

ANOKA COUNTY SOLAR

RAMSEY TOWNSHIP,
ANOKA COUNTY,
MINNESOTA

BASIS OF BEARING

ORIENTATION OF THIS BEARING SYSTEM IS BASED ON THE WEST LINE OF LOT 3, BLOCK 1, RIVER CROSSING ADDITION ACCORDING TO THE PLAT ON FILE AND OF RECORD IN THE OFFICE OF THE COUNTY RECORDER, ANOKA COUNTY, MINNESOTA. IS ASSUMED TO BEAR NORTH 00 DEGREES 08 MINUTES 36 SECONDS EAST.

BENCHMARK

TOP OF IRON MONUMENT AT THE MOST NORTHERLY CORNER OF LOT 3, BLOCK 2 RIVER CROSSING ADDITION ACCORDING TO THE PLAT ON FILE AND OF RECORD IN THE OFFICE OF THE COUNTY RECORDER, ANOKA COUNTY, MINNESOTA.

LEGAL DESCRIPTION

PARCEL DESCRIPTION:

LOT 3, BLOCK 1, RIVER CROSSING ADDITION ACCORDING TO THE PLAT ON FILE AND OF RECORD IN THE OFFICE OF THE COUNTY RECORDER, ANOKA COUNTY, MINNESOTA.

PROJECT INFORMATION

DESIGN PROFESSIONALS IN RESPONSIBLE CHARGE: ELECTRICAL – CHRIS LISKA, P.E.
CIVIL – GAVIN MEINSCHIN, P.E.

BUILDING CODE: 2015 MINNESOTA BUILDING CODE
FIRE CODE: 2007 MINNESOTA STATE FIRE CODE
ELECTRICAL CODE: 2014 NATIONAL ELECTRIC CODE

SYSTEM SIZE: 3,375.00kWac/4,501.58kWdc
RACKING TYPE: FIXED TILT – 25° (2 MODULES IN PORTRAIT)
ROW SPACING: 25.0 FEET

SITE INFORMATION

ZONING DISTRICT: RESIDENTIAL
JURISDICTION: ANOKA COUNTY
FLOOD ZONE: PROPERTY IS IN FLOOD ZONE DESIGNATION X DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER COMMUNITY PANEL NUMBER 27003C0280E, WITH AN EFFECTIVE DATE OF DECEMBER 16, 2015.

DESIGN LOADS:

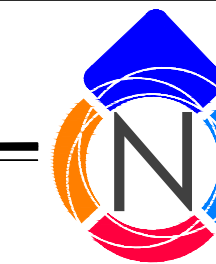
RISK CATEGORY	I
WIND LOADS (ASCE 7-10)	
BASIC WIND SPEED	105 MPH
EXPOSURE CATEGORY	C
LIVE LOADS	
GROUND SNOW LOAD	50 PSF

TOTAL SITE AREA: ±18.60 ACRES



VICINITY MAP

NOT TO SCALE



PROJECT TEAM

UTILITY

CONNEXUS ENERGY

Connexus Energy
14601 Ramsey Blvd NW
Ramsey, MN 55303
763-323-2650

DEVELOPER

SoCore Energy

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ELECTRICAL/CIVIL

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SHEET INDEX

SHEET NUMBER	SHEET TITLE	03.23.2018	ISSUE FOR REVIEW
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	ALTA/TOPOGRAPHIC SURVEY (2 OF 2)	●	
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C1.00	EXISTING CONDITIONS & SITE DEMO PLAN	●	
C2.00	SITE GEOMETRY PLAN	●	
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C3.00	SITE GRADING & STORMWATER MGMT PLAN	●	
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E4.11	SIGNAGE & LABELING DETAILS	●	
E4.20	ELECTRICAL MV DETAILS	●	
E4.21	ELECTRICAL MV DETAILS	●	



SoCore Engineering
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REV.	DATE	DESCRIPTION
	03.23.2018	ISSUE FOR REVIEW
	04.02.2018	REISSUE FOR REVIEW

PROJECT NAME
ANOKA COUNTY SOLAR
14469 LLAMA ST. NW
RAMSEY, MN 55303
(45.2347220,-93.4829570)

SHEET NAME	DESIGNER	DATE	SCALE	SHEET SIZE
COVER SHEET	JCL	09.05.2017	AS NOTED	24" X 36"
	DATE/ITER	JCL		
	CHECK	GCM		

FOR: CIVIL
GAVIN MEINSCHIN, PE
SHEET NUMBER
G1.00



GENERAL NOTES:

1. THE WORD "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
2. TOPOGRAPHIC INFORMATION INCLUDING CONTOURS, EXISTING SPOT GRADES, ELEVATION OF EXISTING STRUCTURE RIM AND INVERTS, ETC., IS ALL AS OBTAINED FROM A TOPOGRAPHIC MAP RECEIVED FROM THE SURVEYOR. THE SURVEY BASE PROVIDED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY. THE OWNER/ENGINEER ARE NOT RESPONSIBLE FOR ANY MISCHARTED OR UNCHARTED UTILITIES, OR OTHER ERRORS DETECTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SITE CONDITIONS. SOCORE ENGINEERING, LLC HAS UTILIZED THIS INFORMATION FOR DESIGN AND MAKES NO WARRANTY REGARDING THE ACCURACY THEREOF.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH ACTUAL CONDITIONS AT THE JOB SITE. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLAN, THE CONTRACTOR MUST IMMEDIATELY REPORT TO THE ENGINEER BEFORE DOING ANY WORK, OTHERWISE THE CONTRACTOR ASSUMES FULL RESPONSIBILITIES. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES, FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND PAYING THE REQUISITE FEES FOR CONSTRUCTION. HE SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE REPAIRS AS NECESSARY TO THE SATISFACTION OF THE ENGINEER.
5. PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL NOTIFY ENGINEERS OF ANY DISCREPANCIES NOTED AMONG SITE CONDITIONS, MANUFACTURER RECOMMENDATIONS OR CODES, REGULATIONS OR RULES OF JURISDICTION HAVING AUTHORITY.
6. ALL DIMENSIONS OF EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO COMMENCING WORK.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL BRACING AND STORING OF EQUIPMENT DURING INSTALLATION.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND MEASURES ON SITE. THE ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY AND NO DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS.
9. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL PRIOR TO MAKING ANY CHANGES. APPROVED CHANGES SHALL REQUIRE A DRAWING REVISION TO MAINTAIN CONTROL OVER THE ENGINEER APPROVED DESIGN. DEVIATION FROM THESE PLANS PRIOR TO ENGINEER APPROVAL PLACES THE CONTRACTOR AT RISK.
10. THE CONTRACTOR MUST COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.
11. ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
12. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
13. ALL DISTURBED AREAS SHALL BE RESTORED BY THE CONTRACTOR TO THE ORIGINAL CONDITION.

DEMOLITION NOTES:

1. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN AND INCLUDES, BUT IS NOT LIMITED TO THE REMOVAL OF PAVING, VEGETATION AND OTHER SITE FEATURES WHICH CONFLICT WITH THE CONSTRUCTION OF THE NEW FACILITIES, OR ARE DESIGNATED TO BE REMOVED.
2. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS AND SPOILS TO ENSURE MINIMAL INTERFERENCE WITH FACILITY OPERATIONS.
3. ENSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF DEMOLITION. REMOVE FROM SITE ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION AND LAWFULLY DISPOSE OF SAME.
4. NOTIFY OWNER 48 HOURS IN ADVANCE OF ANY UTILITY SHUTDOWN.
5. THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER/ENGINEER ON ALL ITEMS DESIGNATED TO BE REMOVED OR RELOCATED.
6. IF ANY ITEMS ARE ENCOUNTERED IN THE FIELD THAT ARE NOT SHOWN ON THE PLAN WHICH REQUIRE DEMOLITION OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
7. THE CONTRACTOR WILL PROTECT ALL UTILITIES, STRUCTURES, AND TREES DESIGNATED TO REMAIN. ANY DAMAGE TO THE CONTRACTOR TO THESE UTILITIES, STRUCTURES, TREES, STREETS OR ADJACENT PROPERTIES WILL BE REPLACED/REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHOULD CONTACT ENGINEER IF ANY QUESTION ARISES REGARDING THE VIABILITY OF A UTILITY STRUCTURE.
9. CLEARING SHALL INCLUDE THE REMOVAL OF BUSHES, TREES AND OTHER PLANTS, AS DETERMINED BY OWNER, WITHIN THE LIMITS SHOWN. CLEARING SHALL ALSO INCLUDE THE REMOVAL OF ALL ROCKS OR BOULDERS LARGER THAN 2 INCHES, AT THE SURFACE, TO ALLOW FOR FUTURE SITE MOWING. ROCKS AND BOULDERS SHALL BE PILED AT A LOCATION DETERMINED BY THE PROPERTY OWNER.
10. CONTRACTOR MUST NOTIFY OWNER/ENGINEER OF ANY FIELD UNDERDRAINS FOUND PRIOR TO REMOVAL.

DIMENSION NOTES:

1. ALL DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, EDGE OF PAVEMENT, PROPERTY LINE OR POINT OF TANGENCY UNLESS OTHERWISE NOTED.
2. ALL QUANTITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHOULD RELY ON FINAL TAKEOFFS FOR EXACT QUANTITIES.

GRADING NOTES:

1. CONTRACTOR TO ADJUST ALL EXISTING STRUCTURES TO MEET NEW GRADES.
2. ELEVATIONS SHOWN ARE PER NAD83.
3. ALL WORK RELATIVE TO PAD CONSTRUCTION, TRENCHING AND BACKFILLING, SITE PREPARATION AND GRAVEL INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION". ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION, AND/OR STATE OR LOCAL STANDARD SPECIFICATIONS.
4. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
5. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES OR CLEARING LIMITS EXCEPT AS REQUIRED BY SITE GRADING IMPROVEMENTS.

6. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS, SILT FENCE, OR COMPOST WATTLE AT THE PROPERTY LINES AND WETTING THE SOIL TO PROTECT IT FROM WIND EROSION.
7. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION MONUMENT PRIOR TO BEGINNING CONSTRUCTION.
8. CONDUCT EARTHWORK OPERATIONS ONLY IN AREA REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITY AND THEN ONLY IF SEDIMENT CONTROL DEVICES ARE IN PLACE. MASS CLEARING AND GRADING OF THE SITE SHALL BE AVOIDED.

UTILITY NOTES:

1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHALL BE OBTAINED FROM ALL UTILITY COMPANIES, INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK IN THE CONSTRUCTION AREA. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES SHALL BE PERFORMED BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING FACILITIES, MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
2. THE CONTRACTOR IS TO UNCOVER ALL LINES BEING TIED INTO AND VERIFY GRADES BEFORE ANY CONSTRUCTION.
3. ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING, OF THE INTENT TO EXCAVATE, NO LESS THAN 72 HOURS PRIOR TO SUCH EXCAVATION (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS) AND CALL 811 TO NOTIFY THE LOCAL ONE CALL CENTER.

SEEDING NOTES:

1. SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE AFTER LAND DISTURBING ACTIVITIES ARE COMPLETED. SEE STATE AND/OR LOCAL STANDARD SPECIFICATIONS FOR SEEDING REQUIREMENTS DURING CONSTRUCTION.
2. A COVER CROP SHALL BE PLANTED, AS NEEDED TO PROVIDE ADDITIONAL EROSION PROTECTION. USE AN ANNUAL OAT DURING A SPRING/SUMMER SEEDING, USE WINTER WHEAT DURING A FALL SEEDING.
3. FINAL NATIVE PRAIRIE MIX SEEDING SHALL BE PLANTED NEAR SUBSTANTIAL COMPETITIVE SEED MIX DESIGN WILL BE PROVIDED BY SOCORE AND APPROVED BY LOCAL AUTHORITIES (IF REQUIRED). REFER TO SITE RESTORATION PLAN FOR MORE INFORMATION.
4. REFER TO "SITE RESTORATION PLAN" FOR DETAILS ON SITE VEGETATION AND CONTRACTOR SCOPE.

SITE CLEARING:

- A. GENERAL: REMOVE SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS, OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE SIMILAR ITEMS ELSEWHERE ON SITE OR PREMISES AS SPECIFICALLY INDICATED ON PLANS. "REMOVAL" INCLUDES DIGGING OUT AND OFF-SITE DISPOSING OF STUMPS AND ROOTS.
- B. CUT MINOR ROOTS AND BRANCHES OF TREES INDICATED TO REMAIN IN A CLEAN AND CAREFUL MANNER, WHERE SUCH ROOTS AND BRANCHES OBSTRUCT INSTALLATION OF NEW CONSTRUCTION.
- C. TOPSOIL: TOPSOIL IS DEFINED AS FERTILE, FRAGILE NATURAL LOAM SURFACE SOIL FOUND IN A DEPTH OF NOT LESS THAN 4 INCHES. SATISFACTORY TOPSOIL IS REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTERS, AND FREE OF ROOTS, STUMPS, STONES LARGER THAN 1/2", AND OTHER EXTRANEIOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH.
- D. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION, EXCEPT FOR THOSE INDICATED TO BE LEFT STANDING.
 1. COMPLETELY REMOVE STUMPS, ROOTS, AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE.
 2. USE ONLY HAND METHODS FOR GRUBBING INSIDE DRIP LINE OF TREES INDICATED TO REMAIN.
 3. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL, UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
 - a. PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING 8 INCHES LOOSE DEPTH, AND THOROUGHLY COMPACT TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
- E. REMOVAL OF EXISTING SITE FEATURES: REMOVE ALL UNDERGROUND AND ABOVE GROUND SITE FEATURES SHOWN ON THE DRAWINGS.
 1. FOUNDATIONS SHALL BE REMOVED TO A MINIMUM OF 3' BELOW SUB-GRADE.
 2. ABOVE- OR BELOW-GRADE IMPROVEMENTS MAY BE ENCOUNTERED WHICH ARE NOT ON THE SURVEY DOCUMENTS OR SHOWN ON THE CONTRACT DRAWINGS WHICH MUST BE REMOVED AS A PART OF THIS CONTRACT. IF ANY SUCH IMPROVEMENTS ARE ENCOUNTERED THE CONTRACTOR MUST NOTIFY THE ENGINEER PRIOR TO REMOVAL.
- F. DISPOSAL OF WASTE MATERIALS
 1. REMOVE ALL WASTE MATERIALS AND UNSUITABLE SOIL FROM THE OWNER'S PROPERTY, AT THE CONTRACTOR'S EXPENSE.

EARTHWORK:

- A. SOIL MATERIAL
 1. GENERAL FILL: PROVIDE SOIL MATERIALS THAT ARE FREE OF DEBRIS, WASTE, FROZEN MATERIALS, VEGETABLE, ORGANIC AND OTHER DELETERIOUS MATTER AND HAVING MAXIMUM PARTICLE SIZE OF 2" IN ALL DIMENSIONS.
 2. SELECT FILL: CLEAN NATURAL OR CRUSHED STONE OR GRAVEL CONFORMING DEPARTMENT OF TRANSPORTATION STANDARD GRADATION.
 3. SUBBASE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2 INCH (38-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE.
 4. BASE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 95 PERCENT PASSING A 1-1/2 INCH (38-MM) SIEVE AND NOT MORE THAN 8 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE.
 5. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; EXCEPT WITH 100 PERCENT PASSING A 1-1/2 INCH (38-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE.
 6. BEDDING: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH 100 PERCENT PASSING A 1-INCH (25-MM) SIEVE AND NOT MORE THAN 8 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE.
 7. DRAINAGE FILL: WASHED, NARROWLY GRADED MIXTURE OF CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2 INCH (38-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 (2.36-MM) SIEVE.

CONCRETE AND REINFORCING:

- A. ALL CONCRETE WORK & TESTING SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), LATEST EDITIONS.
- B. ALL NORMAL WEIGHT CONCRETE (145 PCF) SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. TRANSFORMER 7 DAY STRENGTH TEST MUST MET OR EXCEED 3500 PSI BEFORE TRANSFORMER CAN BE PLACED.
- C. CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE.
- D. ALL CONCRETE SUBJECT TO EXTERIOR EXPOSURE IN FREEZE THAW CLIMATES WITH SPECIFIED STRENGTH LESS THAN 6000 PSI SHALL BE AIR ENTRAINED 4% TO 6%.
- E. COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-306. HOT WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-305.
- F. REINFORCING BARS SHALL BE DEFORMED BARS OF NEW BILLET STEEL CONFORMING TO ASTM SPECIFICATION A-615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. ALL REINFORCING AND ACCESSORIES SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI STANDARDS 315-80 AND 315R-80.
- G. WELDING OF REINFORCING BARS WILL ONLY BE ALLOWED WHEN SHOWN. IN NO INSTANCE SHALL WELDING BE DONE AT THE BEND OF A BAR, NOR SHALL THERE BE ANY TACK WELDING DONE BETWEEN CROSSING BARS. WHEN WELDING IS SHOWN, PROCEDURES SHALL BE IN ACCORDANCE WITH "RECOMMENDED PRACTICE FOR WELDING REINFORCEMENT STEEL, METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION", AWS D12.1-75.
- H. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.
- I. PLACE #4 BARS (EACH FACE) WITH 2'-0" PROJECTION AROUND ALL OPENINGS IN CONCRETE, UNLESS OTHERWISE SHOWN OR NOTED.
- J. CORNERS OR SPLICE BARS SHALL BE PROVIDED IN ACCORDANCE WITH ACI STANDARDS 315-80 AND 315R-80. CORNER BARS SHALL BE PROVIDED AT ALL WALL CORNERS, EQUAL TO THE HORIZONTAL WALL REINFORCEMENT.
- K. MINIMUM LAP OF REINFORCEMENT BARS SHALL BE EQUIVALENT TO A CLASS "B" SPLICE, UNLESS NOTED OTHERWISE.
- L. CONTROL JOINTS FOR SLABS-ON-GRADE SHALL BE IN A SQUARE PATTERN AND BE NOT MORE THAN 20 FT. O.C., UNLESS NOTED OTHERWISE ON PLAN.
- M. GENERAL CONTRACTOR SHALL CHECK WITH CIVIL, RACKING, AND ELECTRICAL DRAWINGS AND SUB-CONTRACTORS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS, SLAB DEPRESSIONS AND OTHER ITEMS RELATED TO THE CONCRETE WORK, AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR PROPER LOCATION BEFORE PLACING CONCRETE. PITCH CONCRETE SLABS AS REQUIRED TO ELIMINATE PONDING.
- N. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER, IN.
(1) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
(2) CONCRETE EXPOSED TO EARTH OR WEATHER: <ul style="list-style-type: none"> #6 THROUGH #18 BARS... #5 BAR, W31 OR D31 WIRE, AND SMALLER... 	2"
	1-1/2"

STRUCTURAL STEEL:

- A. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE".
- B. STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS (UNLESS NOTED OTHERWISE).

STRUCTURAL 'W' SHAPES	A992
STRUCTURAL SHAPES AND PLATES	A36, U.N.O.
STRUCTURAL TUBING	A-500 GRADE B
STRUCTURAL PIPING	A-501
- C. TYPICAL CONNECTIONS FOR STEEL BEAMS SHALL BE STANDARD AISI FRAMED BEAM CONNECTIONS, UNLESS OTHERWISE SHOWN. ALL FIELD CONNECTIONS, EXCEPT WHERE SHOWN WELDED, SHALL BE BOLTED WITH 3/4" DIAMETER HIGH STRENGTH BOLTS CONFORMING TO ASTM A-325-N, OR GREATER, UNLESS OTHERWISE NOTED. CONNECTIONS SHALL BE DESIGNED FOR 60% OF THE TOTAL ALLOWABLE UNIFORM LOAD DERIVED FROM THE AISC MANUAL'S TABLE OF "UNIFORM LOAD CONSTANTS" FOR NON-COMPOSITE BEAMS AND 90% FOR COMPOSITE BEAMS.
- D. ALL COPED BEAMS TO BE DESIGNED IN ACCORDANCE WITH APPENDIX "B" OF THE AISC MANUAL "ENGINEERING FOR STEEL CONSTRUCTION." PROVIDE REINFORCING AS REQUIRED. ALL REINTEGRANT CORNERS TO BE SHAPED, NOTCH-FREE, TO A RADIUS OF AT LEAST 1/2 INCH.
- E. ALL WELDING ELECTRODES SHALL BE E-70XX. ALL SHOP AND FIELD WELDING SHALL BE MADE IN ACCORDANCE WITH A.W.S. D1.1-88 "CODE FOR WELDING IN BUILDING CONSTRUCTION," AND SHALL BE MADE BY QUALIFIED "CERTIFIED" WELDERS.
- F. ALL HEADED STUDS FOR COMPOSITE CONSTRUCTION SHALL BE 3/4" DIAMETER, 3-1/2 INCH AS-WELDED LENGTH (U.N.O.), WITH A MINIMUM CAPACITY OF 11.5k.
- G. PROVIDE GOVERNMENT ANCHORS FOR BEAMS BEARING ON MASONRY WHERE ANCHOR BOLTS OR OTHER ANCHORAGE IS NOT SPECIFIED.
- H. ALL STRUCTURAL STEEL EXPOSED TO THE ELEMENTS SHALL RECEIVE ONE COAT OF APPROVED SHOP PAINT, IN ADDITION TO FIELD PAINT.
- I. ALL FIELD CUTS OR HOLES PERFORMED ON SITE SHALL BE COATED WITH GALVANIZING COMPOUND TO PREVENT CORROSION.
- J. PROVIDE HARDENED WASHERS OVER ALL OVERSIZED AND SHORT SLOTTED HOLES IN AN OUTER PLY. PROVIDE 5/16" MINIMUM THICKNESS PLATE WASHERS WITH STANDARD HOLES OVER ALL LONG SLOTTED HOLES IN AN OUTER PLY - SUCH PLATE WASHERS TO COMPLETELY COVER THE SLOT AFTER INSTALLATION.
- K. PROVIDE MINIMUM WELD SIZE PER AISC J2.

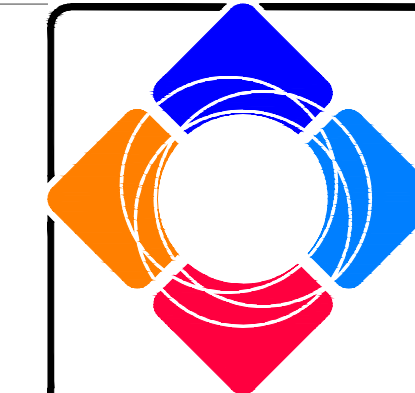
SUBMITTALS:

- A. SITE SECURITY FENCING:
 1. CUT SHEETS FOR FENCING MATERIALS
 2. DETAILED FENCING DESIGN WITH FOUNDATIONS AND SPACING SPECIFICS FOR ALL FENCING COMPONENTS
 3. DETAILED DESIGN FOR MAIN ACCESS GATE AND EMERGENCY MAN GATE (INCLUDE GATE LATCHING HARDWARE)
- B. CONCRETE MIX DESIGN:
 1. MIX DESIGN FOR CONCRETE FOUNDATIONS
 2. MIX DESIGN FOR EQUIPMENT SLABS
 3. CYLINDER BREAK TEST
- C. AGGREGATE:
 1. PROVIDE GRADATION AND MATERIAL CUT SHEETS FOR ALL STONE TO BE USED ON SITE.
 2. PROVIDE A SUMMARY OF COMPACTION RESULTS IN WEEKLY REPORTS



SITE AERIAL

SCALE: 1" = 200'



SoCore Engineering
 225 West Hubbard St, Suite 200
 Chicago, IL 60654
 1-877-SOCORE1

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REV.	DATE	ISSUE FOR	ISSUE FOR REVIEW	ISSUE FOR REVIEW
	03/25/2018			
	04/02/2018			

PROJECT NAME
ANOKA COUNTY SOLAR
 14469 LLAMA ST. NW
 RAMSEY, MN 55303
 (45.2347220,-93.4829570)

SHEET NAME	DATE	SCALE	SHEET SIZE
CIVIL SITE NOTES & SPECIFICATIONS	09.05.2017	AS NOTED	24" X 36"
DESIGNER	JCL		
DRAWER	JCL		
CHECK	GCM		

FOR: CIVIL
 GAVIN MEINSCHEIN, PE
 SHEET NUMBER
C0.10



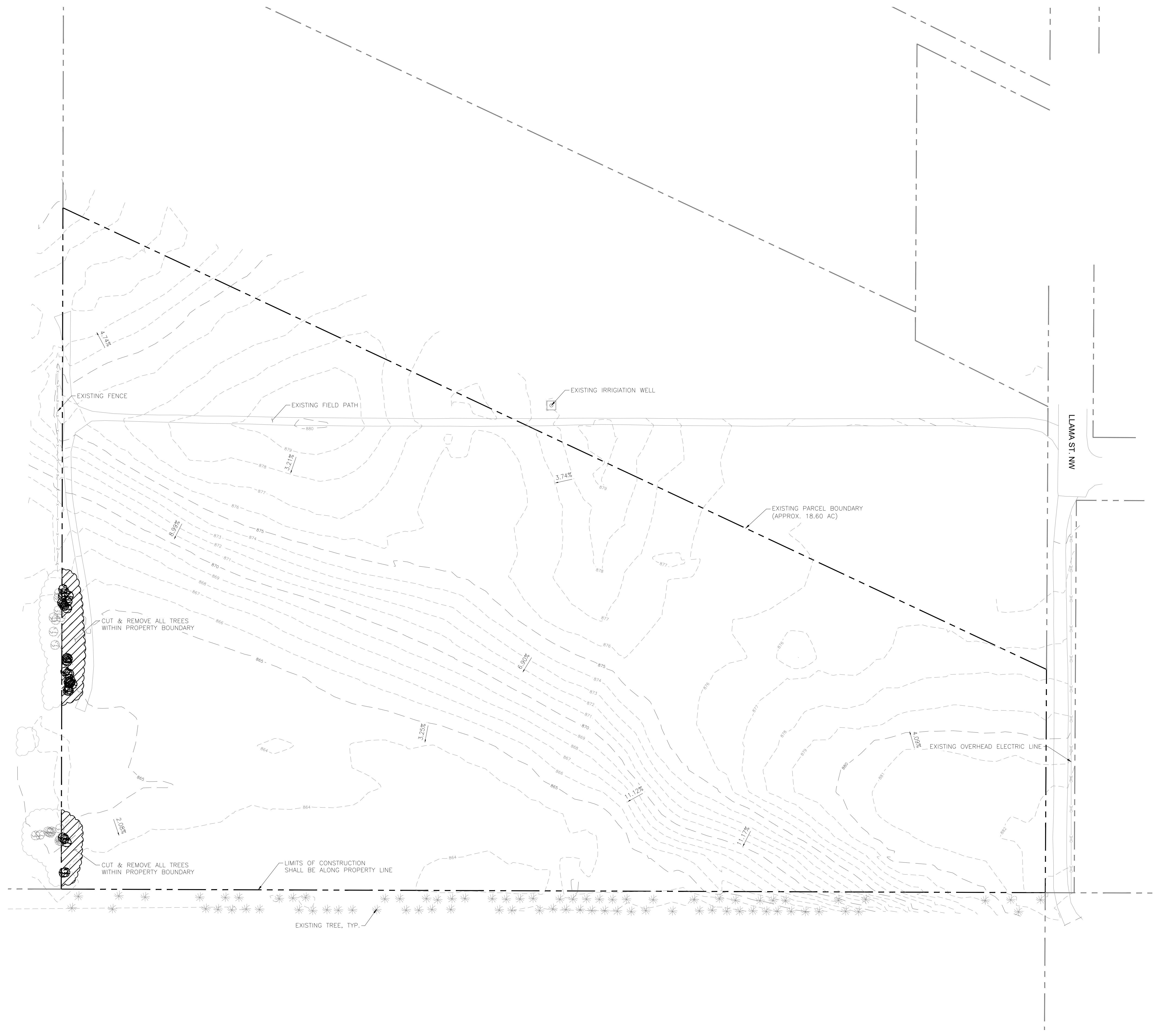
0 30 60 120
 (IN FEET)
 SCALE: 1" = 60'

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LEGEND AND ABBREVIATIONS:

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING MAJOR CONTOUR (5')
- EXISTING MINOR CONTOUR (1')
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING TREELINE
- EXISTING SLOPE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED



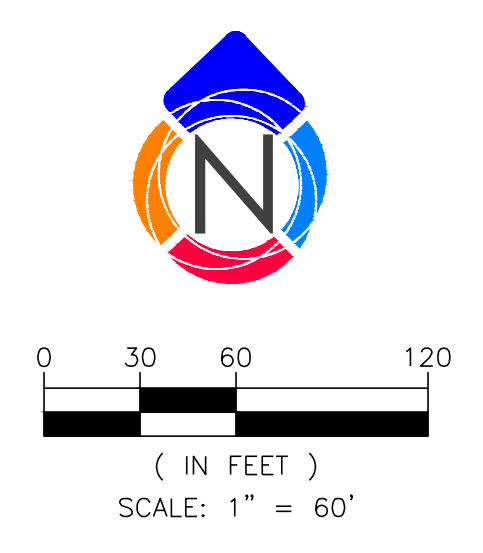
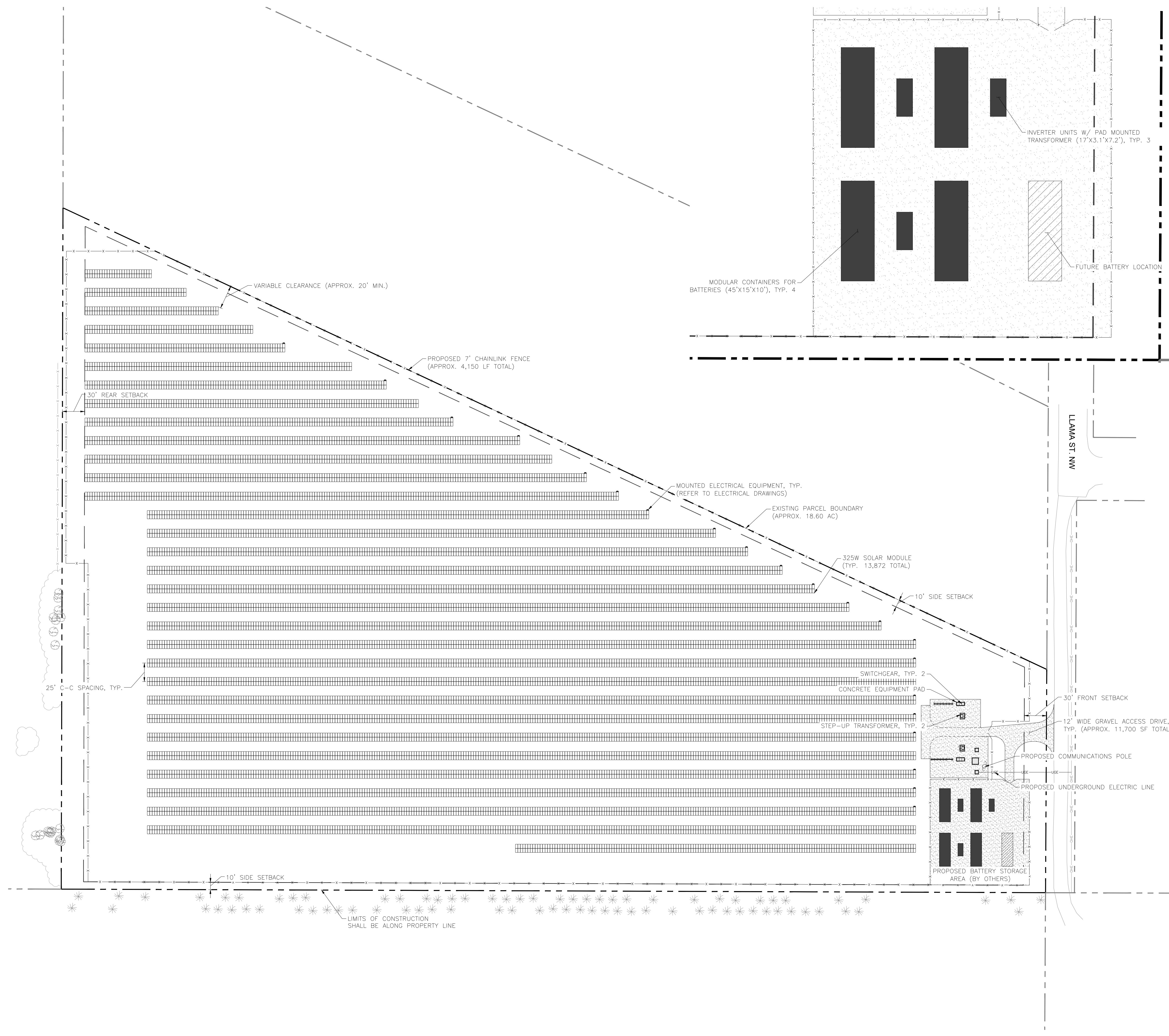
REV.	DATE	ISSUE FOR
	03.23.2018	ISSUE FOR REVIEW
	04.02.2018	REISSUE FOR REVIEW

ANOKA COUNTY SOLAR
 14469 LLAMA ST. NW
 RAMSEY, MN 55303
 (45.2347220,-93.4829570)

EXISTING CONDITIONS & SITE DEMOLITION PLAN			
DESIGNER	DATE	SCALE	SHEET SIZE
JCL	09.05.2017	AS NOTED	24" X 36"
DRAFTER			
CHECK			

FOR: CIVIL
 GAVIN MEINSCHIN, PE
 SHEET NUMBER





LEGEND AND ABBREVIATIONS:

	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	SETBACK LINE
	EXISTING FENCE
	PROPOSED SECURITY FENCE
	PROPOSED GRAVEL ACCESS DRIVE
	PROPOSED EQUIPMENT PADS

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	03/23/2018	ISSUE FOR REVIEW
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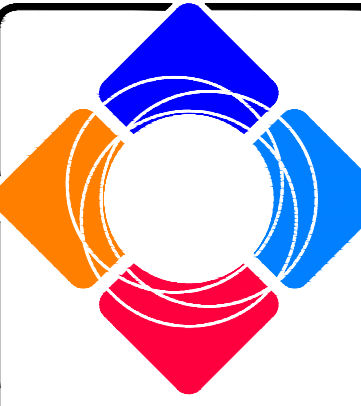
ANOKA COUNTY SOLAR
 14469 LLAMA ST. NW
 RAMSEY, MN 55303
 (45.2347220,-93.4829570)

SITE GEOMETRY PLAN	
DESIGNER	JCL
DRAWN	JCL
CHECK	GCM
DATE	09.05.2017
SCALE	AS NOTED
SHEET SIZE	24" X 36"

FOR: CIVIL
 GAVIN MEINSCHIN, PE

www.gopherstateonecall.org

C2.00



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	04/02/2018		

ANOKA COUNTY SOLAR
14469 LLAMA ST. NW
RAMSEY, MN 55303
(45.2347220, -93.4829570)

PROJECT NAME

DATE 09.05.2017
SCALE AS NOTED
SHEET SIZE 24" X 36"

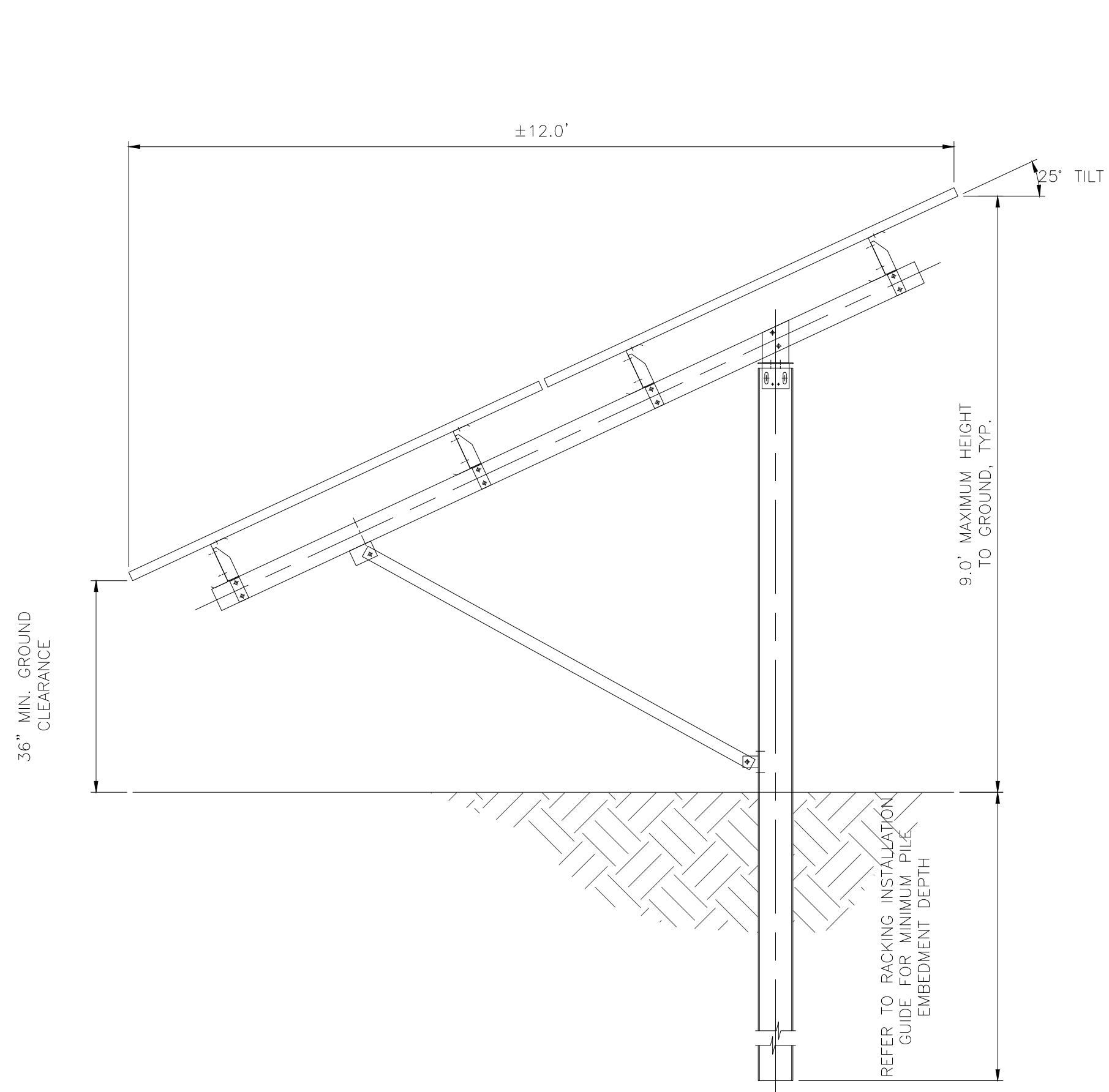
SITE DETAILS

DESIGNER JCL
DRAFTER JCL
CHECK GCM

STAMP

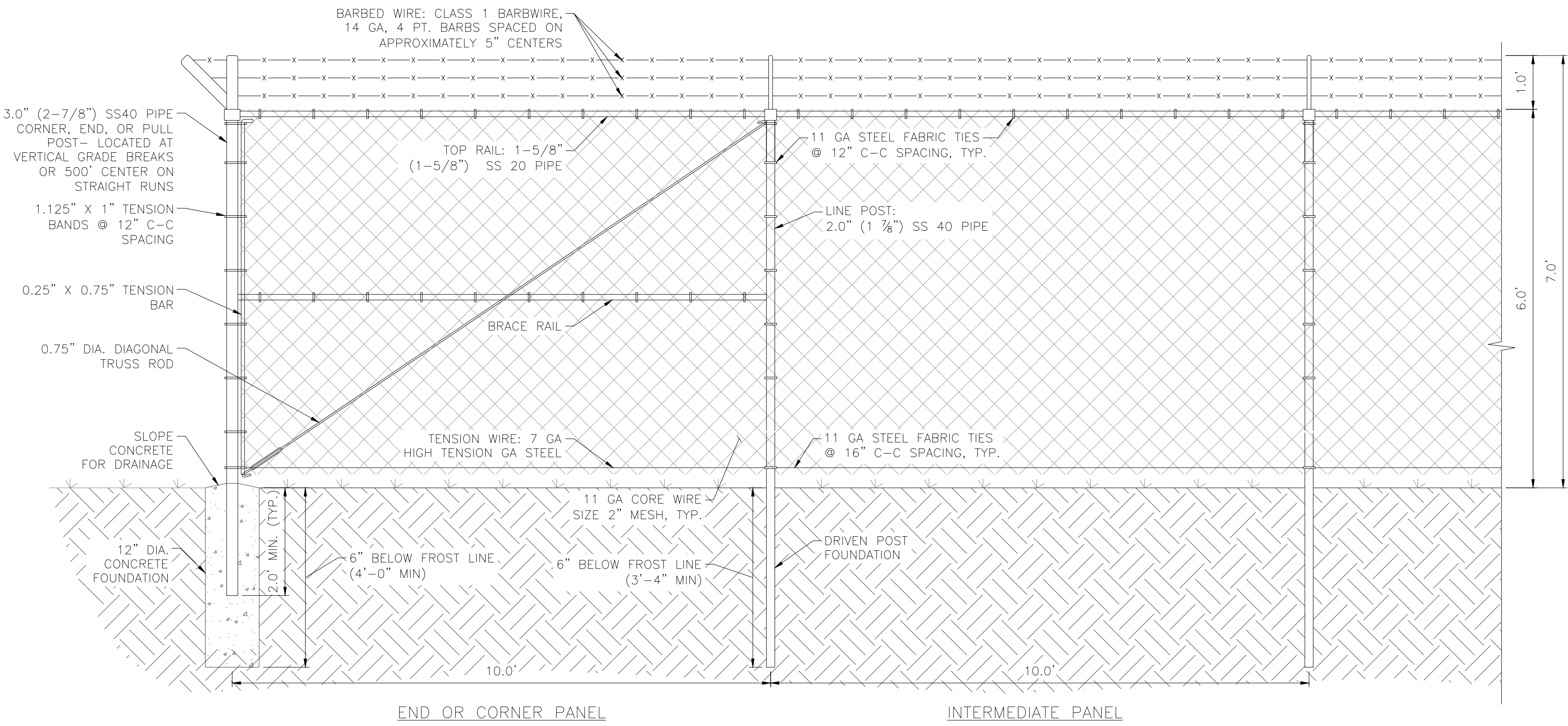
FOR CIVIL
GAVIN MEINSCHEN, PE
SHEET NUMBER

C2.10



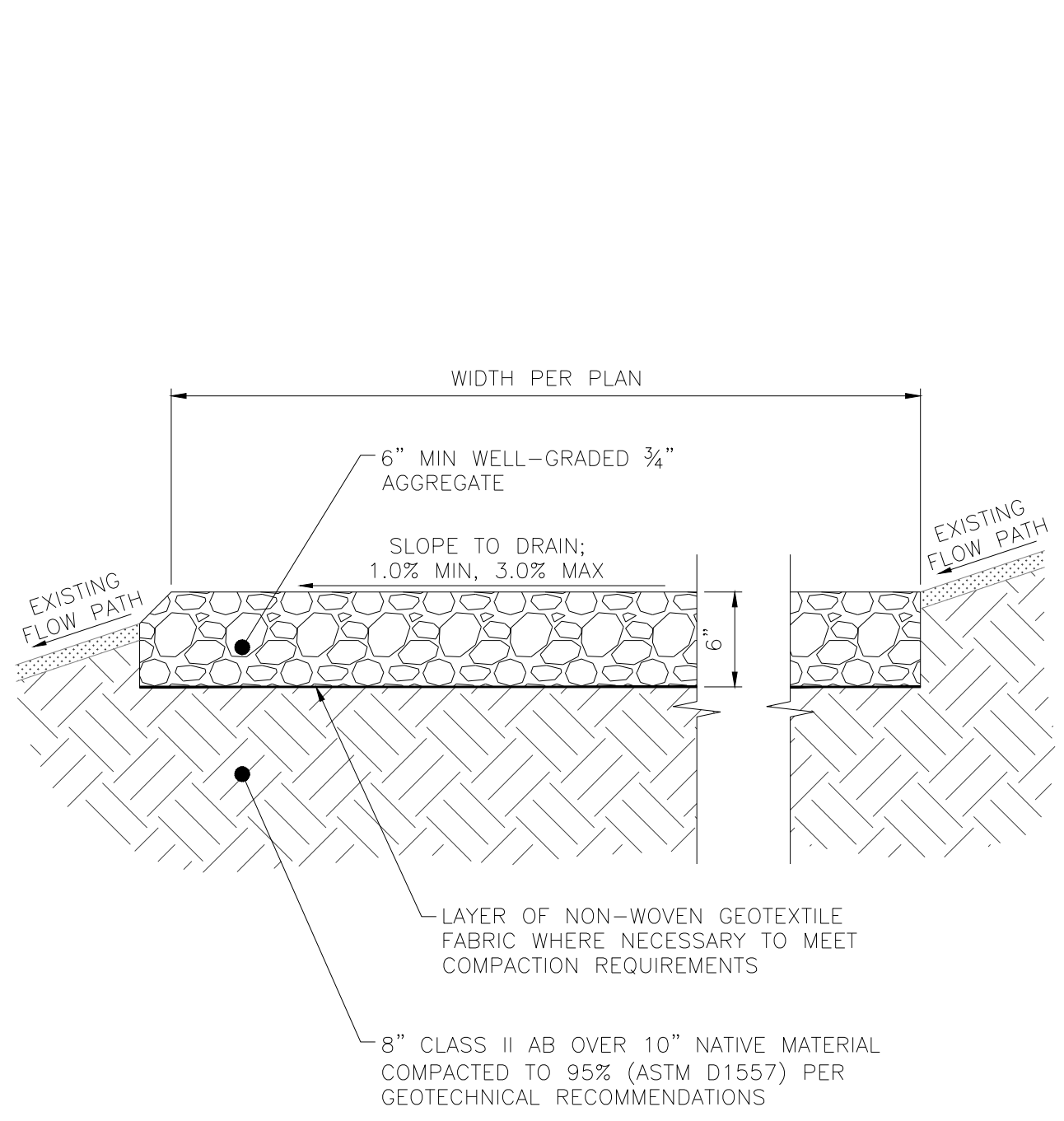
- NOTES:
- REFER TO RACKING INSTALLATION GUIDE FOR DETAILED INSTRUCTIONS AND EMBEDMENT DEPTH

1 FIXED TILT SOLAR RACKING
NOT TO SCALE



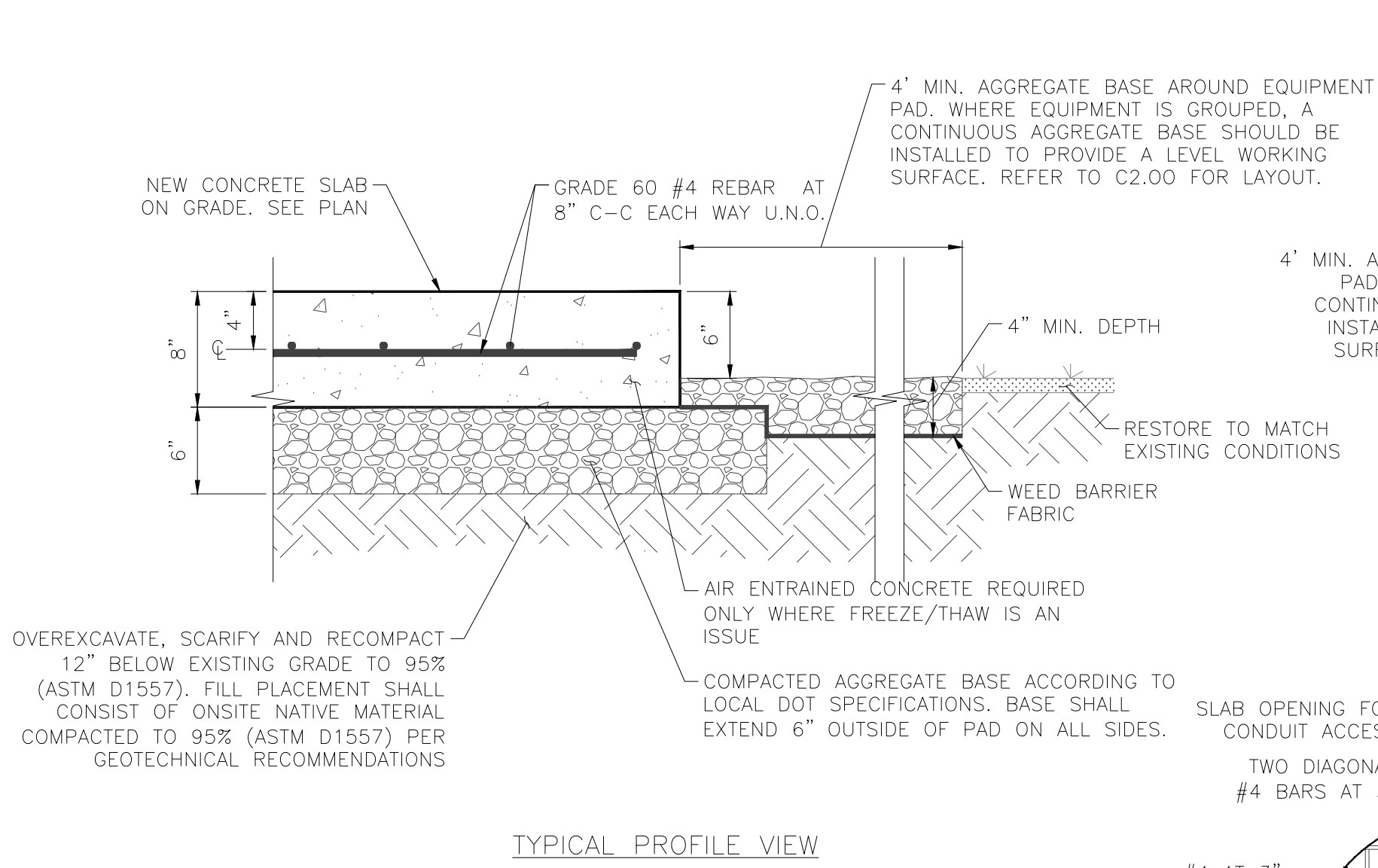
- NOTES:
- CONTRACTOR SHALL SUBMIT MANUFACTURER'S SHOP DRAWINGS FOR FENCING AND GATE DESIGN TO EOR FOR APPROVAL.
 - DETAIL PROVIDED SHOWS SCHEMATICALLY WHAT IS EXPECTED FOR DESIGN AND QUALITY.
 - ALL FENCING, GATES, AND ACCESSORIES SHALL BE GALVANIZED PER ASTM A123/A123M OR ASTM A153/A153M-09.
 - ALL CONCRETE (145 PCF) SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI.

2 CHAINLINK SECURITY FENCE
NOT TO SCALE



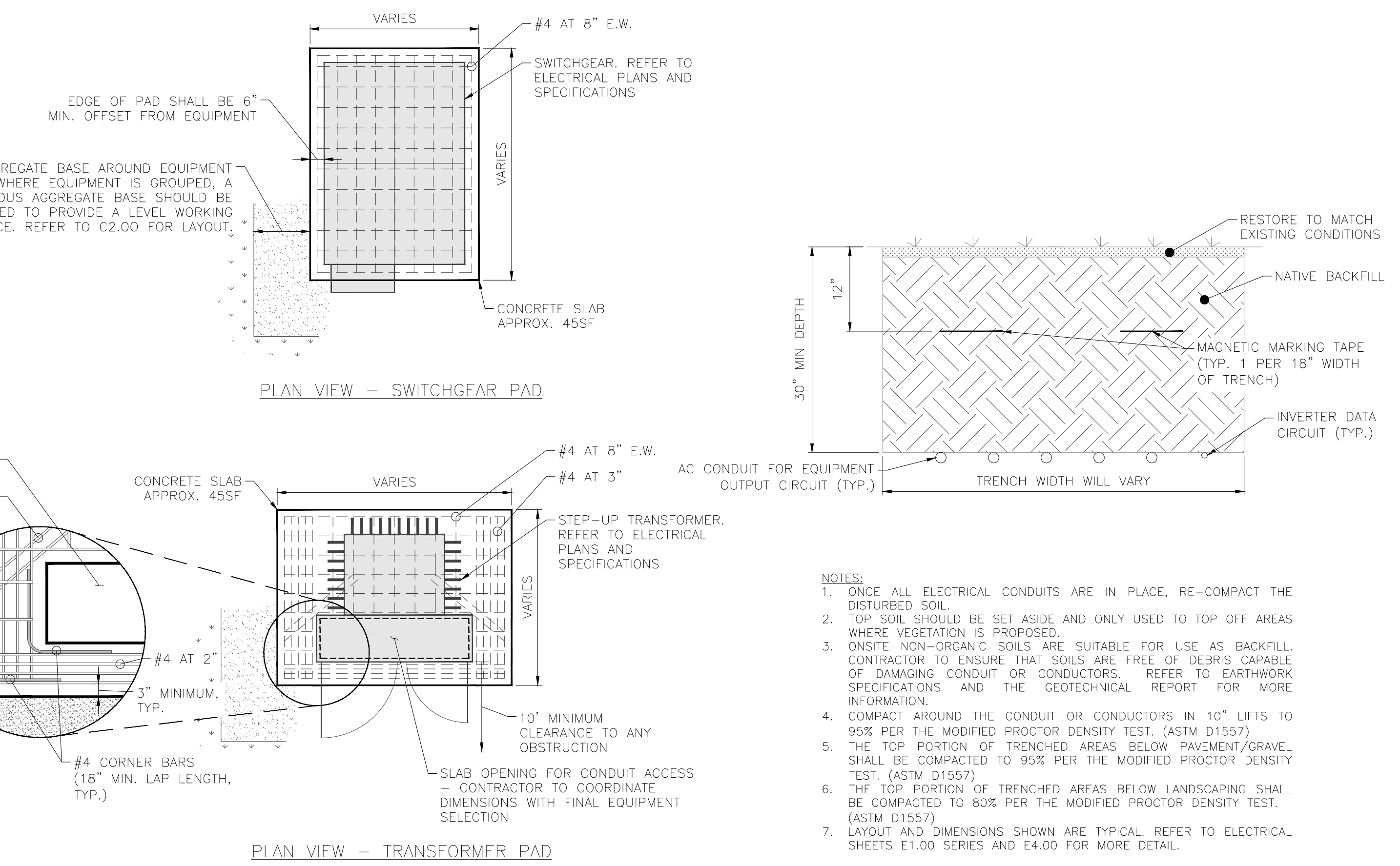
- NOTES:
- REFER TO EROSION CONTROL DETAILS FOR CONSTRUCTION ENTRANCE DETAILS.
 - REFER TO EARTHWORK SPECIFICATIONS FOR AGGREGATE AND GEOTEXTILE FABRIC REQUIREMENTS.
 - ACCESS ROADWAYS SHALL BE CONSTRUCTED IN A WAY THAT MAINTAINS EXISTING DRAINAGE FLOW PATHS AND PREVENTS PONDING OF STORMWATER.

3 GRAVEL ACCESS DRIVE
NOT TO SCALE



- NOTES:
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), LATEST EDITIONS.
 - ALL CONCRETE (145 P.C.F.) SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
 - CONTRACTOR TO REFER TO EQUIPMENT SHOP DRAWINGS FOR FINAL PAD SIZE AND LOCATIONS OF ANCHOR BOLTS.
 - CONTROL JOINTS FOR SLABS-ON-GRADE SHALL BE IN A SQUARE PATTERN AND BE NOT MORE THAN 20 FT. O.C., UNLESS OTHERWISE NOTED.
 - EXPANSION JOINTS FOR SLAB-ON-GRADE SHALL BE NOT MORE THAN 50 FT O.C., UNLESS OTHERWISE NOTED.
 - ALL REINFORCEMENT SHALL BE GRADE 60 STEEL. REBAR TO BE 3" FROM ALL CONCRETE EDGES.
 - SEE CONCRETE AND REINFORCING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - ALL AGGREGATE SHALL BE ASTM NO. 57 GRADATION OR SIMILAR.

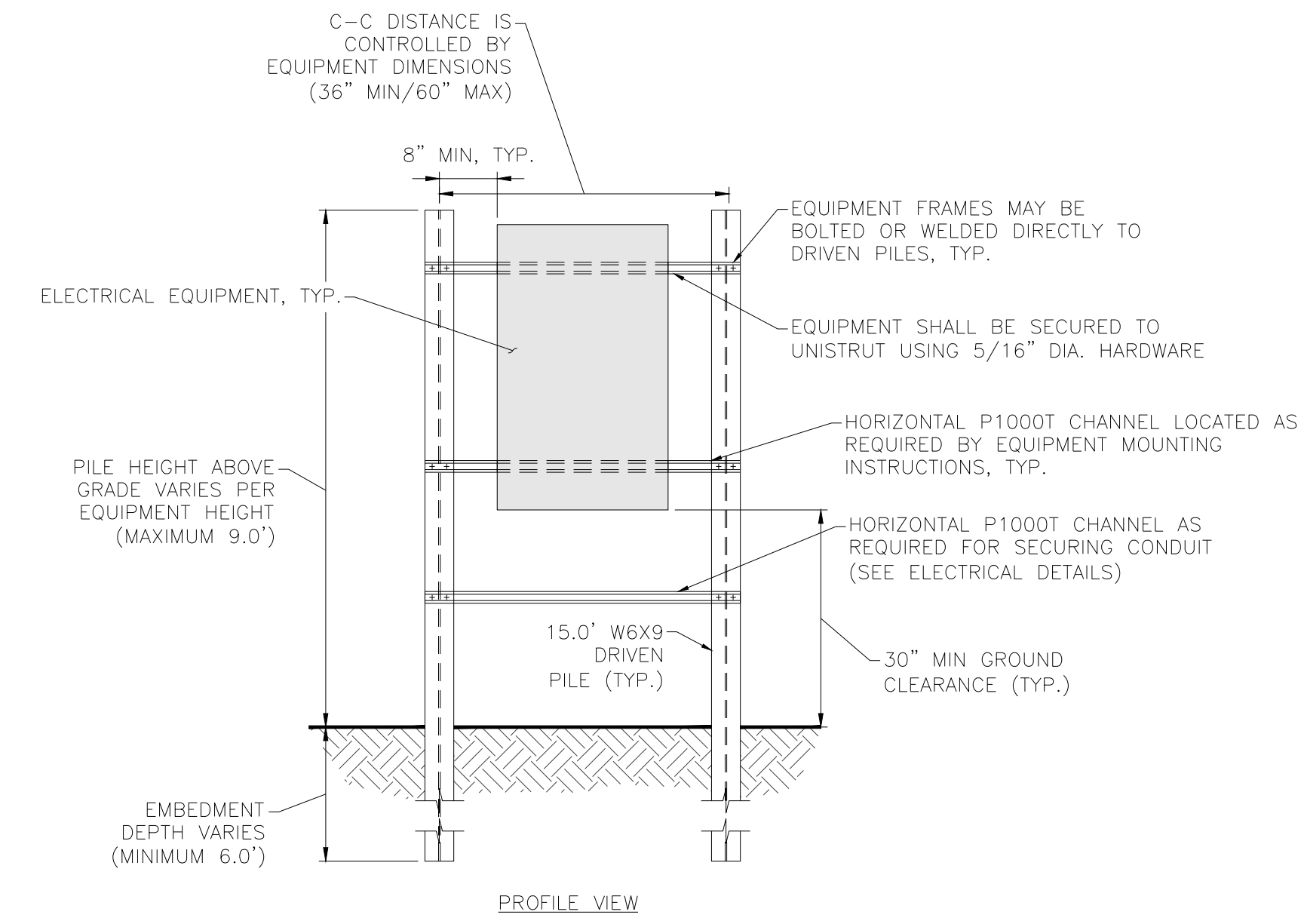
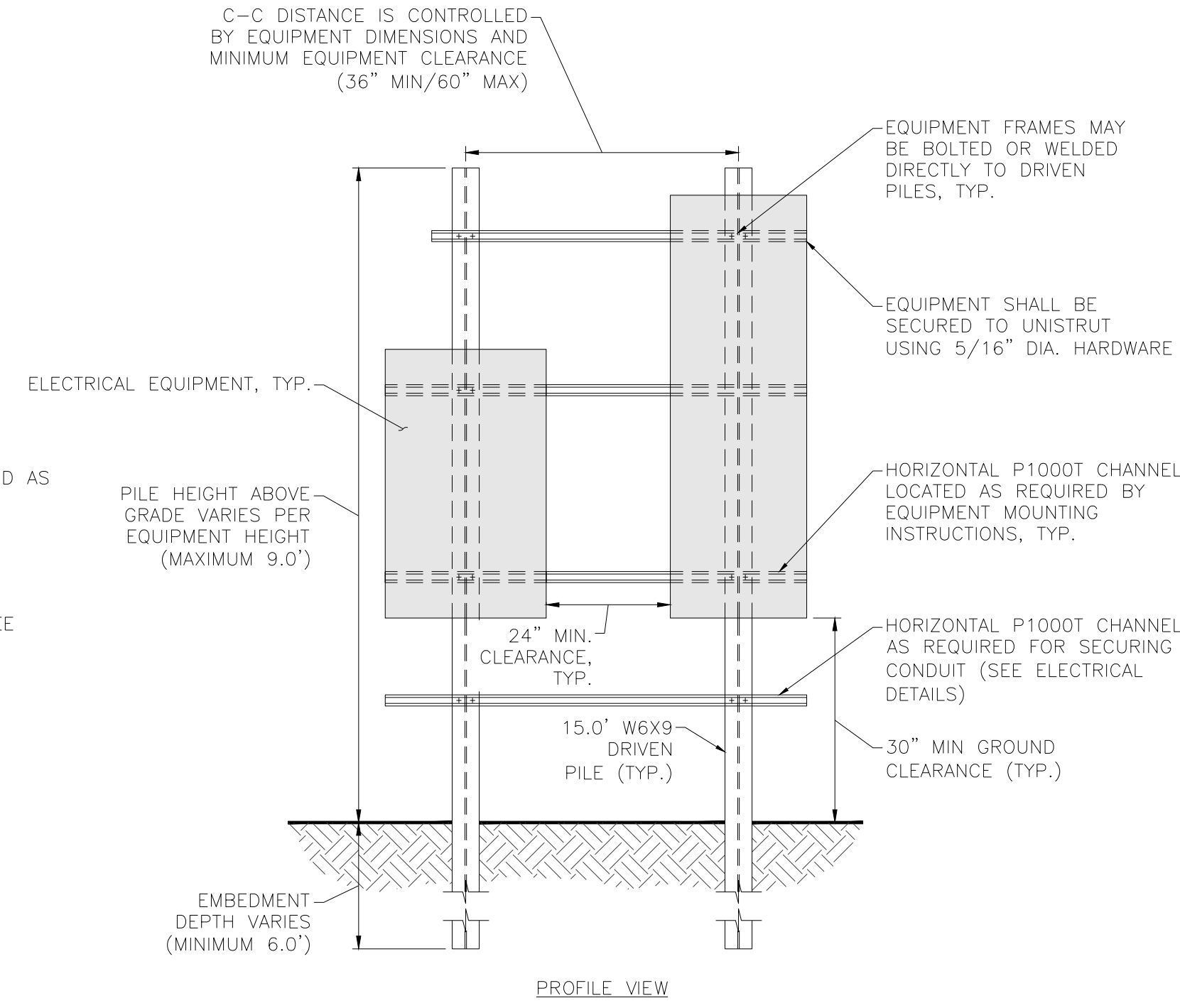
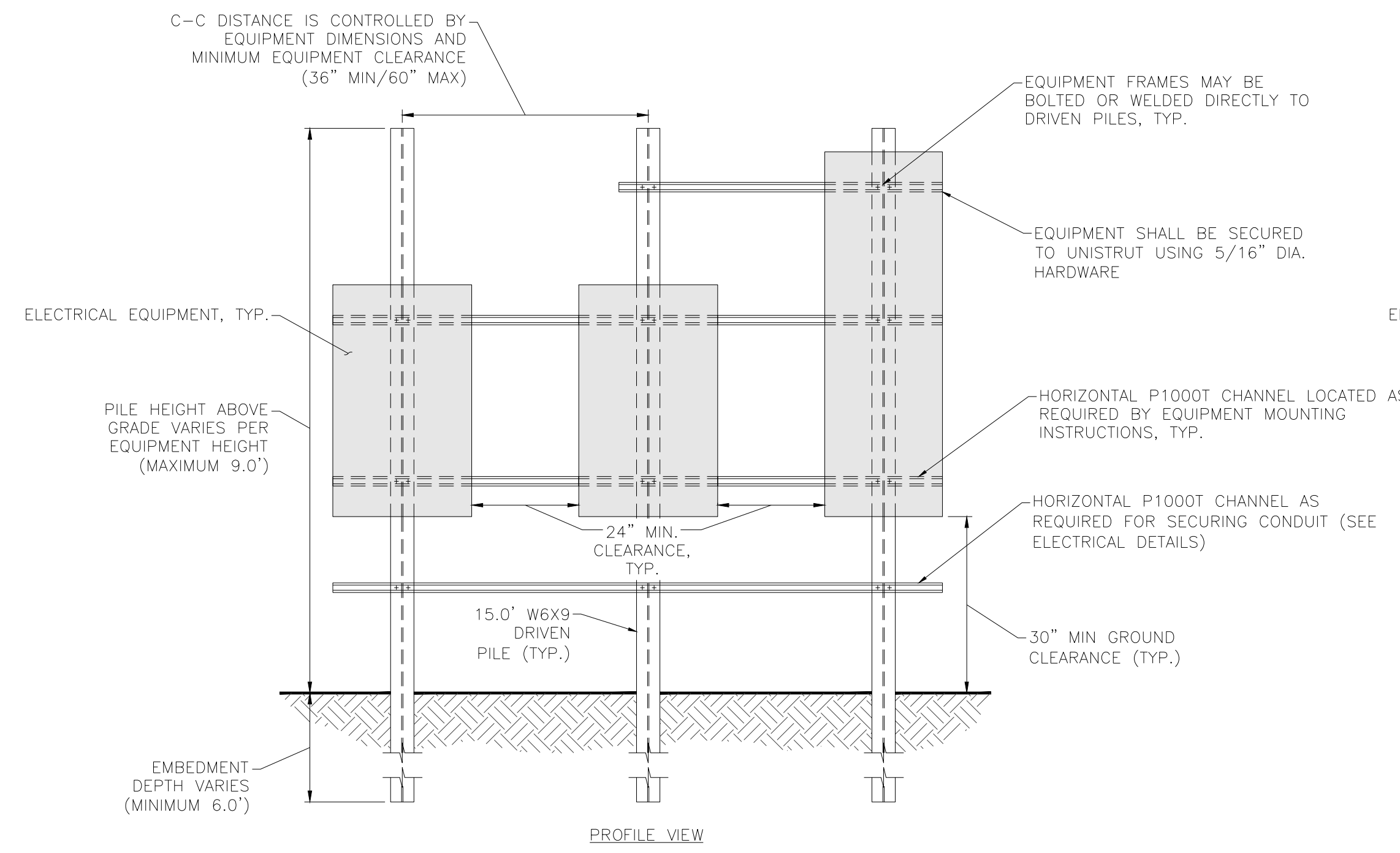
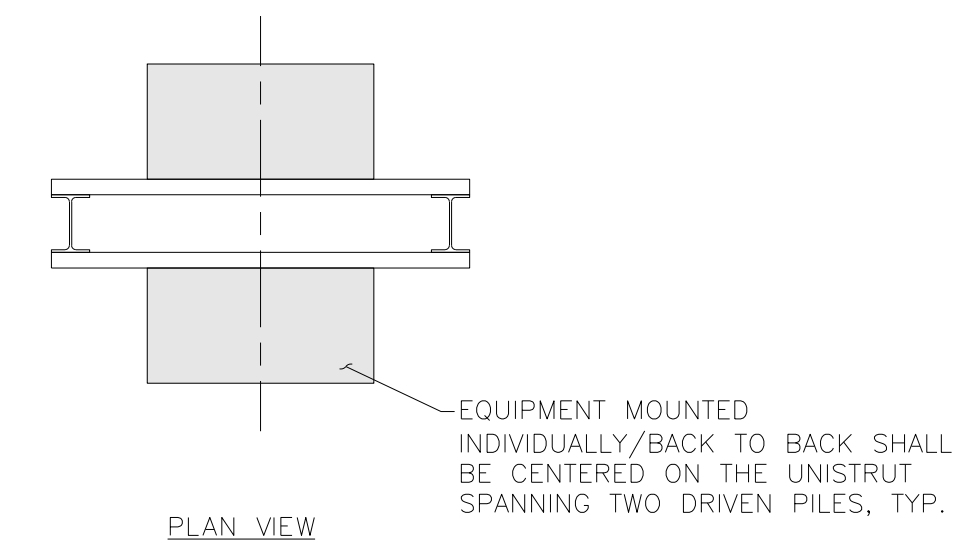
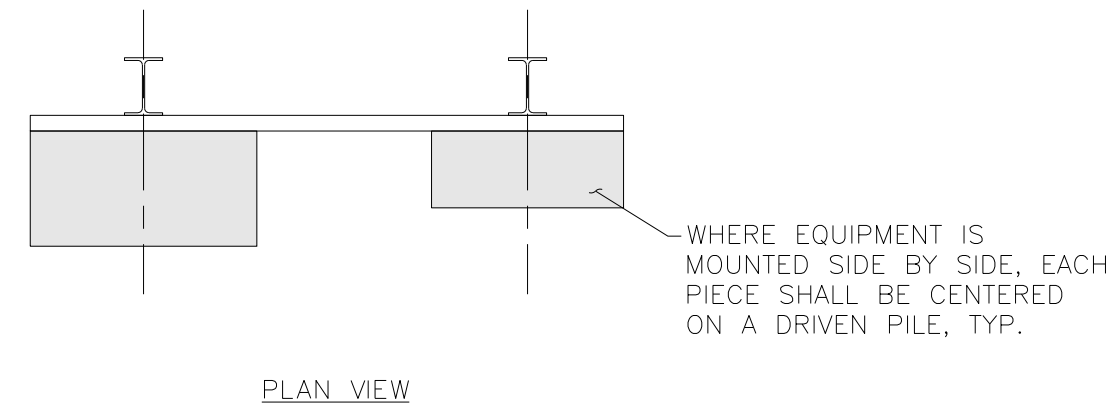
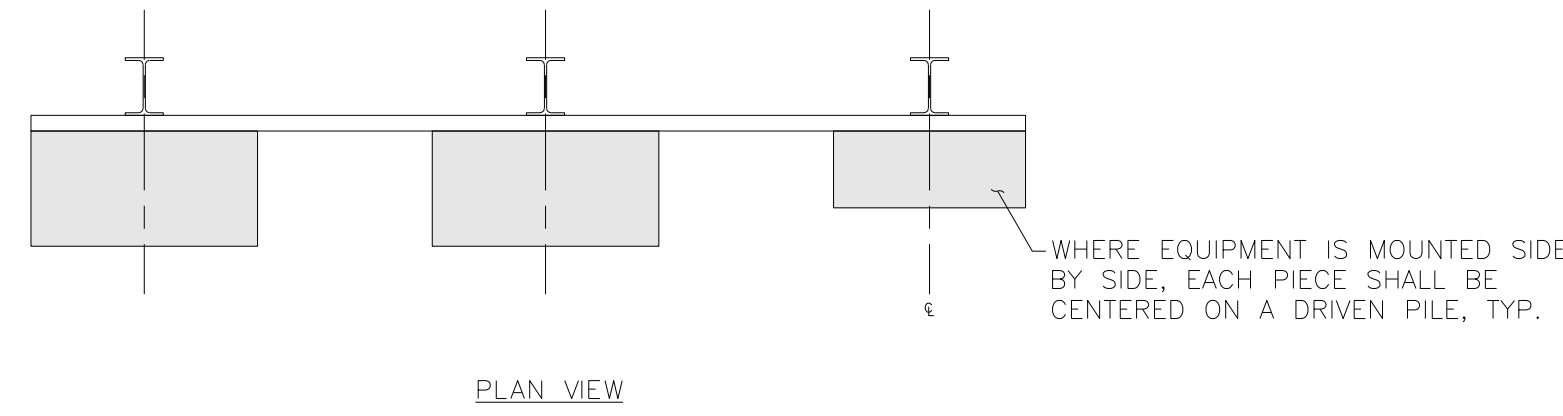
4 ELECTRICAL EQUIPMENT PAD
NOT TO SCALE



- NOTES:
- ONCE ALL ELECTRICAL CONDUITS ARE IN PLACE, RE-COMPACT THE DISTURBED SOIL.
 - TOP SOIL SHOULD BE SET ASIDE AND ONLY USED TO TOP OFF AREAS WHERE VEGETATION IS PROPOSED.
 - ONSITE NON-ORGANIC SOILS ARE SUITABLE FOR USE AS BACKFILL. CONTRACTOR TO ENSURE THAT SOILS ARE FREE OF DEBRIS CAPABLE OF DAMAGING CONDUIT OR CONDUCTORS. REFER TO EARTHWORK SPECIFICATIONS AND THE GEOTECHNICAL REPORT FOR MORE INFORMATION.
 - COMPACT AROUND THE CONDUIT OR CONDUCTORS IN 10" LIFTS TO 95% PER THE MODIFIED PROCTOR DENSITY TEST. (ASTM D1557)
 - THE TOP PORTION OF TRENCHED AREAS BELOW PAVEMENT/GRAVEL SHALL BE COMPACTED TO 95% PER THE MODIFIED PROCTOR DENSITY TEST. (ASTM D1557)
 - THE TOP PORTION OF TRENCHED AREAS BELOW LANDSCAPING SHALL BE COMPACTED TO 80% PER THE MODIFIED PROCTOR DENSITY TEST. (ASTM D1557)
 - LAYOUT AND DIMENSIONS SHOWN ARE TYPICAL. REFER TO ELECTRICAL SHEETS E1.00 SERIES AND E4.00 FOR MORE DETAIL.

5 CONDUIT TRENCH DETAIL
NOT TO SCALE

FILE PATH: S:_NEW FOLDER STRUCTURE\PROJECTS\ANOKA COUNTY_MN_CONX\ENGINEERING AND DESIGN\DRAWINGS\C2.10 - SITE DETAILS.DWG BY: JOE LAUGHLIN 3/28/2018



- NOTES:
1. REFER TO ELECTRICAL EQUIPMENT SPECIFICATIONS FOR INFORMATION ON MOUNTING AND REQUIRED CLEARANCES.
 2. MAXIMIZE DRIVEN PILE EMBEDMENT DEPTH (6.0' MIN.) WHILE MAINTAINING MINIMUM GROUND CLEARANCES SHOWN, LEAVING ENOUGH EXPOSED PILE FOR EQUIPMENT MOUNTING. FINAL DESIGN WILL BE CONTINGENT ON SPECIFIC EQUIPMENT PROVIDED. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING FINAL EQUIPMENT SPECIFICATIONS.
 3. 5/16" Ø HARDWARE TYP. AT ALL MOUNTED EQUIPMENT CONNECTIONS TO UNISTRUT CHANNELS.
 4. ALL WELDING ELECTRODES SHALL BE E-70XX. ALL SHOP AND FIELD WELDING SHALL BE MADE IN ACCORDANCE WITH A.W.S. D1.1-88 "CODE FOR WELDING IN BUILDING CONSTRUCTION" AND SHALL BE MADE BY QUALIFIED CERTIFIED WELDERS. CONTRACTOR TO REMOVE UNISTRUT GALVANIZATION PRIOR TO WELDING USING AN SSPC-SP STANDARD AND RE-GALVANIZE TO ASTM A123 AFTER WELDING.

6 ELECTRICAL EQUIPMENT FRAME

NOT TO SCALE



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	04/02/2018			

ANOKA COUNTY SOLAR
14469 LLAMA ST. NW
RAWSEY, MN 55303
(45.2347220, -93.4829570)

SITE DETAILS	
DESIGNER	JCL
DRAWN	JCL
CHECK	GCM
DATE	09.05.2017
SCALE	AS NOTED
SHEET SIZE	24" X 36"

FOR: CIVIL
GAVIN MEINSCHIN, PE
SHEET NUMBER

C2.11



0 30 60 120
 (IN FEET)
 SCALE: 1" = 60'

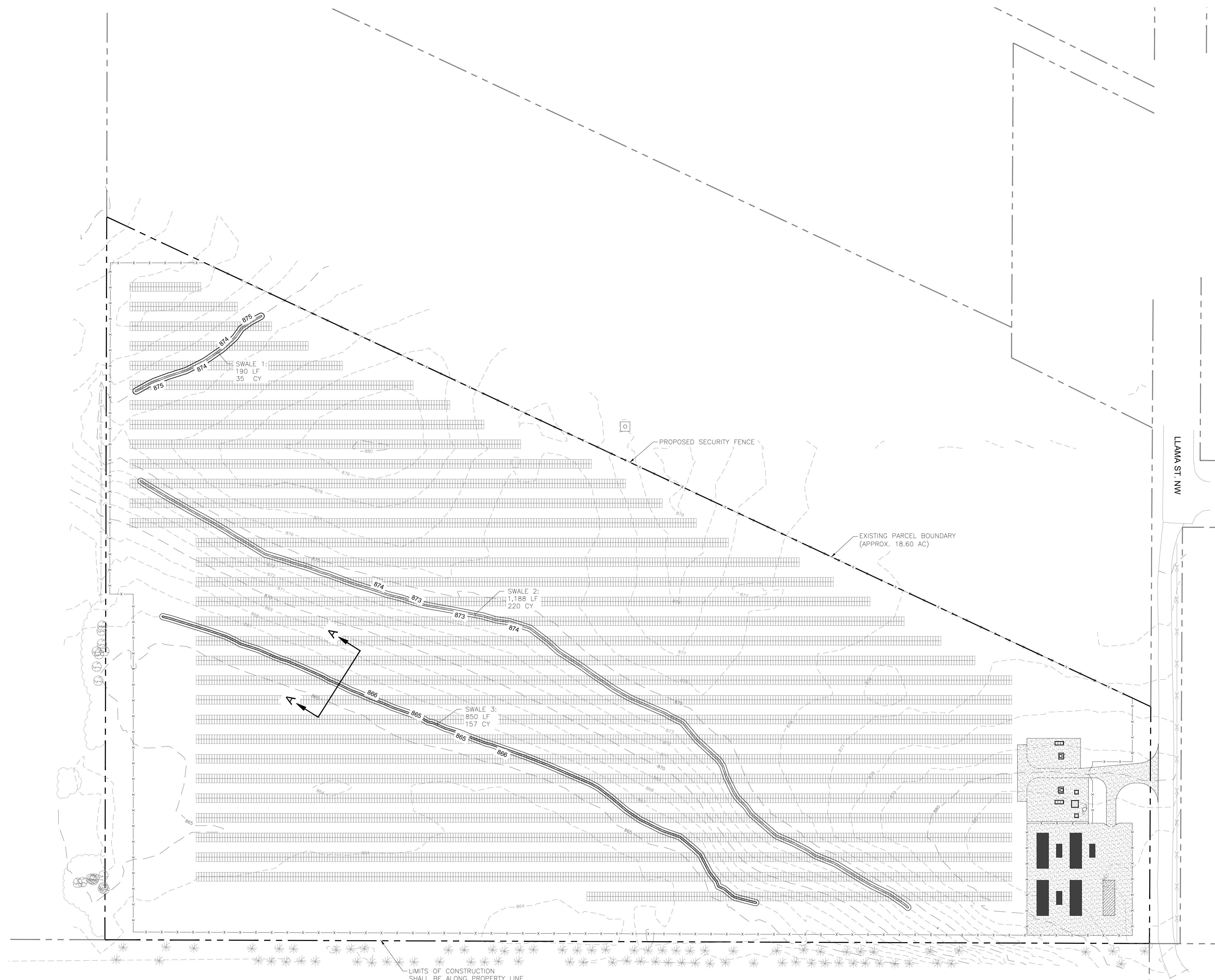
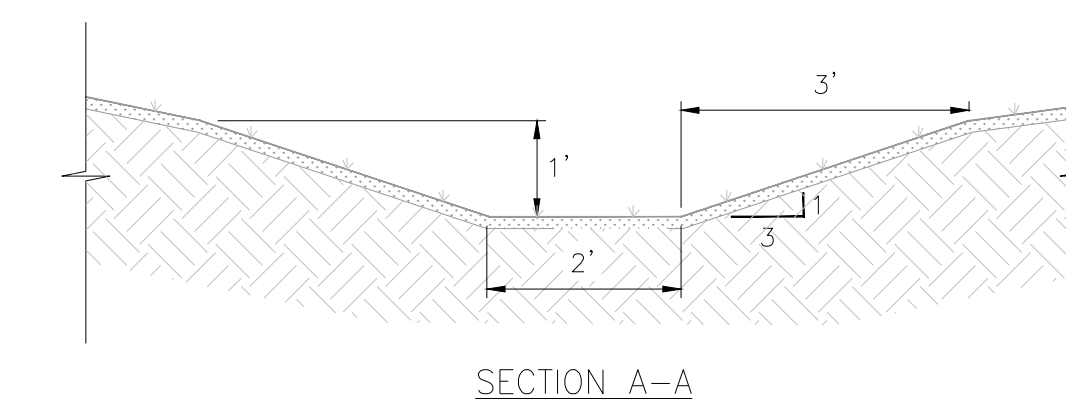
LEGEND AND ABBREVIATIONS:

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- XXX --- EXISTING MAJOR CONTOUR (5')
- XXX --- EXISTING MINOR CONTOUR (1')
- XXX --- PROPOSED MAJOR CONTOUR (5')
- XXX --- PROPOSED MINOR CONTOUR (1')

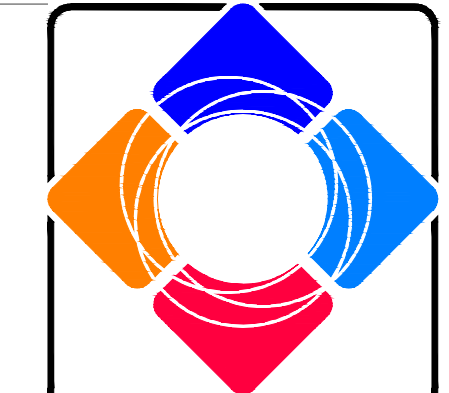
STORMWATER CALCULATIONS

SWALE VOLUME:
 1. 35 CY
 2. 220 CY
 3. 157 CY
 TOTAL VOLUME: 412 CY
 >REQUIRED VOLUME: 254 CY

VEGETATIVE SWALE



LIMITS OF CONSTRUCTION SHALL BE ALONG PROPERTY LINE



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ANOKA COUNTY SOLAR
 14469 LLAMA ST. NW
 RAMSEY, MN 55303
 (45.2347220, -93.4829570)

DESIGNER	JCL	DATE	09.05.2017
DRAWN	JCL	SCALE	AS NOTED
CHECK	GCM	SHEET SIZE	24" X 36"

GRADING & STORMWATER MANAGEMENT PLAN

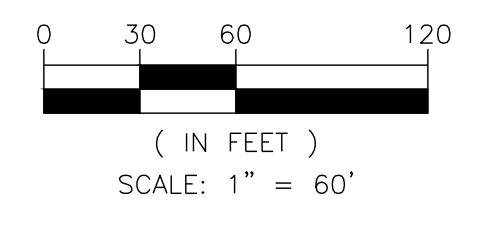
FOR: CIVIL
 GAVIN MEINSCHEN, PE

SHEET NUMBER
C3.00



CONSTRUCTION SEQUENCE:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT AND TRACKING PAD TO REDUCE TRACKING OF SEDIMENT OFF SITE.
2. INSTALL SILT FENCE ON THE DOWN-SLOPE PERIMETER OF THE PROJECT SITE.
3. PREPARE CONTRACTOR STAGING/LAYDOWN AREA FOR TEMPORARY PARKING, STORAGE, WHEEL WASH AREA, CONCRETE WASH-OUT, AND MOBILE FUELING AREAS.
4. SMOOTHING THE SITE WILL BE LIMITED TO REMOVING RESIDUAL FURROWS (IF ANY) CREATED DURING FARMING ACTIVITIES IN PREVIOUS GROWING SEASONS. SMOOTHING ACTIVITIES SHOULD BE AVOIDED DURING EXTREMELY WET CONDITIONS TO MINIMIZE SOIL COMPACTION, DEEP RUTTING AND SOIL SMEARING.
5. INSTALL VEGETATIVE INFILTRATION SWALES AS SHOWN TO ENHANCE RUNOFF INFILTRATION.
6. USE DISKS, TILLERS, OR HARROWS TO BREAK UP THE SURFACE WHERE SOIL HAS BECOME COMPACTED DURING CONSTRUCTION ACTIVITIES IN ORDER TO CREATE Viable SEED BEDS.
7. AS SOON AS ANY CONSTRUCTION ACTIVITY IS COMPLETE IN AN AREA, APPLY A COVER CROP OF AN ANNUAL GRASS SPECIES THAT GERMINATES QUICKLY TO REDUCE THE RISK OF SOIL EROSION ON THE SITE. OATS WILL BE USED FOR A SPRING OR SUMMER SEEDING, WINTER WHEAT FOR A FALL SEEDING. THIS COVER CROP WILL ESTABLISH QUICKLY, PROVIDING ADDITIONAL EROSION CONTROL THROUGHOUT CONSTRUCTION, ALONG WITH PROTECTION OF FINAL NATIVE VEGETATION DURING ITS ESTABLISHMENT PERIOD.
8. INSTALL THE PERIMETER FENCING LEAVING SECTIONS OPEN FOR INGRESS/EGRESS; TEMPORARY FENCING SHALL BE USED TO MAINTAIN SITE SECURITY.
9. FOUNDATION PILE DRIVING AND TRENCHING FOR UNDERGROUND UTILITIES SHALL BE STAGED TO CONCENTRATE WORK IN PHASES, TO REDUCE SITE DISTURBANCE. SEED AND MULCH ANY AREAS AS THEY ARE COMPLETED.
10. ONCE SITE CONSTRUCTION IS COMPLETE, PERMANENT SEEDING WITH NATIVE SEED WILL BE APPLIED BY BROADCASTING.
11. TO ASSURE RAPID STABILIZATION, SUPPLEMENT SEEDING FOR AREAS WHERE COVERAGE IS LESS THAN 70% UNIFORM COVER OF VEGETATION.
12. ONCE THE SITE IS PERMANENTLY STABILIZED AT 70% UNIFORM COVER OF VEGETATION OR MORE, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.



LEGEND AND ABBREVIATIONS:

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- XXX --- EXISTING MAJOR CONTOUR (5')
- XXX --- EXISTING MINOR CONTOUR (1')
- XXX --- PROPOSED MAJOR CONTOUR (5')
- XXX --- PROPOSED MINOR CONTOUR (1')
- [Pattern] PROPOSED GRAVEL ACCESS DRIVE
- [Pattern] PROPOSED CONSTRUCTION ENTRANCE (SEE DETAIL 1, SHEET C4.10)
- [Pattern] PROPOSED SILT FENCE (SEE DETAIL 2, SHEET C4.10)
- [Pattern] PROPOSED EQUIPMENT PADS

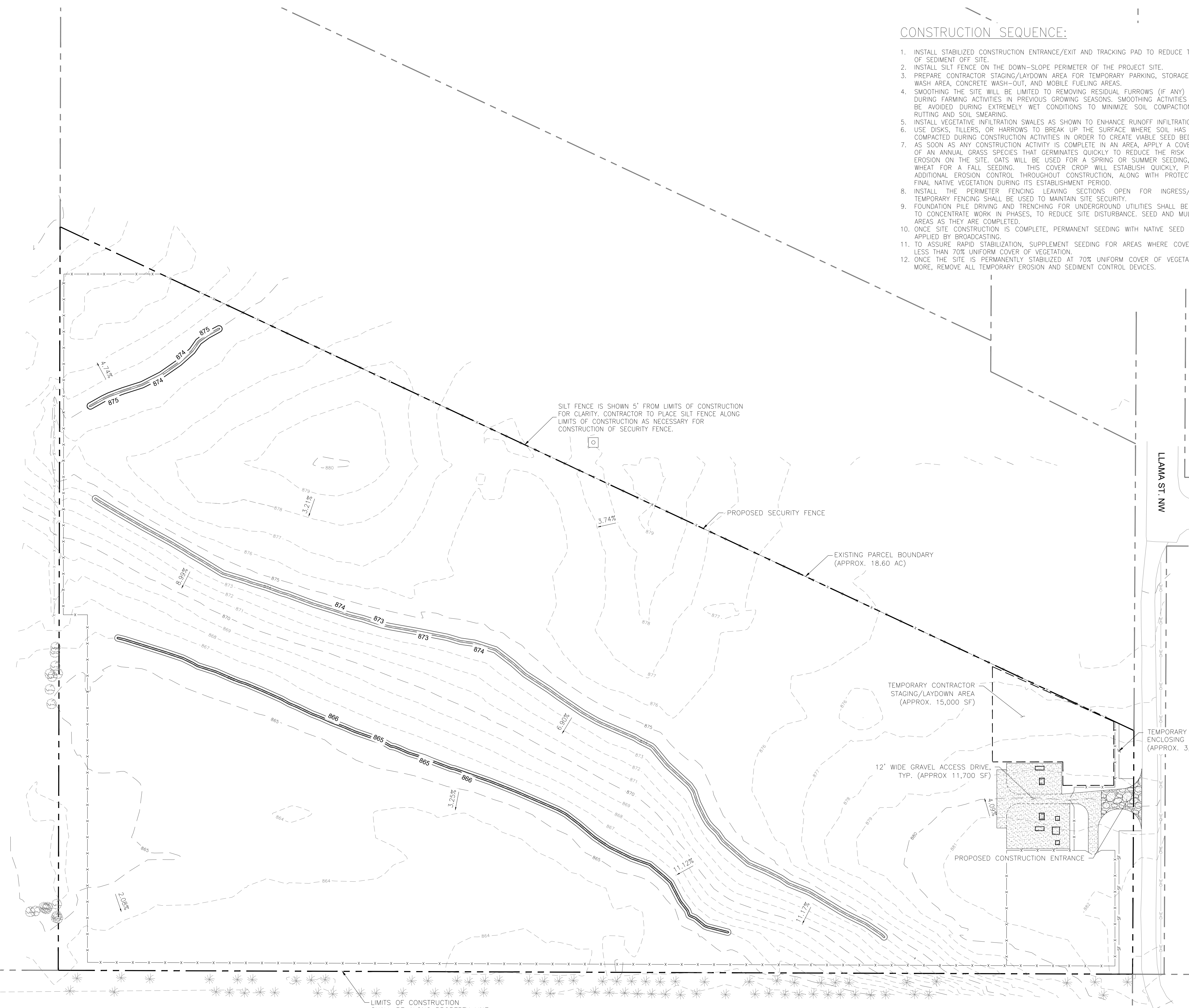
SEDIMENT AND EROSION CONTROL:

THE SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SET FORTH BY ANOKA COUNTY, AND THOSE SET FORTH TO IMPLEMENT THE PERFORMANCE STANDARDS OF THE MINNESOTA POLLUTION CONTROL AGENCY FOR EROSION/SEDIMENT CONTROL OR STORM WATER MANAGEMENT DURING CONSTRUCTION. A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN/STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN THE FOLLOWING MEASURES, UTILIZING APPROPRIATE BEST MANAGEMENT PRACTICES:

- THE BMPs USED TO CONTROL EROSION AND SEDIMENTATION SHALL BE IMPLEMENTED AS FOLLOWS:
- A. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED OR INSTALLED BEFORE LAND DISTURBING CONSTRUCTION ACTIVITIES BEGIN IN ACCORDANCE WITH THE PLAN DEVELOPED FOR THIS SITE.
 - B. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION.
 - C. FINAL STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING ACTIVITIES CEASE AND FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE.
 - D. TEMPORARY STABILIZATION WILL COMMENCE AS SOON AS POSSIBLE AFTER LAND DISTURBANCE CEASES. TEMPORARY STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
 - E. BMPs THAT ARE NO LONGER NECESSARY FOR EROSION AND SEDIMENT CONTROL SHALL BE REMOVED BY SOCORE.
2. TEMPORARY SILT FENCE SHALL BE INSTALLED AROUND THE PERIMETER OF THE CONSTRUCTION SITE PRIOR TO COMMENCEMENT OF SITE DISTURBANCE IN ACCORDANCE WITH MPCA STANDARDS. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THE DEPOSITS HAVE ACCUMULATED TO 1/2 THE HEIGHT OF THE FENCE, TORN, DEGRADED, TRAMPLED, OR OTHERWISE COMPROMISED SILT FENCE WILL BE PROPERLY REPLACED.
 3. A STONE TRACKING PAD (50 FEET LONG) SHALL BE INSTALLED, UNDERLAIN BY GEOTEXTILE FABRIC. THE TRACKING PAD WILL CONSIST OF 1 - 3" CLEAR OR WASHED STONE, INSTALLED AND MAINTAINED TO A THICKNESS OF 12-INCHES DEPENDENT ON SITE SOIL CONDITIONS. THE TRACKING PADS WILL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE. IF CONDITIONS ON THE SITE ARE SUCH THAT THE SEDIMENT IS NOT REMOVED FROM VEHICLE TIRES BY THE TRACKING PAD, THEN TIRES SHALL BE WASHED UTILIZING PRESSURIZED WATER BEFORE ENTERING A PUBLIC ROAD. STONE TRACKING PAD AND TIRE WASHING SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH MPCA STANDARDS.
 4. A STAGING AND PARKING AREA SHALL BE DESIGNATED FOR MATERIAL LAYDOWN. STORAGE OF ALL EQUIPMENT AND CONSTRUCTION MATERIALS SHALL BE STORED ACCORDING TO ALL FEDERAL AND STATE STANDARDS.
 5. A CONCRETE WASHOUT AREA, FUELING AREA, AND VEHICLE WASH AREA WILL BE LOCATED IN THE VICINITY OF THE DESIGNATED CONSTRUCTION ENTRANCE. CONCRETE WASHOUT WATER WILL BE CONTAINED AND DISPOSED PROPERLY. AN IMPERVIOUS SURFACE (SUCH AS POLYMER BARRIER) WILL BE UTILIZED SURROUNDING THE MOBILE FUELING TANK AND FUELING AREA. CONTRACTOR TO KEEP A SPILL RESPONSE KIT ON-SITE THROUGHOUT CONSTRUCTION. CONCRETE WASHOUT AND VEHICLE FUELING AREA SHALL BE IMPLEMENTED IN ACCORDANCE WITH MPCA STANDARDS.
 6. A TEMPORARY BALE SEDIMENT BARRIER WILL BE UTILIZED TO INTERCEPT SEDIMENT-LADEN SHEET FLOW, IF NEEDED, CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED HAY OR STRAW BALES. AT A MINIMUM, SEDIMENT BALE BARRIERS SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH THE ENDS OF ADJACENT SEDIMENT BALE BARRIERS TIGHTLY ABUTTING ONE ANOTHER. THE HOLES BETWEEN BALES SHALL BE CHINKED (FILLED BY WEDGING) WITH STRAW, HAY OR EQUIVALENT MATERIAL TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES.
 7. DAMAGE TO ANY EXISTING UTILITIES AND SERVICES INDICATED TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR; CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
 8. DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO WATERING DOWN EXPOSED DIRT AND GRAVEL ACCESS ROADS, IF NEEDED.
 9. EXISTING TREES OR VEGETATION INDICATED TO REMAIN SHALL BE AVOIDED AND FENCED OFF APPROPRIATELY TO AVOID ANY CONFUSION. CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING VEGETATION TO MINIMIZE POTENTIAL EROSION.
 10. NO DEWATERING ACTIVITIES ARE PLANNED. IF DEWATERING BECOMES NECESSARY, IT SHALL BE CONDUCTED IN ACCORDANCE WITH MPCA STANDARDS. CONTRACTOR TO INSTALL TEMPORARY SETTLING BASIN OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICE AS NECESSARY AND LOCATE IN UPLAND AREAS. DEWATERING DIRECTLY INTO FIELD TILES, STORM SEWERS OR OFF-SITE WETLANDS IS PROHIBITED.
 11. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE SOIL DISTURBANCE. ALL TEMPORARY SEEDING ACTIVITIES SHALL BE IMPLEMENTED IN ACCORDANCE WITH MPCA STANDARDS.
 12. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES WEEKLY UNTIL CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED. INSPECTIONS MUST BE CONDUCTED WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. NECESSARY REPAIRS OR REPLACEMENTS OF PRACTICES MUST BE MADE WITHIN 24 HOURS OF INSPECTION. WEEKLY WRITTEN REPORTS OF ALL INSPECTIONS MUST MAINTAINED AT THE CONSTRUCTION SITE.
 13. THE TEMPORARY EROSION MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE IS PERMANENTLY STABILIZED AT A MINIMUM 70% UNIFORM COVER OF VEGETATION.

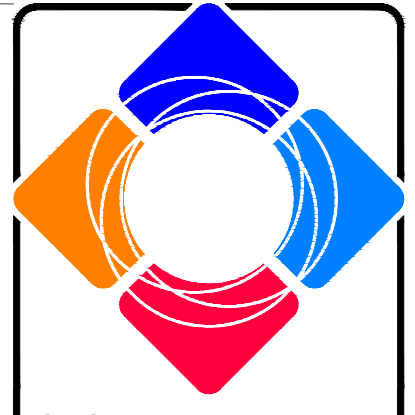
PERMANENT SITE STABILIZATION:

1. COMPACTED SOILS WILL BE TILLED OR PREPPED TO APPROXIMATELY 4 INCHES.
2. SEEDING DATES FOR NATIVE WILDFLOWER AND GRASS SPECIES WILL BE DURING THE SPRING OR SUMMER BEFORE AUGUST 10TH OR IN THE FALL BETWEEN SEPTEMBER 20TH AND FREEZE-UP.
3. IN LARGER OPEN AREAS, GRASS SEED WILL BE APPLIED WITH A SEED DRILL DESIGNED FOR NATIVE SEEDING (TRUAX® OR EQUIVALENT). IN ALL OTHER AREAS, GRASS AND NATIVE SEED WILL BE APPLIED VIA BROADCASTING. WILDFLOWER SEED WILL BE APPLIED BY BROADCASTING.
4. PROPER STABILIZATION WILL BE ACHIEVED WHEN THE SITE HAS BEEN UNIFORMLY STABILIZED TO A MINIMUM OF 70% GROUND COVER.
5. ALL SEEDING FOR CONSTRUCTION SITES SHALL BE IMPLEMENTED IN ACCORDANCE WITH MPCA STANDARDS.



SILT FENCE IS SHOWN 5' FROM LIMITS OF CONSTRUCTION FOR CLARITY. CONTRACTOR TO PLACE SILT FENCE ALONG LIMITS OF CONSTRUCTION AS NECESSARY FOR CONSTRUCTION OF SECURITY FENCE.

LIMITS OF CONSTRUCTION SHALL BE ALONG PROPERTY LINE



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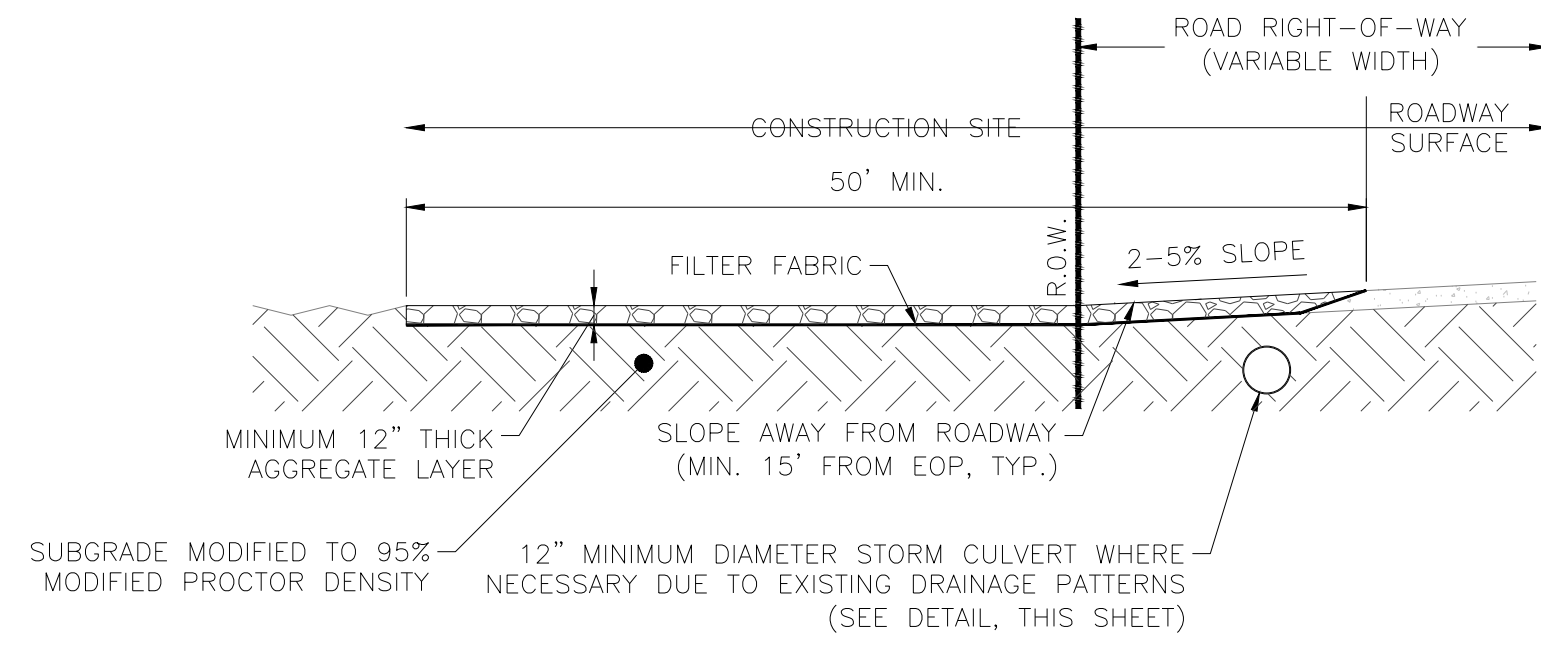
REV.	DATE	ISSUE FOR

ANOKA COUNTY SOLAR
14469 LLAMA ST. NW
RAMSEY, MN 55303
(45.2347220, -93.4829570)

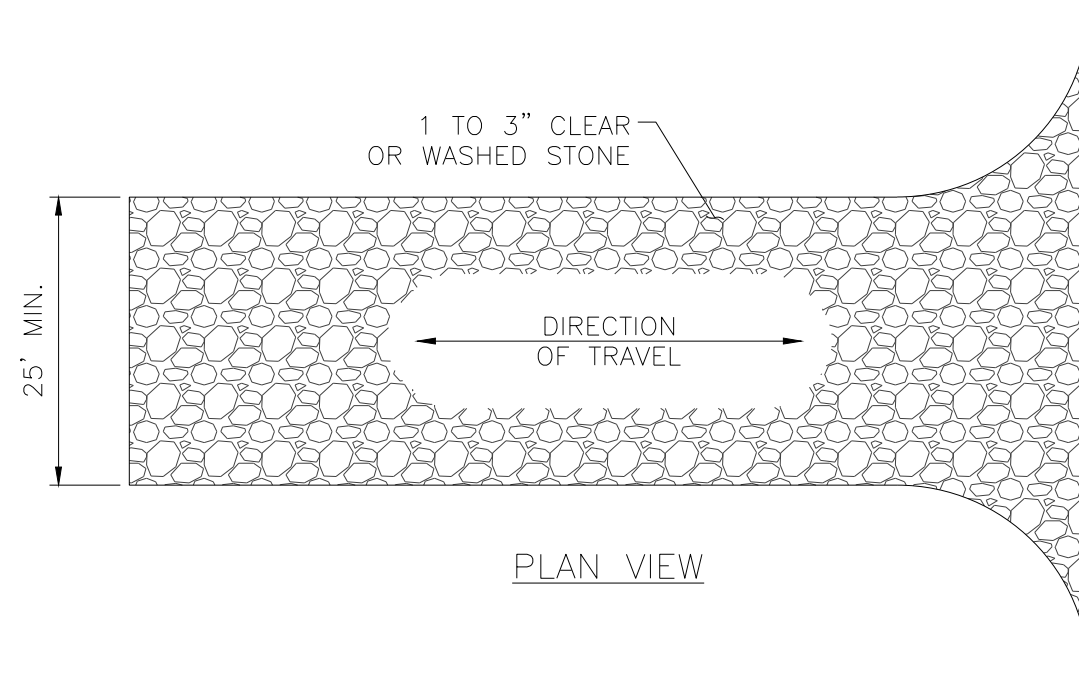
DESIGNER	DATE	SCALE
JCL	09.05.2017	AS NOTED
DRAWER	DATE	SCALE
JCL		
CHECK	DATE	SCALE
GCM		

PROJECT NAME	DATE	SCALE
SITE EROSION CONTROL PLAN	09.05.2017	AS NOTED
PROJECT NUMBER	DATE	SCALE
FOR	DATE	SCALE
CIVIL		
GAVIN MEINSCHEN, PE		
SHEET NUMBER	DATE	SCALE
C4.00		





PROFILE VIEW

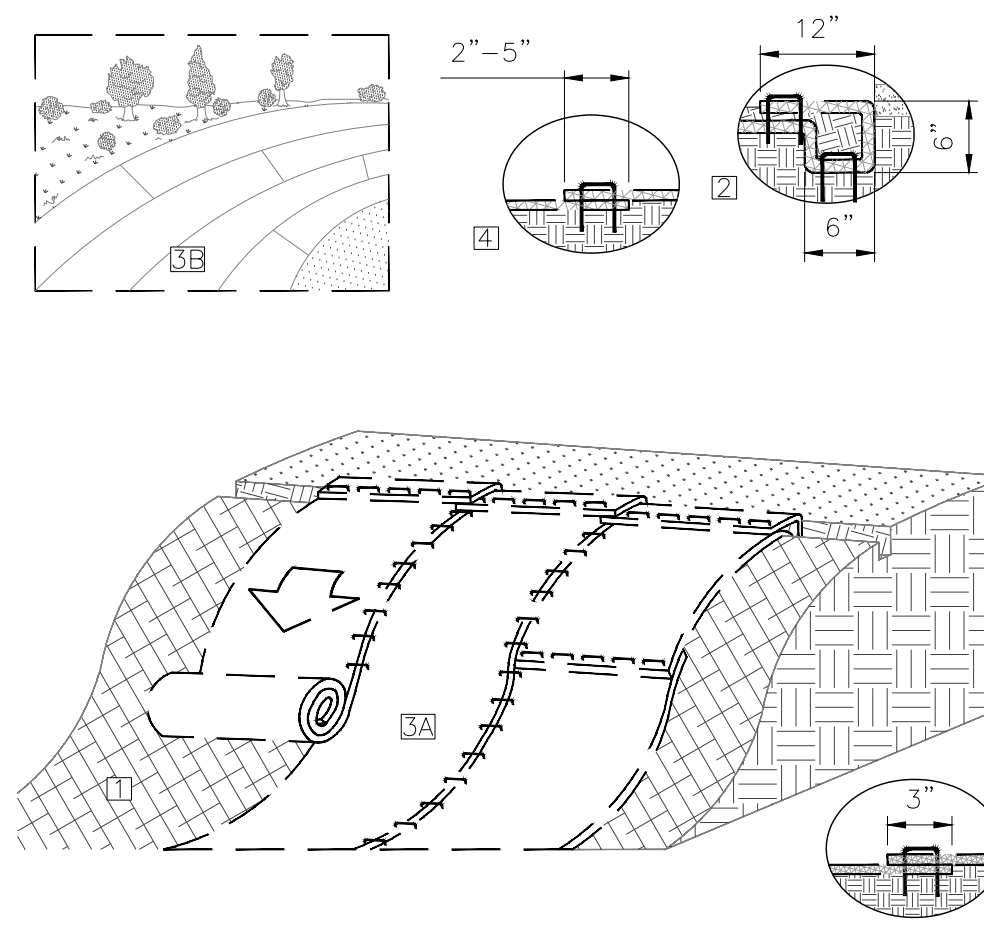


PLAN VIEW

- NOTES:**
1. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE.
 2. THE AGGREGATE FOR CONSTRUCTION ENTRANCES/TRACKING PADS SHALL BE 1 TO 3 INCH CLEAR OR WASHED STONE.
 3. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE CONSTRUCTION ENTRANCES SHALL BE UNDERLAIN WITH A GEOTEXTILE FABRIC APPROVED BY AASHTO FOR USE BELOW RIPRAP.
 4. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. THE TRACKING PAD SHALL BE AT MINIMUM 50 FEET LONG.
 5. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM ENTRANCE OR CONVEYED UNDER AND AROUND THEM USING A CULVERT.
 6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC SCRAPING OR TOP-DRESSING WITH 1 TO 3 INCH WASHED STONE AGGREGATE AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED PROPERLY.

1 CONSTRUCTION ENTRANCE

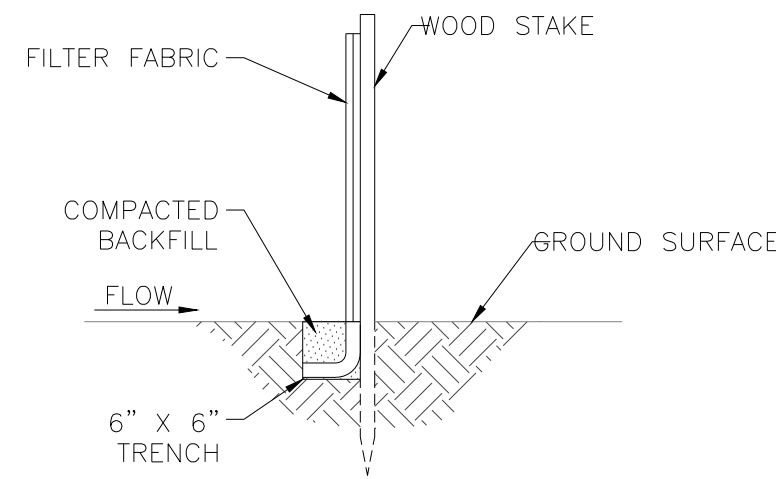
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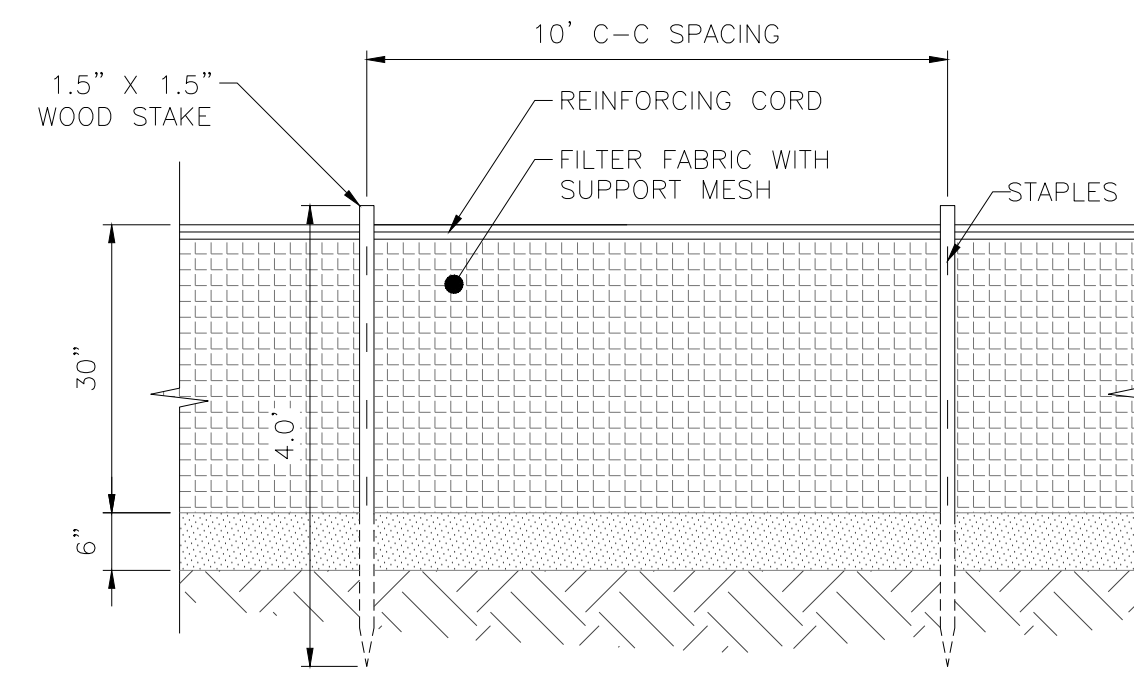
- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
 3. ROLL THE RECPs (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON THE RECPs TYPE.
 5. CONSECUTIVE RECPs SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.
 6. HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECPs.
 7. REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR ADDITIONAL INFORMATION AND DETAILED INSTRUCTIONS.

4 EROSION CONTROL BLANKET

NOT TO SCALE



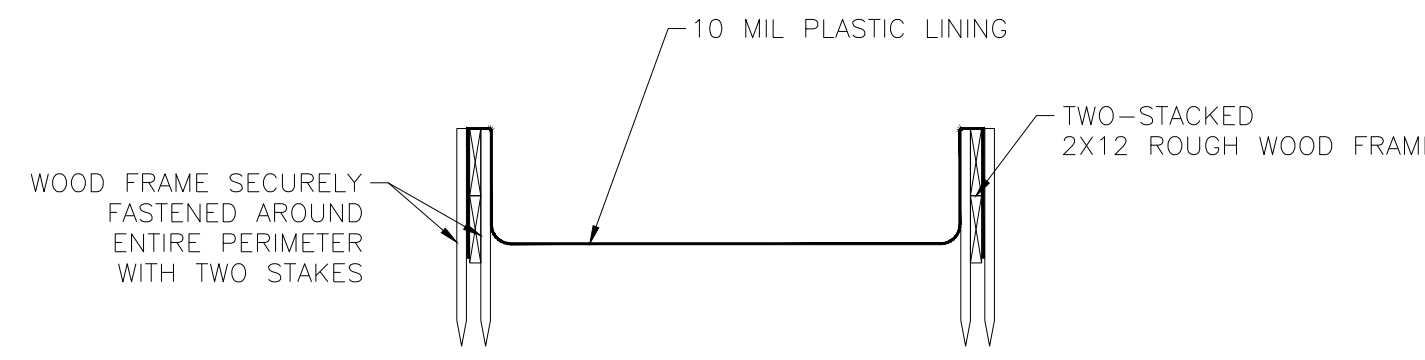
SIDE VIEW



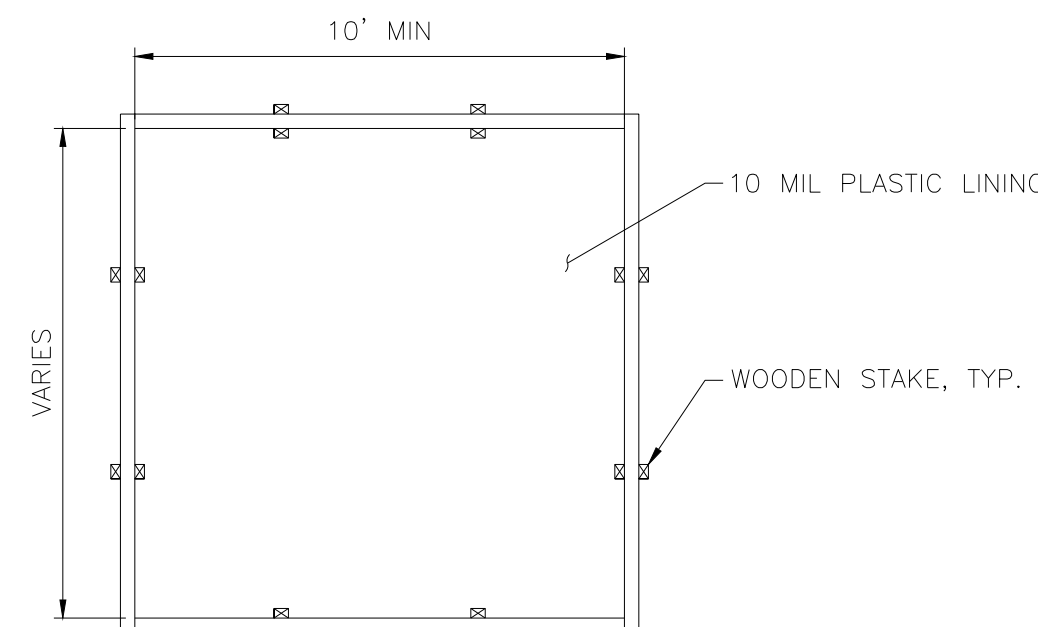
FRONT VIEW

2 SILT FENCE

NOT TO SCALE



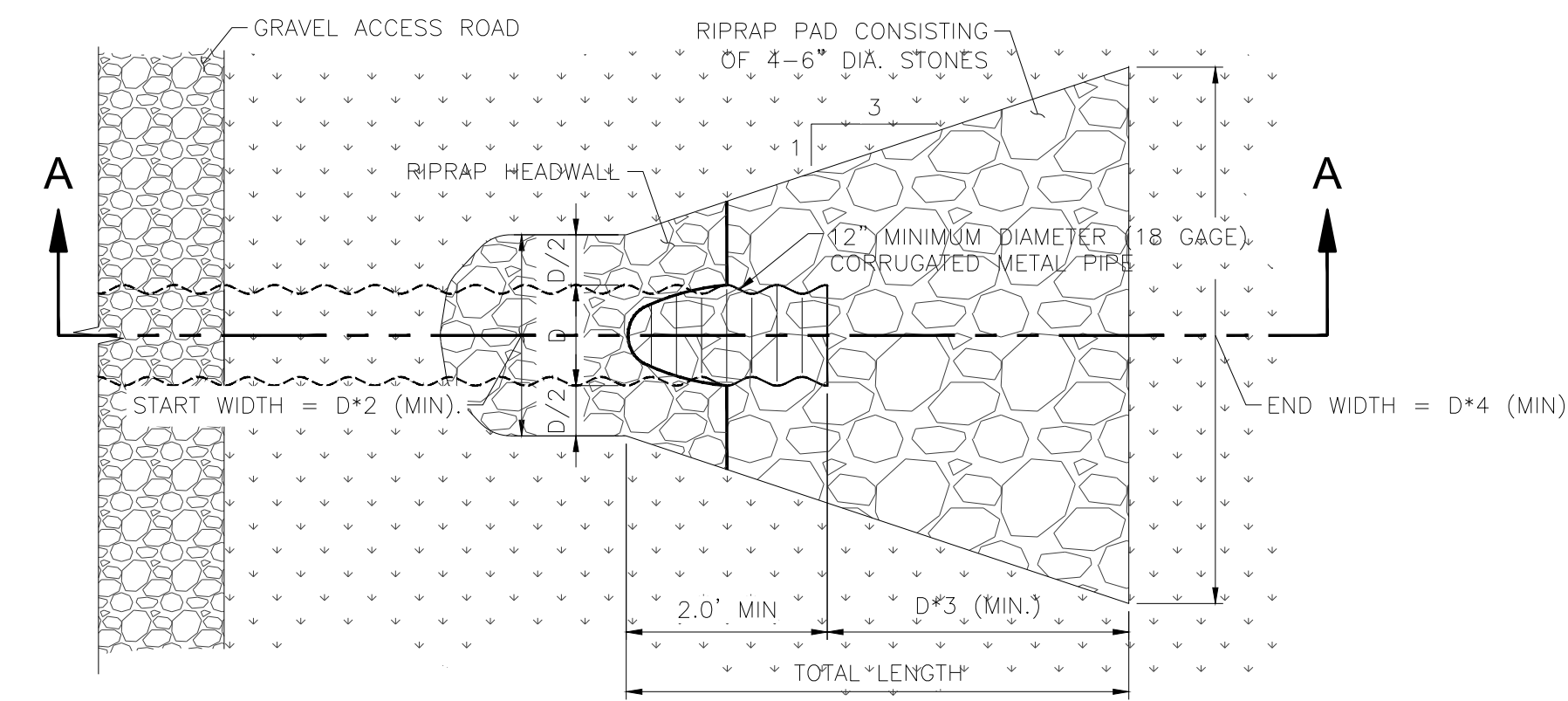
SIDE VIEW



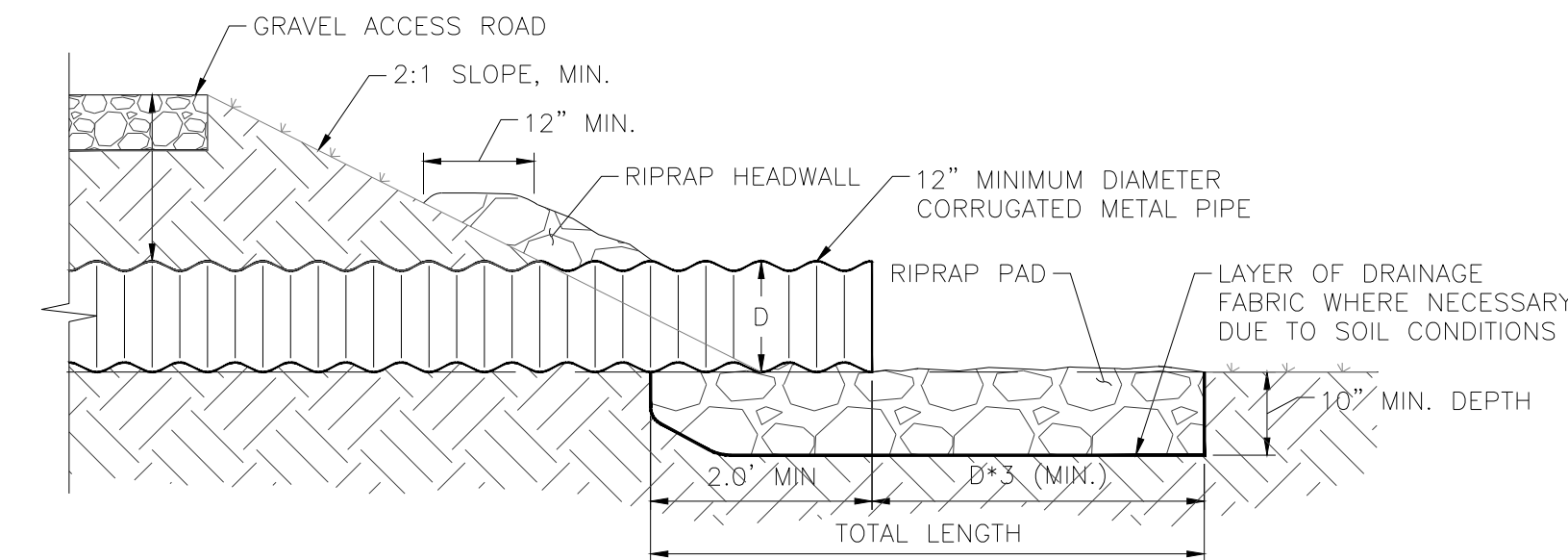
FRONT VIEW

5 CONCRETE WASHOUT

NOT TO SCALE



PLAN VIEW



SECTION A-A

- NOTES:**
1. INVERTS OF CULVERT SHALL FOLLOW EXISTING DRAINAGE FLOW PATHS.
 2. PROVIDE RIPRAP PAD AND HEADWALL AT BOTH UPSTREAM AND DOWNSTREAM ENDS OF CULVERT.
 3. EXTEND RIPRAP UP SIDES OF EXISTING DRAINAGE DITCH IF THE WIDTH OF RIPRAP PAD IS GREATER THAN THE WIDTH OF THE DITCH.

3 STORM CULVERT WITH RIPRAP PAD

NOT TO SCALE



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REV.	DATE	ISSUE FOR	ISSUE FOR	ISSUE FOR
	03/22/2018	FOR REVIEW	FOR REVIEW	FOR REVIEW
	04/02/2018	RESUBMIT FOR REVIEW		

ANOKA COUNTY SOLAR
14469 LLAMA ST. NW
RAMSEY, MN 55303
(45.2347220,-93.4829570)

EROSION CONTROL DETAILS				
DESIGNER	JCL	DATE	09.05.2017	SHEET NUMBER
DRAWN	JCL	SCALE	AS NOTED	
CHECK	GCM	SHEET SIZE	24" X 36"	

STAMP

FOR: CIVIL
GAVIN MEINSCHIN, PE
SHEET NUMBER

C4.10

