</td>
<td>LIN. FT.</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>2501.5113</td>
<td>18&quot; GALVANIZED STEEL PIPE APRON</td>
<td>EACH</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2501.5211</td>
<td>29&quot; SPAN R.C. PIPE - ARCH CULVERT</td>
<td>LIN. FT.</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2501.5251</td>
<td>29&quot; SPAN R.C. PIPE - ARCH APRON</td>
<td>EACH</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2573.5021</td>
<td>SILT FENCE / TYPE MACHINE SLICED</td>
<td>LIN. FT.</td>
<td>230</td>
<td>230</td>
</tr>
<tr>
<td>2573.5121</td>
<td>TEMPORARY DITCH CHECK / TYPE 2</td>
<td>LIN. FT.</td>
<td>185</td>
<td>185</td>
</tr>
</tbody>
</table>

1. Culvert removals are at STA. 0+25 and 0+60 LT.
2. Percent passing the 200 sieve shall be modified to 5% - 12%
3. Includes 40 tons for field approaches.
4. Pipe locations are at STA. 1+00, RT. & LT. (2-field approaches)
5. Concrete culvert shall be constructed at STA. 0+35.
6. Shall be placed as directed by the engineer.

TURF ESTABLISHMENT & TRAFFIC CONTROL TO BE DONE BY ROCK COUNTY.

## BASIS OF PLANNED QUANTITIES

- Aggregate bedding: compacted density (dry weight) 140 lbs./cu. ft.
- Gravel material assumed to weigh 2800 lbs./cu. ft.

## STANDARD PLATES

The following standards plates, approved by the federal highway administration, shall apply on this project:

<table>
<thead>
<tr>
<th>PLATE NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3014 J</td>
<td>REINFORCED CONCRETE PIPE ARCH CULVERT</td>
</tr>
<tr>
<td>3040 F</td>
<td>CORRUGATED METAL PIPE CULVERT</td>
</tr>
<tr>
<td>3110 D</td>
<td>CONCRETE APRON FOR R.C. PIPE ARCH CULVERT</td>
</tr>
<tr>
<td>3123 J</td>
<td>METAL APRON FOR C.S. PIPE CULVERT</td>
</tr>
<tr>
<td>3145 F</td>
<td>CONCRETE PIPE TIES</td>
</tr>
<tr>
<td>3221 C</td>
<td>CORRUGATED STEEL PIPE COUPLING BAND</td>
</tr>
<tr>
<td>8000 I</td>
<td>STANDARD BARRIERS</td>
</tr>
<tr>
<td>9000 D</td>
<td>APPROACHES AND ENTRANCES</td>
</tr>
</tbody>
</table>

## TYPICAL GRADING SECTION

![Typical Grading Section Diagram]

- Material from the top 6 inches of the natural topsoil shall not be used in the upper 1 foot of the roadbed.
- Topsoil excavate to this line. Thickness of topsoil shall be 3 inches. Excavation has been computed and is included in balances.

1/4 inches to be constructed to the outer limits of the recovery area (22' from centerline). Infiltration outside the recovery area will be constructed as shown in the plans or as directed by the engineer.

## TYPICAL INSTALLATION FOR SILT FENCE

![Silt Fence Installation Diagram]

- Machine sliced 8 in. - 12 in. depth
- Geotextile fabric, 3' wide
- Tire compaction zone
- Machine sliced 8 in. - 12 in. depth
- Plastic zip ties (50 lb. tensile) located in top 8 inches
- 5 ft. min. length post at 6 ft. max. spacing

LICENCED BY Mark R. Lohr
PROFESSIONAL ENGINEER

ROCK COUNTY, MN / BRIDGE 67564 / S.P. 067-598-010 / SHEET G1 OF G5 SHEETS
All inclines and backslopes are 1:4 unless otherwise noted.

STA. 0+23 / BEGIN S.P. D67-598-010
16,675 + 300 YDS. FOR APPROACHES
(16,975)\(\times\)145% = 24,614 CU. YDS. EMB.
- 9,179 CU. YDS. COMMON EXCAVATION
= 15,435 CU. YDS. COMMON BORROW

STA. 11 FOR / END S.P. 067-598-010

ALL IN SLOPES AND BACKSLOPES
ARE 1:4 UNLESS OTHERWISE NOTED.
ALL CROSS SECTIONS ARE WITHIN
RAILROAD OR COUNTY RIGHT OF WAY.