

MEMORANDUM

TO: Town of Newbury Planning Board

FROM: ACE Solar, Weston & Sampson

DATE: February 16th, 2022

SUBJECT: Response to Newbury Planning Board Review Comments
Newbury Landfill Solar Project

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of ACE Solar, Inc. (ACE), has prepared this memorandum in response to comments received from the Town of Newbury Planning Board regarding the Newbury Landfill Solar Project. Specifically, Weston & Sampson provides responses to comments in letters by the Newbury Fire Department, dated December 8, 2021, Joseph J. Serwatka, P.E. dated December 12, 2021, and James Sarette, Director, Newbury Department of Public Works (DPW) dated January 14, 2022. These comment letters were submitted to the Planning Board as part of the Special Permit application review process. We present this letter in comment/response format to ensure that each comment is compiled and addressed separately. Each comment is presented in italics with the corresponding response provided in normal text.

Town of Newbury Fire Department 12/8/2021:

Comment 1: All access roads shall be no less than 11' in width (18.2.3.4.1.1), with no less than 3' encroachment to the travel path. Roads must be able to withstand 75,000 LBS (18.2.3.4.2), including turning radius' of 34' (18.2.3.4.3.1). Submitted access plans must include approval and stamp of a registered professional engineer (18.1.1.5) and include a sweep path analysis (18.1.1.4).

The sweep path analysis requires information from both:

- 1. 2020 KME 103 Tuff Truck, Severe duty cab, with Steertex NXT front suspension.*
- 2. 2015 KME (International 7400 SBA) 6x4 configuration with 230" WB*

Response: Based on the existing conditions site survey (see Sheet C201), the existing facility perimeter access road along the south and east sides of the landfill generally meets the minimum width requirement of 11 feet. At locations where the width is less than 11 feet, ACE will increase the road width as necessary by furnishing additional dense-graded crushed stone and grading/compacting to the required minimum width of 11' in accordance with the details on Sheet C504.

The existing access road provides for a minimum turning radius of 34 feet and there is no less than 3' encroachment to the travel path.

Weston & Sampson has evaluated the minimum required thickness of the access road material (crushed stone over sand) required to withstand the 75,000-pound loading criteria. The 36-inch minimum thickness required is greater than the as-built thickness of 24" (12" of compacted gravel over 12" sand) as indicated on the Record Drawings for the Newbury Landfill Closure Project (Camp Dresser & McKee Inc., August 2003). ACE will increase the road thickness by 12", or as necessary at the time of construction, by furnishing additional dense-graded crushed stone and grading/compacting to the required minimum thickness of 36" in accordance with the details on Sheet C504.

The stress increase on the liner from the fire truck ground contact stress for various cover thicknesses. The analysis suggests that 3 ft. of cover is needed to reduce the stress increase from the ground contact to less than 7 psi, while at the same time, keeping the combined stress (ground contact plus cover soils) to less than 7 psi. A 3 ft. cover thickness is very typical for reducing stresses from H-20 loading type vehicles (such as a fire truck) to less than 7 psi. Below is a summary of some of the results with a ground contact stress from the fire truck of 44.5 psi:

Cover Thickness	Soil Stress on Liner	Stress Increase on Liner from Ground Contact	Total Stress on Liner
2.0 ft	1.8 psi	7.1 psi	8.9 psi
2.5 ft	2.3 psi	5.4 psi	7.7 psi
3.0 ft	2.7 psi	4.2 psi	7.0 psi

Weston & Sampson has performed a swept path analysis as requested in Comment 1. The analysis confirmed that with minor improvements to the existing access road that the site will be accessible. Refer to Figure 1 for the Swept Path Analysis.

Comment 2: Dead ends in excess of 150' shall be provided with the approved turnarounds (16'x45')
18.2.3.4.4.

Response: The existing landfill perimeter access road does not dead end as there is access/egress at both ends of the road (i.e., at the northeast end onto Boston Road and at the southwest end to the transfer station).

Comment 3: There shall be a fenced perimeter (NEC 103.31) with a gate at either end for F.D. access and equipped with Approved Access Boxes. 18.2.2.1 (our boxes are Knox Brand, Key requirements coding to Byfield.)

Response: Refer to Site Access Note 1 on Sheet C001 regarding perimeter fencing, access gates, and access boxes. Additional call-outs and notes have been added to Sheet C206 making it a requirement to install a Knox box at the existing gate for Fire Department access with key requirements coding to Byfield.

Comment 4: There shall be emergency disconnects, or isolation switches, they must be identified, and the installer is required to train/educate the Fire Department for process and locations.

Response: The PV solar array system will be provided with emergency disconnect switching. The switching will be installed on a new utility pole to be located along the entrance road to the transfer station (see Sheet C206) and will be identified with appropriate signage. Prior to commencement of solar PV facility operations, ACE will coordinate, schedule, and conduct training for Fire Department

personnel on process and locations for emergency disconnection and system isolation.

Comment 5: Solar Array must have a non-combustible base, there is no public water supply and no draft sites on proposed locations.

Response: Acknowledged. The solar array will be constructed on a base surface of crushed stone material using concrete ballast blocks as foundation for the solar array racking system.

Comment 6: The State of Massachusetts has amended 527 CMR to omit further requirements from the Fire Code and has no given AHJ to the Electrical Code. You may want to consult the town Electrical Inspector for further requirements.

Response: Acknowledged.

Special Permit Review Letter, Joseph Serwatka, P.E., 12/12/2021:

Comment 1: C001. The board may want note 4 under General SWPPP Notes to be revised to include the Town of Newbury, as well as the engineer, relative to additional erosion control measures.

Response: Note 4 on Sheet C001 has been revised to include the Town of Newbury.

Comment 2: C001. Note 6 under General SWPPP Notes appears to require the contractor to prepare the SWPPP report. The board may want to make this, as well as review of the SWPPP, a condition of any approvals.

Response: Acknowledged.

Comment 3: C202. This plan, as well as the other design plans, are drawn at 60 scale, rather than the conventional 40 scale. This scale may be acceptable for permitting, but I would recommend that 40 scale plans be prepared and used for construction.

Response: Acknowledged. The 60 scale site plan drawings, as provided, are typical for landfill solar development projects and are suitable for construction purposes.

Comment 4: C202. Two material and equipment stockpile areas are depicted on the plan. One is adjacent to Boston Road, off the HDPE cap, and almost entirely out of the ACEC. The other is at the rear of the site, on the HDPE cap, and within the ACEC. Both stockpile areas are within buffer zones to wetlands. The board may want to know whether it is possible to relocate the rear stockpile area off the cap, and out of the ACEC.

Response: The temporary material stockpile and equipment area at the rear of the site is located in close proximity to the work zone footprint of the eastern array area and, as such, provides an advantageous laydown area for array components, materials, and equipment. There are no other such open and available areas for temporary stockpiling purposes in close proximity to the work zone. As indicated on Sheet C202, this area will have erosion/sedimentation protection with compost filter tubes placed around the downgradient perimeter and will be restored to match existing conditions upon completion of the project in accordance with the Soil Stabilization/Seeding notes on Sheet C001. In

addition, this area is where the Newbury Police Department firing range target is proposed for relocation.

Comment 5: C202. An existing grass access road will be utilized along the southern side of the property, and another access appears to be shown along the easterly side. The plan does not identify this access way, and no existing or proposed connection appears to be shown between the two.

Response: Sheet C202 has been revised to fully identify the existing access road along the southern and eastern sides of the property. As indicated on Sheet C202, this access road is continuous from the transfer station at the southwest to Boston Road at the northeast.

Comment 6: C202. A portion of the stockpile area adjacent to Boston Road may be vegetated/wooded. The board may want the engineer to address any proposed clearing.

Response: There is no clearing proposed for this portion of the site. The proposed stockpile area will be limited to the open (non-vegetated) portion of this area which currently serves as a materials storage and laydown area for the Newbury DPW.

Comment 7: C203. The previous plan, sheet C202, note 3 requires that "erosion and sedimentation control measures shall be installed prior to the start of construction". Note 1 on this plan states that "the contractor shall adjust erosion and sedimentation control measures as needed to construct temporary access roads". The board may want the two plans combined in some manner so that the contractor is given strict guidance as to how and where to install the erosion controls. The board may also want to condition that the temporary access roads be staked out in the field, and that the erosion controls not be adjusted until approval is given by the engineer and town.

Response: Per Sheet C202, erosion control measures (compost filter tubes) will be placed on the landfill slopes immediately upgradient of the existing landfill side-slope swales and detention basin area to mitigate sediment from entering swales/basin during installation of panel piping, placement/compaction of crushed stone for the array area footprint, and installation of the PV system. The erosion control alignments shown on Sheet C202 have been adjusted at the limited locations where the measures cross the alignments of the temporary access roads.

Comment 8: C203. The temporary access roads are drawn at about 10-12 feet wide in most areas. Once the sideslopes are extended to meet existing steep grades, the total working width could be 15-20 feet.

Response: Agreed. The temporary access roads as depicted on Sheet C203 represents the footprint of the vehicle travel area. Detail 5 on Sheet C501 depicts the road sideslopes extending to meet the existing grades.

Comment 9: C203. The plan does not show an existing, or proposed, access road to the temporary stockpile area at the rear of the site.

Response: Sheet C203 has been revised to show the exiting landfill perimeter access road and its connection to the temporary stockpile area at the rear of the site.

Comment 10: C204. The plan shows a series of "perforated panel piping" locations, but no detail or

sequence appears to be provided as to this piping works with the erosion control, the temporary access roads, panel installation, etc.

Response: Perforated panel piping will be installed as an initial work task for the project (i.e., following installation of erosion control measures and prior to installation of temporary access road and panel installation). This work task has been added to the Typical Sequence of Construction section on Sheet C001. Adjustments to the alignment of erosion control measures to facilitate panel pipe installation activities will be limited to locations where the measures cross the area of panel pipe installation activity and temporary realignment is required. Where possible, the erosion control measure alignments will be adjusted to the downslope side of the work area. Such adjustments will be limited to the period of time needed to perform the panel pipe installation activity, and the original erosion control measure alignments will be restored upon completion of work in the area of activity.

Comment 11: C204. Note 2 states that the “contractor shall coordinate grading and disturbed site work with landfill owner prior to the start of construction”. The plans do not appear to show any grading.

Response: Minor filling and grading is required for the equipment pad subbase as shown on Sheet C205. Note 2 on Sheet C204 has been moved to Sheet C205.

Comment 12: C204. Note 4 allows states “existing access roads shall be improved as needed”. A detail should be provided for this potential work. The note addresses road slopes, but does not address width, and potential grade (i.e. cut/fill) changes.

Response: Details for the road improvements necessary to meet the minimum requirements of the Newbury Fire Department (refer to response to Town of Newbury Fire Department Comment 1 above) for width and grade are provided on Sheet C504.

Comment 13: C204. Note 6 states that “fill to raise grades shall meet the requirements of MADOT gravel borrow per sheet C001”. The board may want the plan to specify where grade changes are proposed/anticipated.

Response: Note 6 on Sheet C204 has been moved to Sheet C205.

Comment 14: C205. The plan addresses the area within the array footprint. The stockpile areas should be removed from the plan, and stabilization of these areas should be addressed.

Response: The temporary material and equipment stockpiling locations have been removed from Sheet C205. These areas will be restored to match existing conditions upon completion of the project in accordance with the Soil Stabilization/Seeding notes on Sheet C001.

Comment 15: C205. The plan should address whether any “modified” access roads will be returned to grass, as shown on the existing conditions plan.

Response: Modified access roads will not be returned to grass. As indicated on the Record Drawings for the Newbury Landfill Closure Project (Camp Dresser & McKee Inc., August 2003) the existing landfill perimeter access roads were constructed with a compacted gravel travel surface. Grass vegetation of

the gravel travel surface has occurred over time likely as a result of windblown seeding.

Comment 16: C206. The plan shows proposed work such as perimeter security chain link fence, utility poles and above ground electrical conduit that is located outside of the proposed erosion control in many areas. The fence is shown on what appears to be stone slopes, in the floodplain/ACEC, and against the wetlands without any erosion control.

Response: Erosion controls are not proposed for the chain link fence installation as fence posts will be supported using above grade ballast blocks and no disturbance of soils is required for installation. Erosion controls for installation of new utility poles and aboveground electrical conduit have been added to Sheet C206.

Comment 17: C206. The above ground conduit is encased in a 1'-8" by 11" block of concrete, adjacent to the wetland in some areas. The board may want erosion control to be shown, as would be typical, along with proposed methodology as to how the concrete will be formed/poured. The board may also want the engineer to address whether this block of concrete will block surface runoff.

Response: Erosion controls for installation of aboveground electrical conduit have been added to Sheet C206, and erosion controls have been added to the aboveground encased conduit detail on Sheet C501. The methodology for construction of the conduit will be typical poured-in-place methods utilizing temporary formwork to be assembled prior to pouring and striped once the concrete has cured. The concrete will not block run-off from the access road as the conduit will be aligned along the upgradient side of the road.

Town of Newbury DPW 01/14/2022:

Comment 1: Who will be responsible for mowing the grass areas and if grass, trees, bushes, etc., start growing in the rip rapped areas who would be responsible for maintenance.

Response: ACE will maintain the areas within the leased footprint and the Town will maintain all other areas outside of the leased footprint.

Comment 2: The plans show new fencing connection to an old existing section of fence in front of the old transfer station. That fencing is old and in need of repair. The Town may want to consider replacing that at the same time.

Response: Fencing will be installed as shown on the drawings. Any repairs or replacement of existing fencing shall be the responsibility of the Town of Newbury.