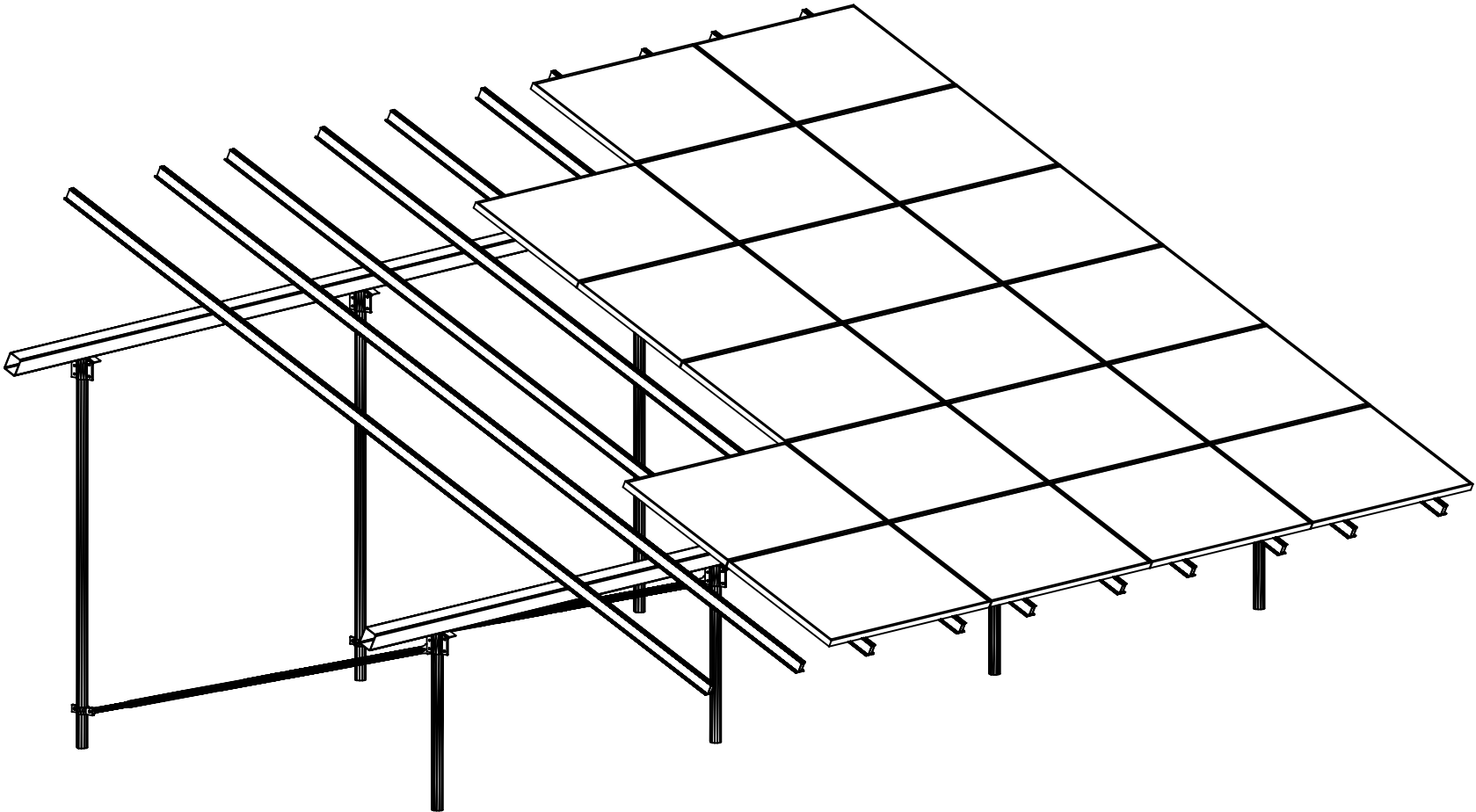


PLAN VIEW

N.T.S.



Site Design Conditions

Basic Wind Speed:
(Risk Category II) 123 MPH
Basic Wind Speed:
(Risk Category I) 113 MPH
Exposure Category: B
Ground Snow Load: 50 PSF
Flat Roof Snow Load:
(if applicable) 35 PSF
Site Contour: <5 Degree Slope

Max. Leg Axial Bearing: 4,620 lbs.
Max. Leg Uplift: 1,990 lbs.
Max. Lateral Resistance: 1,925 lbs.
Top Rail Max. Loading: 137.1 plf
Helical Pile Depth: 60" Min
Lateral Resistance Plate Size: Not Req'd

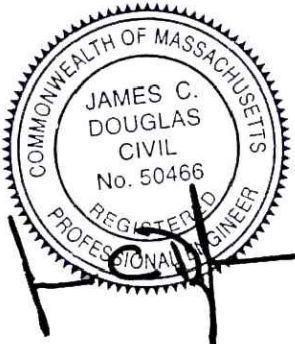
All design work has been performed in accordance with the Massachusetts State Building Code, Ninth Edition, Base Volume (780 CMR) including but not limited to the 2015 International Building Code as amended by 780 CMR.

Net design pressures were calculated in accordance with ASCE 7-10 section 27.4.3, "Open Buildings with Monoslope, Pitched, or Troughed Roofs". All load cases were evaluated in determining the limiting design conditions. The data table above provides the results for the limiting load case. Maximum leg reaction forces represent the highest load condition seen by any leg in the structure. All legs in the structure are designed to meet the maximum load conditions.

6Lx6C Sub-Array Design Conditions

Front Leg Height: 47½"
Rear Leg Height: 118½"
North-South Pile Spacing: 123"
West Span Pile Spacing: 11'-0"
East Span Pile Spacing: 11'-0"
Quantity Center Spans: 1
Center Span Pile Spacing: 11'-0"
East & West Overhang: 3'-9"
Overall Beam Length: 40'-6"
Front Ground Clearance: 30"
Horizontal Rail Material: 5"x4"x½" HSS
Top Rail Material: SF Rails
Qty Rails per Panel: 2
Top Rail Length: 254"
Top Rail Center Span: 142"
Top Rail Overhangs: 56"

Array Tilt Angle: 30 Degrees
Overall Array East-West Dim: 41'-6"
Number of Modules/Sub-Array: 36
Number of Sub-Arrays: 1
Module Columns/Sub-Array: 6
Number of Module Rows: 6
Module Orientation: Landscape
Module Column Spacing ⅜"
Module Row Spacing ¼"
Module Model: TP6L72M
Module Size: 41.18" x 82.60"
Individual Module Rating: 445 watt
Sub-Array Power Rating: 16.02 kw
Total Power Rating: 16.02 kw



Sheet 1 of 3

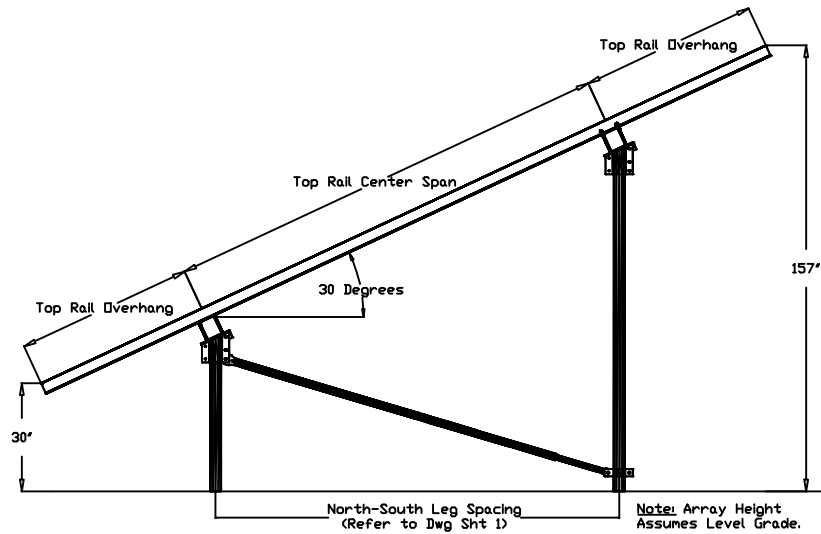
Date	Revision	Drawn By:	Review By:
07/15/2022	Original	JB	JD

Intelligent Solar Services, LLC

Project:
Jones Residence
51 Vaughn Hill Road
Bolton, MA 01740

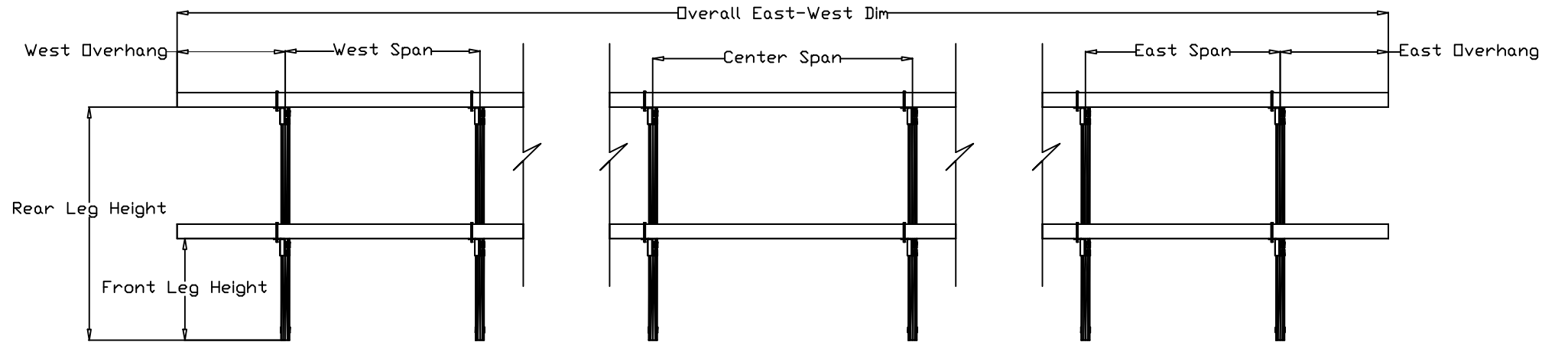
Solar Foundations USA

1142 River Road, New Castle, DE 19720 Ph: (855) 738-7200 Fax: (866) 644-5665



SIDE ELEVATION DETAIL

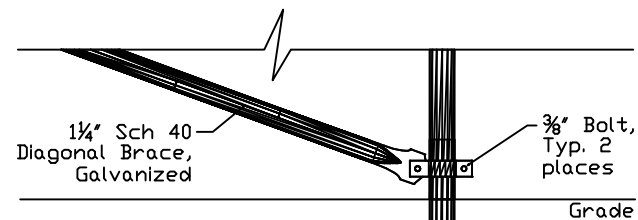
N.T.S



Refer to Dwg Sheet 1 for East-West Pile Spans and Front and Rear Leg Heights.

POST SPACING ELEVATION DETAIL

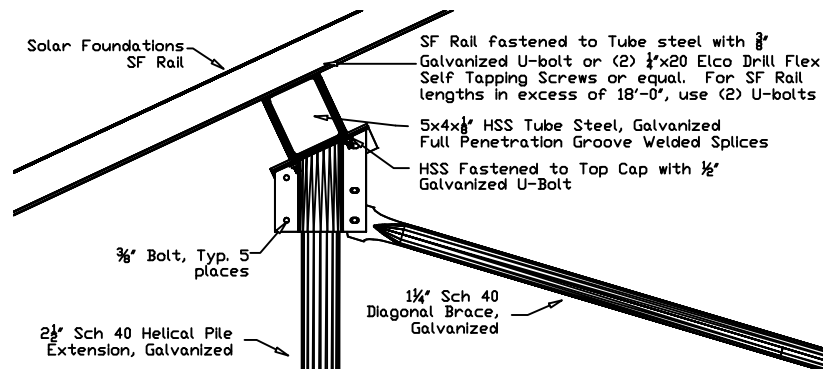
N.T.S



2 1/2" Sch 40 Helical Pile, All locations, Typ.

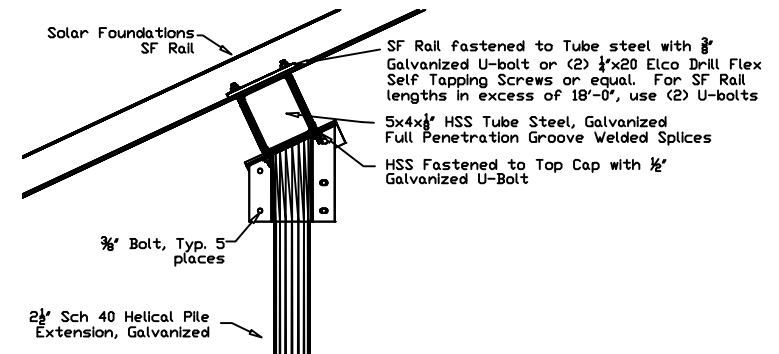
Capacities per Site Design Data Table

Minimum 60" Depth or Until Load Bearing Strata Reached



LOWER CAP DETAIL

N.T.S

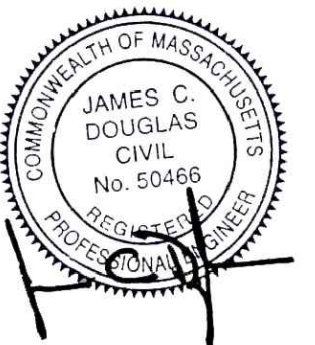


UPPER CAP DETAIL

N.T.S

HELICAL PILE DETAIL

N.T.S



Sheet 2 of 3

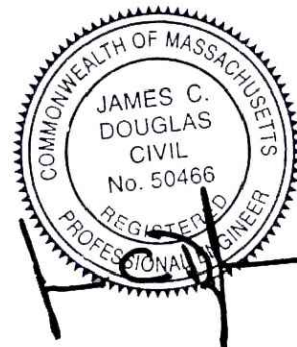
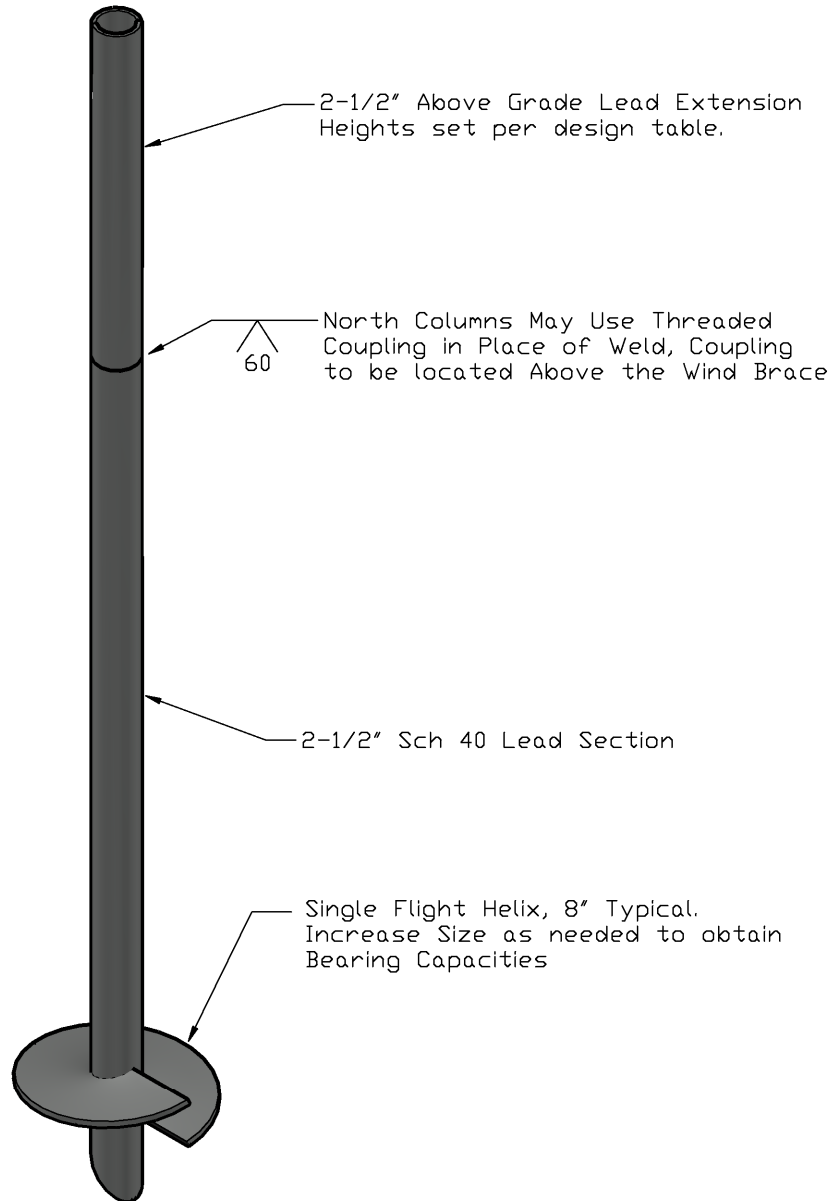
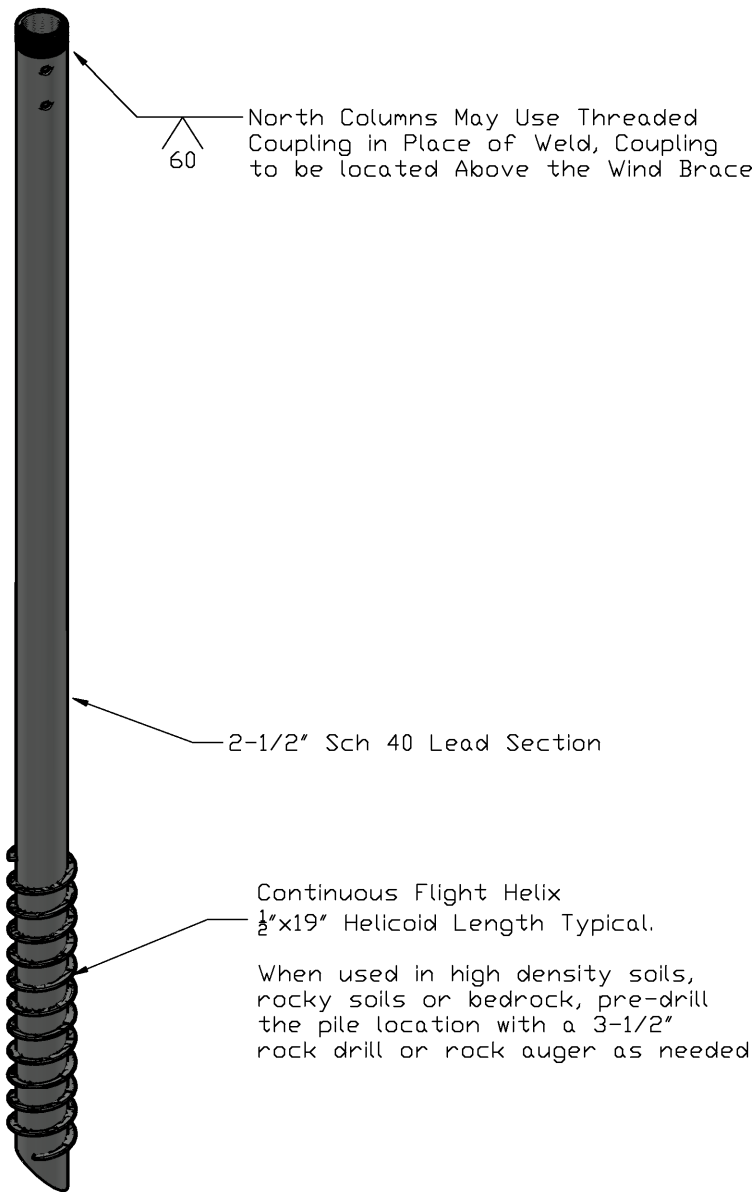
Intelligent Solar Services, LLC

Date	Revision	Drawn By:	Review By:
07/15/2022	Original	JB	JD

Project:
Jones Residence
51 Vaughn Hill Road
Bolton, MA 01740

Solar Foundations USA

1142 River Road, New Castle, DE 19720 Ph: (855) 738-7200 Fax: (866) 644-5665



- Specification Requirements:
- The following material specification requirements pertain to the fabrication of the Solar Foundations USA ground mount solar support structure as indicated on these drawings.
1. Solar Foundation aluminum rails shall conform to ASTM B221.
 2. Structural steel tubing shall be ASTM A500 High Yield (60 ksi).
 3. Steel pipe for piles shall conform to ASTM A500 Grade C.
 4. Steel pile extensions shall be ASTM A53 Grade B.
 5. Steel pipe for diagonal bracing shall be ASTM A53 Grade A.
 6. Fabricated steel plate for column cap assemblies, bracing clamps, etc. shall be ASTM A36 or A1011.
 7. Steel bolts for cap fasteners shall conform to SAE J429 Grade 5. All other bolts shall conform to SAE J429 Grade 5 or better.
 8. Steel U-bolts shall conform to ASTM 1018.
 9. USS flat steel washers shall conform to ASTM F844 and nuts for steel connections shall conform to ASTM A563 Grade A.
 10. All field welding shall conform to AWS D1.1/D1.1M -Structural Welding Code requirements.
 11. All steel shall be hot-dip galvanized per ASTM A123 or A153 after all fabrication has been completed.

- Installation Requirements:
1. The minimum average installation torque required to obtain the required indicated capacities and the minimum installation depth shown on the plans shall be satisfied prior to termination of the installation. The installation torque shall be an average of the installation torques indicated during the last 1 foot of installation.
 2. The torsional strength rating of the torque anchor shall not be exceeded during the installation. If the torsional strength limit of the anchor has been reached, but the anchor has not reached the target depth, perform the following:
 - 2.1. If the torsional strength limit is achieved prior to reaching the target depth, the installation may be acceptable if reviewed and approved by the engineer.
 - 2.2. The installer may remove the torque anchor and install a new one with smaller diameter helical plate.
 - 2.3. If using a continuous flight pile, pre-drill the pile location with a 3-1/2" rock auger or 3-5/8" rock drill as needed.
 3. If the target depth is achieved, but the torsional requirement has not been met the installer may do one of the following:
 - 3.1. Install the torque anchor deeper to obtain the required capacity
 - 3.2. Remove the torque anchor and install a new one with a larger diameter helical plate or one with multiple helical plates.
 - 3.3. Reduce the load capacity on the individual torque anchor by providing additional torque anchors at a reduced spacing.

HELICAL PILE DETAIL
N.T.S.

Sheet 3 of 3				Intelligent Solar Services, LLC		<div>Solar Foundations USA</div> <div>1142 River Road, New Castle, DE 19720 Ph: (855) 738-7200 Fax: (866) 644-5665</div>
Date	Revision	Drawn By:	Review By:	<div>Project: Jones Residence 51 Vaughn Hill Road Bolton, MA 01740</div>		
07/15/2022	Original	JB	JD			