

REDWOOD ROCHESTER HILLS

E. AVON ROAD
ROCHESTER HILLS, MI 48307
OAKLAND COUNTY



7510 E. PLEASANT VALLEY RD
INDEPENDENCE, OH 44131



Bergmann Associates, Architects, Engineers,
Landscape Architects & Surveyors, D.P.C.
7050 West Saginaw Hwy.
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Lansing, MI 48917

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fax: 517.272.9836

www.bergmannpc.com

DATE	DESCRIPTION
11/16/2018	PUD REVIEW
02/04/2019	REV. PER CITY COMMENTS
03/21/2019	2ND REV. PER CITY COMMENTS
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05/06/2020	ENGINEERING RESUBMITTAL
06/09/2020	ENGINEERING RESUBMITTAL
07/08/2020	ENGINEERING RESUBMITTAL

SEE SHEET C123 FOR
ENLARGED GRADING PLAN

BENCHMARKS:

- TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 675.33 (NAVD88)
- TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 682.29 (NAVD88)
- TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 683.50 (NAVD88)

GRADING NOTES

- REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR REQUIRED EROSION AND SEDIMENT CONTROL MEASURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE VEGETATION HAS OCCURRED COMPLETELY.
- ALL SILT FENCE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- SILT FENCE, JUTE MESH, AND/OR EROSION CONTROL BLANKETS WILL BE USED ON STEEP SLOPES AND WHEREVER NECESSARY TO CONTROL EROSION AND SILTATION OF EXISTING DRAINAGE SYSTEMS AS ORDERED BY THE ENGINEER OR SPECIFIED ON PLANS.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE PROTECTED FROM EROSION EITHER BY MULCH OR TEMPORARY SEEDING WITHIN 2 WEEKS OF DISTURBANCE.
- ALL SITE GRADING MUST BE PERFORMED TO INSURE POSITIVE DRAINAGE ACROSS THE ENTIRE SITE, THROUGHOUT THE PERIOD OF CONSTRUCTION AND AFTER PROJECT COMPLETION.
- ALL SEDIMENTATION AND SOIL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF SITE GRADING AND MUST CONFORM TO PART 91 OF ACT 451 OF THE PUBLIC ACTS OF 1994 AS AMENDED. ALL APPLICABLE PERMITS SHALL BE OBTAINED BEFORE IMPLEMENTING THESE MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION AND SOIL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
- IN GENERAL, EARTHWORK AND PAVEMENT CONSTRUCTION SHOULD BE PERFORMED IN ACCORDANCE WITH THE LATEST MDTOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED.
- REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, UNSUITABLE FILL, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHOULD BE COMPLETELY REMOVED.
- EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
- ON SITE FILL MATERIAL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON SITE MATERIAL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
- THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROFFEROLLED USING A LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
- THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A MINIMUM OF 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DRY DENSITY. THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 12 INCHES BEYOND THE PAVED EDGE OR BACK OF CURB.
- BMP'S WILL BE IMPLEMENTED DURING THE CONSTRUCTION PHASE OF THE PROPOSED PROJECT AND ANY TEMPORARY IMPACT AREAS WILL BE RESTORED TO ORIGINAL GRADES WITH ORIGINAL SOIL OR EQUIVALENT SOILS AND SEEDED WITH CITY APPROVED WETLAND SEED.

GRADING LEGEND:

- 75— PROPOSED MAJOR CONTOUR
- 76— PROPOSED MINOR CONTOUR
- ✕ TC=76.01 PROPOSED TOP OF CURB / BOTTOM OF CURB ELEVATION
- ✕ BC=77.51
- ✕ TW=152.50 PROPOSED TOP OF WALL / BOTTOM OF WALL
- ✕ 77.73 PROPOSED SPOT ELEVATION
- ✕ EG=77.73 EXISTING ELEVATION
- ✕ HP=77.73 PROPOSED HIGH POINT ELEVATION
- ✕ TG=77.73 PROPOSED TOP OF GRATE ELEVATION
- ✕ FF=77.73 FINISHED FLOOR ELEVATION
- 2.5% PROPOSED SLOPE
- 72- EXISTING CONTOUR
- SW — PROPOSED SWALE

NOTE: UNLESS OTHERWISE NOTED, ALL GRADING ACTIVITIES AND LIMITS OF WORK ARE TO TERMINATE OUTSIDE OF THE WETLAND AREAS.

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SEE SHEET C121 FOR
ENLARGED GRADING PLAN

SEE SHEET C122 FOR
ENLARGED GRADING PLAN

7/6/2020 11:35 AM C:\Redwood Living\02066-001 REDWOOD - ROCHESTER HILLS\01 DWG\11 Civil_PLOT FILES\C121 OVERALL GRADING PLAN.dwg

Not For Construction

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Landscape Architects & Surveyors, D.P.C.

Project Manager: P. FURTAW, PE	Checked By: P. FURTAW, PE
Designed By: I. GRAHAM, PE	Drawn By: I. GRAHAM, PE
Date Plotted: NOVEMBER 9, 2018	Plot Number: 12963.00

OVERALL GRADING PLAN

C121

CITY FILE #18-022 SECTION 13

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07/06/2020	ENGINEERING RESUBMITTAL

INSTALL FENCE
BEHIND RETAINING
WALL. SEE DETAIL
SHEET L-3 FOR
ADDITIONAL
INFORMATION

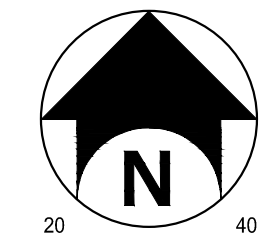
INSTALL FENCE BEHIND
RETAINING WALL. SEE
DETAIL S. SHEET L-3 FOR
ADDITIONAL DETAILS.

INSTALL FENCE BEHIND
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ANY RETAINING WALL UNLESS
OTHERWISE APPROVED BY THE
ENGINEER

GRADING LEGEND:

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- 76— PROPOSED MINOR CONTOUR
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Prepared By: P. FURTAW, PE	Checked By: P. FURTAW, PE
Designed By: I. GRAHAM, PE	Drawn By: I. GRAHAM, PE
Date Revisd: NOVEMBER 9, 2018	Project Number: 12963.00

SOUTHWEST GRADING PLAN

C122

CITY FILE #18-022 SECTION 13

7/16/2020 11:35 AM C:\Redwood Living\012963.00 REDWOOD - ROCHESTER HILLS\01 Dwg\K1 Civil_PLOT FILES\12 SOUTH EAST GRADING PLAN.dwg

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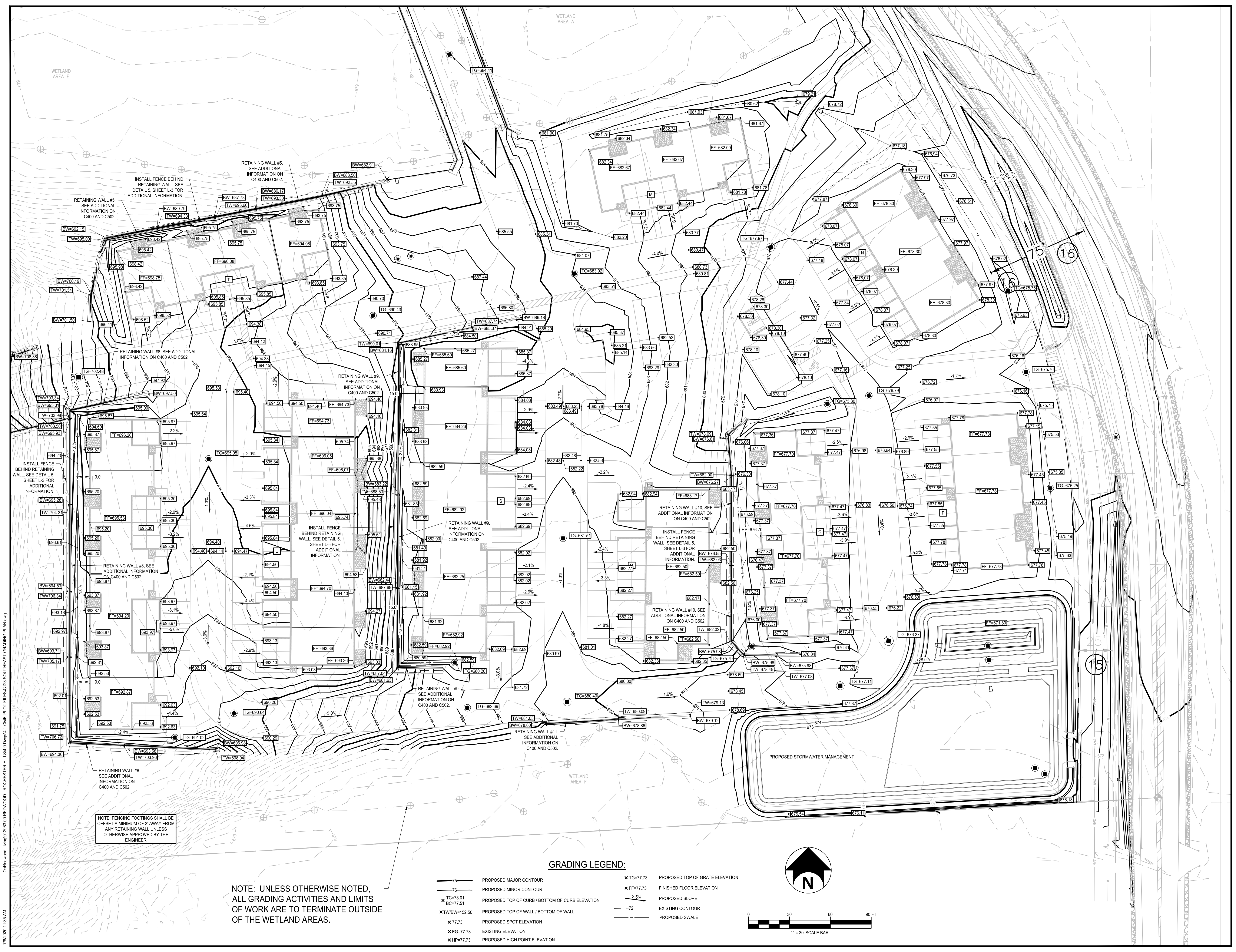


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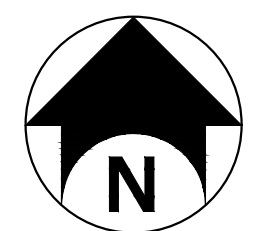


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- ✕ TW=701.54 PROPOSED TOP OF WALL / BOTTOM OF WALL
- ✕ TW=152.50 PROPOSED TOP OF WALL / BOTTOM OF WALL
- ✕ 77.73 PROPOSED SPOT ELEVATION
- ✕ EG=77.73 EXISTING ELEVATION
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Project Manager: P. FURTAW, PE	Checked By: P. FURTAW, PE
Designed By: I. GRAHAM, PE	Drawn By: I. GRAHAM, PE
Date Revisd: NOVEMBER 9, 2018	Project Number: 12963.00

SOUTHEAST GRADING PLAN

C123

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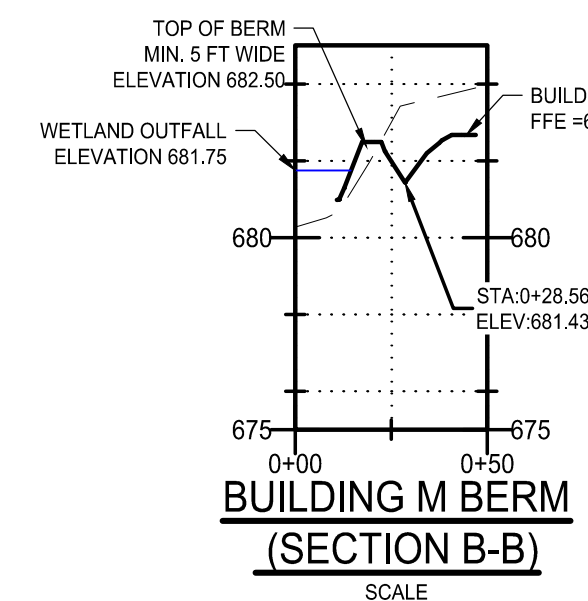
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07/08/2020	ENGINEERING RESUBMITTAL

BENCHMARKS:

1. TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 675.33 (NAVD88)
2. TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 682.29 (NAVD88)
3. TOP OF NORTHWEST BOLT ON HYDRANT, ELEVATION = 683.50 (NAVD88)

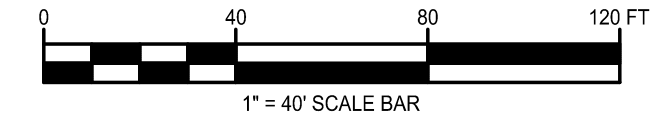
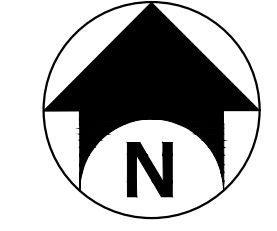
GRADING LEGEND:

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- 76 — PROPOSED MINOR CONTOUR
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- ✕ TW/BW=152.50 PROPOSED TOP OF WALL / BOTTOM OF WALL
- ✕ 77.73 PROPOSED SPOT ELEVATION
- ✕ EG=77.73 EXISTING ELEVATION
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- 2.5% — PROPOSED SLOPE
- 72 — EXISTING CONTOUR
- — PROPOSED SWALE



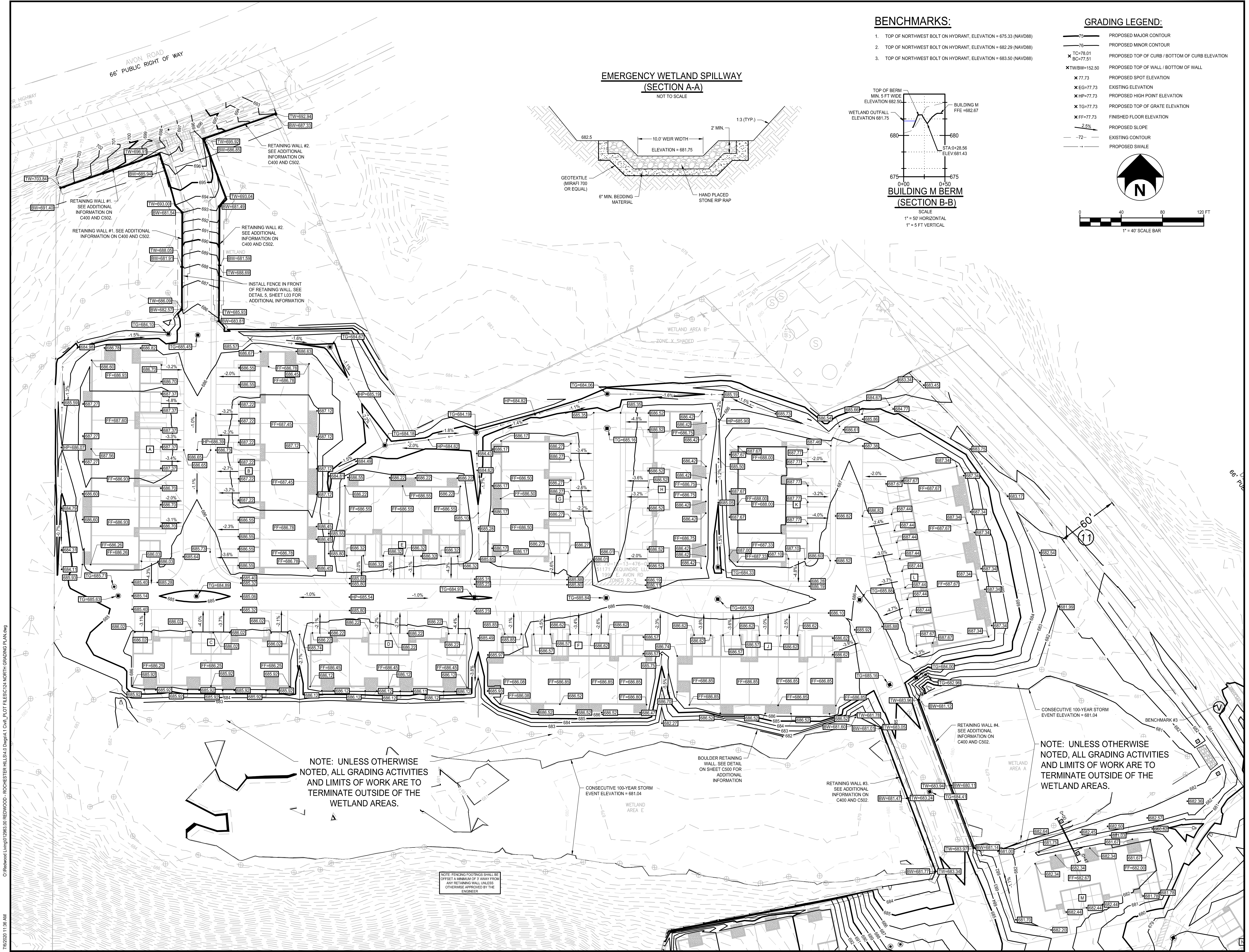
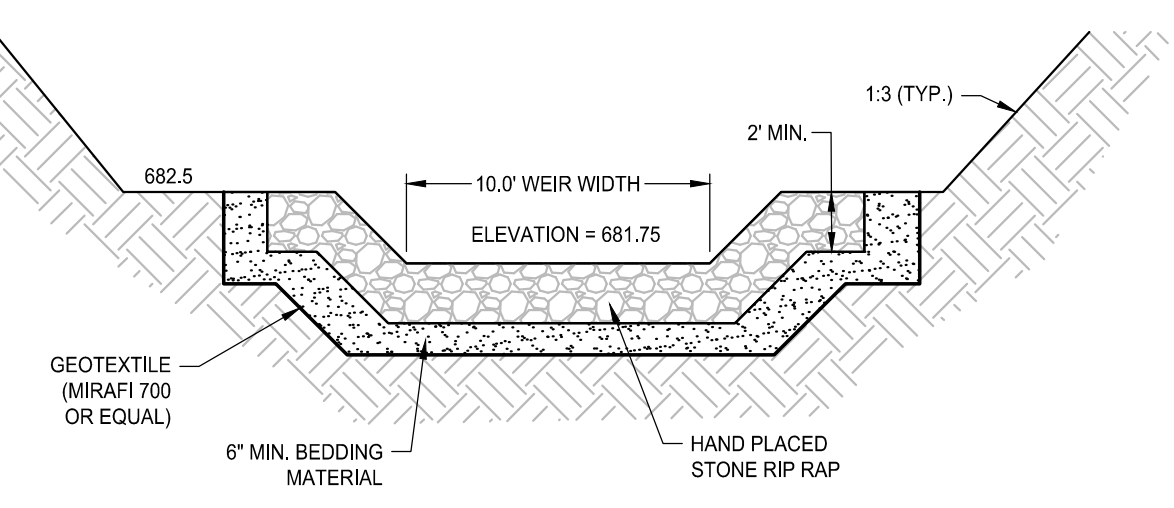
BUILDING M BERM (SECTION B-B)

SCALE
1" = 50' HORIZONTAL
1" = 5 FT VERTICAL



EMERGENCY WETLAND SPILLWAY (SECTION A-A)

NOT TO SCALE



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NORTH GRADING PLAN

C124