MSE Design Checklist

The minimum required components of an MSE are:
1. Engineered soil backfill
2. Galvanized steel soil reinforcement
3. Precast reinforced concrete facing panels
4. Reinforced concrete coping (may be incorporated into barrier slab)
5. Unreinforced concrete leveling pad
6. At least one long-term drainage system
7. At least one array of inspection wires for long-term corrosion monitoring of steel soil reinforcement

The plans must include as a minimum:
8. GP, Layout, and Details sufficient to completely describe the 7 components above
9. Plan and/or details of the architectural treatment selected for the project
10. A BIRIS wall number for As-Built plans retention
11. General Notes defining design method, soils parameters, and materials specifications
12. Callouts and/or notes of special design used on the plans that the contractor must include in the proprietary systems submittal (such as extra BW or embedment for bearing resistance, soil reinforcement reconfigured for an external load, height of hydrostatic pressure, CC at obstructions, etc.)
13. Top and bottom of facing elevations and corresponding stationing sufficient for estimation of pay quantity (by square ft of facing)
14. Minimum embedment, design height, minimum BW, design load case (LC1, LC2, or special), and soil reinforcement configuration modifications required for checking shop plan submittals
15. OG and FG (either on layout or typical section as suits the project) for bid estimates
16. Drainage system type, elevations or grades, and outlet locations for future maintenance
17. Inspection wire locations for future access
18. Utility locations and details as needed
19. Barriers and soundwalls modified for the MSE
20. Modification of the top levels of reinforcement when needed to clear roadway section

Other project needs:
21. Foundation Report providing for site-specific seismic demands, global stability, foundation settlement, and bearing capacity
22. MSE monitoring systems for experimental designs, foundation settlement during construction, or other requirements of the project
23. SSP list of permissible pre-approved products selected specifically for the project from the current Authorized Materials List (AML) for Earth Retaining Systems posted on the METS AML webpage