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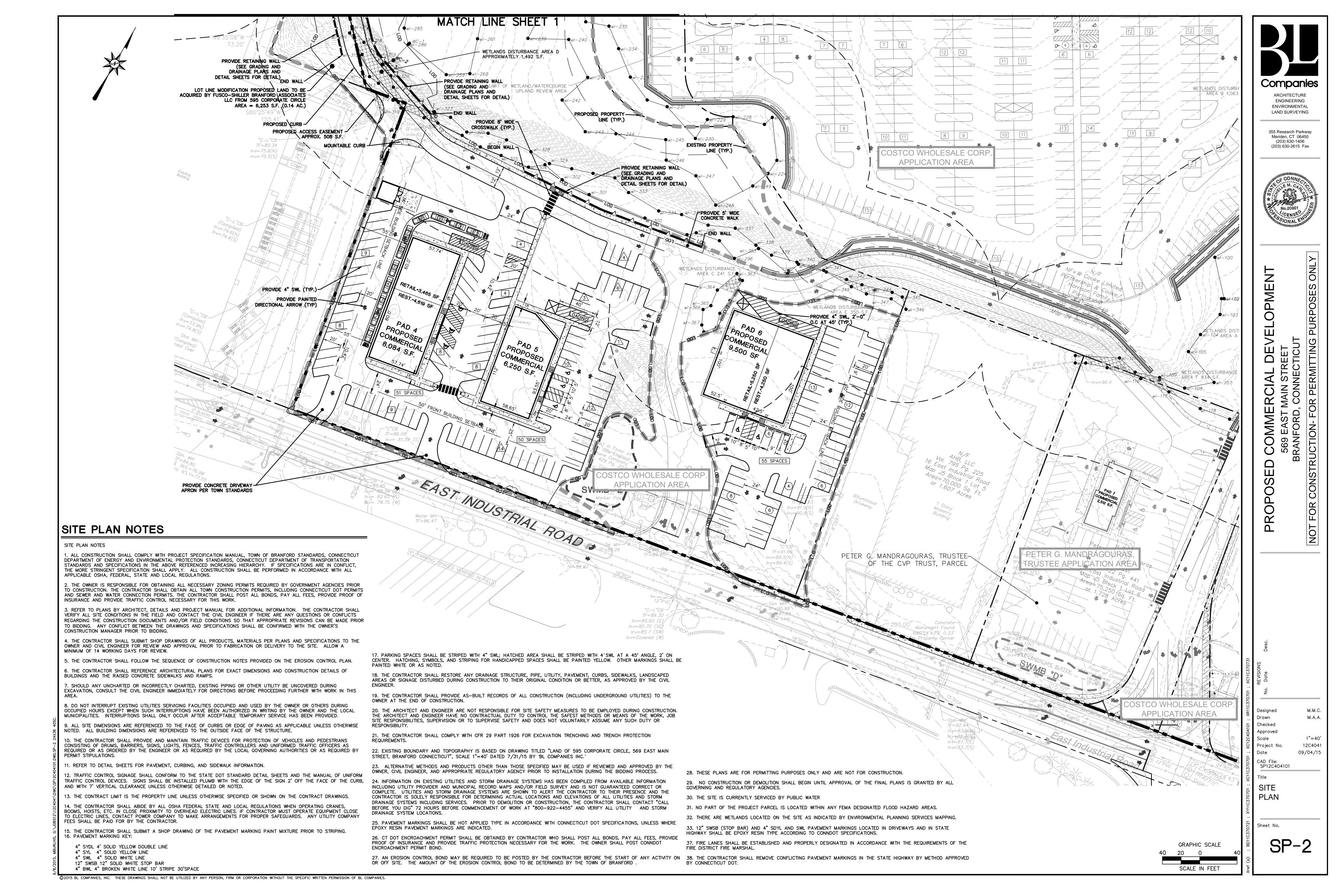
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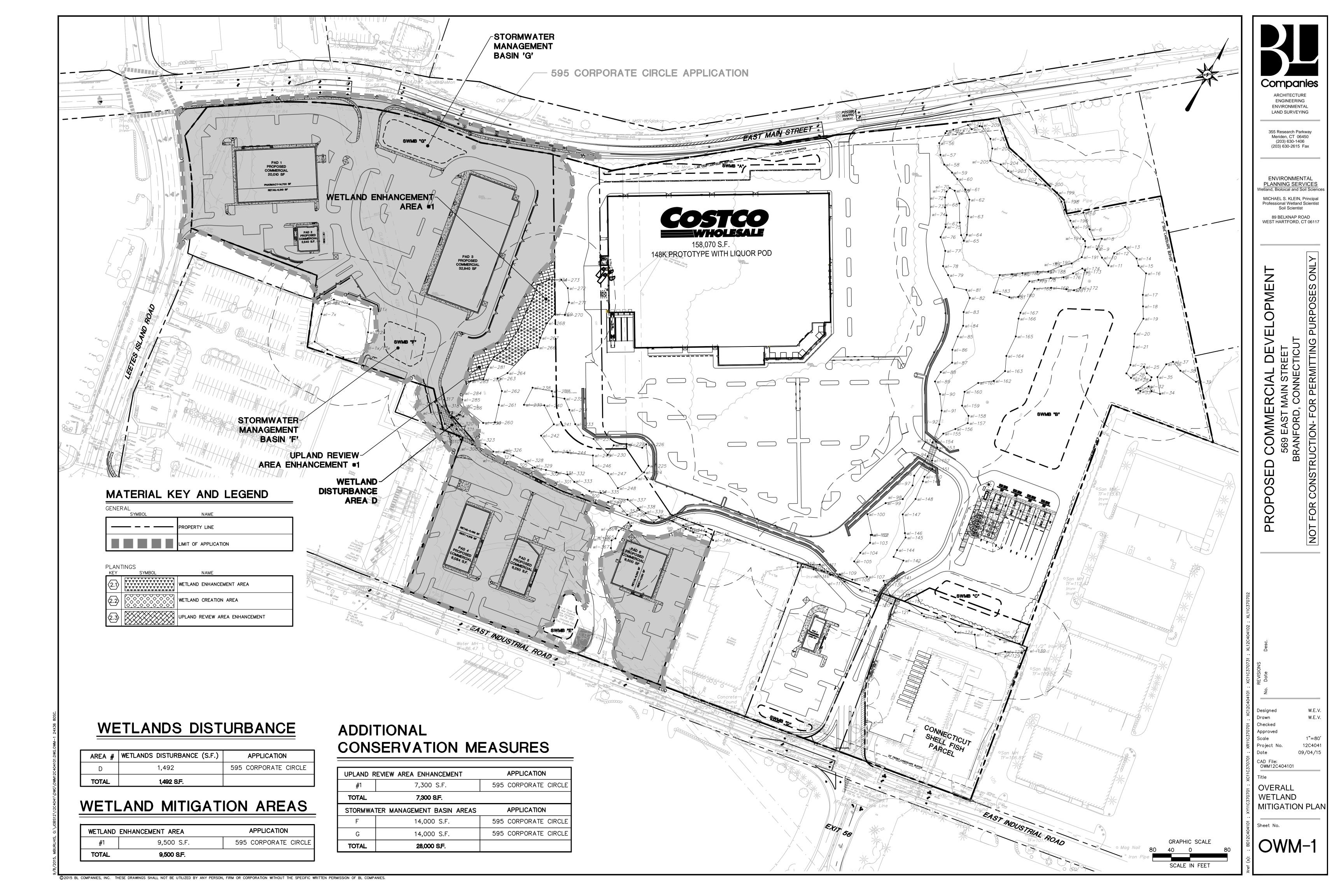
**ENGINEERING ENVIRONMENTAL** LAND SURVEYING

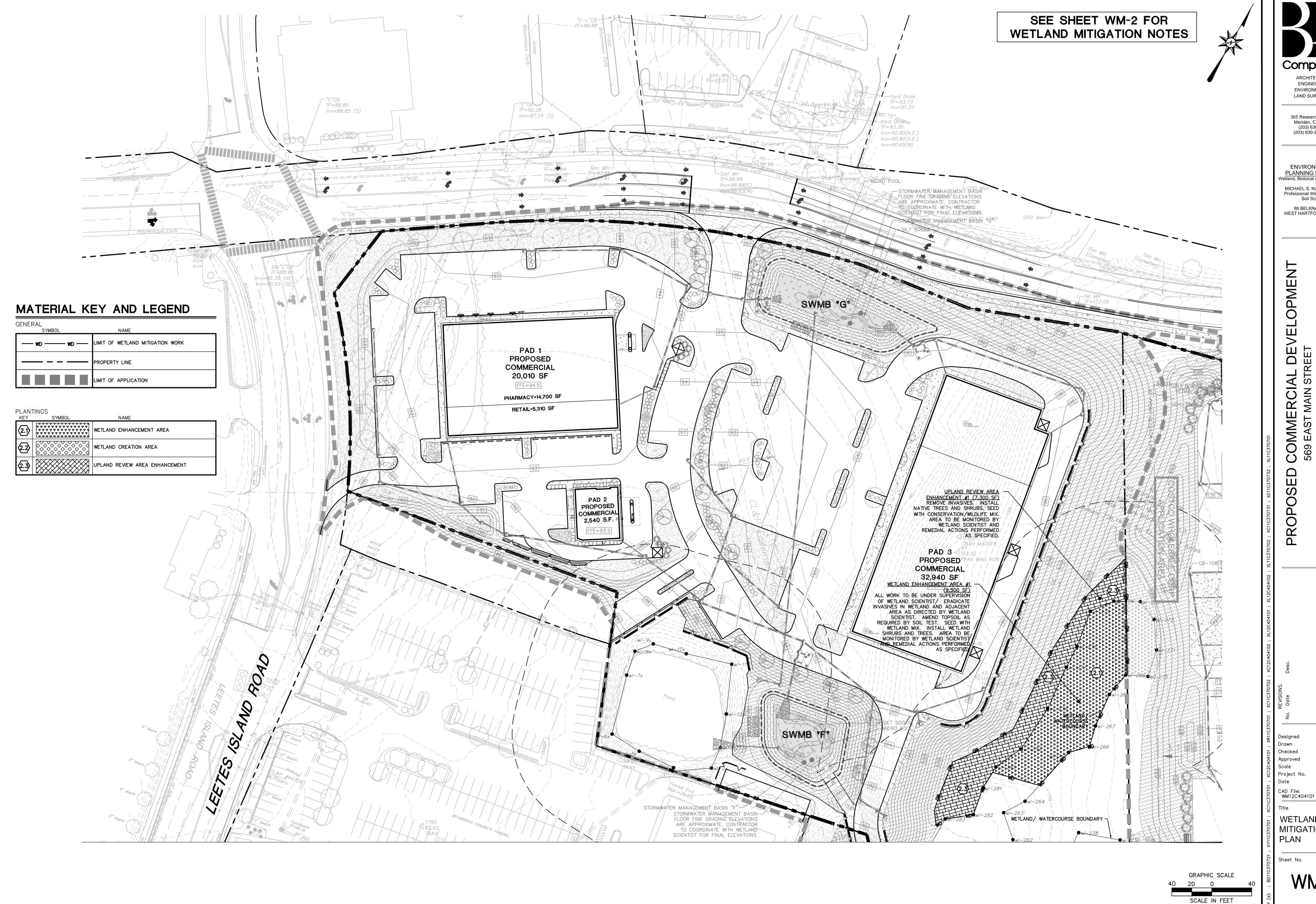
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12C4041 09/04/15







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Companies **ENGINEERING** 

**ENVIRONMENTAL** LAND SURVEYING

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**ENVIRONMENTAL** PLANNING SERVICES
Wetland, Bioloical and Soil Science

MICHAEL S. KLEIN, Principal Professional Wetland Scientist Soil Scientist

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12C4041

09/04/15

WETLAND **MITIGATION** 

## WETLAND MITIGATION PLANT SCHEDULE

|           | Scientific Name  | Common Name                 | Quantity      |               | Size      | Roo    |
|-----------|--|-----------------------------|---------------|---------------|-----------|--------|
| Trees     |  |                             | WE 1          | <b>URAE 1</b> |           |        |
| AR        | Acer rubrum  | Red Maple                   | 12            | 5             | 6'        | Conf   |
| AL        | Amelanchier laevis   | Smooth Shadbush             |               |               | 6'        | Conf   |
| BP        | Betula populifolia   | Gray Birch                  |               | 3             | 6'        | Conf   |
| CE        | Celtis occidentalis  | Common Hackberry            |               | 3             | 6'        | Conf   |
| COA       | Cornus alternifolia  | Alternate-leaf Dogwood      |               |               | 6'        | Conf   |
| CF        | Cornus florida   | Flowering Dogwood           |               | 3             | 6'        | Conf   |
| JV        | Juniperus virginiana   | Red Cedar                   |               |               | 6'        | Cont   |
| NS        | Nyssa sylvatica  | Black Gum                   | 18            | 6             | 6'        | Cont   |
| Pv        | Prunus virginiana  | Chokecherry                 |               | 6             | 4-6'      | Cont   |
| QB        | Quercus bicolor  | Swamp White Oak             | 18            | 6             | 6'        | Conf   |
| RT        | Rhus typhina   | Staghorn Sumac              |               | 3             |           | Conf   |
| SN        | Salix nigra  | Black Willow                | 18            |               | 4-6'      | Conf   |
| SA        | Sorbus americana   | Mountain Ash                | 6             | 3             | 6'        | Conf   |
| TA        | Tilia americana  | Basswood                    |               | -             | 6'        | Con    |
| 173       | Tilla afficilidaria  | Dusswood                    |               |               | -         | COII   |
| Shrubs    |  |                             |               |               |           |        |
| Al        | Alnus incana   | Speckled Alder              | 36            |               | 3-4'      | Con    |
| Ac        | Amelanchier canadensis   | Shadblow                    | 18            | 6             | 3-4'      | Con    |
| CA        | Cephalanthus occidentalis  |                             | 36            | U             | 3-4'      | Con    |
| CL        | Clethra alnifolia  | Sweet Pepperbush            | 12            |               | 3-4'      | Con    |
| CA        | The British Control Co | • •                         | 36            |               | 3-4'      | Con    |
| CR        | Cornus amomum  | Silky Dogwood               | 30            | 10            | 3-4'      |        |
|           | Cornus racemosa  | Gray Dogwood<br>Witchhazel  |               | 12<br>9       |           | Con    |
| HV        | Hamamelis virginiana<br>llex verticillata  |                             | 10            | 9             | 3-4'      | Con    |
| V<br>CC   |  | Winterberry                 | 12            |               | 3-4'      | Con    |
| SC<br>SD  | Sambucus canadensis  | Common Elderberry           | 6             |               | 3-4'      | Con    |
|           | Salix discolor   | Pussy Willow                | 18            |               | 3-4'      | Con    |
| Vc        | Vaccinium corymbosum   | Highbush Blueberry          | 12            | •             | 3-4'      | Con    |
| VD        | Viburnum dentatum  | Arrowwood                   | 18            | 6             | 3-4'      | Con    |
| VL        | Viburnum lentago   | Nannyberry                  | 18            |               | 3-4'      | Con    |
| I II      |  |                             |               |               | 011 1     |        |
| Herbs     |  |                             |               |               | 2" plugs  |        |
|           | Aster novae-angliae  | New England Aster           |               | 50            |           |        |
|           | Eupatorium maculatum   | Spotted Joe-pye Weed        |               | 50            |           |        |
|           | Monarda fistulosa  | Wild Bergamot               |               | 50            |           |        |
| Seed Mi   | ivas   |                             |               |               |           |        |
| oceu IVII | New England Wetmix   | Application Rate: 1 LB/25   | 00 sq. ft     |               |           |        |
|           | New England Erosion Con  |                             |               |               |           |        |
|           | Application Rate: 1 LB/125   |                             | ISI OILES     |               |           |        |
|           | Application rate. I LD/120   |                             |               |               |           |        |
|           | New England Conservation   | n/Wildlife Mix (basin & swa | le slopes ar  | nd disturbe   | ed upland | soils) |
|           | Application Rate: 1 LB/174   | ·                           |               |               |           |        |
|           | Seed mixes are available f   |                             | l Plants, Inc | (newp.co      | m)        |        |
|           |  | <u> </u>                    | ,             |               |           |        |
| WC=We     | tland Creation   |                             |               |               |           |        |
|           | tland Enhancement  |                             |               |               |           |        |

## WETLAND MITIGATION PLANT NOTES

- 1. Invasive non-native species shall be eradicated or removed from designated wetlands and upland review areas after being identified and tagged by EPS staff.
- 2. Any herbicide used for invasive eradication or control shall be approved by project wetland scientist and applied by a licensed professional.
- 3. A marker dye shall be added to any herbicides used for selective invasive plant removal.
- 4. Disposal of invasive plant material shall comply with CT DEEP "Guidelines for Disposal of Terrestrial Invasive Plants" http://cipwg.uconn.edu/wp-content/uploads/sites/244/2014/01/InvasivePlantDisposal\_2014-01-23 . Such material may be chipped and composted on site if done prior to flowering. If after flowering shall be disposed of off site by being bagged, transported securely, and incinerated.
- 5. Maximize the protection of native trees and shrubs at the limit of disturbance using orange construction fencing or equivalent.
- 6. Stormwater Basins shall be amended with at least 12" of organic enriched topsoil (minimum 10% OM) in the basin bottom, which shall be free from Purple Loosestrife (Lythrum salicaria), Common Reed (Phragmites australis), or Reed Canarygrass (Phalaris arundinacea). See callouts on Sheets WM 1-3 for details of individual basins.
- 7. A 50:50 mix of weed-free leaf compost and sand shall be an acceptable substitute for natural topsoil. If used, the compost shall be tested for germination of weed seeds.
- 8. Plants shall not be delivered until EPS has confirmed finished grading and hydrology of the wetland creation, wetland enhancement, review area enhancement, or stormwater treatment areas. If necessary, plant list shall be adjusted according to field conditions.
- 9. Rough grading & final grades to be reviewed and approved by EPS wetland scientist.
- 10. Microtopography, and structural elements shall be determined in the field by EPS wetland scientist.
- 11. Compaction of wetland enhancement area shall be minimized to the maximum extent feasible by the use of excavation hoes, light equipment with turf type tires, or wide track equipment.
- 12. If compaction does occur, the compacted zone shall be tilled to refracture at least 12" of natural soil.
- 13. Soil shall be amended to provide a suitable growing medium for wetland plants under the direction of EPS wetland scientist.
- 14. Any soil amendments shall be approved by EPS staff.
- 15. Soil amendments shall be free from Purple Loosestrife (Lythrum salicaria), Common Reed (Phragmites australis), or Reed Canarygrass (Phalaris arundinacea).
- 16. Install wetland herbs in ponded areas of basins and wetland creation areas under the guidance of EPS staff.
- 17. Plants shall be native species from New England sources to the extent feasible. Cultivars or hybrids are not
- 18. Plant trees and shrubs around existing native vegetation in beds and mulch with pine bark mulch. Mulch around trees with pine bark mulch.
- 19. Average density of trees shall be 15-20 feet o.c.
- 20. Average density of shrubs shall be in groupings 4-6 feet o.c.
- 21. Mulch is not to be renewed.
- 22. Final plant & seed mix locations should be determined in the field by EPS staff.
- 23. Seed non-ponded emergent marsh areas in stormwater basin bottoms and wetland creation areas with New England Wetmix at 1 lb/2500 s.f.
- 24. Seed any disturbed wetland soils with New England Wetmix at 1 lb/2500 s.f.
- 25. Seed lower basin slopes with New England Erosion Control/Restoration Mix (for detention basins and moist sites) at 1 lb/1250 s.f.
- 26. Seed upper slopes and disturbed upland soils with New England Conservation/Wildlife Mix at 1 lb/1750sq ft.
- 27. No substitutions without review by EPS staff.
- 28. All wetland creation and enhancement areas shall be monitored by EPS staff for 5 years, with annual reporting to the Branford Inland Wetlands agent. Remedial measures may be required and shall be implemented as recommended by EPS staff and approved by the Branford Inland Wetlands agent.
- 29. Trees and shrubs shall be protected from deer browse with repellant, cages or fencing.
- 30. Guarantee: Contractor shall guarantee all plants and lawns for a minimum of 1 year to be alive and in vigorous growing condition at the end of the guarantee period. The guarantee period for all plants shall begin upon approval by Owner or Landscape Architect. Plant materials and lawns approved in the Spring shall be alive and in satisfactory growth on June 1 of the following year; planting done in late Fall (after November 1st) shall be maintained and guaranteed until the second Spring's leafing. Replacements: all plants shall be free of dead or dying branches and branch tips, and shall bear foliage of a normal density, size and color. Promptly remove dead, unsightly, unhealthy, or excessively pruned plants. These and any plants missing due to the Contractor's negligence, shall be replaced or added with the same kind and size as originally specified as soon as conditions permit. Method of replacement shall be the same as specified for the original planting with replacements matching adjacent specimens of the same species. Replacements shall be made as many times as necessary to ensure healthy plants and they shall be maintained and guaranteed. Replacements shall be made at the contractor's expense and shall be guaranteed for one full year from time of replacement.



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ELOPMENT

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Designed Drawn Checked Approved Scale

Project No 09/04/15

CAD File: WM12C404101

WETLAND **MITIGATION** NOTES

Sheet No.

WM-2