

South Ripley Solar Environmental Impact Design Change Log

Revision	Date	Design Changes to Mitigate Siting Impact(s)	Impact(s)
A (Preliminary)	06.12.2020	<ol style="list-style-type: none"> 1. Landowner Exclusion Zones (landowner defined areas of avoidance of forest or agricultural impacts) applied to developable area. 2. PV arrays setback from all desktop mapped wetlands. 3. Design prepared for both Fixed Tilt and Single Access Tracking. 4. Panel areas removed from areas of extremely slope (20%+). 	<ol style="list-style-type: none"> 1. Avoidance of tree clearing and AG impacts 2. Wetland Impact Avoided 3. N/A 4. Grading area limited
B (Preliminary)	6.18.2020	<ol style="list-style-type: none"> 1. GCR updated for Fixed Tilt and SAT 2. Add space for collection substation (SAT) 3. Update panel height for SAT 	N/A
C (Preliminary)	06.25.2020	<ol style="list-style-type: none"> 1. Access roads and inverter pad sites added throughout Project site. 	N/A
D	07.15.2021	<ol style="list-style-type: none"> 1. Rerouted fencing to avoid crossing wetland features. 2. Rerouted fencing in areas with module arrays in close proximity to allow for wildlife to traverse between the arrays. 3. PV array access road routes routed minimize road length within PV array. 4. Fixed tilt selected over single axis tracking for racking technology. Single axis tracking yielded insufficient installed capacity for commercial viability; sound impact reduced with fixed tilt. 5. Inverters modified from central inverters to colocated string inverters offering lower sound production in select locations, less added impervious surface, and better scalability to array size. 	<ol style="list-style-type: none"> 1. Wetland Impact Reduced 2. Impact to local wildlife reduced 3. Reduction of grading impact and impervious surfaces 4. Sound power level reduction 5. Sound power level and impervious surface reduction
E	08.20.2020	<ol style="list-style-type: none"> 1. Shifted AR36 to utilize farm path on parcel 293.00-1-11.1 to minimize road grading and impact to property. 2. Incorporated gas well site on parcel 293.00-1-25 to panel array, removing PV racks and adjusting fencing to permit access and use by O&G company. 3. Removed PV array siting on 309.00-2-13.2 to avoid tree clearing. 4. Relocated inverter on parcel 309.00-2-3.1 away from occupied non-participating residences to mitigate potential sound impacts. 5. Relocated inverter/transformer and reduced length of AR11 on parcel 291.00-1-8 to reduce impervious surface impact. 6. Rerouted AR11 and relocated inverters on parcel 291.00-1-6 to avoid high slope creek (ST - 39) edge on east side of parcel to flat west side of parcel. 7. Onsite wetland data collected and incorporated into design. 	<ol style="list-style-type: none"> 1. Reduction of impervious surfaces 2. Reduced Impact to O&G facilities 3. Tree clearing reduced 4. reduction in sound power level at non-participating Landowners 5. Reduction of impervious surfaces 6. Reduced Grading and Impacts to ST - 39 7. N/A
F	09.21.2020	<ol style="list-style-type: none"> 1. Ground coverage ratio determined. 2. Single module string racks added in locations within arrays where two module string racks can not be sited due to environmental constraints. 3. Forest clearing expanded to reach required project capacity. 4. Preliminary collection routing added. 	N/A
G	10.02.2020	<ol style="list-style-type: none"> 1. 250ft setback of solar panels applied to occupied residences 2. 100ft setback from South Ripley Cemetery increased to 250ft to reduce visual and sound impacts at cemetery. 3. O&G setbacks of solar panels incorporated 4. Solar array setback applied to Twentymile Creek. 	<ol style="list-style-type: none"> 1. Potential sound and Visual impacts to neighboring landowners mitigated 2. Historic Resource Impact Mitigated 3. O&G Facility Impact Avoided 4. Wetland Impact Avoided
H	11.2.2020	<ol style="list-style-type: none"> 1. Shortened AR11 on parcel 291.00-1-8 to decrease grading near wetland buffer. 2. Removed solar racks from parcel 291.00-2-9 to reduce clearing and proximity to O&G facilities. Approximately 9 racks removed. 3. Removed solar racks from parcel 291.00-1-11 to reduce visual impact to South Ripley Cemetery and impacts to high slope areas where extreme grading would be required. Approximately 76 racks removed. 4. Removed solar racks from parcel 291.00-1-8 to reduce impacts to high slope streams (ST - 52 and ST - 50) banks where extreme grading would be required. Approximately 32 racks removed. 5. Removed solar racks from parcel 291.00-1-7 to reduce impacts to high slope stream (ST - 50) banks where extreme grading would be required. Approximately 7 racks removed. 6. Removed solar racks from parcel 291.00-1-8 to reduce impacts to high slope stream (ST - 39) banks where extreme grading would be required. Approximately 70 racks removed. 7. Removed solar racks from parcel 309.00-2-8 to reduce impacts to high slope streams (ST - 02 and ST - 11) banks where extreme grading would be required. Approximately 57 racks removed. 8. Removed solar racks from parcel 292.00-1-18 to reduce proximity to Twentymile Creek. Approximately 23 racks removed. 9. Removed solar racks from parcel 292.00-1-15 to reduce impacts to high slope stream (ST - 20) banks where extreme grading would be required. Approximately 14 racks removed. 10. BESS location added and duplicative access roads added for fire department access 11. OH collection route updated for crossing of wetland features (Wetland 46) <p><i>* Approximately 13 MWdc removed between #s 3-9</i></p>	<ol style="list-style-type: none"> 1. Wetland Impact Avoided 2. O&G Facility Impact Avoided 3. Wetland Impact Avoided 4. Wetland Impact Avoided 5. Wetland Impact Avoided 6. Wetland Impact Avoided 7. Wetland Impact Avoided 8. Wetland Impact Avoided 9. Wetland Impact Avoided 10. Emergency Response Support 11. Wetland Impact Avoided

I	01.11.2021	1. no major changes	N/A
J	02.04.2021	<ol style="list-style-type: none"> 1. Changed concrete foundation fence posts to driven posts in wetland areas. 2. Rerouted AR13 on parcel 291.00-1-11 to avoid wetland impacts. 3. Rerouted AR36 on parcel 293.00-1-11.1 to remove a wetland crossing and reduce wetland impacts to Wetland 83 - PEM. 4. Reduced fencing and added gates for landowner of parcel 292.00-1-22.2 to be able to cross access road for farming activities. 5. Rerouted AR 29 and UG collection line route on Parcels 309.00-2-1.2 and 309.00-2-1.1 to significantly reduce crossing impact to Wetland 21. 6. Removed stormwater management area on parcel 309.00-2-3.1 to reduce impact to Tall Ironweed population and maintain vegetative screen along roadway. 7. Updated battery energy storage access road to connect with access road outside of energy storage system fence, request from fire officials for ease of access. 8. Rerouted underground collection line on parcel 291.00-1-7 to minimize stream crossing impact of ST-50. 9. Rerouted OH collection line on parcel 308.00-2-10 to minimize impact to Wetland 46. 10. Removed select solar module racks on parcel 308.00-2-10 to increase solar array distance from Wetland 46. 11. BESS arrangement updated to reduce sound impact. 12. Underground bores added in place of trenching across wetland features across the project site. 	<ol style="list-style-type: none"> 1. Wetland Impact Reduced 2. Wetland Impact Reduced 3. Wetland Impact Reduced 4. AG Impact Reduced 5. Wetland Impact Reduced 6. Rare Plant and Visual Impact Reduced 7. Emergency Response Support 8. Wetland Impact Reduced 9. Wetland Impact Reduced 10. Wetland Impact Reduced 11. sound Impact Mitigated 12. Wetland Impact Reduced
K	04.04.2021	<ol style="list-style-type: none"> 1. Removed racks on parcel 293.00-1-25 to maintain existing vegetative screening at Sherman Road (NY-76). 2. Removed solar module racks and rerouted security fence on parcel 292.00-1-15 to reduce impacts to ST - 20. 3. Set fence line on parcel 291.00-1-6 farther away from O&G facilities to provide more space for access. 4. Remove solar module racks and reroute security fence on parcel 291.00-1-38.1 to reduce impacts to Wetland 16. 	<ol style="list-style-type: none"> 1. Visual Screen Preserved 2. Wetland Impact Reduced 3. O&G Facility Impact Avoided 4. Wetland Impact Reduced
L	04.20.2021	<ol style="list-style-type: none"> 1. Rerouted AR35 on parcel 293.00-1-25 to avoid impact to Rt. 76 guardrail and preserve existing vegetative buffer. 2. Updated fencing to avoid proximity and impact to St-20 and Wetland 37 - PSS 3. Changed collection from UG to OH on parcel 292.00-1-18 where route crossed Twentimile Creek to minimize environmental impact to feature and potential archaeological site (see Phase 1B). 4. Removed panels and reduced fencing on parcel 309.00-2-8 to increase setback from Twentymile Creek and reduce tree clearing impact. 5. Rerouted collection line on parcel 309.00-2-11.2 to minimize tree clearing and impact to Wetland 111 - PEM. 6. Moved fencing on parcel 309.00-2-1.1 to reduce impact to Wetland 21 - PSS 7. Reduced fencing and rerouted collection line on parcel 308.00-2-12 to reduce tree clearing. 8. Removed 4 PV racks and updated fencing to reduce wetland impacts to Wetland 46 - PSS. 9. Rerouted AR23 on parcel 291.00-2-12 to reduce proximity to participating residence and existing vegetative screen. 10. Rerouted collection line on parcel 291.00-2-9 to reduce wetland impacts and tree clearing. 11. Rerouted AR12 on parcel 291.00-2-9 to reduce wetland impacts. 12. Rerouted AR13 on parcel 291.00-1-11 to avoid proximity to non-participating neighbor property line. 13. Rerouted AR08 on parcel 291.00-1-4 retain greater usable agricultural land on parcel. 14. Rerouted AR07 on parcel 291.00-2-20 to reduce wetland impacts. 15. Updated AR06 and fencing on parcel 291.00-1-35 to limit wetland impact to FA Wetland 019 - PEM. 16. Updated PV fencing and road placement on parcel 290.00-1-12.1 to reduce tree clearing and impacts to wetland 012-PFO. 17. Rerouted AR01 on parcel 290.00-1-23.1 to retain greater usable agricultural land on parcel. 18. Updated OH collection line spacing and route to reduce impacts to wetland 012-PFO. 19. Added ring road around BESS for 360 degree access to facility. 20. Added emergency response water source (on-site pond) adjacent to BESS. 21. Updated inverter locations at numerous points across project area to reduce sound to occupied residences. 22. Split AR26 into AR26A and AR26B to avoid crossing Wetland 21. 	<ol style="list-style-type: none"> 1. Visual Screen Preserved 2. Wetland Impact Reduced 3. Tree Clearing and Wetland Impact Reduced 4. Tree Clearing and Wetland Impact Reduced 5. Tree Clearing and Wetland Impact Reduced 6. Wetland Impact Reduced 7. Tree Clearing Reduced 8. Wetland Impact Reduced 9. Tree Clearing and Wetland Impact Reduced 10. Wetland Impact Reduced 11. Emergency Response Support 12. Adjacent Landowner Impact Reduced 13. AG Land Impact Avoided 14. Wetland Impact Reduced 15. Wetland Impact Reduced 16. Tree Clearing and Wetland Impact Reduced 17. AG Land Impact Avoided 18. Wetland Impact Reduced 19. Emergency Response Support 20. Emergency Response Support 21. Sound power level reduction 22. Wetland Impact Reduced
M	05.24.2021	<ol style="list-style-type: none"> 1. Visual Planting Modules added to design. 2. Updated panel array and fence location on parcel 290.00-1-23.1 to reduce impact to AG field (avoid siting as much as possible in field). 3. Rerouted AR14 on 291.00-2-9 to move road entrance further from church across from parcel on NE Sherman Road. 4. Reduced proposed grading areas within PV arrays. 5. Updated all Access Roads to 20 ft width for fire department access. 	<ol style="list-style-type: none"> 1. Visual Impact Mitigated 2. AG Impact Reduced 3. Cultural Impact mitigated 4. Reduction in Grading Impact 5. Emergency Response Support

Final Permitting Design	7.29.2021	<ol style="list-style-type: none">1. Updated visual planting modules to reduce visual impact at sensitive resources. Updates include relocating planting modules on tax parcel 309.00-2-8 to reduce visibility of solar array at road and residence, extending length of planting on parcel 291.00-1-11 to reduce visual impact at the South Ripley Cemetery on the adjacent parcel, and adding additional screening on parcel 290.00-1-24 to reduce visual impact of collection substation on road and nearby residences.2. Reduced tree clearing and construction limit of disturbance to reduce impact to wetlands and streams across project area. Examples included, but were not limited to; reducing tree clearing and avoiding impacts to ST-22, ST-11, ST-23, and ST-69 and reducing grubbing to minimize permanent impacts to Wetland 109 - PFO.3. Added dry hydrants to BESS pond for Fire Department water use.	<ol style="list-style-type: none">1. Visual Impact Mitigated2. Wetland Impact Avoided3. Emergency Response Support
-------------------------	-----------	---	--