Iowa Department of Natural Resources

Construction Documents for

Loess Hills State Forest

Monona County, Iowa

Jones Creek Pond Parking Maintenance

Project No. 25-01-43-01

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Organization	Iowa DNR
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Address	951 Starview Dr.
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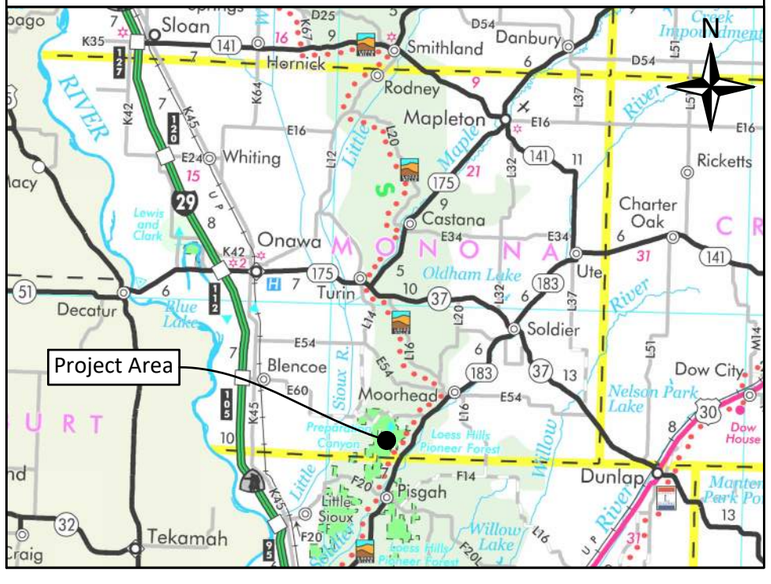
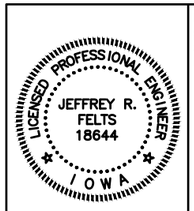
Project Description

This project is designed to provide needed maintenance and improve drainage issues on the entrance road and parking area of Jones Creek Pond. Work includes earth grading, geoweb installation, granular surfacing, and erosion control.

Project Location Map





I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Jeffrey R. Felts — Date
License Number: 18644
My license renewal date is December 31, 2027
Pages or sheets covered by this seal:
All

Sheet Index	
1	Cover Sheet
2	Location Map
3	Quantities & General Information
4	Existing Site Plan
5	Proposed Site Plan
6	Swale Section
7	Geoweb Details
8	Geoweb Details
9	Goeweb Details

Plot Date: 2/19/2026 1:21 PM
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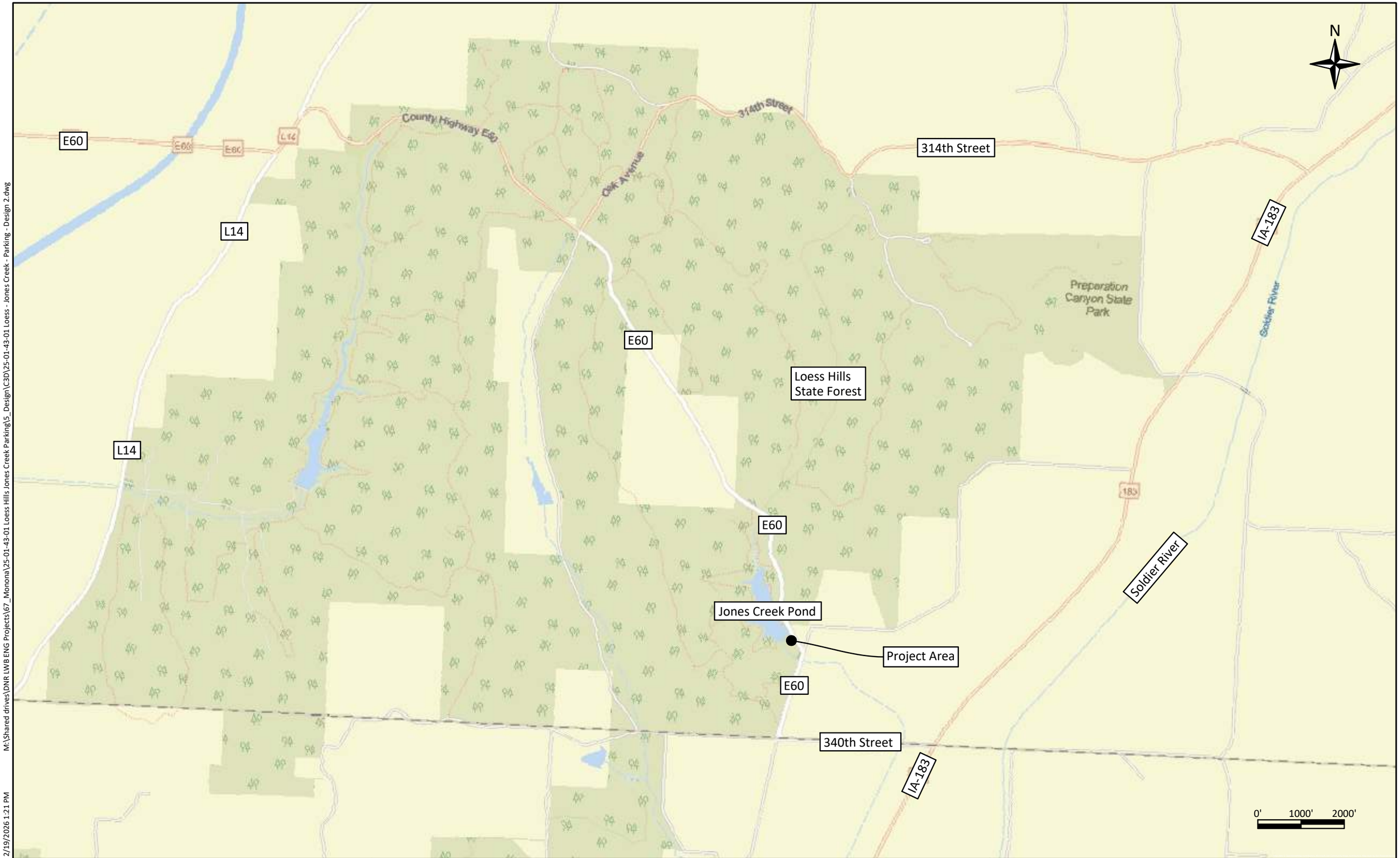
Xrefs Creek Parking\5_Design\C3D\25-01-43-01 Loess Hills Jones Creek Pa



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Plot Date: 2/19/2026 1:21 PM

Iowa Department of Natural Resources Engineering Section - 6200 Park Ave., Suite 200 Des Moines, IA 50321-1270	Drawn by: DP Revision / Date Final 02/19/26	Bid Date: 03/12/2026	Project Number: 25-01-43-01	Jones Creek Overflow Parking Improvements Loess Hills State Forest, Monona County	Location Map	Sheet No: 2

Estimated Quantities

Item	Description	Quantity	Unit
1	Mobilization	1	LS
2	Excavation, Class 12, Roadway and Borrow	46	CY
3	Excavation, Class 10, Roadway and Borrow	84	CY
4	Embankment, Contractor Furnished Borrow	50	CY
5	Granular Surfacing, Class A Crushed Stone	65	Tons
6	Topsoil, Strip, Slavage, and Spread	1	LS
7	Geoweb	3,400	SF
8	Geotextile Fabric (Non Woven)	3,400	SF
9	Seeding w/ Fertilizer	130	SY
10	Rolled Erosion Control Product (RECP Type 3B)	130	SY

Estimate Reference Information

2. Complete Class 12 roadway and borrow of the existing parking lot and roadway granular surface per Iowa Department of Transportation Specification section 2102. Contractor shall salvage as much granular material as possible, stockpile, and then respread as embankment as identified on the plan sheets.

3. Complete Class 10 roadway and borrow of the existing earthen material per Iowa Department of Transportation Specification section 2102. Excavated material shall be reused as embankment and compacted with a sheepsfoot roller.

4. Furnish and install earthen borrow per Iowa Department of Transportation Specification section 2102 to complete the project grading per plan. Material shall be a suitable soil free of rocks and gravel. It shall be compacted with a sheepsfoot roller prior to fine grading. The borrow site shall be surveyed before and after the project to determine the final installed quantity. Alternatively a load count method with appropriate shrink factor can be negotiated. The DNR does not have an approved site for this borrow.

5. Furnish and install Class A crushed stone surfacing per Iowa Department of Transportation Specification section 4120.04 (gradation #11). Material will be used to fill geoweb cells contained within the parking lot, roadway, and also used to provide the final surface lift (minimum 3") on any other disturbed areas of the parking lot and roadway.

6. Topsoil in the channel grading area outside of the existing parking lot shall be striped to a 6" depth and salvaged. Following Geoweb installation, backfill cells with topsoil. Compact material per manufacturer specifications.

7. Furnish and install Geoweb panels by Presto Systems Co. (or equal) as identified in the plan set. Panels shall be presto code GW30V60829PT. The panels are 6" in depth and 8 cells wide by 29 cells long. They shall be perforated with slots for atra keys and be anchored with 24" atra stakes. installation shall be per manufacturer specifications, and as outlined herein.

8. Furnish and install a non woven geotextile fabric under the entire geoweb footprint. Material shall be Mirafi 140N (4 oz) or approved equal. It shall be rolled out and staked into place prior to the installation of of the geoweb panels.

9. All disturbed grass areas shall be fertilized and reseeded following final grading. Seeding shall be installed per Iowa SUDAS specification section 9010. The seed shall be brome grass at a minimum rate of 15lbs/acre with a nurse crop of Oats at a rate of 25lbs/acre. Fertilizer shall be a 13-13-13 mix at 150lbs/acre.

10. All disturbed grass areas shall have a Rolled Erosion Control Product (RECP) installed following seeding. The material shall be a type 3B matting per Iowa Sudas section 9010. And installed per manufacturer specification.

General Information

1. Verify actual locations and elevations with DNR Engineer. DNR will provide surveying.

2. All work shall conform to and be performed in accordance with all applicable codes and ordinances.

3. The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

4. The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

5. It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

6. The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

7. Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

8. The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

9. The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

Iowa Department of Natural Resources
Engineering Section - 6200 Park Ave., Suite 200 Des Moines, IA 50321-1270

Drawn by: DP	
Revision	Date
Final	02/19/26

Bid Date: 03/12/2026

Project Number: 25-01-43-01

Jones Creek Overflow Parking Improvements
Loess Hills State Forest, Monona County

Quantities & General Information

Sheet No: 3

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Plot Date: 2/19/2026 1:21 PM

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Jones Creek Overflow Parking Improvements
Loess Hills State Forest, Monona County

Existing Site Plan

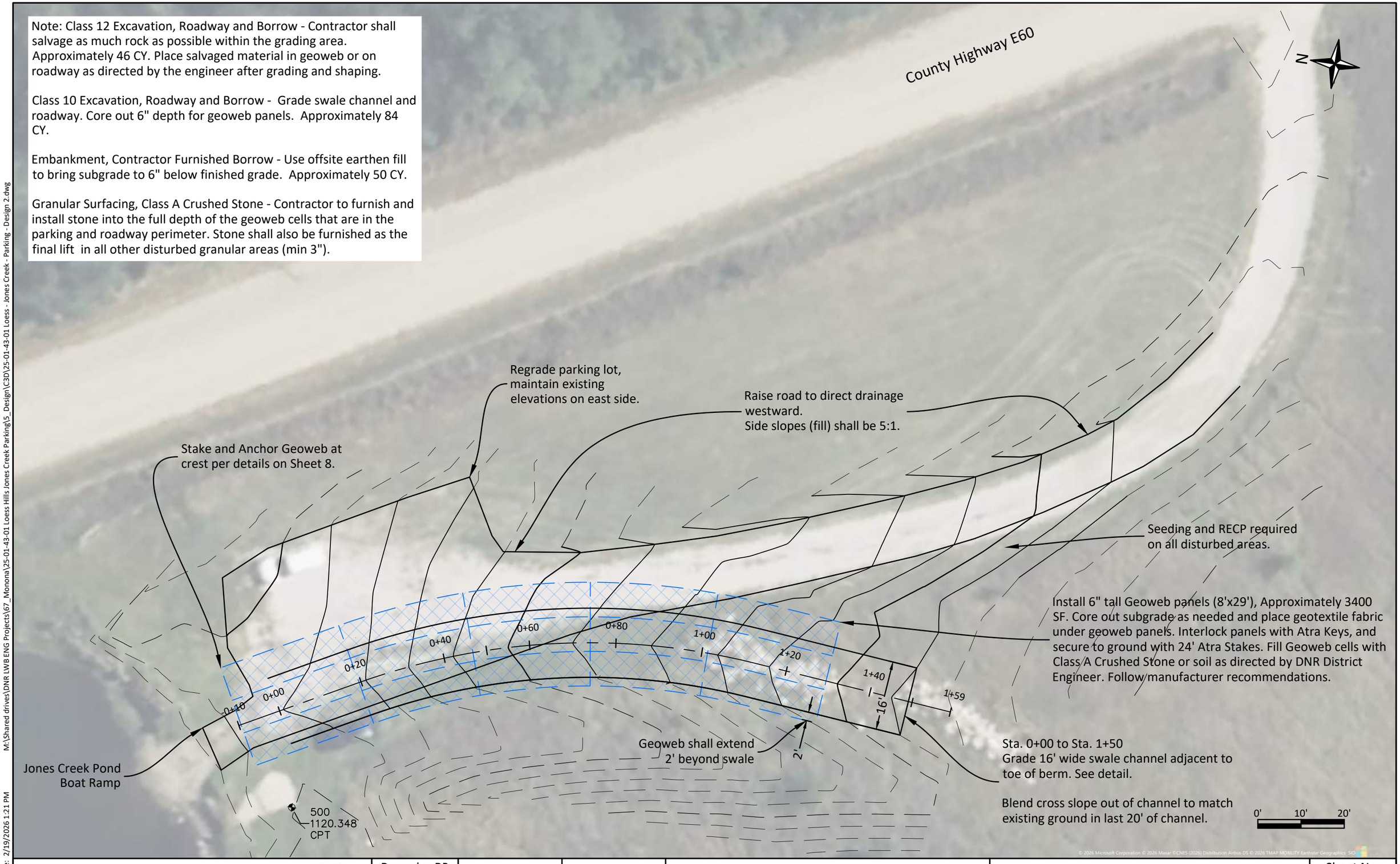
Sheet No: 4

Note: Class 12 Excavation, Roadway and Borrow - Contractor shall salvage as much rock as possible within the grading area. Approximately 46 CY. Place salvaged material in geoweb or on roadway as directed by the engineer after grading and shaping.

Class 10 Excavation, Roadway and Borrow - Grade swale channel and roadway. Core out 6" depth for geoweb panels. Approximately 84 CY.

Embankment, Contractor Furnished Borrow - Use offsite earthen fill to bring subgrade to 6" below finished grade. Approximately 50 CY.

Granular Surfacing, Class A Crushed Stone - Contractor to furnish and install stone into the full depth of the geoweb cells that are in the parking and roadway perimeter. Stone shall also be furnished as the final lift in all other disturbed granular areas (min 3").



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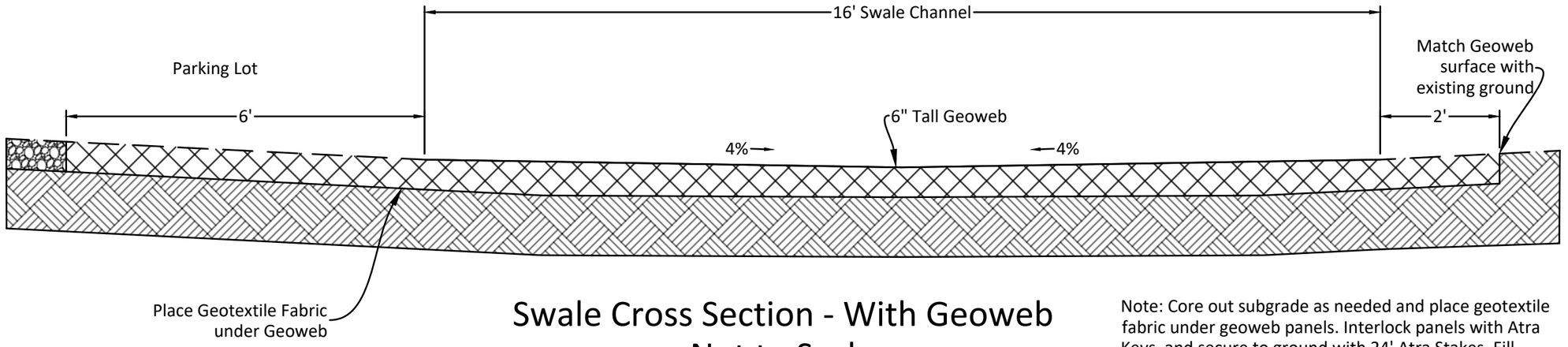

Swale Cross Section - With Geoweb
Not to Scale

Note: Core out subgrade as needed and place geotextile fabric under geoweb panels. Interlock panels with Atra Keys, and secure to ground with 24' Atra Stakes. Fill Geoweb cells with Class A Crushed Stone (in roadway) or soil as directed by DNR District Engineer.

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GEOWEB® PRODUCT CODE FORMAT

GWTTVDWWLL + MODIFICATIONS

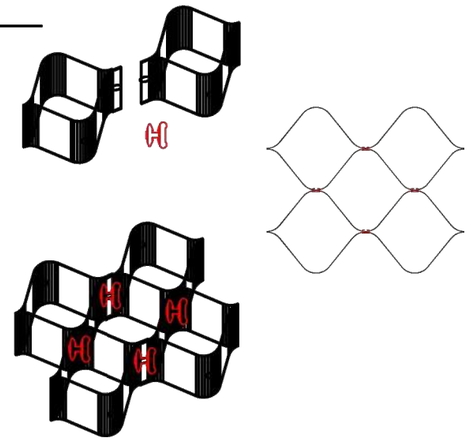
WHERE:
- TT: CELL TYPE – 20, 30 or 40
- V: DESIGNATES V SERIES
- D: CELL DEPTH – 3, 4, 6, 8 or 12"
- WW: SECTION WIDTH 10 (20V); 08 (30V) & 05 (40V)
- LL: SECTION CELL LENGTH–18, 21, 25, 29 & 34

MODIFICATIONS:
- P: PERFORATED STRIP
- S1: SAND COLOR FASCIA STRIP ONLY
- G1: GREEN COLOR FASCIA STRIP ONLY
- T: INTEGRAL I–SLOT

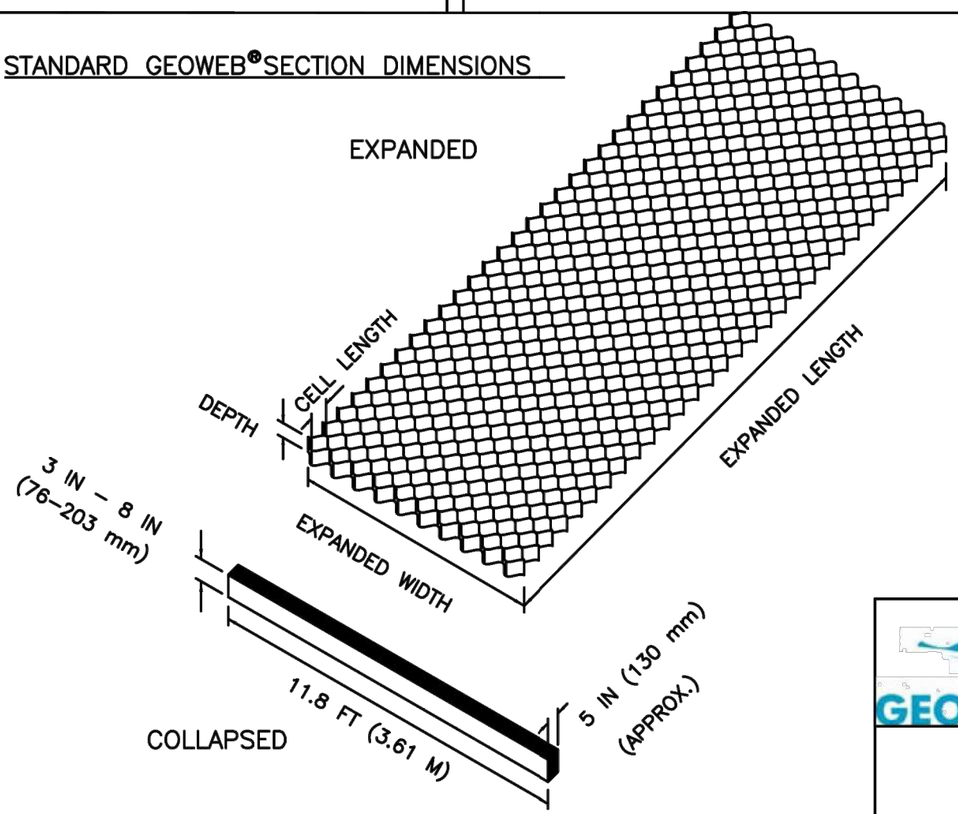
EXAMPLE:
GW30V60829PT
30V CELL TYPE, 6" DEPTH, 8 CELLS WIDE, 29 CELLS LONG, PERFORATED STRIP WITH I–SLOTS

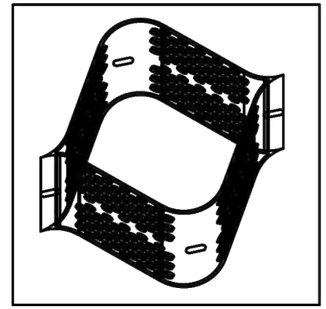
ATRA® KEY CONNECTION DETAILS

GEOWEB CONNECTION NOTES:
1. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING.
2. ALIGN THE I–SLOTS FOR INTERLEAF AND END TO END CONNECTIONS.
3. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAF AND END TO END CONNECTION.



STANDARD GEOWEB® SECTION DIMENSIONS





ISOMETRIC VIEW OF PERFORATED STRIP WITH I–SLOT

GW30V – 8 CELLS WIDE

CELLS LONG	MIN EXPANSION LENGTH ft	MIN EXPANSION LENGTH m	MIN EXPANSION WIDTH ft	MIN EXPANSION WIDTH m	MAX EXPANSION LENGTH ft	MAX EXPANSION LENGTH m	MAX EXPANSION WIDTH ft	MAX EXPANSION WIDTH m	NOMINAL AREA ft 2	NOMINAL AREA m2
18	15.4	4.7	9.2	2.8	18.6	5.7	7.6	2.3	143	13.3
21	18.0	5.5			21.7	6.6			167	15.5
25	21.4	6.5			25.8	7.9			198	18.4
29	24.8	7.6			30.0	9.1			230	21.4
34	29.1	8.9			35.1	10.7			270	25.0

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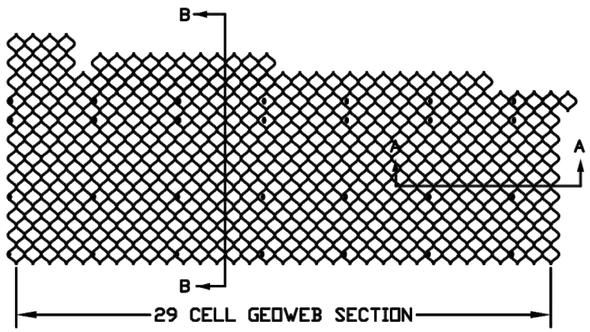
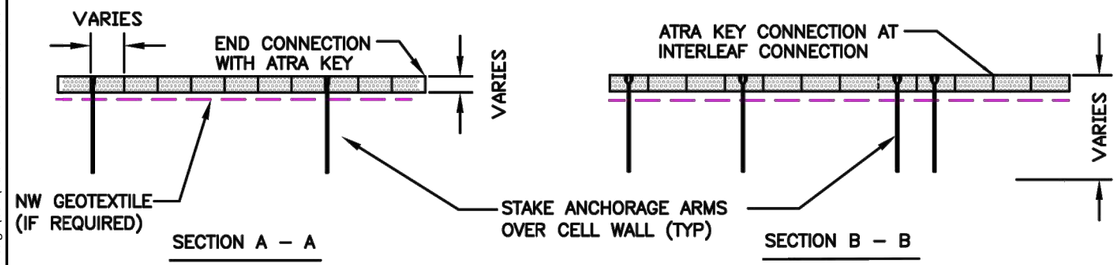
GENUINE GEOWEB® SECTION DIMENSIONS

DATE	NOVEMBER 2019		FILE NAME GWGEN1F.DWG
SCALE	NTS	SHEET 1	© 2010 PRESTO GEOSYSTEMS

TYPICAL STAKE ANCHORAGE SYSTEM



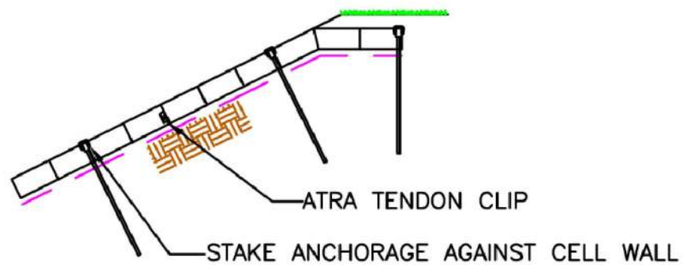
PLAN



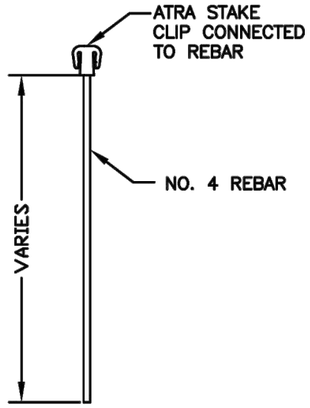
STAKE ANCHORAGE INSTALLATION – NO TENDONS

STEPS:

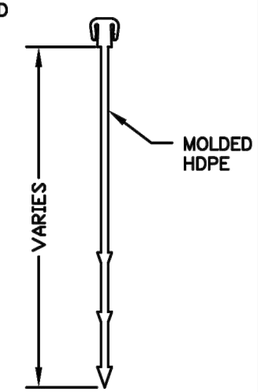
1. POSITION ATRA ANCHOR OR ATRA SPEED STAKE NEXT TO UP SLOPE CELL WALL.
2. DRIVE ATRA ANCHOR OR ATRA SPEED STAKE INTO THE GROUND UNTIL ARM OF ANCHOR IS ABOVE CELL WALL.
3. ENGAGE ARM OF ARCHOR TO CELL WALL AND DRIVE UNTIL TIGHT.



STAKE AND CREST ANCHORAGE



ATRA ANCHOR DETAIL



ATRA SPEED STAKE DETAIL

NOTES:

1. ATRA ANCHOR AND ATRA SPEED STAKE LENGTH AND SPACING VARY ACCORDING TO DESIGN REQUIREMENTS.
2. WHEN ATRA ANCHORS OR ATRA SPEED STAKES ARE USED FOR ANCHORAGE, ENSURE ANCHOR ARM ENGAGES WITH THE TOP OF THE CELL WALL.
3. TENDON TYPE AND SPACING VARY ACCORDING TO DESIGN REQUIREMENTS.
4. ATRA TENDON CLIPS, ATRA ANCHORS, OR ATRA SPEED STAKES SHALL BE PROVIDED AT END OF GEOWEB SECTION TO PREVENT TENDON FROM PULLING THROUGH THE WEB.
5. CREST ANCHORAGE WITH ATRA ANCHOR AND/OR ATRA SPEED STAKES AND/OR ATRA TENDON CLIPS/TENDONS MAY BE REQUIRED PER THE DESIGN.
6. ALL ANCHOR REQUIREMENTS SHALL BE PREPARED BY A COMPETENT PROFESSIONAL FAMILIAR WITH ENGINEERING CONCEPTS.

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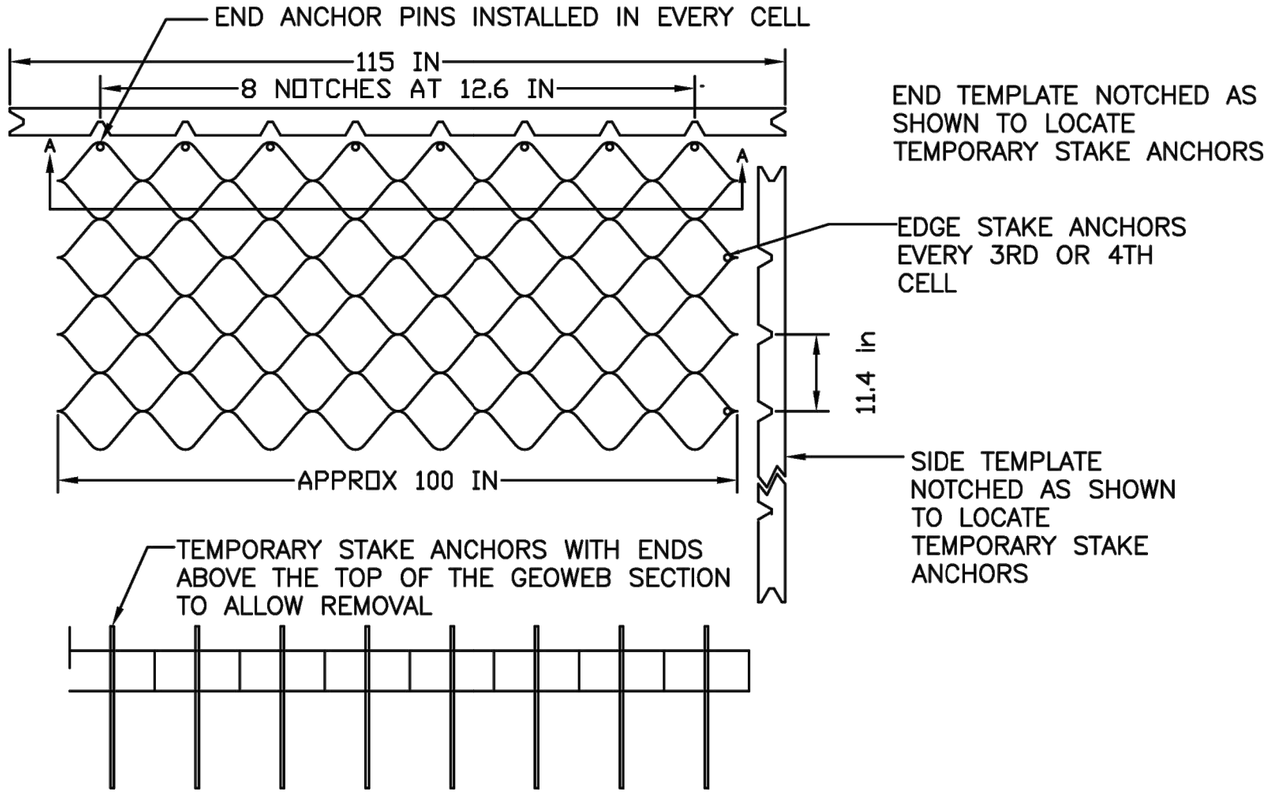
GENUINE GEOWEB® ANCHOR DETAILS

DATE	NOVEMBER 2019	FILE NAME	GWGEN2F.DWG
SCALE	NTS	SHEET 1	© 2010 PRESTO GEOSYSTEMS

TEMPORARY STAKING METHOD FOR GW30V



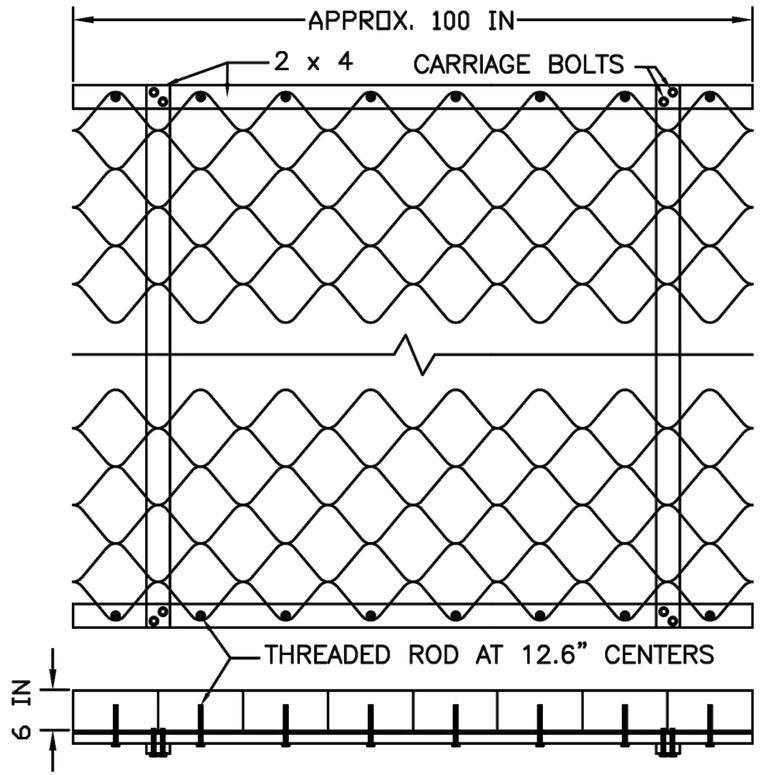
SECTION A–A

PARTS LIST FOR TEMPORARY STAKING METHOD:

1. 16 – 24" ATRA ANCHORS OR ATRA SPEED STAKES
2. 1 – END TEMPLATE FROM 2 X 4 LUMBER
3. 1 – SIDE TEMPLATE FROM 2 X 4 LUMBER

NOTES:
1. END TEMPLATES ARE USED TO ANCHOR THE ENDS OF EXPANDED GEOWEB SECTIONS.
2. NOTCHES OF END TEMPLATES ARE AT 10.2" CENTERS FOR GW20V AND 20" CENTERS FOR GW40V GEOWEB SECTIONS.
3. NOTCHES FOR SIDE TEMPLATES ARE AT 8.9" CENTERS FOR GW20V AND 18.9" FOR GW40V GEOWEB SECTIONS.

TYPICAL WOOD STRETCHER FRAME FOR GW30V



PARTS LIST FOR WOOD STRETCHER FRAME:

1. 16 – 1/2" THREADED ROD
2. 8 – 3/8" CARRIAGE BOLTS
3. 48 – FLAT WASHERS
4. 48 – HEX NUTS
5. 3 – 2 X 4 X 8 FT LUMBER

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GENUINE GEOWEB® INSTALLATION TOOLS

DATE	NOVEMBER 2019	FILE NAME	GWGEN5F.DWG
SCALE	NTS	SHEET 1	© 2010 PRESTO GEOSYSTEMS

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