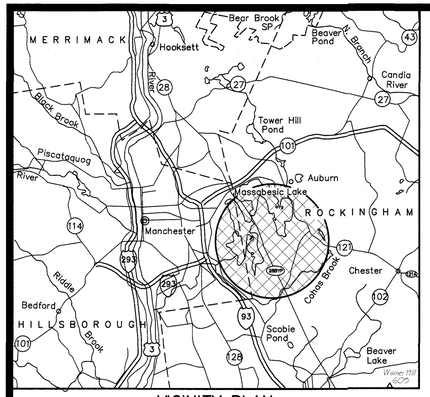
RESIDENTIAL AGE RESTRICTED SITE PLAN

THE WOODLANDS OF AUBURN

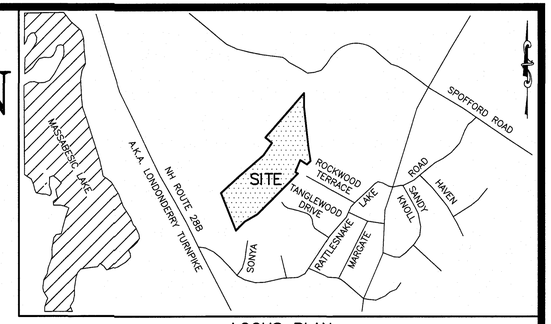
MAP 4 LOTS 13-4 & 16

TANGLEWOOD DRIVE & ROCKWOOD TERRACE

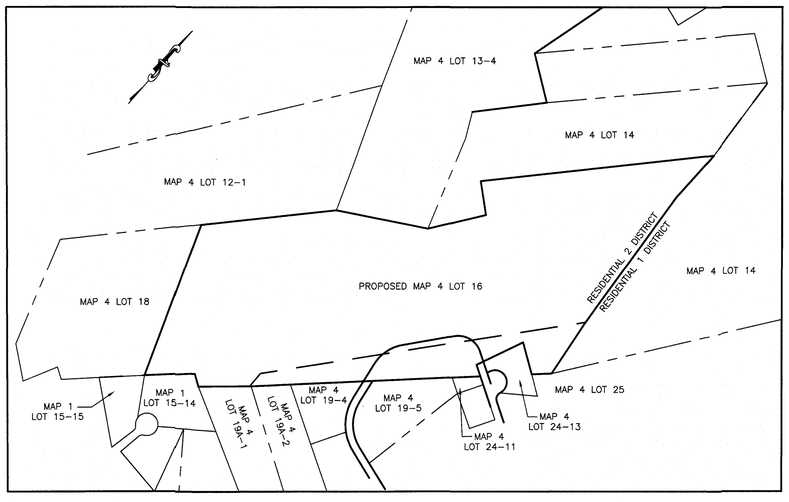
AUBURN, NEW HAMPSHIRE



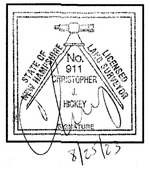
VICINITY PLAN
NOT TO SCALE



LOCUS PLAN
SCALE: 1" = 1,000'



TAX MAP SKETCH
SCALE: 1" = 500'



OWNER OF MAP 4-13-4:
RUSSELL C. SULLIVAN
207 SPOFFORD ROAD
AUBURN, NH 03032

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3B
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

APRIL 19, 2023
PROJECT NO. 19-1114-1
LAST REVISED AUGUST 18, 2023

SHEET TITLE	SHEET No.

MINOR SUBDIVISION PLAN	S1
OVERVIEW PLAN	1
EXISTING CONDITIONS PLAN	2 - 3
CONDOMINIUM SITE PLAN	4 - 9
GRADING & DRAINAGE PLAN	10 - 15
UTILITY PLAN	16 - 21
EROSION CONTROL PLAN	22 - 27
LANDSCAPE PLAN	28 - 32
LIGHTING PLAN	33 - 37
ROADWAY PLAN & PROFILES	38 - 46
ROADWAY CROSS SECTIONS	47 - 50
SIGHT DISTANCE PLAN & PROFILES	51 - 53
OFFSITE IMPROVEMENTS PLAN	54 - 55
WETLAND IMPACT PLAN	56
CONSTRUCTION DETAILS	57 - 61
TEST PIT LOGS	62 - 64

REFERENCE PLANS:

1. PARODI SUBDIVISION, SPOFFORD ROAD, AUBURN, NEW HAMPSHIRE. DATED: JUNE 1983. SCALE: 1"=100'. PREPARED BY: W.G. HOWARD, INC. OF BOW, NEW HAMPSHIRE. RCRD PLAN #11973.
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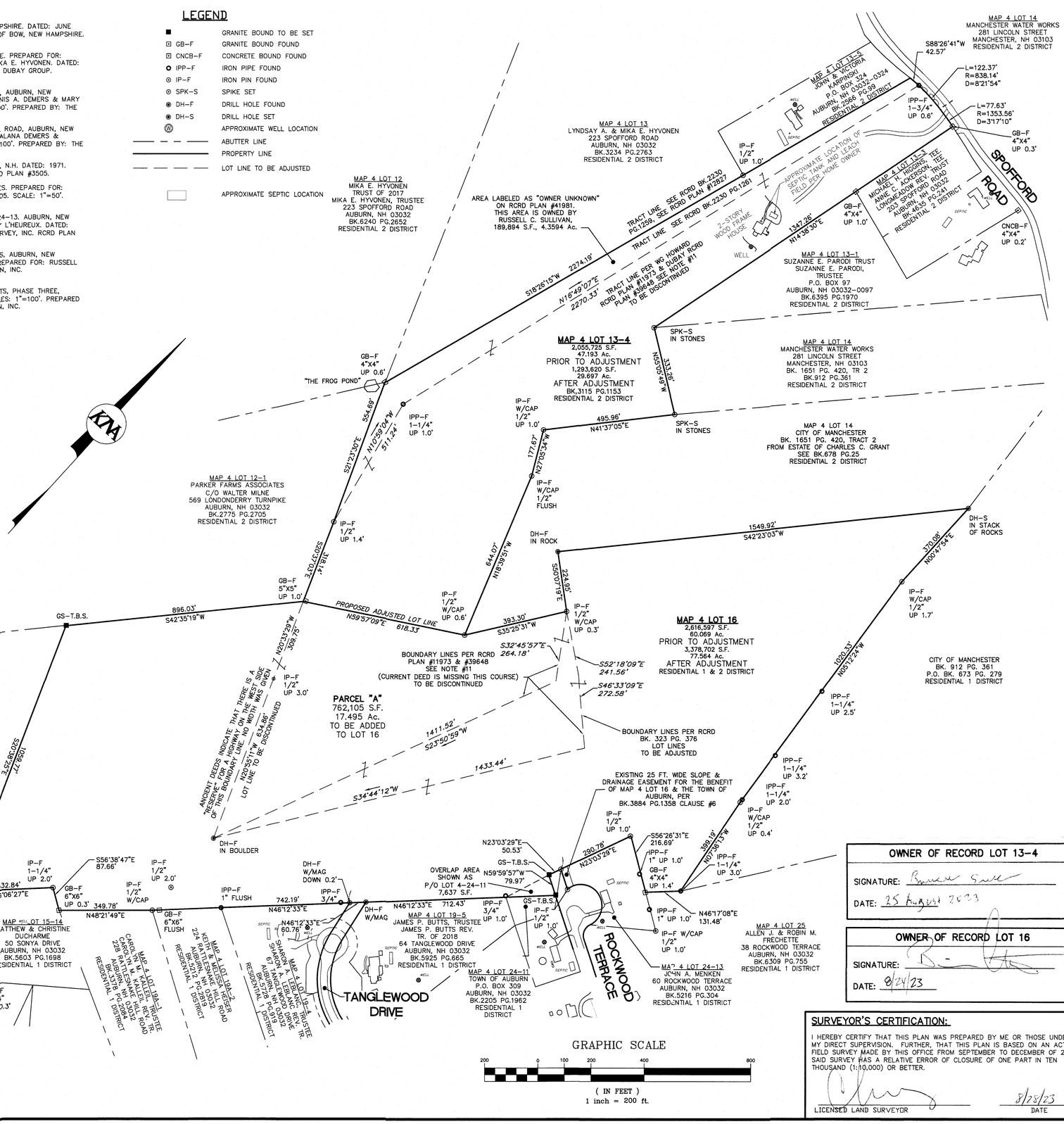
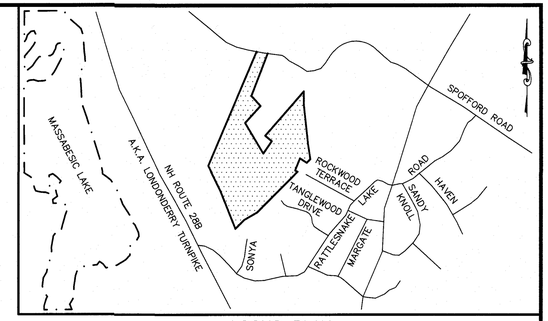
5. PLAN OF R.H. DENNIS INC. DENNIS DEVELOPMENT, AUBURN, N.H. DATED: 1971. SCALE: 1"=80'. PREPARED BY: H.F. BUCHHOLTZ, P.E. RCRD PLAN #3505.
6. CONSOLIDATION & SUBDIVISION PLAN, TANGLEWOOD ESTATES. PREPARED FOR: MATAM INVESTMENTS ASSOCIATES. DATED: AUGUST 10, 2005. SCALE: 1"=50'. PREPARED BY DUVAL SURVEY, INC. RCRD PLAN #35054.
7. BOUNDARY LINE AGREEMENT PLAN, MAP 4 LOTS 18–1 & 24–13. AUBURN, NEW HAMPSHIRE. PREPARED FOR: DENNIS A DEMERS & SHIRLEY L'HEUREUX. DATED: JUNE 27, 2002. SCALE: 1"=30'. PREPARED BY: DUVAL SURVEY, INC. RCRD PLAN #30259.
8. A SURVEY AND PLAT OF A SUBDIVISION–SULLIVAN ESTATES, AUBURN, NEW HAMPSHIRE. DATED: SEPTEMBER 1984. SCALE: 1"=100'. PREPARED FOR: RUSSELL C. & ANN SULLIVAN. PREPARED BY: RSL LAYOUT & DESIGN, INC. RCRD PLAN #12827.
9. A SURVEY AND PLAT OF A SUBDIVISION–WOODLAND HEIGHTS, PHASE THREE, AUBURN, NEW HAMPSHIRE. DATED: SEPTEMBER 1986. SCALES: 1"=100'. PREPARED FOR: DAVID N. NYE. PREPARED BY: RSL LAYOUT & DESIGN, INC. RCRD PLAN #16064.

LEGEND

- ■ GRANITE BOUND TO BE SET
- ⊡ GB–F GRANITE BOUND FOUND
- ⊡ CNCB–F CONCRETE BOUND FOUND
- ○ IPP–F IRON PIPE FOUND
- ⊙ IP–F IRON PIN FOUND
- ⊙ SPK–S SPIKE SET
- ◉ DH–F DRILL HOLE FOUND
- ◉ DH–S DRILL HOLE SET
- Ⓦ APPROXIMATE WELL LOCATION
- ABUTTER LINE
- PROPERTY LINE
- LOT LINE TO BE ADJUSTED
- APPROXIMATE SEPTIC LOCATION





LOCUS PLAN
SCALE: 1" = 1,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO:
   A. SHOW A PROPOSED MINOR SUBDIVISION (LOT LINE ADJUSTMENT) BETWEEN ASSESSORS MAP 4 LOTS 13–4 & 16 BY CREATING PARCEL "A" (17.496 Ac.) WHICH IS TO BE TRANSFERRED BY DEED FROM THE OWNER OF LOT 13–4 TO THE OWNER OF LOT 16 AND IS NOT TO BE CONSIDERED A SEPARATE BUILDING LOT.
   B. SUBDIVIDE ADJUSTED LOT 16 INTO 2 LOTS BY CREATING A 3.816 ACRES LOT THAT IS TO BE USED FOR RIGHT OF WAY PURPOSES ONLY AND IS NOT TO BE CONSIDERED A BUILDABLE LOT.
2. LOT AREAS:

	EXISTING	ADJUSTED
MAP 4 LOT 13–4	47.193 ACRES	29.697 ACRES
MAP 4 LOT 13–4	60.069 ACRES	77.564 ACRES

3. THE SUBJECT PARCELS ARE LOCATED WITHIN THE RESIDENTIAL R–1 & R–2 ZONING DISTRICT AND ARE SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS.

TABLE OF ZONING REQUIREMENTS

DESCRIPTION	R–1	R–2
MINIMUM LOT SIZE	2 AC	2 AC
MINIMUM LOT FRONTAGE	200 FT	200 FT
FRONT YARD SETBACK	50 FT	50 FT
SIDE YARD SETBACK	30 FT	30 FT
REAR YARD SETBACK	50 FT	50 FT
MAXIMUM BUILDING AREA	5%	5%
MAXIMUM BUILDING HEIGHT	35 FT	35 FT

4. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE FROM SEPTEMBER TO DECEMBER OF 2020.
5. HORIZONTAL DATUM IS NAD83 & VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA–OPUS.
6. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE TOWN OF AUBURN, NEW HAMPSHIRE, ROCKINGHAM COUNTY, MAP NUMBER 33015C0328E, PANEL NUMBER 328 OF 681, EFFECTIVE DATE MAY 17, 2005 INDICATES THAT NO PORTION OF THE SUBJECT PARCELS ARE LOCATED IN A DESIGNATED FLOOD ZONE.
7. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH–NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE OWNER OR CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
8. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
9. THIS PLAN CLARIFIES CERTAIN INACCURACIES OF THE BOUNDARY LINES OF MAP 4 LOTS 13–4 & 16 AS SHOWN ON ROCKINGHAM COUNTY REGISTRY OF DEEDS PLAN #11973 & #39648. PLANS #11973 & #39648 DEPICT INACCURATE BOUNDARIES AND LOT AREAS. THIS PLAN CORRECTS THOSE INACCURACIES.

UNDER THE PROVISIONS OF R.S.A. 674:37, APPROVAL IS GRANTED BY THE AUBURN PLANNING BOARD, IN ACCORDANCE WITH THE VOTE OF THE BOARD DATED _____. APPROVAL OF THIS PLAT IS LIMITED TO LOTS AS SHOWN: _____

CHAIRMAN

MINOR SUBDIVISION PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

OWNER OF RECORD LOT 13–4
SIGNATURE: _____
DATE: 25 August 2023

OWNER OF RECORD LOT 16
SIGNATURE: _____
DATE: 8/24/23

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE FROM SEPTEMBER TO DECEMBER OF 2020. SAID SURVEY HAS A RELATIVE ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000) OR BETTER.

LICENSED LAND SURVEYOR — DATE: 8/28/23

STATE OF NEW HAMPSHIRE — No. 911 — CHRISTOPHER A. HICKEY — LICENSED LAND SURVEYOR — SIGNATURE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 — SCALE: 1" = 200'
PROJECT NO: 19–1114–1 — SHEET S1 OF 64

DIG SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — REMEMBER TO CALL 811 TOLL FREE

REFERENCE PLANS:

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10. MINOR SUBDIVISION PLAN, TANGLEROCK HOLDINGS, LLC. ROCKWOOD TERRACE & SPOFFORD ROAD, AUBURN, NEW HAMPSHIRE. DATED: FEBRUARY 18, 2021. SCALE: 1:=200'. PREPARED BY: KEACH–NORDSTROM ASSOCIATES, INC.

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED SITE PLAN OF MAP 4 LOTS 13–4 & 16 INTO 62 "55 AND OLDER HOUSING" UNITS IN THE TOWN OF AUBURN, NEW HAMPSHIRE AS SHOWN HEREON AND NO OTHER PURPOSE.
2. EXISTING AREA OF PARCEL = 3,378,702 S.F. OR 77.564 ACRES.
   OWNERS OF RECORD:

MAP 4 LOT 13–4	MAP 4 LOT 16
RUSSELL C. SULLIVAN	TANGLEROCK HOLDINGS, LLC
207 SPOFFORD ROAD	27 MARTINS FERRY ROAD
AUBURN, NH 03032	HOOKSETT, N.H. 03106
R.C.R.D. BK. 3115 PG. 1153	R.C.R.D. BK. 6144 PG. 1691

3. THE SUBJECT PARCEL IS LOCATED WITHIN THE RESIDENTIAL R–1 & R–2 ZONING DISTRICT AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS.

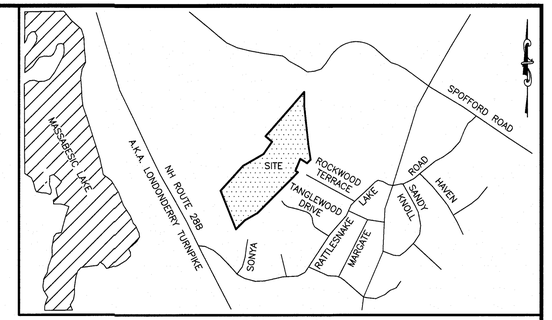
TABLE OF ZONING REQUIREMENTS

DESCRIPTION	R–1	R–2
MINIMUM LOT SIZE	2 AC	2 AC
MINIMUM LOT FRONTAGE	200 FT	200 FT
FRONT YARD SETBACK	50 FT	50 FT
SIDE YARD SETBACK	30 FT	30 FT
REAR YARD SETBACK	50 FT	50 FT
MAXIMUM BUILDING AREA	5%	5%
MAXIMUM BUILDING HEIGHT	35 FT	35 FT

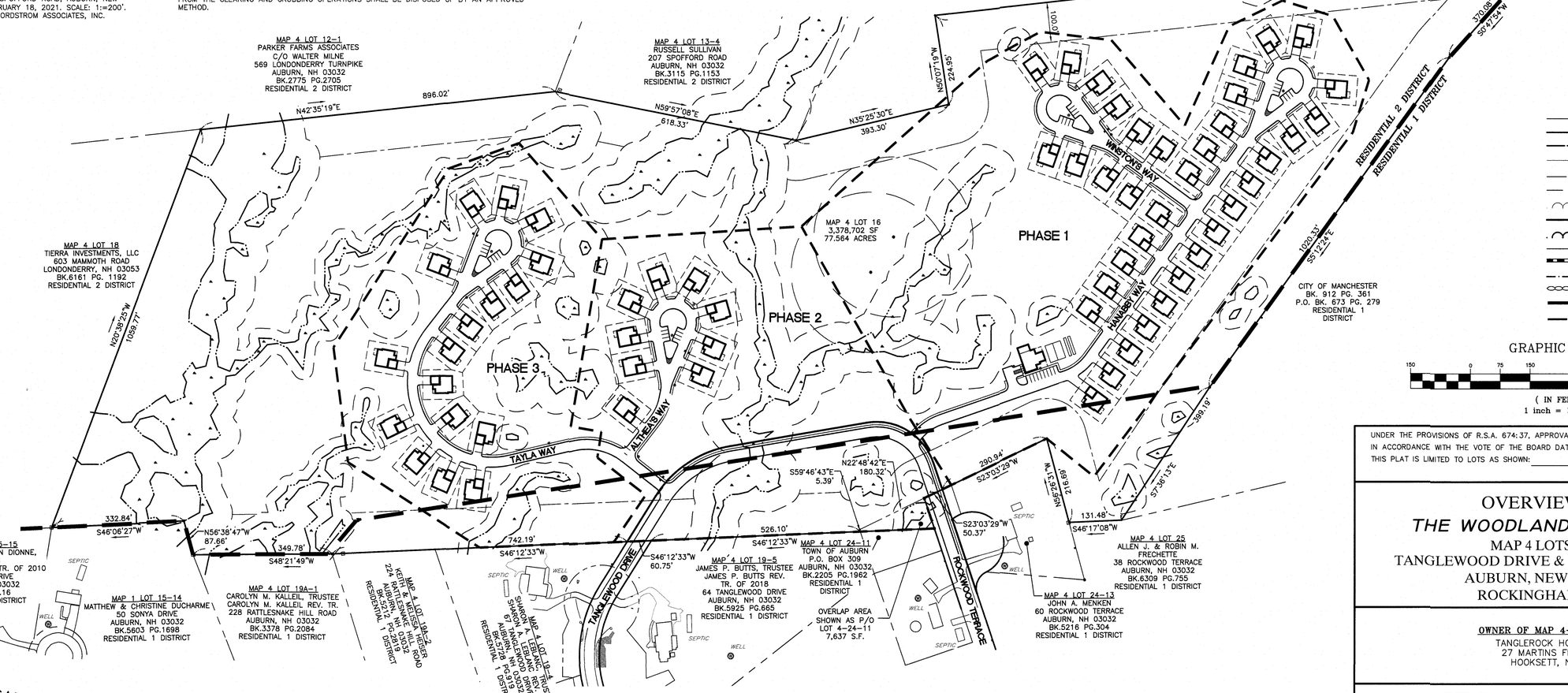
4. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE FROM SEPTEMBER TO DECEMBER OF 2020 AND APRIL OF 2021.
5. HORIZONTAL DATUM IS NAD83 & VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA–OPUS.
6. TOPOGRAPHIC DATA FOR THE INTERIOR OF THE SUBJECT PARCELS IS TAKEN FROM LIDAR DATA OBTAINED THROUGH NHGRANIT.
7. NORTH ORIENTATION IS NAD83.
8. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE TOWN OF AUBURN, NEW HAMPSHIRE, ROCKINGHAM COUNTY, MAP NUMBER 33015C0328E, PANEL NUMBER 328 OF 681, EFFECTIVE DATE MAY 17, 2005 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED IN A DESIGNATED FLOOD ZONE.
9. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH–NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE OWNER OR CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
10. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
11. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
12. WAIVERS REQUESTED:
    THE FOLLOWING WAIVER IS REQUESTED OF THE PLANNING BOARD FROM THE REGULATIONS:
    –WAIVER FROM MAJOR SITE PLAN APPLICATION CHECKLIST – THE APPLICANT IS ASKING TO WAIVE THE REQUIREMENT FOR FINAL DESIGN OF ON–SITE SEPTIC'S UNTIL FIRST DESIGN REVIEW IS COMPLETED AND INPUT FROM PLANNING BOARD AND ABUTTERS HAS BEEN OBTAINED DUE TO THE EXACT NATURE OF THESE SYSTEMS DURING THE STATE PERMITTING PROCESS.
13. THIS PROJECT REQUIRES THE FOLLOWING LOCAL, STATE AND FEDERAL PERMITS:

PERMIT	STATUS	NUMBER
NHDES ALTERATION OF TERRAIN PERMIT	PENDING	XX
INDIVIDUAL SUBSURFACE SEPTICS	REQUIRED PRIOR TO CONSTRUCTION	N/A
NHDES SUBDIVISION APPROVAL	PENDING	XX
NHDES WETLANDS PERMIT	PENDING	XX
NPDES NOTICE OF INTENT	REQUIRED PRIOR TO CONSTRUCTION	N/A

14. THIS DEVELOPMENT WILL BE SERVICED VIA ON SITE SEPTICS, A COMMUNITY WATER SYSTEM AND PROPANE.
15. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSION AND GRADE.
16. ALL UNITS WILL HAVE A TWO CAR GARAGE AND TWO PARKING SPACES IN FRONT OF THE GARAGE FOR TENANT PARKING.
17. ACCUMULATED SNOW WILL BE PLOWED OFF THE ROAD TO WHEREVER SUITABLE AND ALLOW FOR ROADWAY AND SIDEWALK ACCESS.
18. THE ONSITE DRAINAGE SYSTEMS SHALL BE CONSTRUCTED AND MAINTAINED IN COMPLIANCE WITH NHDES REQUIREMENTS FOR SUCH SYSTEMS.
19. ALL BUILDINGS SHALL ADDRESS FIRE PROTECTION COMPLIANCE DURING THE BUILDING PERMIT PROCESS.
20. NO SALT OR CHEMICAL DE–ICERS ARE TO BE USED FOR WINTER MAINTENANCE, WINTER MAINTENANCE TO BE PERFORMED BY A GREEN SNOWPRO CERTIFIED CONTRACTOR, OR FUNCTIONAL EQUIVALENT CERTIFICATION.
21. DENSITY CALCULATIONS:
    GROSS TRACT AREA = 3,378,702 SF
    25%+ SLOPES & WETLANDS = 580,413 SF
    3,378,702 SF – 580,413 SF = 2,798,289 SF OR 64.24 ACRES OF "USABLE LAND"
    64.24 ACRES X 4 BEDROOMS/ACRE = 256 BEDROOMS ALLOWED
    256 BEDROOMS ALLOWED / 2 BEDROOMS/UNIT = 128 UNITS ALLOWED
22. IMPERVIOUS SURFACES CALCULATIONS:
    TOTAL LOT AREA = 3,378,702 SF
    TOTAL IMPERVIOUS AREA = 153,224 SF (BUILDINGS) + 215,235 SF (ROADS & SIDEWALKS) = 368,459 SF
    PERCENTAGE OF IMPERVIOUS AREA = 10.9%
23. BASED ON THE EXISTING CONDITIONS PLAN BY KEACH NORDSTROM ASSOCIATES AND THE LOCATIONS OF WETLANDS, STEEP SLOPES, AND BUILDABLE LAND THIS PROJECT IS SUITABLE FOR THIS SITE.
24. ALL REQUIREMENTS OF THE TOWN OF AUBURN SITE AND SUBDIVISION REGULATIONS, THAT HAVE NOT REQUESTED A WAIVER, ARE INCORPORATED IN THIS DESIGN.
25. THIS PROJECT WILL BE ACCESSED FROM EXISTING TOWN ROADS WITH NO OFFSITE IMPROVEMENTS ANTICIPATED.
26. IT IS THE OWNER AND APPLICANT'S RESPONSIBILITY AND LIABILITY TO BUILD THIS PROJECT AS DESIGNED IN THESE PLANS.
27. THE PLAN SET CONTAINS A TOTAL OF 65 SHEETS, THE FULL PLAN SET OF PROJECT PLANS IS ON FILE AT THE AUBURN PLANNING DEPARTMENT.
28. FIRE PROTECTION SHALL BE SUPPLIED VIA 2 OPTIONS, (1) THE EXISTING CISTERN ON TANGLEWOOD DRIVE (APPROXIMATELY 325' AWAY) AND (2) FIRE SUPPRESSION SYSTEMS IN THE HOMES OUTSIDE THE CISTERN RADIUS PER FIRE DEPARTMENT REQUEST.



LOCUS PLAN
SCALE: 1" = 1,000'



LEGEND

GB–F	GRANITE BOUND FOUND
IPP–F	IRON PIPE FOUND
IP–F	IRON PIN FOUND
DH–F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
GV	PROPOSED GAS VALVE
WV	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL
	ZONE LINE
	PROPOSED PHASE LINE

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft.

UNDER THE PROVISIONS OF R.S.A. 674:37, APPROVAL IS GRANTED BY THE AUBURN PLANNING BOARD, IN ACCORDANCE WITH THE VOTE OF THE BOARD DATED _____. APPROVAL OF THIS PLAT IS LIMITED TO LOTS AS SHOWN: _____

CHAIRMAN

OVERVIEW PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

OWNER OF RECORD LOT 16
SIGNATURE: _____
DATE: 8/24/23

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1–ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE FROM SEPTEMBER TO DECEMBER OF 2020 & APRIL OF 2021. SAID SURVEY HAS A RELATIVE ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000) OR BETTER.

LICENSED LAND SURVEYOR — DATE: 8/25/23

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 911 — CHRISTOPHER J. HICKEY

STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15076 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

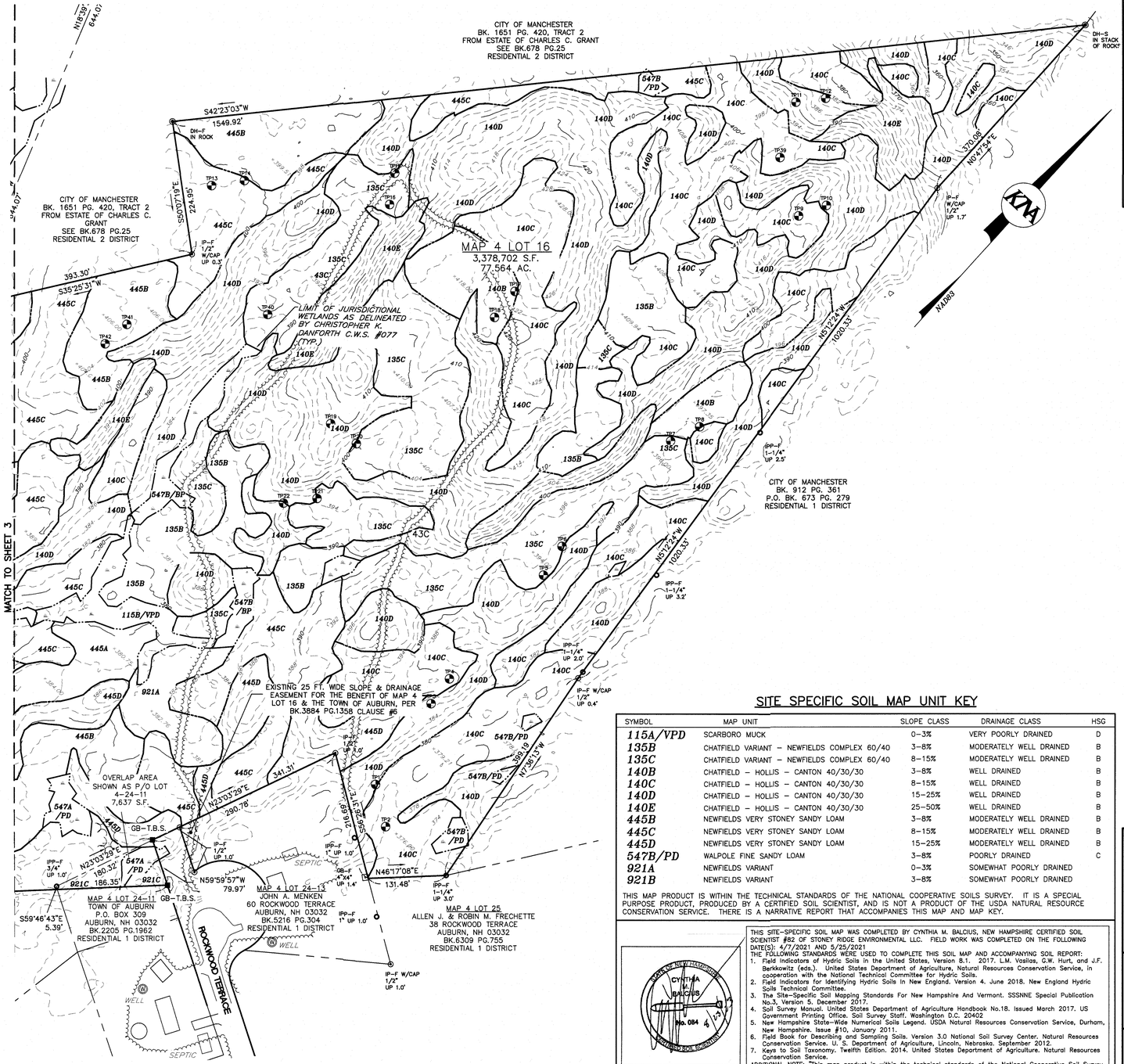
DATE: APRIL 19, 2023 — SCALE: 1" = 150'
PROJECT NO: 19–1114–1 — SHEET 1 OF 64

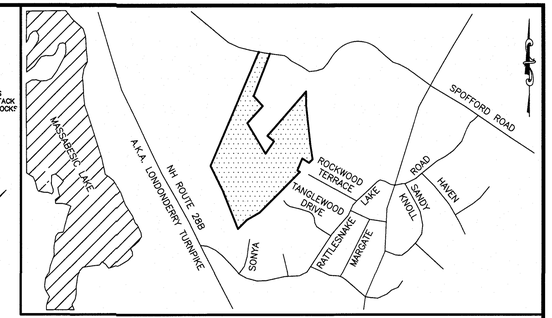
LEGEND

⊡ GB–F	GRANITE BOUND FOUND
○ IPP–F	IRON PIPE FOUND
⊙ IP–F	IRON PIN FOUND
◉ DH–F	DRILL HOLE FOUND
—— — — ——	ABUTTER LINE
————————	PROPERTY LINE
——·——·——	WETLAND
EOP	EDGE OF PAVEMENT
—— 400 ——	10' CONTOUR
—— 402 ——	2' CONTOUR
. . . . .	SOIL LINE
—— — —— — ——	SETBACK
—— — — —— — — ——	EASEMENT

REFERENCE PLANS:

1. PARODI SUBDIVISION, SPOFFORD ROAD, AUBURN, NEW HAMPSHIRE. DATED: JUNE 1983. SCALE:1"=100'. PREPARED BY: W.G. HOWARD, INC. OF BOW, NEW HAMPSHIRE.
   RCRD PLAN #11973.
2. MAP 4 LOT 12, SPOFFORD ROAD, AUBURN, NEW HAMPSHIRE. PREPARED FOR: PEABODY LAKESIDE PROPERTIES, LLC. WALTER MILNE & MIKA E. HYVONEN. DATED: JANUARY 28, 2020. SCALE: 1"=150'. PREPARED BY: THE DUBAY GROUP.
   RCRD PLAN #41981.
3. MAP 4 LOTS 15, 16, 18 & 18–1, RATTLESNAKE HILL ROAD, AUBURN, NEW HAMPSHIRE. PREPARED FOR: RANDALL SANDERSON & DENNIS A. DEMERS & MARY ALANA DEMERS. DATED: OCTOBER 17, 2019. SCALE: 1"=100'. PREPARED BY: THE DUBAY GROUP.
   RCRD PLAN #41952.
4. MAP 4 LOTS 13–4, 15, 16, 18 & 18–1, RATTLESNAKE HILL ROAD, AUBURN, NEW HAMPSHIRE. PREPARED FOR: DENNIS A. DEMERS & MARY ALANA DEMERS & RUSSELL C. SULLIVAN. DATED: MAY 26, 2016. SCALE: 1"=100'. PREPARED BY: THE DUBAY GROUP.
   RCRD PLAN #39648.
5. PLAN OF R.H. DENNIS INC. DENNIS DEVELOPMENT, AUBURN, N.H. DATED: 1971. SCALE: 1"=80'. PREPARED BY: H.F. BUCHHOLTZ, P.E.
   RCRD PLAN #3505.
6. CONSOLIDATION & SUBDIVISION PLAN, TANGLEWOOD ESTATES. PREPARED FOR: MATAM INVESTMENTS ASSOCIATES. DATED: AUGUST 10, 2005. SCALE: 1"=50'. PREPARED BY DUVAL SURVEY, INC.
   RCRD PLAN #35054.
7. BOUNDARY LINE AGREEMENT PLAN, MAP 4 LOTS 18–1 & 24–13. AUBURN, NEW HAMPSHIRE. PREPARED FOR: DENNIS A DEMERS & SHIRLEY L'HEUREUX. DATED: JUNE 27, 2002. SCALE: 1"=30'. PREPARED BY: DUVAL SURVEY, INC.
   RCRD PLAN #30259.
8. A SURVEY AND PLAT OF A SUBDIVISION–SULLIVAN ESTATES, AUBURN, NEW HAMPSHIRE. DATED: SEPTEMBER 1984. SCALE: 1"=100'. PREPARED FOR: RUSSELL C. & ANN SULLIVAN. PREPARED BY: RSL LAYOUT & DESIGN, INC.
   RCRD PLAN #12827.
9. A SURVEY AND PLAT OF A SUBDIVISION–WOODLAND HEIGHTS, PHASE THREE, AUBURN, NEW HAMPSHIRE. DATED: SEPTEMBER 1986. SCALE: 1"=100'. PREPARED FOR: DAVID N. NYE. PREPARED BY: RSL LAYOUT & DESIGN, INC.
   RCRD PLAN #16064.
10. MINOR SUBDIVISION PLAN, TANGLEROCK HOLDINGS, LLC. ROCKWOOD TERRACE & SPOFFORD ROAD, AUBURN, NEW HAMPSHIRE. DATED: FEBRUARY 18, 2021. SCALE: 1:=200'. PREPARED BY: KEACH–NORDSTROM ASSOCIATES, INC.





LOCUS PLAN
SCALE: 1" = 1,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS PRESENT ON MAP 4 LOT 16, SITUATED ROCKWOOD TERRACE IN THE TOWN OF AUBURN, NEW HAMPSHIRE AS SHOWN HEREON.
2. EXISTING AREA OF PARCEL = 3,378,702 S.F. OR 77,564 ACRES.
   OWNER OF RECORD: TANGLEROCK HOLDINGS, LLC
   ATTN: BRIAN CLOUTIER
   27 MARTINS FERRY ROAD
   HOOKSETT, N.H. 03106
   R.C.R.D. BK. 6144 PG. 1691
3. THE SUBJECT PARCEL IS LOCATED WITHIN THE RESIDENTIAL R–1 & R–2 ZONING DISTRICT AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS.

TABLE OF ZONING REQUIREMENTS

DESCRIPTION	R–1	R–2
MINIMUM LOT SIZE	2 AC	2 AC
MINIMUM LOT FRONTAGE	200 FT	200 FT
FRONT YARD SETBACK	50 FT	50 FT
SIDE YARD SETBACK	30 FT	30 FT
REAR YARD SETBACK	50 FT	50 FT
MAXIMUM BUILDING AREA	5%	5%
MAXIMUM BUILDING HEIGHT	35 FT	35 FT

4. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE FROM SEPTEMBER TO DECEMBER OF 2020 AND APRIL OF 2021.
5. HORIZONTAL DATUM IS NAD83 & VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA–OPUS.
6. TOPOGRAPHIC DATA FOR THE INTERIOR OF THE SUBJECT PARCELS IS TAKEN FROM LIDAR DATA OBTAINED THROUGH NHGRANIT.
7. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE TOWN OF AUBURN, NEW HAMPSHIRE, ROCKINGHAM COUNTY, MAP NUMBER 33015C0328E, PANEL NUMBER 328 OF 681, EFFECTIVE DATE MAY 17, 2005 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED IN A DESIGNATED FLOOD ZONE.
8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH–NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE OWNER OR CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
9. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
115A/VPD	SCARBORO MUCK	0–3%	VERY POORLY DRAINED	D
135B	CHATFIELD VARIANT – NEWFIELDS COMPLEX 60/40	3–8%	MODERATELY WELL DRAINED	B
135C	CHATFIELD VARIANT – NEWFIELDS COMPLEX 60/40	8–15%	MODERATELY WELL DRAINED	B
140B	CHATFIELD – HOLLIS – CANTON 40/30/30	3–8%	WELL DRAINED	B
140C	CHATFIELD – HOLLIS – CANTON 40/30/30	8–15%	WELL DRAINED	B
140D	CHATFIELD – HOLLIS – CANTON 40/30/30	15–25%	WELL DRAINED	B
140E	CHATFIELD – HOLLIS – CANTON 40/30/30	25–50%	WELL DRAINED	B
445B	NEWFIELDS VERY STONEY SANDY LOAM	3–8%	MODERATELY WELL DRAINED	B
445C	NEWFIELDS VERY STONEY SANDY LOAM	8–15%	MODERATELY WELL DRAINED	B
445D	NEWFIELDS VERY STONEY SANDY LOAM	15–25%	MODERATELY WELL DRAINED	B
547B/PD	WALPOLE FINE SANDY LOAM	3–8%	POORLY DRAINED	C
921A	NEWFIELDS VARIANT	0–3%	SOMEWHAT POORLY DRAINED	
921B	NEWFIELDS VARIANT	3–8%	SOMEWHAT POORLY DRAINED	

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

STATE OF NEW HAMPSHIRE CYNTHIA M. BALCIUS No. 084 CERTIFIED SOIL SCIENTIST

THIS SITE–SPECIFIC SOIL MAP WAS COMPLETED BY CYNTHIA M. BALCIUS, NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #82 OF STONEY RIDGE ENVIRONMENTAL LLC. FIELD WORK WAS COMPLETED ON THE FOLLOWING DATE(S): 4/7/2021 AND 5/25/2021
THE FOLLOWING STANDARDS WERE USED TO COMPLETE THIS SOIL MAP AND ACCOMPANYING SOIL REPORT:

1. Field Indicators of Hydric Soils in the United States, Version 8.1. 2017. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
2. Field Indicators for Identifying Hydric Soils in New England. Version 4. June 2018. New England Hydric Soils Technical Committee.
3. The Site–Specific Soil Mapping Standards For New Hampshire And Vermont. SSSNNE Special Publication No.3, Version 5. December 2017.
4. Soil Survey Manual. United States Department of Agriculture Handbook No.18. Issued March 2017. US Government Printing Office. Soil Survey Staff. Washington D.C. 20402
5. New Hampshire State–Wide Numerical Soils Legend. USDA Natural Resources Conservation Service, Durham, New Hampshire. Issue #10, January 2011.
6. Field Book for Describing and Sampling Soils. Version 3.0 National Soil Survey Center. Natural Resources Conservation Service. U. S. Department of Agriculture, Lincoln, Nebraska. September 2012.
7. Keys to Soil Taxonomy. Twelfth Edition. 2014. United States Department of Agriculture. Natural Resources Conservation Service.

ADDITIONAL NOTE: "This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, produced by a certified soil scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a narrative report that accompanies this map and key."

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

EXISTING CONDITIONS PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811 CALL TOLL FREE

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH–NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH–NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH–NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

STATE OF NEW HAMPSHIRE CHRISTOPHER K. DANFORTH 8/25/2023 No. 077 CERTIFIED WETLAND SCIENTIST

WETLAND SCIENTIST'S CERTIFICATION:

THE LIMITS OF JURISDICTIONAL WETLANDS AS SHOWN ON THIS PLAN WERE DELINEATED BY CHRISTOPHER K. DANFORTH CWS #077 OF KEACH–NORDSTROM ASSOCIATES. DELINEATION WAS PERFORMED IN DECEMBER 2019 & FEBRUARY 2020 IN ACCORDANCE WITH:

- US ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR–12–1, JANUARY 2012, VERSION 2.0.
- NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2018 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
- NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, CURRENT VERSION

CERTIFIED WETLAND SCIENTIST — DATE 8/25/2023

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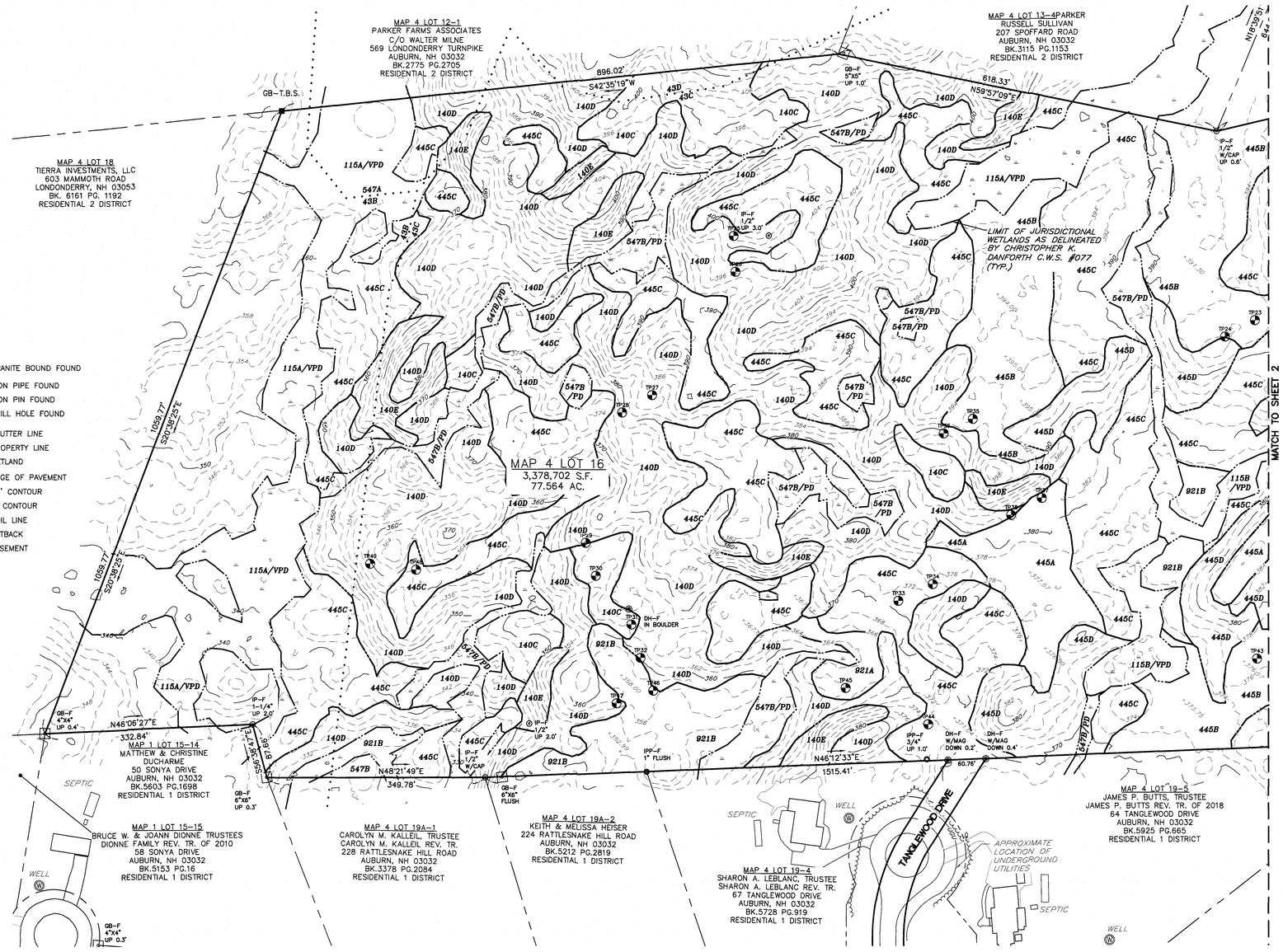
LICENSED LAND SURVEYOR — DATE 8/24/23

STATE OF NEW HAMPSHIRE 911 CHRISTOPHER J. HICKEY LICENSED LAND SURVEYOR

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 — SCALE: 1" = 100'
PROJECT NO: 19–1114–1 — SHEET 2 OF 64



LEGEND

- GB-F — GRANITE BOUND FOUND
- IPP-F — IRON PIPE FOUND
- IP-F — IRON PIN FOUND
- DH-F — DRILL HOLE FOUND
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EOP — EDGE OF PAVEMENT
- 10' CONTOUR
- 2' CONTOUR
- SOIL LINE
- SETBACK
- EASEMENT

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
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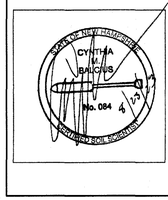

THIS SITE-SPECIFIC SOIL MAP WAS COMPLETED BY CYNTHIA M. BALCIUS, NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #82 OF STONEY RIDGE ENVIRONMENTAL LLC. FIELD WORK WAS COMPLETED ON THE FOLLOWING DATE(S): 4/7/2021 AND 5/25/2021
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SEE SHEET 2 FOR NOTES AND REFERENCE PLANS

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

EXISTING CONDITIONS PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

UTILITY NOTE

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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

STATE OF NEW HAMPSHIRE
CHRISTOPHER K. DANFORTH
No. 077
CERTIFIED WETLAND SCIENTIST

WETLAND SCIENTIST'S CERTIFICATION:

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- NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, CURRENT VERSION

CERTIFIED WETLAND SCIENTIST — DATE 8/28/2023

SURVEYOR'S CERTIFICATION:

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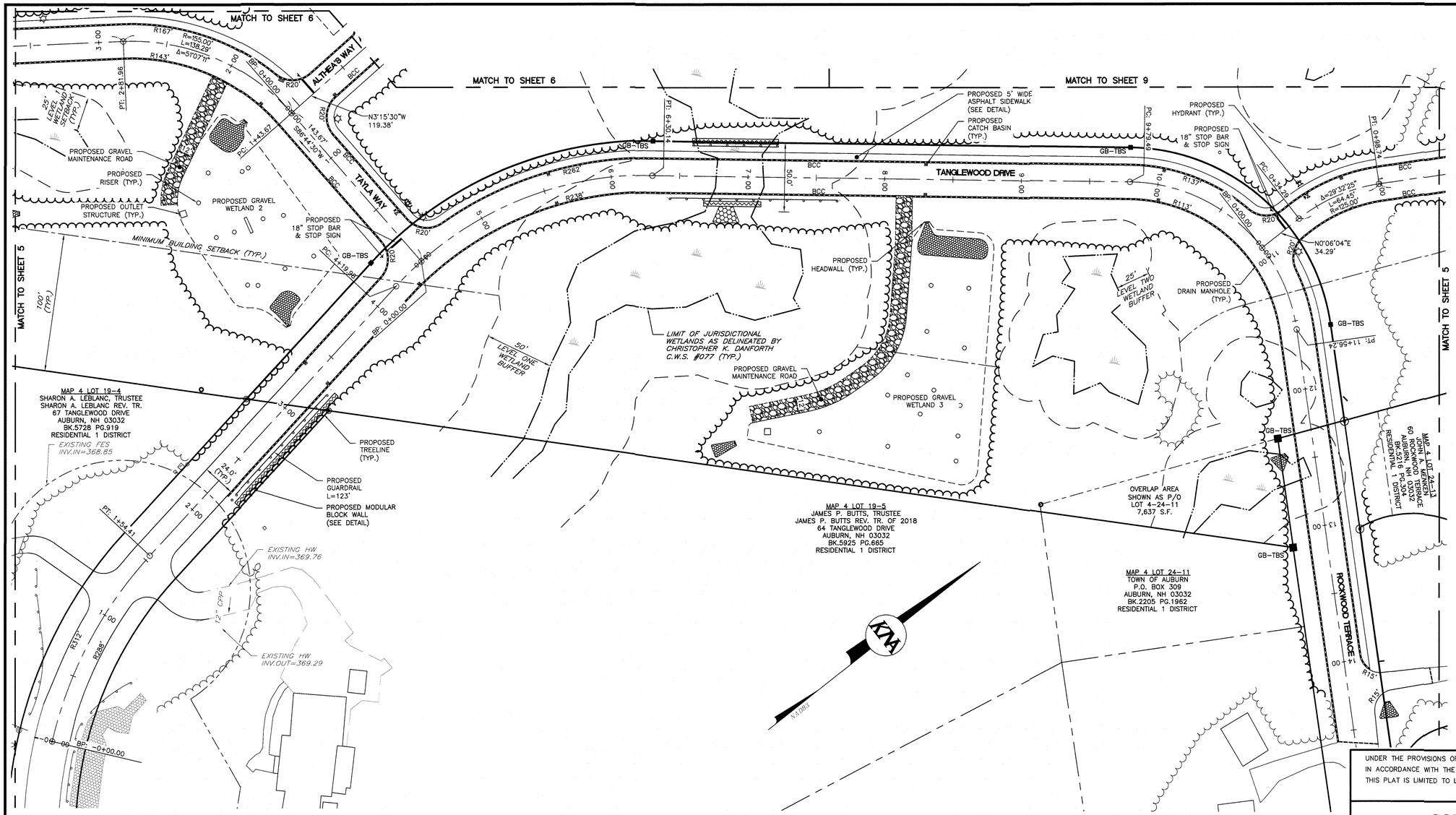
LICENSED LAND SURVEYOR — DATE 8/28/23

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 911 — CHRISTOPHER J. HICKEY — SIGNATURE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

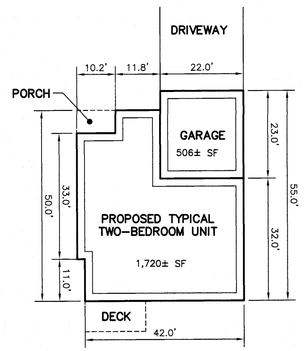
DATE: APRIL 19, 2023 — SCALE: 1" = 100'
PROJECT NO: 19-1114-1 — SHEET 3 OF 64



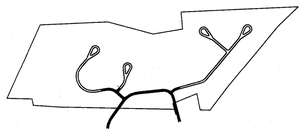
LEGEND

GB–F	GRANITE BOUND FOUND
IPP–F	IRON PIPE FOUND
IP–F	IRON PIN FOUND
DH–F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
GV	PROPOSED GAS VALVE
W	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

SEE SHEET 1 FOR NOTES



TYPICAL UNIT DETAIL
SCALE: 1"=20'



KEY PLAN
SCALE: 1" = 1,000'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

UNDER THE PROVISIONS OF R.S.A. 674:37, APPROVAL IS GRANTED BY THE AUBURN PLANNING BOARD, IN ACCORDANCE WITH THE VOTE OF THE BOARD DATED _____. APPROVAL OF THIS PLAT IS LIMITED TO LOTS AS SHOWN: _____

CHAIRMAN

CONDOMINIUM SITE PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CERTIFICATIONS

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LICENSED LAND SURVEYOR — DATE 8/15/23

STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

STATE OF NEW HAMPSHIRE — No. 911 — CHRISTOPHER J. HICKEY — LICENSED LAND SURVEYOR — SIGNATURE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 — SCALE: 1" = 40'
PROJECT NO: 19–1114–1 — SHEET 4 OF 64

LEGEND

GB–F	GRANITE BOUND FOUND
IPP–F	IRON PIPE FOUND
IP–F	IRON PIN FOUND
DH–F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
	PROPOSED GAS VALVE
	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
	PROPOSED WELL
	PROPOSED SEWER MANHOLE
	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

SEE SHEET 1 FOR NOTES

SEE SHEET 4 FOR TYPICAL UNIT DETAIL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

KEY PLAN
SCALE: 1" = 1,000'

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

UNDER THE PROVISIONS OF R.S.A. 674:37, APPROVAL IS GRANTED BY THE AUBURN PLANNING BOARD, IN ACCORDANCE WITH THE VOTE OF THE BOARD DATED _____. APPROVAL OF THIS PLAT IS LIMITED TO LOTS AS SHOWN: _____

CHAIRMAN

CONDOMINIUM SITE PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

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LICENSED LAND SURVEYOR — DATE 8/25/23

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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Civil Engineering Land Surveying Landscape Architecture
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LICENSED LAND SURVEYOR No. 811 CHRISTOPHER J. HICKEY SIGNATURE

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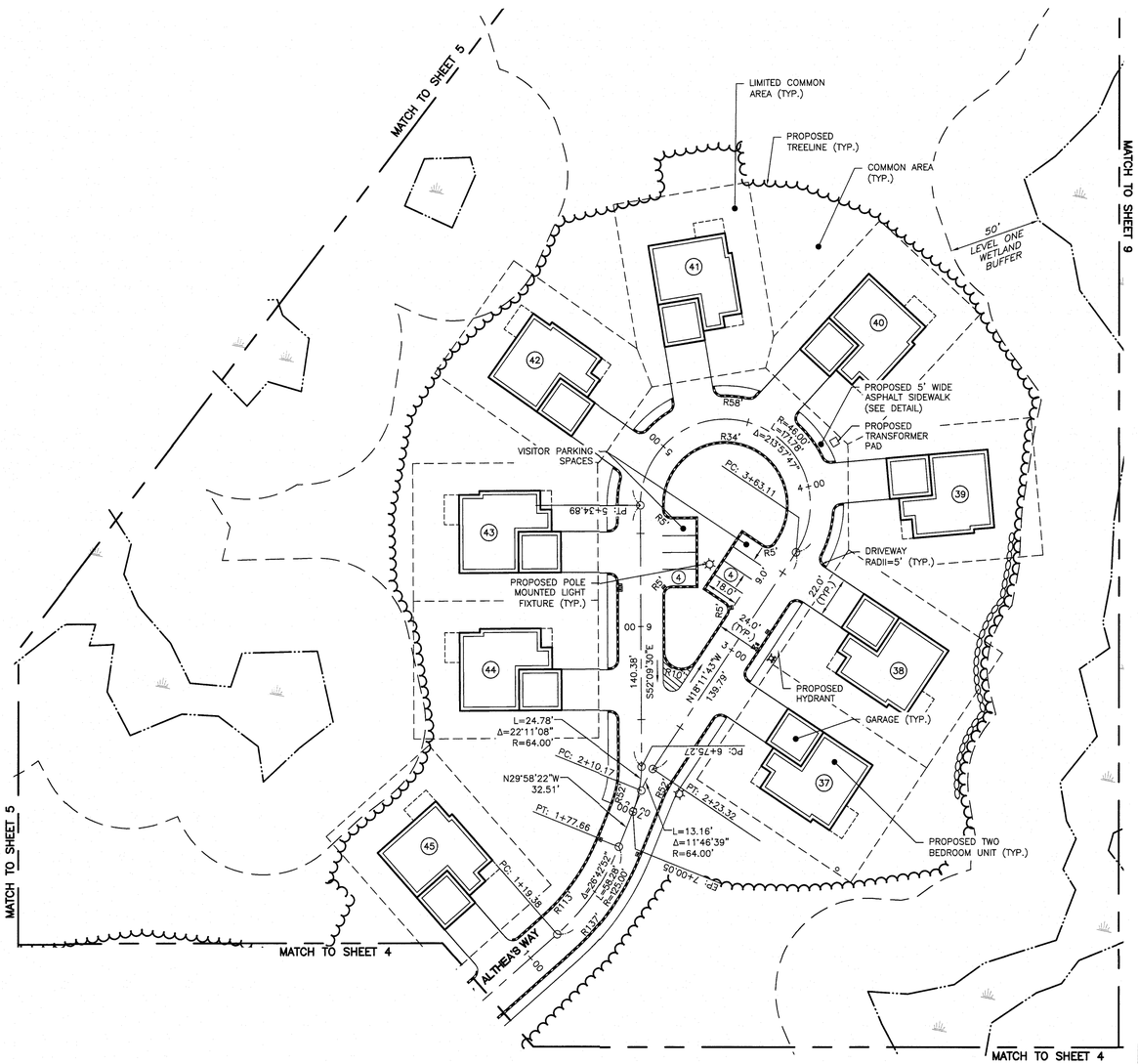
PROJECT NO: 19–1114–1 — SHEET 5 OF 64



LEGEND

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	PROPOSED SIGN
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W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

SEE SHEET 1 FOR NOTES

SEE SHEET 4 FOR TYPICAL UNIT DETAIL

GRAPHIC SCALE

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(IN FEET)
1 inch = 40 ft.

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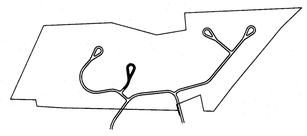

KEY PLAN
SCALE: 1" = 1,000'

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
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DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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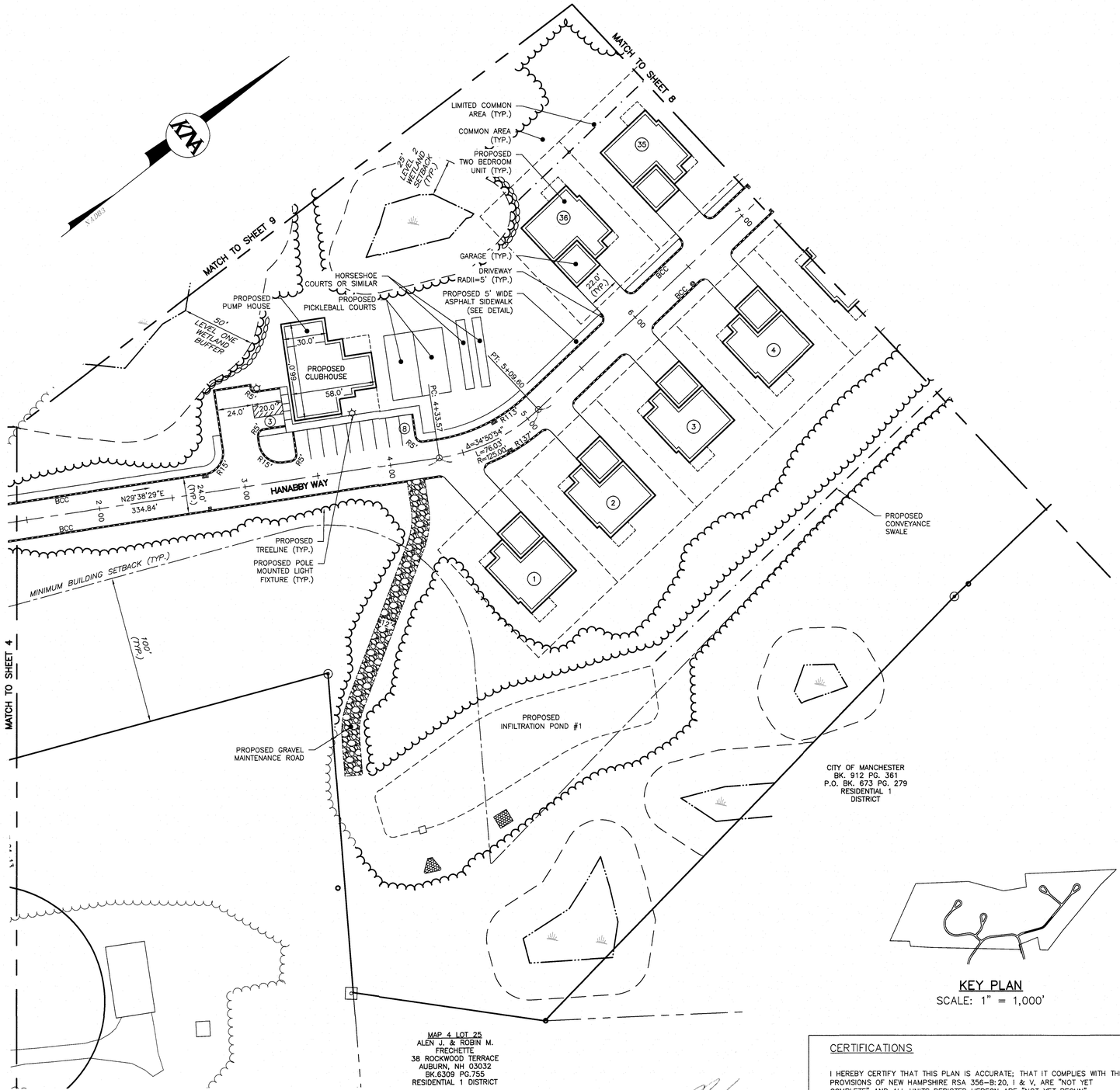

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KEY PLAN
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PROJECT NO: 19–1114–1 — SHEET 7 OF 64

MATCH TO SHEET 9

MATCH TO SHEET 7

PROPOSED GRAVEL MAINTENANCE ROAD

PROPOSED GRAVEL WETLAND 4

PROPOSED CATCH BASIN (TYP.)

LIMITED COMMON AREA (TYP.)

COMMON AREA (TYP.)

PROPOSED HEADWALL (TYP.)

50' LEVEL ONE WETLAND BUFFER

PROPOSED TWO BEDROOM UNIT (TYP.) W/ GARAGE (TYP.)

PROPOSED POLE MOUNTED LIGHT FIXTURE (TYP.)

VISITOR PARKING SPACES

PROPOSED HYDRANT

PROPOSED 5' WIDE ASPHALT SIDEWALK (SEE DETAIL)

HANABBY WAY

WINSTON'S WAY

DRIVEWAY RADII=5' (TYP.)

22.0' (TYP.)

24.0' (TYP.)

PROPOSED CONVEYANCE SWALE (TYP.)

PROPOSED TREELINE (TYP.)

MINIMUM BUILDING SETBACK (TYP.)

100' (TYP.)

MAP 4 LOT 14
CITY OF MANCHESTER
BK. 1651 PG. 420, TRACT 2
FROM ESTATE OF CHARLES C. GRANT
SEE BK.678 PG.25
RESIDENTIAL 2 DISTRICT

LIMIT OF JURISDICTIONAL WETLANDS AS DELINEATED BY CHRISTOPHER K. DANFORTH C.W.S. #077 (TYP.)

25' LEVEL 1 WETLAND SETBACK (TYP.)

PROPOSED OUTLET STRUCTURE (TYP.)

PROPOSED GRAVEL WETLAND 5

PROPOSED TRANSFORMER PAD (TYP.)

PROPOSED GRAVEL MAINTENANCE ROAD

8 VISITOR SPACES

DIG SAFE
811
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KEY PLAN
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STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 911 CHRISTOPHER K. MCKEY SIGNATURE

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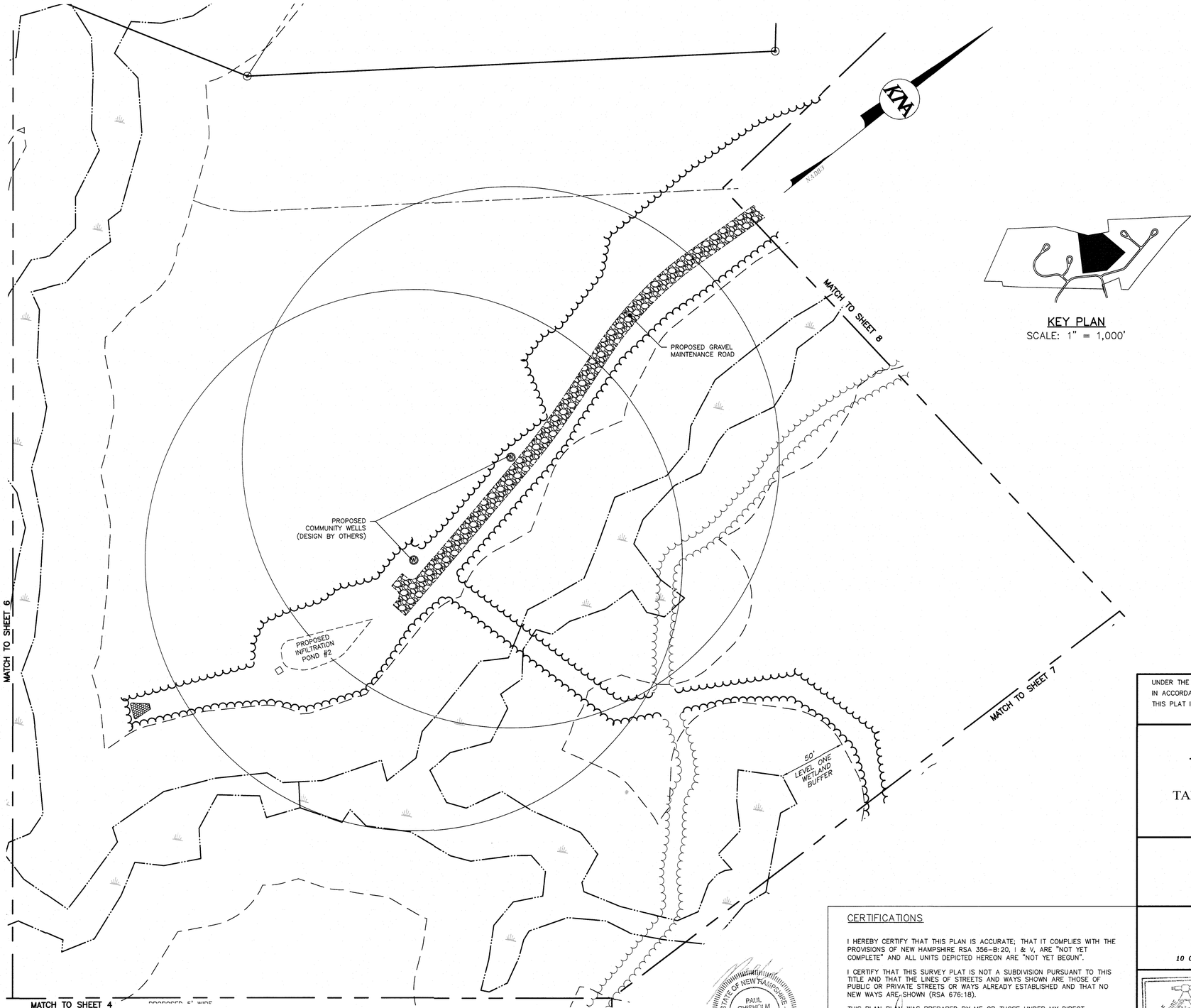

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DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811 CALL SAFE-DIG

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STATE OF NEW HAMPSHIRE · LICENSED LAND SURVEYOR · No. 811 · CHRISTOPHER J. HICKEY · SIGNATURE

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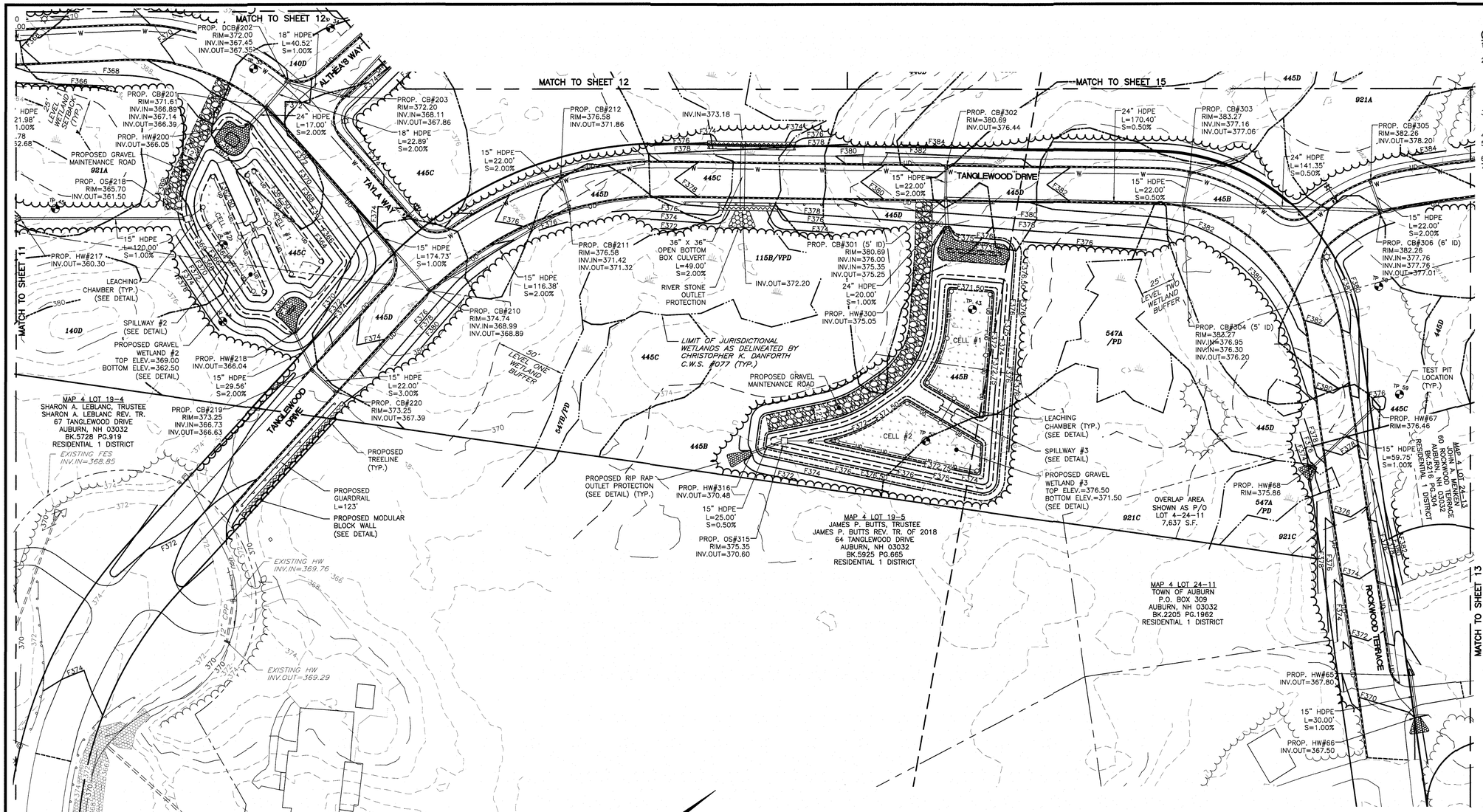

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND DRAINAGE SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF AUBURN, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. ROADWAY AND DRIVEWAY CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS.
4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.

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- PROPOSED CATCH BASIN
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT
- SETBACK
- EASEMENT
- TREELINE
- DRAINAGE LINE
- 10' CONTOUR
- 2' CONTOUR
- SCS SOIL LINE
- SSS SOIL LINE
- UGU — PROPOSED UNDERGROUND UTILITIES
- W — W — PROPOSED WATER LINE
- PROPOSED DRAINAGE LINE
- PROPOSED 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
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SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
115A/VPD	SCARBORO MUCK	0–3%	VERY POORLY DRAINED	D
135B	CHATFIELD VARIANT – NEWFIELDS COMPLEX 60/40	3–8%	MODERATELY WELL DRAINED	B
135C	CHATFIELD VARIANT – NEWFIELDS COMPLEX 60/40	8–15%	MODERATELY WELL DRAINED	B
140B	CHATFIELD – HOLLIS – CANTON 40/30/30	3–8%	WELL DRAINED	B
140C	CHATFIELD – HOLLIS – CANTON 40/30/30	8–15%	WELL DRAINED	B
140D	CHATFIELD – HOLLIS – CANTON 40/30/30	15–25%	WELL DRAINED	B
140E	CHATFIELD – HOLLIS – CANTON 40/30/30	25–50%	WELL DRAINED	B
445B	NEWFIELDS VERY STONEY SANDY LOAM	3–8%	MODERATELY WELL DRAINED	B
445C	NEWFIELDS VERY STONEY SANDY LOAM	8–15%	MODERATELY WELL DRAINED	B
445D	NEWFIELDS VERY STONEY SANDY LOAM	15–25%	MODERATELY WELL DRAINED	B
547B/PD	WALPOLE FINE SANDY LOAM	3–8%	POORLY DRAINED	C
921A	NEWFIELDS VARIANT	0–3%	SOMEWHAT POORLY DRAINED	
921B	NEWFIELDS VARIANT	3–8%	SOMEWHAT POORLY DRAINED	

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

LOAM & SEED ALL DISTURBED AREAS (TYP.)

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

DIG SAFE — IT'S THE LAW! — 811 CALL TOLL FREE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 — **SCALE:** 1" = 40'
PROJECT NO: 19–1114–1 — **SHEET** 10 **OF** 64

CONSTRUCTION NOTES:

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4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.
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LEGEND

GB–F	GRANITE BOUND FOUND
IPP–F	IRON PIPE FOUND
IP–F	IRON PIN FOUND
DH–F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
GV	PROPOSED GAS VALVE
W	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	DRAINAGE LINE
	10' CONTOUR
	2' CONTOUR
	SCS SOIL LINE
	SSS SOIL LINE
UGU	PROPOSED UNDERGROUND UTILITIES
W W	PROPOSED WATER LINE
	PROPOSED DRAINAGE LINE
	PROPOSED 2' CONTOUR
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SEE SHEET 10 FOR SOIL LEGEND

LOAM & SEED ALL DISTURBED AREAS (TYP.)

DIG SAFE
811 OR 1-(TOLL FREE)
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRADING & DRAINAGE PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

STATE OF NEW HAMPSHIRE – PAUL CHISHOLM No. 15076 – LICENSED PROFESSIONAL ENGINEER

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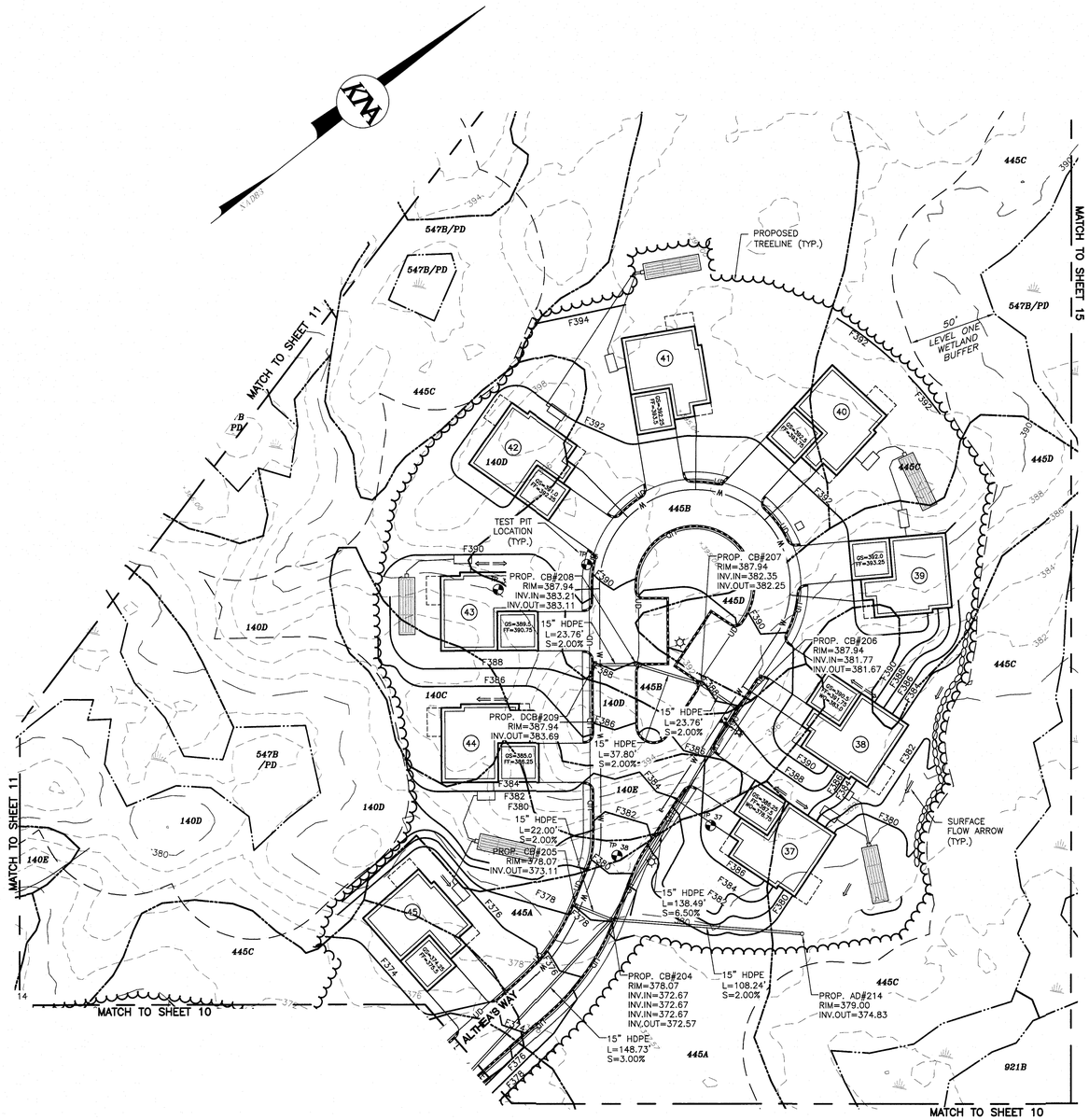

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STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED PROFESSIONAL ENGINEER

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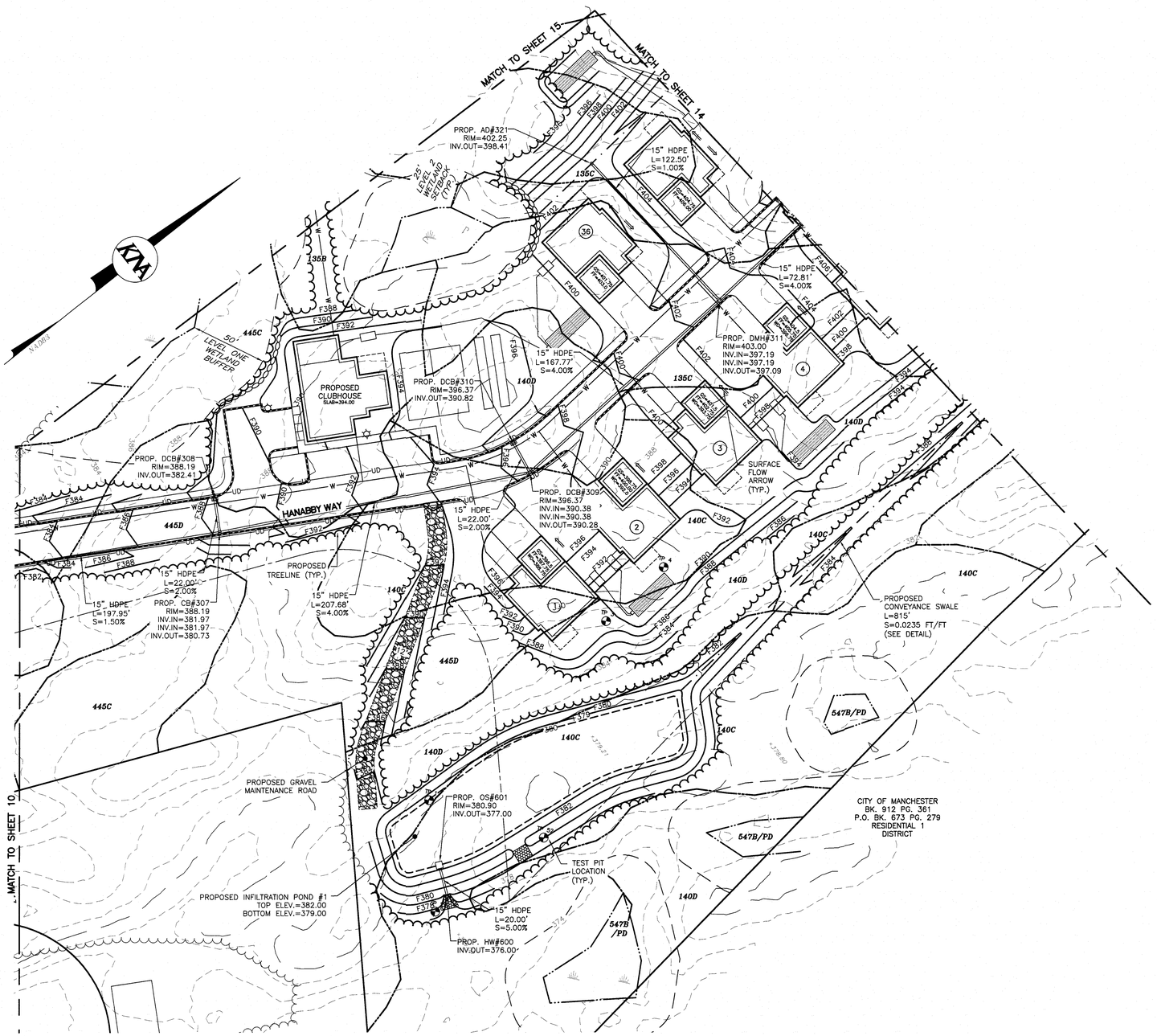

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DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE
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(IN FEET)
1 inch = 40 ft.

SEE SHEET 10 FOR SOIL LEGEND

LOAM & SEED ALL DISTURBED AREAS (TYP.)

PAUL CHISHOLM No. 16076 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

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LOAM & SEED ALL DISTURBED AREAS (TYP.)

DIG SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — 811 — CALL TOLL FREE

MAP 4 LOT 14
CITY OF MANCHESTER
BK. 1651 PG. 420, TRACT 2
FROM ESTATE OF CHARLES C. GRANT
SEE BK.678 PG.25
RESIDENTIAL 2 DISTRICT

MATCH TO SHEET 13

MATCH TO SHEET 15

PROP. OS#405
RIM=391.40
INV.OUT=387.50
15" HDPE
L=35.00'
S=1.00%

PROP. HW#406
INV.OUT=387.15

50' LEVEL ONE WETLAND BUFFER

PROPOSED GRAVEL WETLAND #4
TOP ELEV.=393.00
BOTTOM ELEV.=388.50
(SEE DETAIL)

SPILLWAY #4 (SEE DETAIL)

PROPOSED GRAVEL MAINTENANCE ROAD

LEACHING CHAMBER (TYP.) (SEE DETAIL)

PROP. HW#400
INV.OUT=392.20

15" HDPE
L=25.00'
S=2.00%

PROP. DCB#401
RIM=397.30
INV.IN=392.80
INV.OUT=392.70

SURFACE FLOW ARROW (TYP.)

PROP. CB#402
RIM=397.30
INV.IN=393.34
INV.IN=393.34
INV.IN=393.34
INV.OUT=393.24

15" HDPE
L=22.00'
S=2.00%

15" HDPE
L=134.85
S=1.00%

PROP. STR#194
RIM=397.65
INV.OUT=394.69

15" HDPE
L=205.29'
S=4.50%

12" HDPE
L=169.83'
S=1.00%

PROPOSED CONVEYANCE SWALE #5
LENGTH=300'
SLOPE=0.0235 FT/FT FOR 150'
0.050 FT/FT FOR 100'
0.010 FT/FT TO END

PROP. AD#412
RIM=397.40
INV.OUT=395.04

PROPOSED CONVEYANCE SWALE #3
LENGTH=270'
SLOPE=0.055 FT/FT

PROPOSED TREELINE (TYP.)

PROP. CB#403
RIM=407.55
INV.IN=402.68
INV.OUT=402.58

12" HDPE
L=22.00'
S=2.00%

PROP. CB#404
RIM=407.55
INV.OUT=403.12

TEST PIT LOCATION (TYP.)

PROPOSED CONVEYANCE SWALE #2
LENGTH=200'
SLOPE=0.040 FT/FT

PROPOSED CONVEYANCE SWALE #4
LENGTH=450'
SLOPE=0.035 FT/FT FOR 200'
THEN 0.010 FT/FT TO END

LIMIT OF JURISDICTIONAL WETLANDS AS DELINEATED BY CHRISTOPHER K. DANFORTH C.W.S. #077 (TYP.)

25' LEVEL 1 WETLAND SETBACK (TYP.)

547B /PD

LEACHING CHAMBER (TYP.) (SEE DETAIL)

PROPOSED GRAVEL WETLAND #5
TOP ELEV.=396.00
BOTTOM ELEV.=390.00
(SEE DETAIL)

PROP. OS#517
RIM=394.40
INV.OUT=389.00

15" HDPE
L=40.00'
S=1.00%

PROP. HW#518
INV.OUT=388.60

PROP. AD#512
RIM=401.25
INV.OUT=397.47

15" HDPE
L=100.00'
S=1.00%

PROP. CB#506
RIM=404.35
INV.OUT=399.61

PROP. CB#505
RIM=404.35
INV.IN=399.17
INV.OUT=398.93

15" HDPE
L=22.00'
S=2.00%

PROP. CB#508
RIM=409.40
INV.OUT=404.90

8758 SF
0.201 ACRES ±
Boundary

13" HDPE
L=111.33'
S=1.50%

18" HDPE
L=85.00'
S=1.00%

SPILLWAY #5 (SEE DETAIL)

PROP. CB#313
RIM=405.90
INV.OUT=400.64

15" HDPE
L=22.01'
S=2.00%

PROP. CB#312
RIM=405.90
INV.IN=400.20
INV.OUT=400.10

HANABBY WAY

WINSTONS WAY

15" HDPE
L=22.00'
S=2.00%

PROP. CB#507
RIM=409.40
INV.IN=404.46
INV.OUT=404.36

15" HDPE
L=149.28'
S=4.00%

PROP. CB#503
RIM=404.17
INV.IN=398.39
INV.IN=398.39
INV.IN=398.39
INV.OUT=398.29

15" HDPE
L=27.14'
S=2.00%

15" HDPE
L=27.42'
S=2.00%

PROP. CB#504
RIM=403.60
INV.OUT=398.94

PROP. DCB#501
RIM=401.32
INV.IN=396.15
INV.OUT=396.05

18" HDPE
L=22.00'
S=1.00%

PROP. CB#502
RIM=401.32
INV.IN=396.62
INV.IN=396.47
INV.OUT=396.37

PROP. HW#500
INV.OUT=395.20

PROPOSED GRAVEL MAINTENANCE ROAD

PROPOSED CONVEYANCE SWALE #1
LENGTH=815'
SLOPE=0.0235 FT/FT

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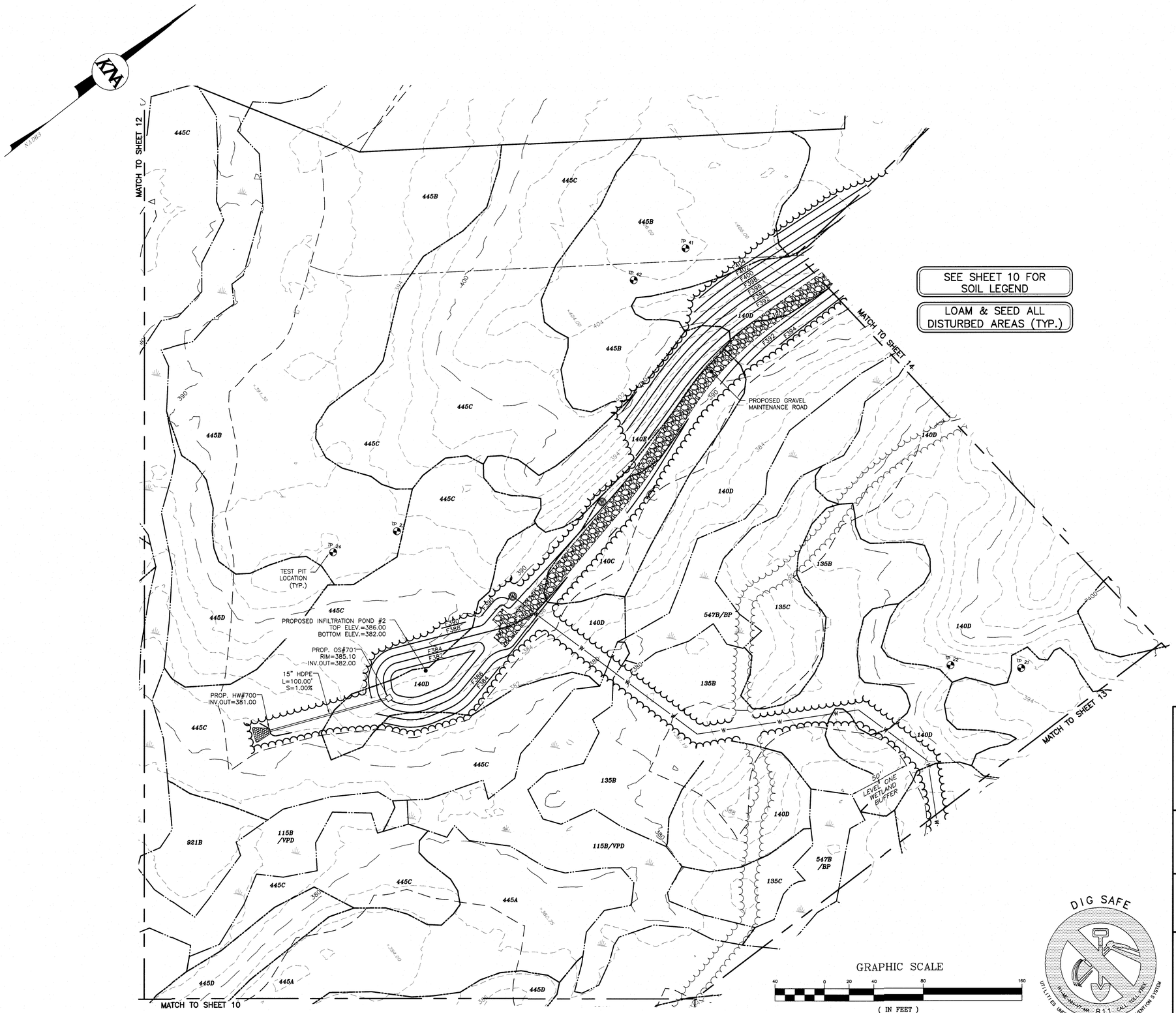

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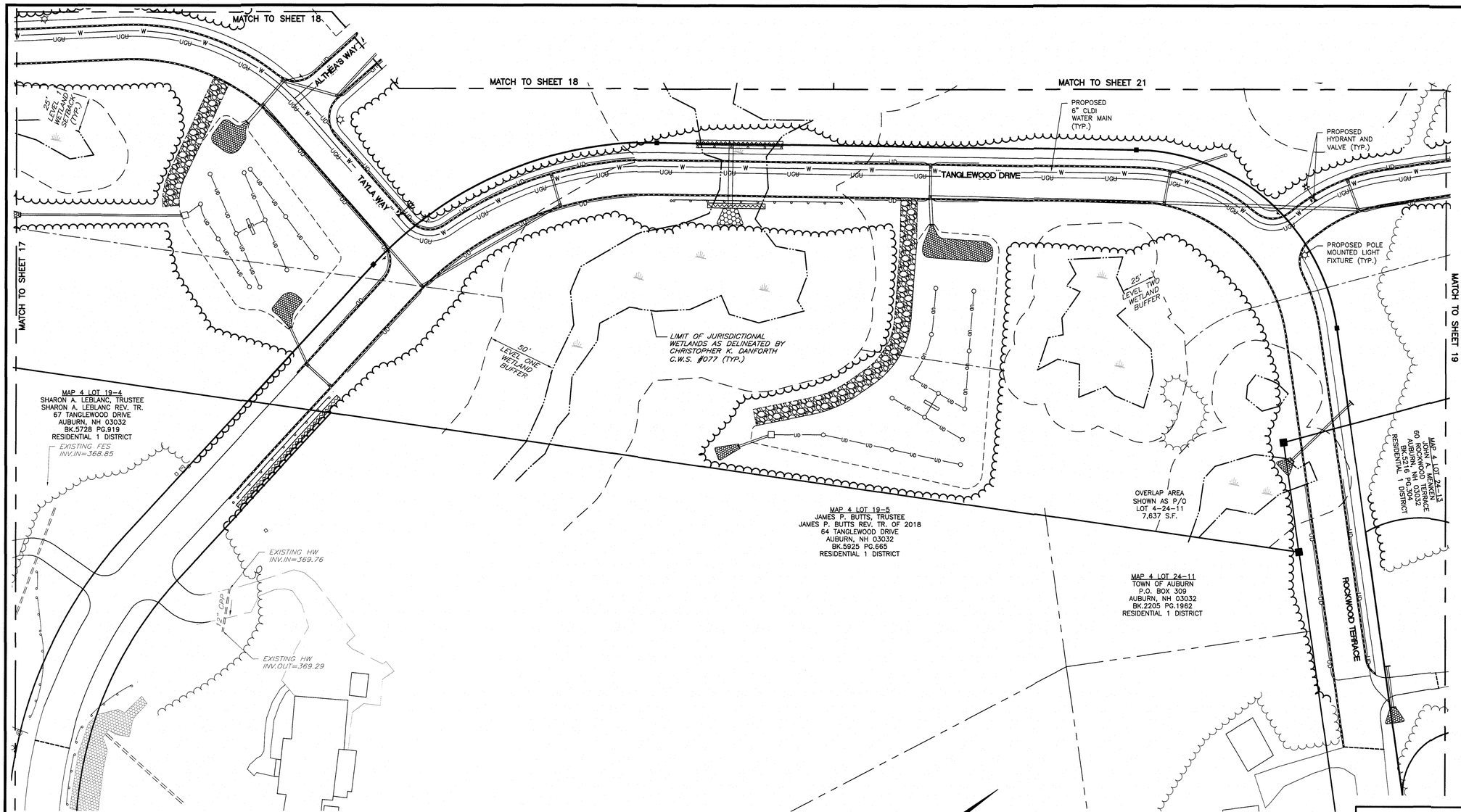

UTILITY NOTES:

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IPP-F	IRON PIPE FOUND
IP-F	IRON PIN FOUND
DH-F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
	PROPOSED GAS VALVE
	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	DRAINAGE LINE
UGU	PROPOSED UNDERGROUND UTILITIES
W W	PROPOSED WATER LINE
	PROPOSED DRAINAGE LINE
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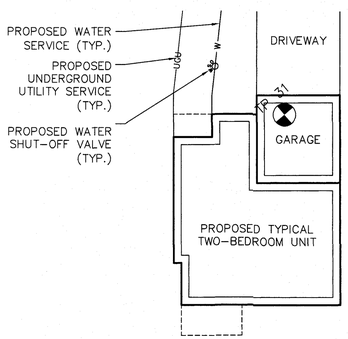

TYPICAL UNIT UTILITY SERVICE DETAIL
SCALE: 1"=20'

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

UTILITY PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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DATE: APRIL 19, 2023 | SCALE: 1" = 40'
PROJECT NO: 19-1114-1 | SHEET 16 OF 64

MAP 4 LOT 19A-2
KEITH & MELISSA HEISER
224 RATTLESNAKE HILL ROAD
AUBURN, NH 03032
BK.3572 PG.2819
RESIDENTIAL 1 DISTRICT

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	TREELINE
	DRAINAGE LINE
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	PROPOSED SWALE
	PROPOSED STONEWALL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SEE SHEET 16 FOR TYPICAL UNIT DETAIL

DIG SAFE
811 CALL OR CLICK BEFORE YOU DIG
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

UTILITY PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

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27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED
PROFESSIONAL ENGINEER

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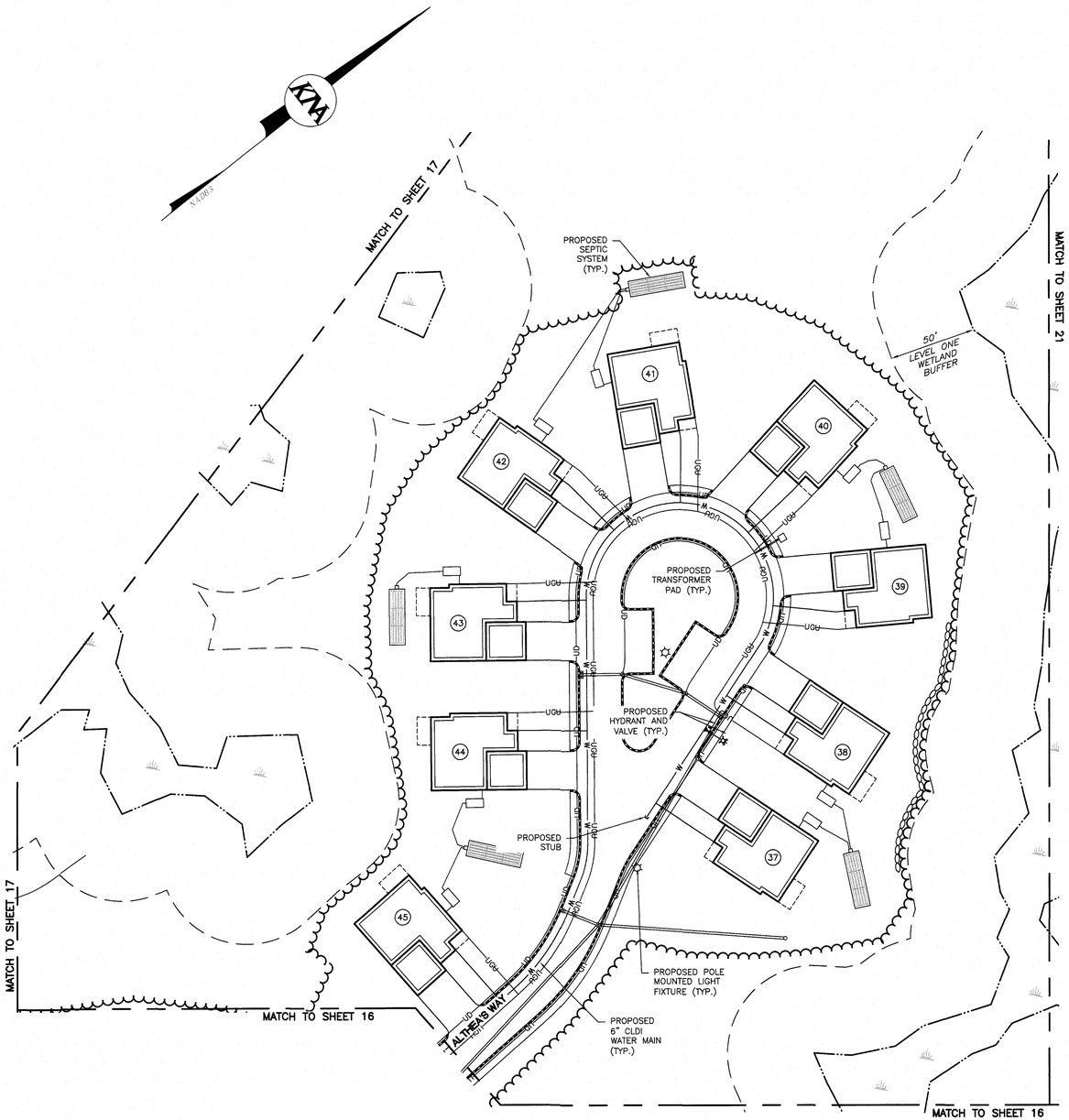

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MAP 4 LOTS 13-4 & 16
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DIG SAFE
UTILITY ED. UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811 CALL TOLL FREE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
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SEE SHEET 16 FOR TYPICAL UNIT DETAIL

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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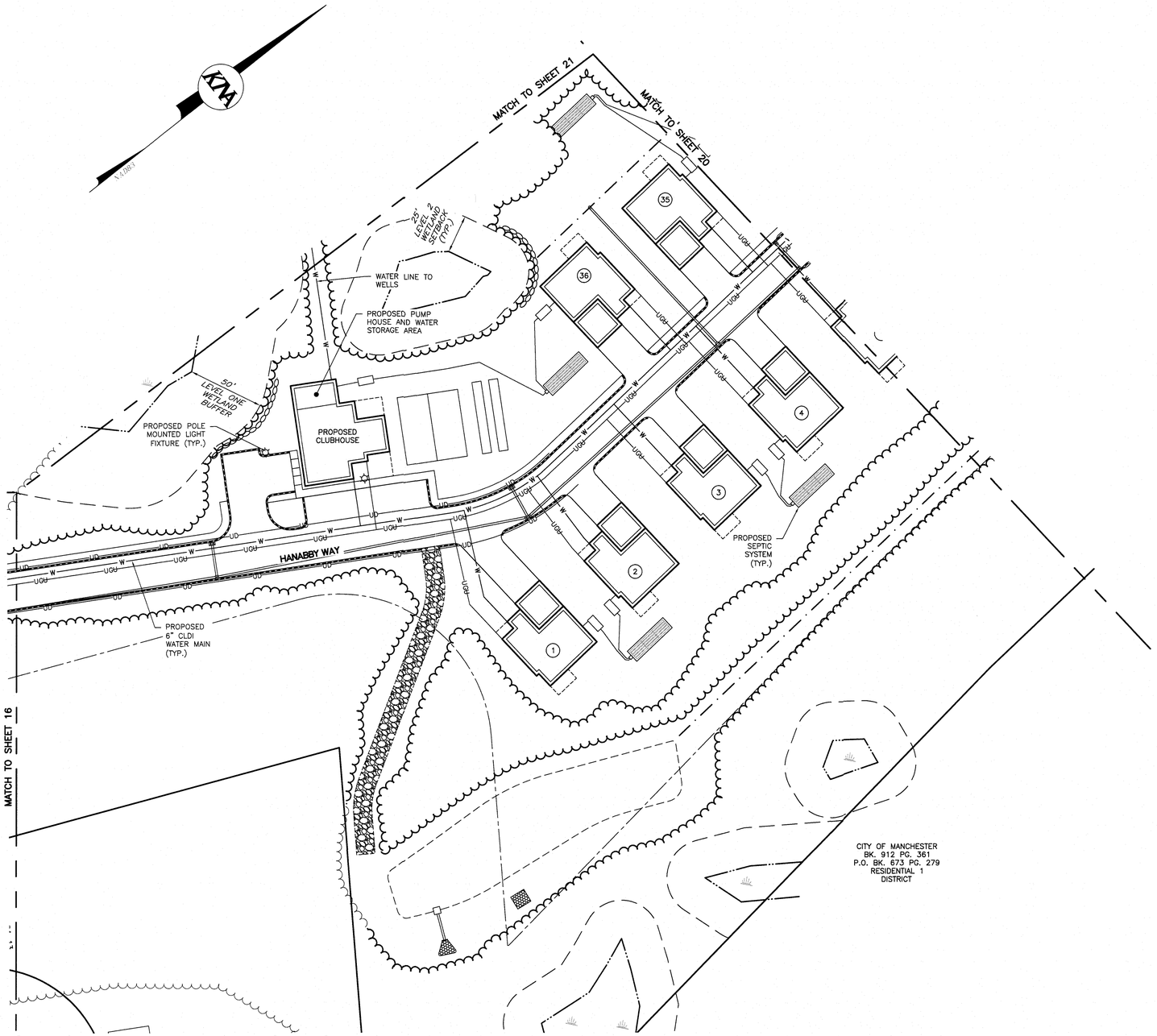

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DIG SAFE
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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

UTILITY PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
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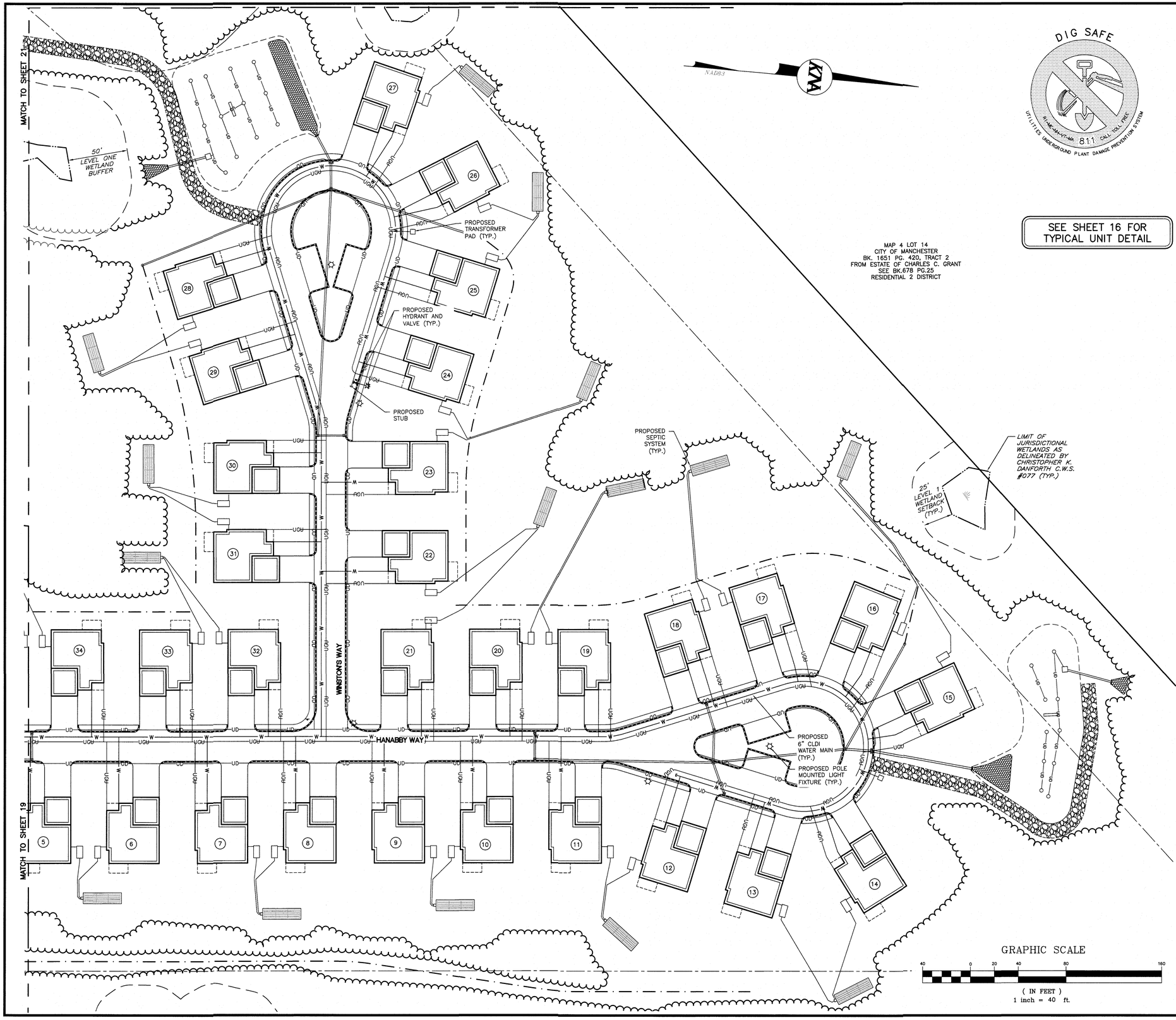

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
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MAP 4 LOT 14
CITY OF MANCHESTER
BK. 1651 PG. 420, TRACT 2
FROM ESTATE OF CHARLES C. GRANT
SEE BK.678 PG.25
RESIDENTIAL 2 DISTRICT

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UTILITY PLAN
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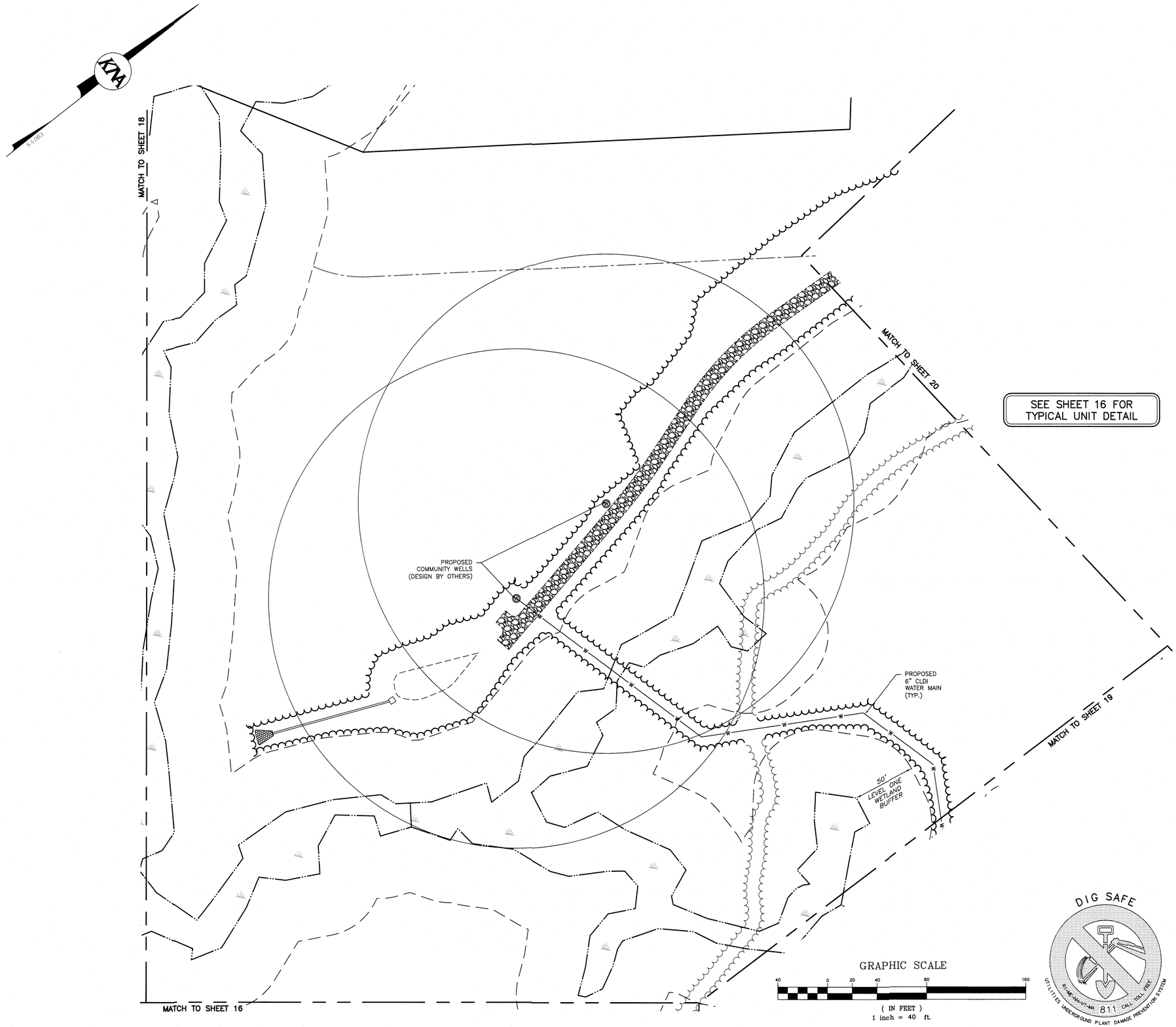

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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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	PROPOSED LIGHT
GV	PROPOSED GAS VALVE
WV	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED WATER SHUT OFF
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	DRAINAGE LINE
UGU	PROPOSED UNDERGROUND UTILITIES
W W	PROPOSED WATER LINE
	PROPOSED DRAINAGE LINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

UTILITY PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KNA KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

PAUL CHISHOLM No. 13076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
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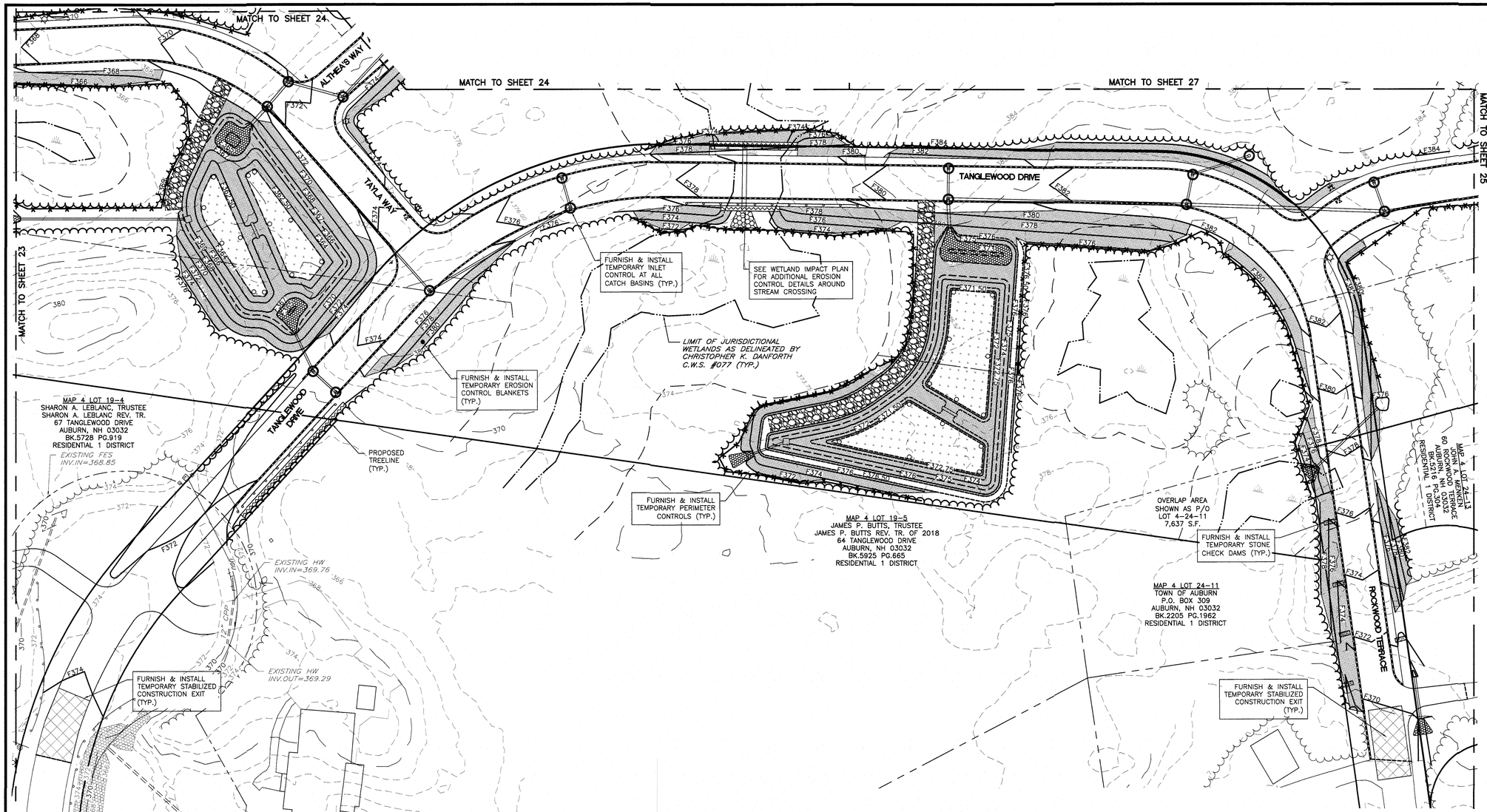
DATE: APRIL 19, 2023 | SCALE: 1" = 40'
PROJECT NO: 19–1114–1 | SHEET 21 OF 64



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3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION, WHEN NECESSARY, SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
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DIG SAFE
IT'S THE LAW-NH 811 CALL DIG-SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

EROSION & SEDIMENT CONTROL LEGEND

- PERMANENT OUTLET PROTECTION APRON (RIP RAP)
- TEMPORARY PERIMETER CONTROLS
- TEMPORARY STONE CHECK DAM
- LIMITS OF CLEARING
- STABILIZED CONSTRUCTION EXIT
- NON DISTURBANCE AREA
- STAGING AND STOCKPILE AREA
- EROSION CONTROL BLANKETS

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MAP 4 LOTS 13-4 & 16
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PROJECT NO: 19-1114-1 **SHEET** 22 **OF** 64

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LEGEND

- GB-F — GRANITE BOUND FOUND
- IPP-F — IRON PIPE FOUND
- IP-F — IRON PIN FOUND
- DH-F — DRILL HOLE FOUND
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED GAS VALVE
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DIG SAFE — 811 CALL TOLL FREE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

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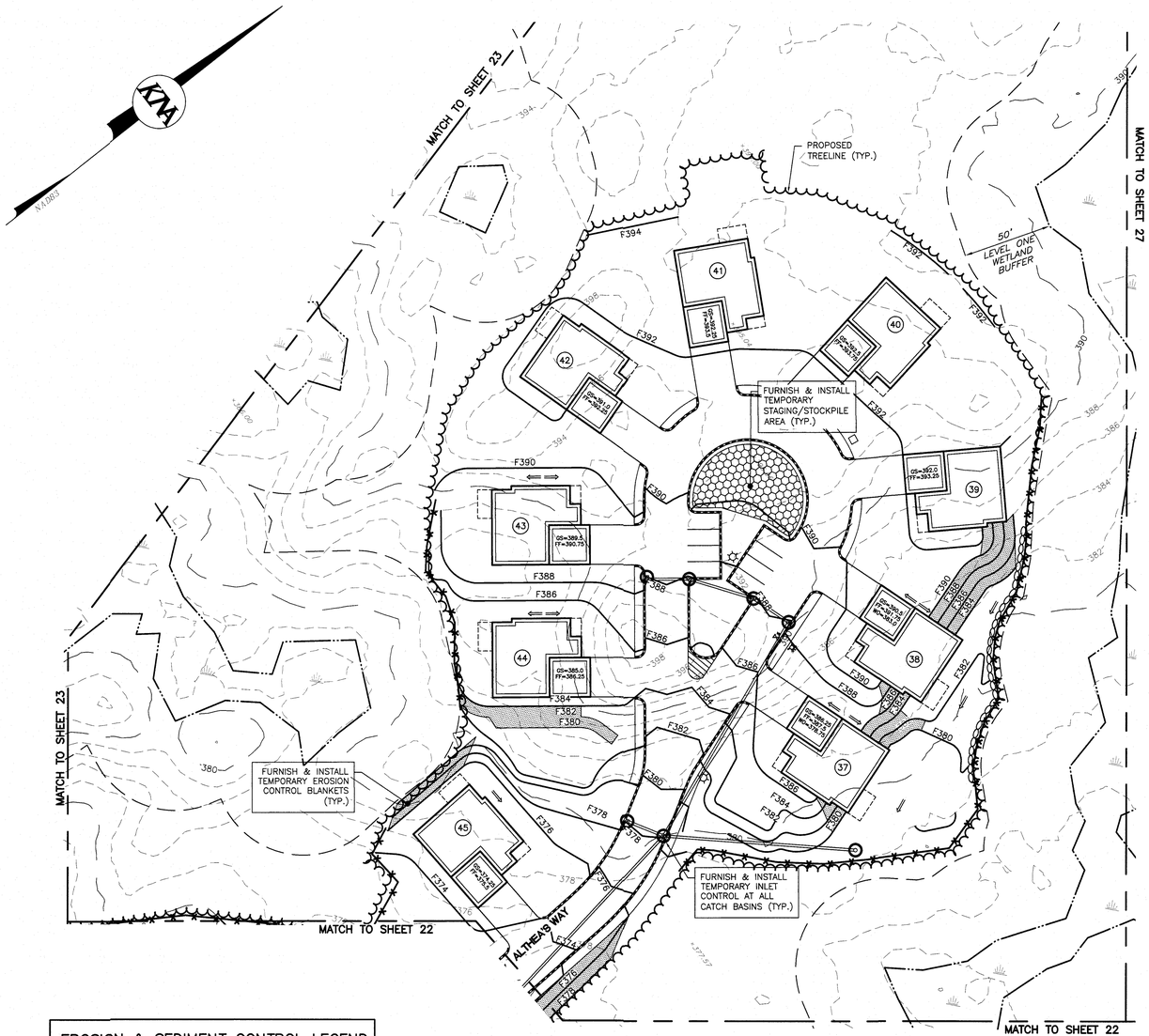

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GRAPHIC SCALE

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DIG SAFE
811 CALL TOLL FREE
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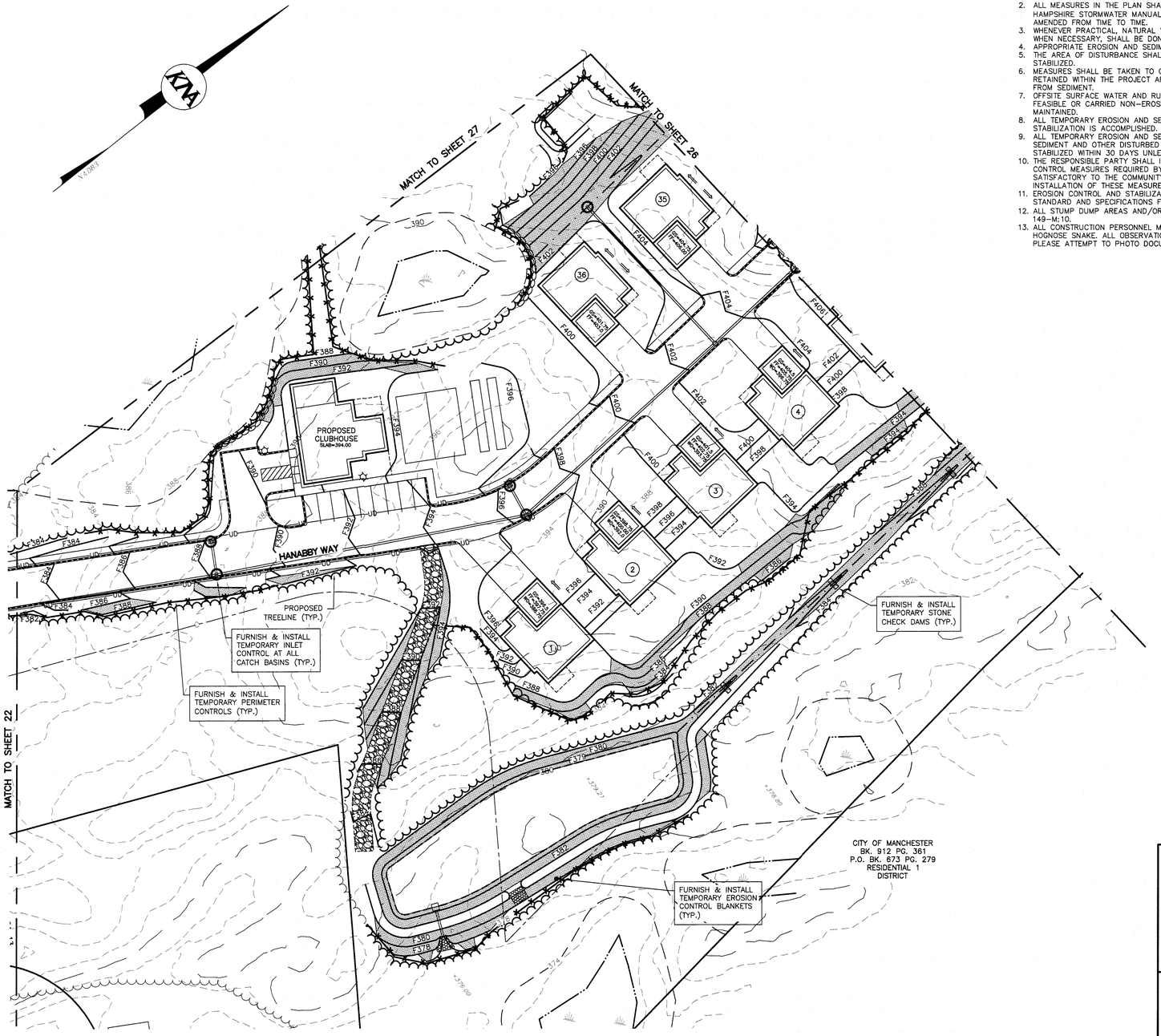

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Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 | **SCALE:** 1" = 40'
PROJECT NO: 19-1114-1 | **SHEET** 25 **OF** 64

EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION, WHEN NECESSARY, SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
10. THE RESPONSIBLE PARTY SHALL INSTALL, INSPECT, REPORT, OPERATE AND MAINTAIN ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THESE PLANS. A BOND OR SECURITY SHALL BE PROVIDED IN AN AMOUNT, WITH SURETY CONDITIONS SATISFACTORY TO THE COMMUNITY DEVELOPMENT DEPARTMENT AND DEPARTMENT OF PUBLIC WORKS, FOR CONSTRUCTION AN INSTALLATION OF THESE MEASURES.
11. EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
12. ALL STUMP DUMP AREAS AND/OR MATERIAL DISPOSAL AREAS MUST BE PERMITTED BY THE STATE IN ACCORDANCE WITH N.H.R.S.A. 149-M:10.
13. ALL CONSTRUCTION PERSONNEL MUST BE MADE AWARE OF THE POTENTIAL PRESENCE AND PROTECTED STATUS OF THE EASTERN HOGNOSE SNAKE. ALL OBSERVATIONS OF THIS SPECIES SHOULD BE IMMEDIATELY REPORTED TO THE NH FISH AND GAME DEPARTMENT. PLEASE ATTEMPT TO PHOTO DOCUMENT.

MAP 4 LOT 14
CITY OF MANCHESTER
BK. 1651 PG. 420, TRACT 2
FROM ESTATE OF CHARLES C. GRANT
SEE BK.678 PG.25
RESIDENTIAL 2 DISTRICT

EROSION & SEDIMENT CONTROL LEGEND

- PERMANENT OUTLET PROTECTION APRON (RIP RAP)
- TEMPORARY PERIMETER CONTROLS
- TEMPORARY STONE CHECK DAM
- LIMITS OF CLEARING
- STABILIZED CONSTRUCTION EXIT
- NON DISTURBANCE AREA
- STAGING AND STOCKPILE AREA
- EROSION CONTROL BLANKETS

LEGEND

- GB-F GRANITE BOUND FOUND
- IPP-F IRON PIPE FOUND
- IP-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED WATER SHUT OFF
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT
- SETBACK
- EASEMENT
- TREELINE
- DRAINAGE LINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED DRAINAGE LINE
- PROPOSED 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- PROPOSED STONEWALL

LOAM & SEED ALL DISTURBED AREAS (TYP.)

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

EROSION CONTROL PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

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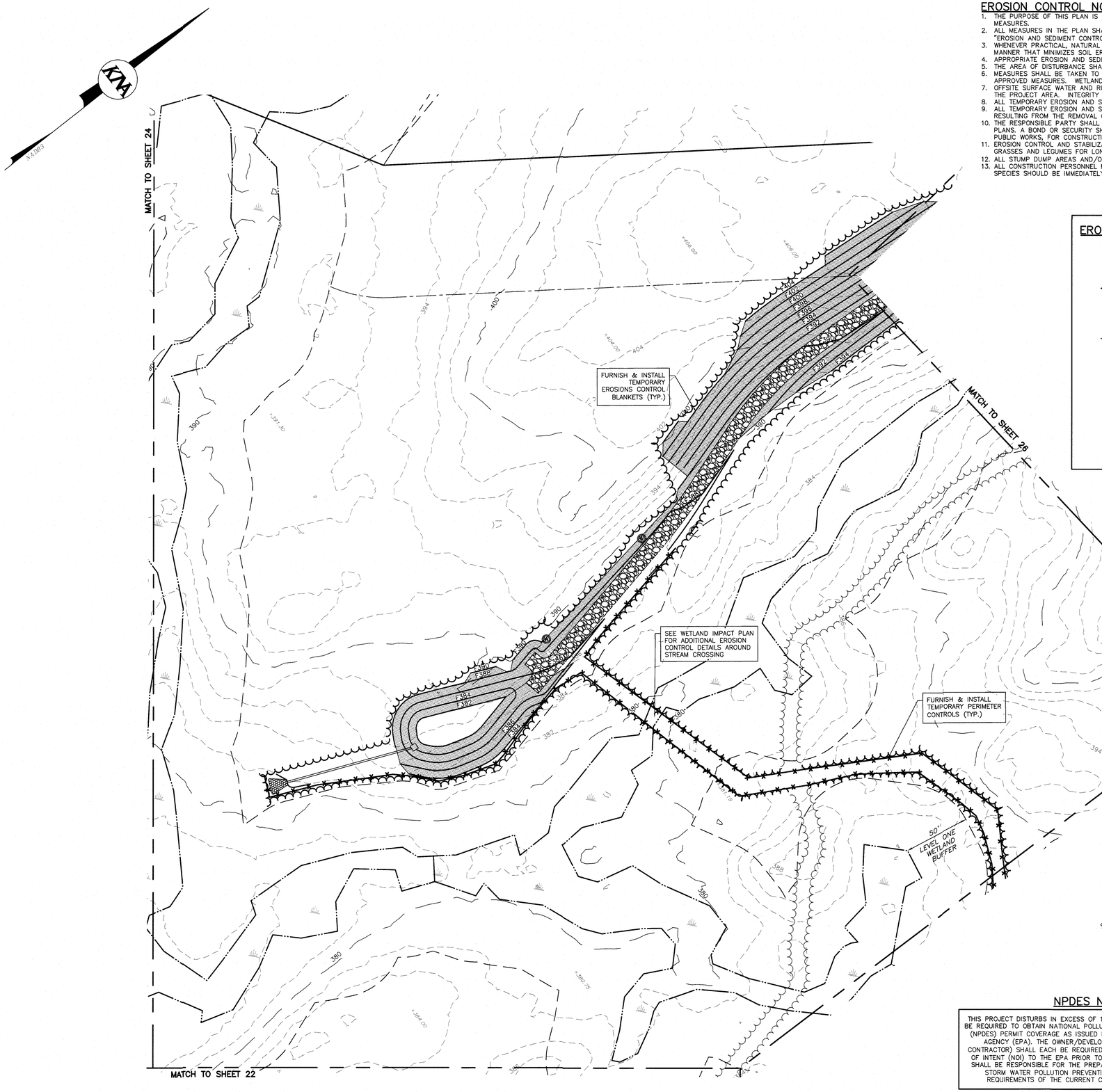
DATE: APRIL 19, 2023 | SCALE: 1" = 40'
PROJECT NO: 19-1114-1 | SHEET 26 OF 64

DIG SAFE — IT'S THE LAW — 811 CALL TOLL FREE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

MATCH TO SHEET 25
MATCH TO SHEET 25
WINSTON'S WAY
HANABBY WAY
PROPOSED TREELINE (TYP.)
LIMIT OF JURISDICTIONAL WETLANDS AS DELINEATED BY CHRISTOPHER K. DANFORTH C.W.S. #077 (TYP.)
FURNISH & INSTALL TEMPORARY PERIMETER CONTROLS (TYP.)
FURNISH & INSTALL TEMPORARY INLET CONTROL AT ALL CATCH BASINS (TYP.)
FURNISH & INSTALL TEMPORARY STAGING/STOCKPILE AREA (TYP.)
FURNISH & INSTALL TEMPORARY EROSIONS CONTROL BLANKETS (TYP.)
FURNISH & INSTALL TEMPORARY EROSION CONTROL BLANKETS (TYP.)
FURNISH & INSTALL TEMPORARY STONE CHECK DAMS (TYP.)



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EROSION & SEDIMENT CONTROL LEGEND

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GRAPHIC SCALE

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(IN FEET)
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811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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EROSION CONTROL PLAN
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
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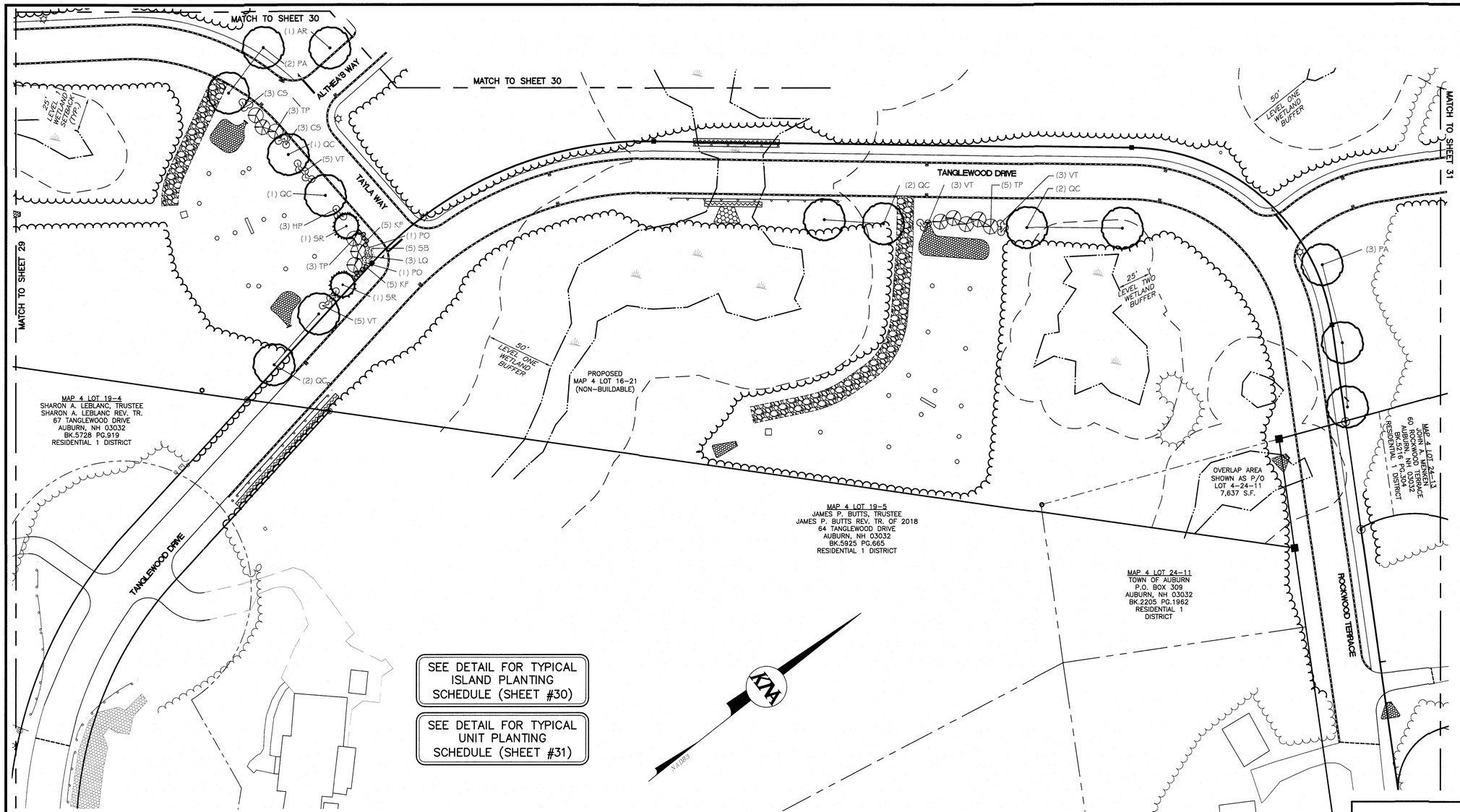

SEE DETAIL FOR TYPICAL ISLAND PLANTING SCHEDULE (SHEET #30)

SEE DETAIL FOR TYPICAL UNIT PLANTING SCHEDULE (SHEET #31)

SEE SHEET 31 FOR TYPICAL UNIT DETAIL

STREET PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	17	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	10	20-30'
Maackia amurensis 'Starburst' / Starburst Amur Maackia	2.5-3" CAL.	MA	28	20-30'
Picea glauca / White Spruce	6-7' B&B	PG	6	40-60'
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	2.5-3" CAL.	PA	11	40-60'
Quercus coccinea / Scarlet Oak	2.5-3" CAL.	QC	16	60'+
Syringa reticulata / Japanese Lilac Tree	2.5-3" CAL.	SR	5	20-30'
Thuja plicata 'Green Giant' / Green Giant Western Arborvitae	6-7' B&B	TP	26	30-40'
Tilia cordata 'Greenspire' / Greenspire Littleleaf Linden	2.5-3" CAL.	TC	15	40-60'
Shrubs				
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	12	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	9	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange:	3'	LQ	3	3-4'
Physocarpus opulifolius 'Little Devil' / Little Devil Ninebark	3'	PO	2	3-4'
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	5	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	16	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	10	5'

Typical Unit Plant Schedule

Botanical Name/ Common Name	Size	Mature Height
A		
Amelanchier x grandiflora 'Robin Hill' / Robin Hill Serviceberry	1.5-2" CAL.	15-20'
Malus 'Prairiefire' / Prairiefire Crabapple	1.5-2" CAL.	15-20'
Syringa reticulata 'Ivory Silk' / Ivory Silk Japanese Lilac Tree	1.5-2" CAL.	20-30'
B		
Clethra alnifolia 'Hummingbird' / Hummingbird Summersweet	#3	3-4'
Cornus sericea 'Firedance' / Firedance Red-Osier Dogwood	#3	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Pannicle Hydrangea	#3	3-4'
C		
Buddleia 'Blue Chip Jr.' / Blue Chip Jr. Butterfly Bush	#2	18-24"
Itea virginica 'Little Henry' / Little Henry Virginia Sweetspire	#2	18-24"
Weigela florida 'Fine Wine' / Fine Wine Weigela	#2	2-3'
D		
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	5'
Miscanthus sinensis 'Purpurascens' / Flame Grass	#2	4-6'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	3-4'
E		
Astilbe 'Visions in Pink' / Visions in Pink Astilbe	#1	20"
Brunnera 'Jack Frost' / Jack Frost Siberian Bugloss	#1	16"
Echinacea 'Butterfly Kisses' / Butterfly Kisses Coneflower	#1	18"
Hemerocallis 'Happy Returns' / Happy Returns Daylily	#1	18-24"
Nepeta 'Walker's Low' / Walker's Low Catmint	#1	24"
Rudbeckia flugida 'Goldstrum' / Goldstrum Black-Eyed Susan	#1	24"
F		
Hydrangea paniculata 'Little Lamb' / Little Lamb Pannicle Hydrangea	#3	5-6'
Syringa meyeri 'Palibin' / Dwarf Korean Lilac	#3	4-5'
Viburnum trilobum 'Compacta' / Compact American Cranberry Viburnum	#3	5-6'

ISLAND PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	2	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	1	20-30'
Malus 'Spring Snow' / Spring Snow Crabapple	2.5-3" CAL.	MS	2	15-20'
Shrubs				
Clethra alnifolia 'Compacta' / Compact Summersweet	3'	CA	10	3-4'
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	13	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	6	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange:	3'	LQ	6	3-4'
Ilex glabra 'Compacta' / Compact Inkberry	2-2.5' B&B	IG	6	5-6'
Juniperus horizontalis 'Bar Harbor' / Bar Harbor Juniper	#1 Gal.	JH	10	6-12"
Rhus aromatica 'Grow Low' / Grow Low Fragrant Sumac	#1 Gal.	RA	35	18-24"
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	6	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	6	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	20	5'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	PV	12	4'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

terrain
planning & design llc
311 kast hill road
hopkinton nh 03229
603. 746. 3512
terrainplanning.com

LEGEND

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- IPP-F IRON PIPE FOUND
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LANDSCAPE PLAN
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MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
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STREET PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	17	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	10	20-30'
Maackia amurensis 'Starburst' / Starburst Amur Maackia	2.5-3" CAL.	MA	28	20-30'
Picea glauca / White Spruce	6-7' B&B	PG	6	40-60'
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	2.5-3" CAL.	PA	11	40-60'
Quercus coccinea / Scarlet Oak	2.5-3" CAL.	QC	16	60'+
Syringa reticulata / Japanese Lilac Tree	2.5-3" CAL.	SR	5	20-30'
Thuja plicata 'Green Giant' / Green Giant Western Arborvitae	6-7' B&B	TP	26	30-40'
Tilia cordata 'Greenspire' / Greenspire Littleleaf Linden	2.5-3" CAL.	TC	15	40-60'
Shrubs				
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	12	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	9	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange	3'	LQ	3	3-4'
Physocarpus opulifolius 'Little Devil' / Little Devil Ninebark	3'	PO	2	3-4'
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	5	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	16	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	10	5'

ISLAND PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	2	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	1	20-30'
Malus 'Spring Snow' / Spring Snow Crabapple	2.5-3" CAL.	MS	2	15-20'
Shrubs				
Clethra alnifolia 'Compacta' / Compact Summersweet	3'	CA	10	3-4'
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	13	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	6	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange	3'	LQ	6	3-4'
Ilex glabra 'Compacta' / Compact Inkberry	2-2.5' B&B	IG	6	5-6'
Juniperus horizontalis 'Bar Harbor' / Bar Harbor Juniper	#1 Gal.	JH	10	6-12"
Rhus aromatica 'Grow Low' / Grow Low Fragrant Sumac	#1 Gal.	RA	35	18-24"
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	6	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	6	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	20	5'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	PV	12	4'

Typical Unit Plant Schedule

Botanical Name/ Common Name	Size	Mature Height
A		
Amelanchier x grandiflora 'Robin Hill' / Robin Hill Serviceberry	1.5-2" CAL.	15-20'
Malus 'Prairiefire' / Prairiefire Crabapple	1.5-2" CAL.	15-20'
Syringa reticulata 'Ivory Silk' / Ivory Silk Japanese Lilac Tree	1.5-2" CAL.	20-30'
B		
Clethra alnifolia 'Hummingbird' / Hummingbird Summersweet	#3	3-4'
Cornus sericea 'Firedance' / Firedance Red-Osier Dogwood	#3	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Pannicle Hydrangea	#3	3-4'
C		
Buddleia 'Blue Chip Jr.' / Blue Chip Jr. Butterfly Bush	#2	18-24"
Itea virginica 'Little Henry' / Little Henry Virginia Sweetspire	#2	18-24"
Weigela florida 'Fine Wine' / Fine Wine Weigela	#2	2-3'
D		
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	5'
Miscanthus sinensis 'Purpurascens' / Flame Grass	#2	4-6'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	3-4'
E		
Astilbe 'Visions in Pink' / Visions in Pink Astilbe	#1	20"
Brunnera 'Jack Frost' / Jack Frost Siberian Bugloss	#1	16"
Echinacea 'Butterfly Kisses' / Butterfly Kisses Coneflower	#1	18"
Hemerocallis 'Happy Returns' / Happy Returns Daylily	#1	18-24"
Nepeta 'Walker's Low' / Walker's Low Catmint	#1	24"
Rudbeckia flugida 'Goldstrum' / Goldstrum Black-Eyed Susan	#1	24"
F		
Hydrangea paniculata 'Little Lamb' / Little Lamb Pannicle Hydrangea	#3	5-6'
Syringa meyeri 'Palibin' / Dwarf Korean Lilac	#3	4-5'
Viburnum trilobum 'Compacta' / Compact American Cranberry Viburnum	#3	5-6'

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hopkinton nh 03229
603. 746. 3512
terrainplanning.com

SEE SHEET 31 FOR TYPICAL UNIT DETAIL

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

LANDSCAPE PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

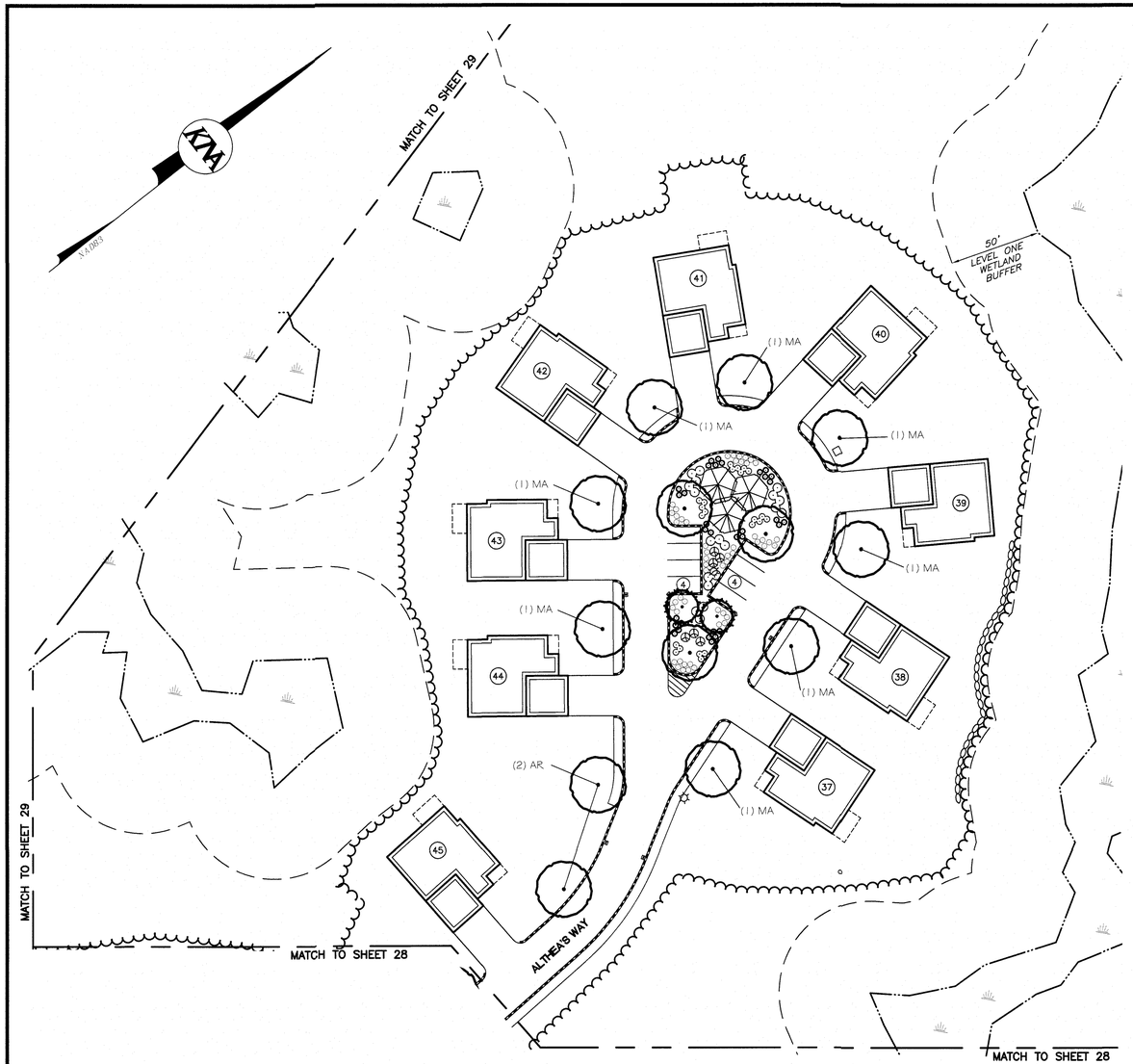
KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

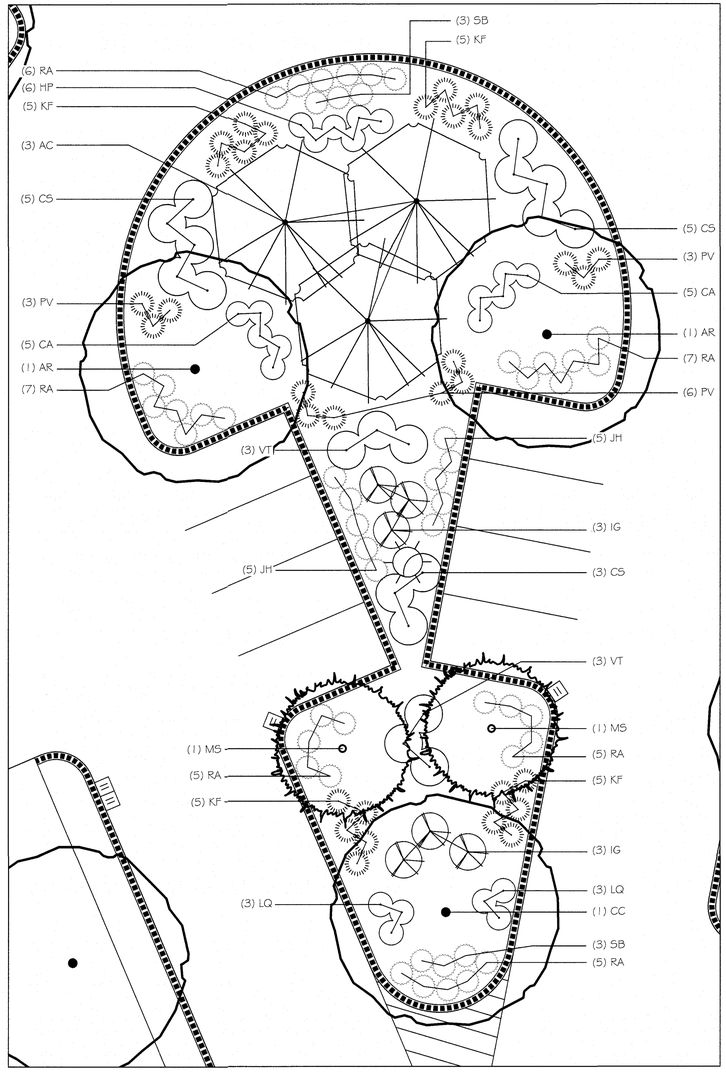
STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** 1" = 40'
PROJECT NO: 19-1114-1 **SHEET** 29 **OF** 64





TYPICAL ISLAND PLANTING DETAIL
SCALE:1"=10'-0"

SEE SHEET 31 FOR TYPICAL UNIT DETAIL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Typical Unit Plant Schedule

Botanical Name/ Common Name	Size	Mature Height
A		
Amelanchier x grandiflora 'Robin Hill' / Robin Hill Serviceberry	1.5-2" CAL.	15-20'
Malus 'Prairiefire' / Prairiefire Crabapple	1.5-2" CAL.	15-20'
Syringa reticulata 'Ivory Silk' / Ivory Silk Japanese Lilac Tree	1.5-2" CAL.	20-30'
B		
Clethra alnifolia 'Hummingbird' / Hummingbird Summersweet	#3	3-4'
Cornus sericea 'Firedance' / Firedance Red-Osier Dogwood	#3	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Pannicle Hydrangea	#3	3-4'
C		
Buddleia 'Blue Chip Jr.' / Blue Chip Jr. Butterfly Bush	#2	18-24"
Itea virginica 'Little Henry' / Little Henry Virginia Sweetspire	#2	18-24"
Weigela florida 'Fine Wine' / Fine Wine Weigela	#2	2-3'
D		
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	5'
Miscanthus sinensis 'Purpurascens' / Flame Grass	#2	4-6'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	3-4'
E		
Astilbe 'Visions in Pink' / Visions in Pink Astilbe	#1	20"
Brunnera 'Jack Frost' / Jack Frost Siberian Bugloss	#1	16"
Echinacea 'Butterfly Kisses' / Butterfly Kisses Coneflower	#1	18"
Hemerocallis 'Happy Returns' / Happy Returns Daylily	#1	18-24"
Nepeta 'Walker's Low' / Walker's Low Catmint	#1	24"
Rudbeckia flugida 'Goldstrum' / Goldstrum Black-Eyed Susan	#1	24"
F		
Hydrangea paniculata 'Little Lamb' / Little Lamb Pannicle Hydrangea	#3	5-6'
Syringa meyeri 'Palibin' / Dwarf Korean Lilac	#3	4-5'
Viburnum trilobum 'Compacta' / Compact American Cranberry Viburnum	#3	5-6'

STREET PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	17	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	10	20-30'
Maackia amurensis 'Starburst' / Starburst Amur Maackia	2.5-3" CAL.	MA	28	20-30'
Picea glauca / White Spruce	6-7' B&B	PG	6	40-60'
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	2.5-3" CAL.	PA	11	40-60'
Quercus coccinea / Scarlet Oak	2.5-3" CAL.	QC	16	60'+
Syringa reticulata / Japanese Lilac Tree	2.5-3" CAL.	SR	5	20-30'
Thuja plicata 'Green Giant' / Green Giant Western Arborvitae	6-7' B&B	TP	26	30-40'
Tilia cordata 'Greenspire' / Greenspire Littleleaf Linden	2.5-3" CAL.	TC	15	40-60'
Shrubs				
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	12	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	9	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange:	3'	LQ	3	3-4'
Physocarpus opulifolius 'Little Devil' / Little Devil Ninebark	3'	PO	2	3-4'
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	5	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	16	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	10	5'

ISLAND PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	3	30-40'
Acer ruburm 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	2	40-60'
Carpinus caroliniana 'Palisade' / Palisade American Hornbeam	2.5-3" CAL.	CC	1	20-30'
Malus 'Spring Snow' / Spring Snow Crabapple	2.5-3" CAL.	MS	2	15-20'
Shrubs				
Clethra alnifolia 'Compacta' / Compact Summersweet	3'	CA	10	3-4'
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	3'	CS	13	5-6'
Hydrangea paniculata 'Bombshell' / Bombshell Panicle Hydrangea	3'	HP	6	3-4'
Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Panicle Hydrange:	3'	LQ	6	3-4'
Ilex glabra 'Compacta' / Compact Inkberry	2-2.5' B&B	IG	6	5-6'
Juniperus horizontalis 'Bar Harbor' / Bar Harbor Juniper	#1 Gal.	JH	10	6-12"
Rhus aromatica 'Grow Low' / Grow Low Fragrant Sumac	#1 Gal.	RA	35	18-24"
Spiraea bumalda 'Goldflame' / Goldflame Spirea	#1 Gal.	SB	6	2-3'
Viburnum trilobum 'Compacta' / American Cranberry Virburnum	3'	VT	6	5-6'
Grasses				
Calamagrostis a. 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	20	5'
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	PV	12	4'

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LANDSCAPE PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

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STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED
PROFESSIONAL ENGINEER

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PROJECT NO: 19-1114-1 | SHEET 30 OF 64

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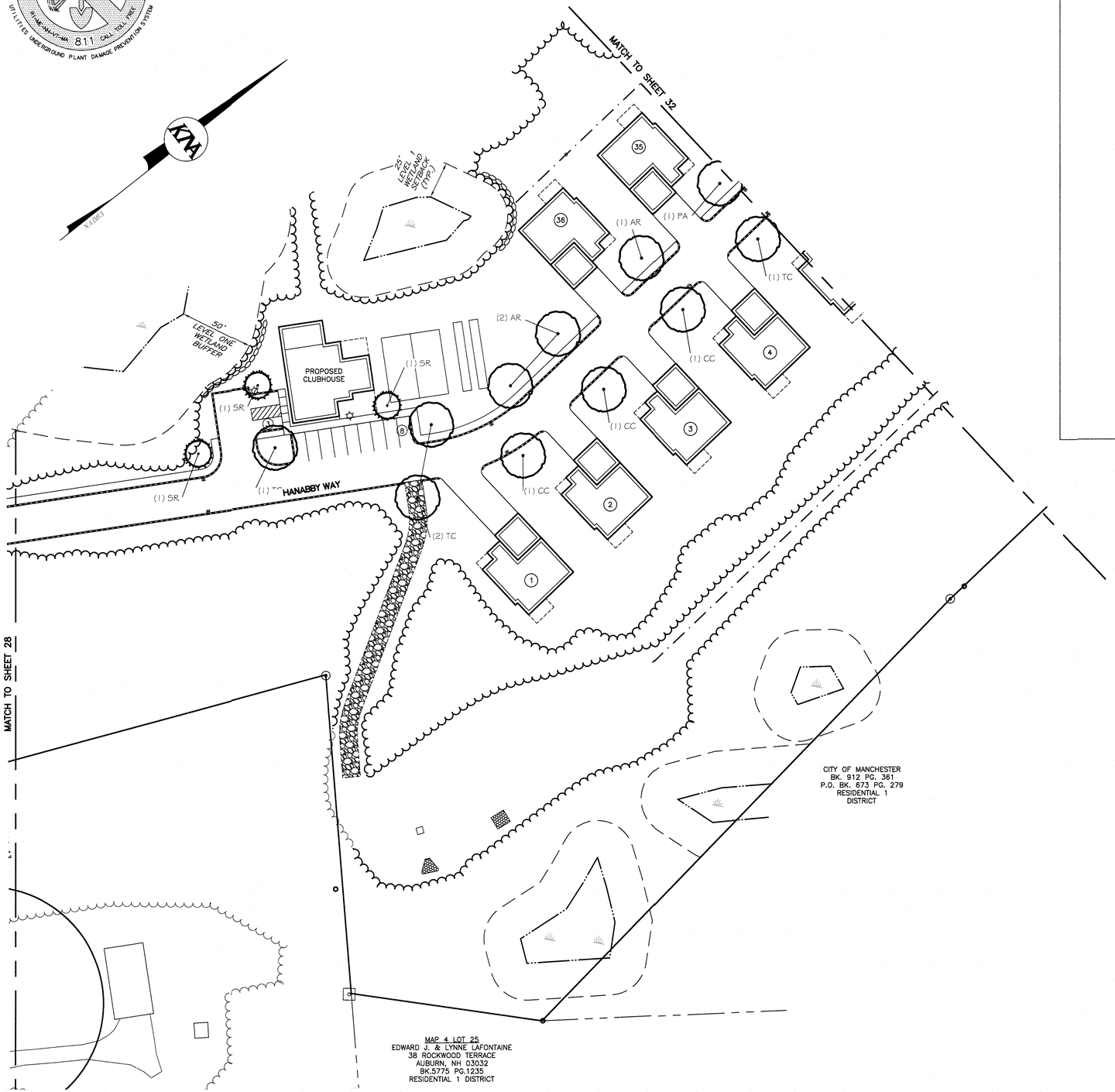
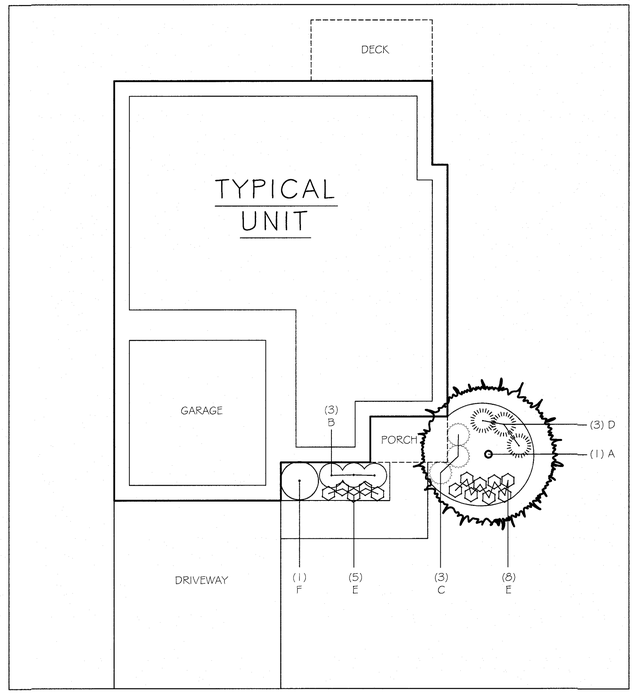
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM





TYPICAL UNIT PLANTING DETAIL
SCALE:1"=10'-0"

SEE SHEETS 28 – 30
FOR LEGEND & NOTES

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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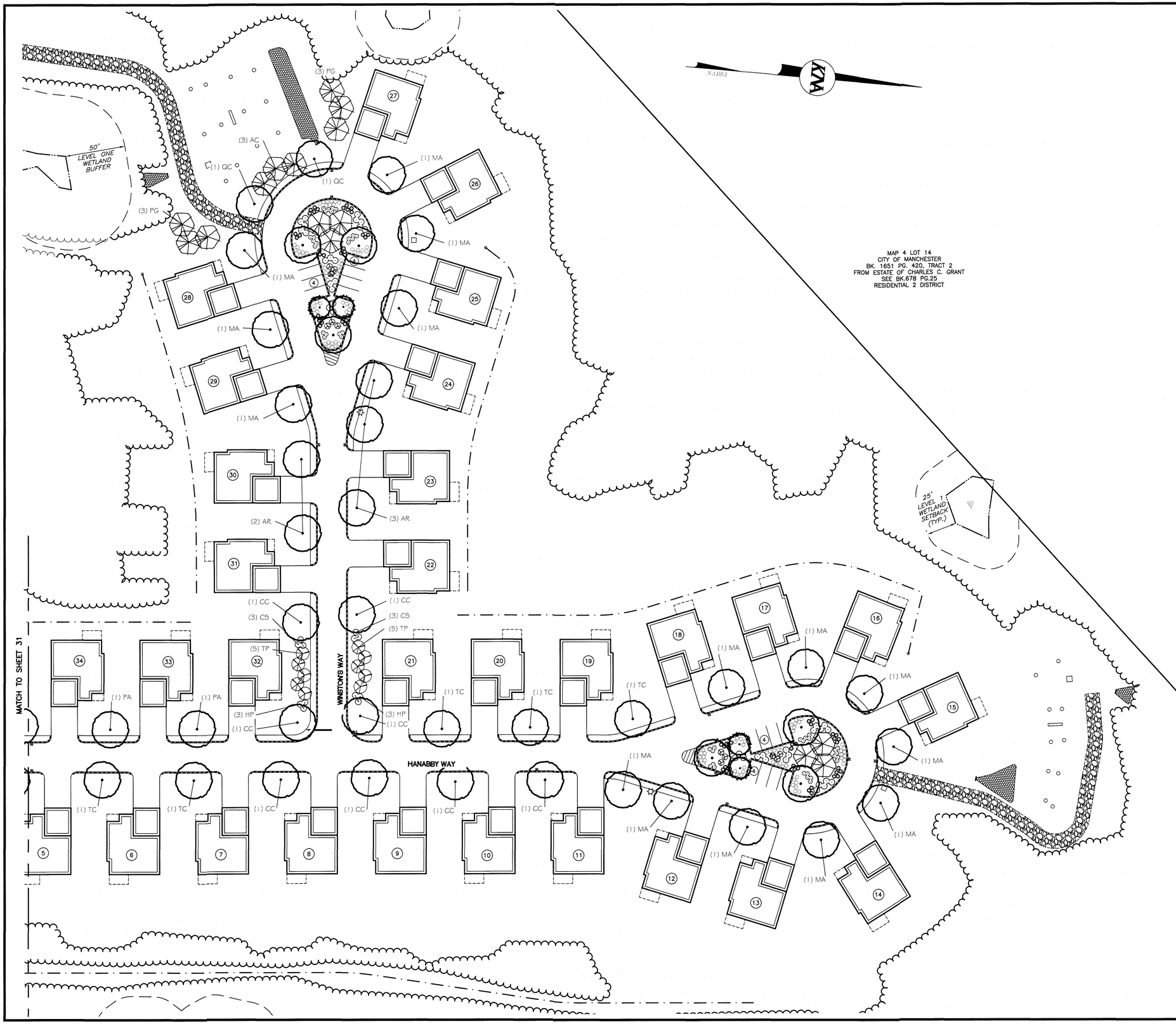
DATE: APRIL 19, 2023 | SCALE: 1" = 40'
PROJECT NO: 19-1114-1 | SHEET 31 OF 64



SEE SHEETS 28 – 30 FOR LEGEND & NOTES

SEE SHEET 31 FOR TYPICAL UNIT DETAIL

GRAPHIC SCALE

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(IN FEET)
1 inch = 40 ft.

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LANDSCAPE PLAN
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

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STATE OF NEW HAMPSHIRE – PAUL CHISHOLM No. 15076 – LICENSED PROFESSIONAL ENGINEER

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DATE: APRIL 19, 2023 | **SCALE:** 1" = 40'
PROJECT NO: 19-1114-1 | **SHEET** 32 **OF** 64

MATCH TO SHEET 35

MATCH TO SHEET 35

MATCH TO SHEET 34

MATCH TO SHEET 36

ALTHEA'S WAY

TAYLA WAY

TANGLEWOOD DRIVE

ROCKWOOD TERRACE

P4

25' LEVEL 1 WETLAND SETBACK (TYP.)

50' LEVEL ONE WETLAND BUFFER

25' LEVEL TWO WETLAND BUFFER

PROPOSED MAP 4 LOT 16-21 (NON-BUILDABLE)

MAP 4 LOT 19-4
SHARON A. LEBLANC, TRUSTEE
SHARON A. LEBLANC REV. TR.
67 TANGLEWOOD DRIVE
AUBURN, NH 03032
BK.5728 PG.919
RESIDENTIAL 1 DISTRICT

MAP 4 LOT 19-5
JAMES P. BUTTS, TRUSTEE
JAMES P. BUTTS REV. TR. OF 2018
64 TANGLEWOOD DRIVE
AUBURN, NH 03032
BK.5925 PG.665
RESIDENTIAL 1 DISTRICT

MAP 4 LOT 24-13
JOHN A. MENEFRAGE
60 ROCKWOOD TERRACE
AUBURN, NH 03032
BK.5216 PG.3014
RESIDENTIAL 1 DISTRICT

OVERLAP AREA SHOWN AS P/O LOT 4-24-11 7,637 S.F.

MAP 4 LOT 24-11
TOWN OF AUBURN
P.O. BOX 309
AUBURN, NH 03032
BK.2205 PG.1962
RESIDENTIAL 1 DISTRICT

LIGHTING NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LIGHTING.
2. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION REGARDING LIGHT INSTALLATION AND WIRING REQUIREMENTS.
3. ALL PROPOSED SITE LIGHTING SHALL MEET IES FULL CUT-OFF CLASSIFICATION.
4. ALL LIGHTING MUST COMPLY WITH TOWN OF AUBURN'S SUBDIVISION/SITE PLAN REGULATIONS.
5. ALL FINAL SITE LIGHTING AND CONDUIT LAYOUT SHALL BE COORDINATED WITH LOCAL UTILITY PROVIDER.
6. LIGHT POLES SHOULD BE PLACED 4' FROM EDGE OF PAVEMENT WHEREVER POSSIBLE.

LEGEND

GB-F	GRANITE BOUND FOUND
IPP-F	IRON PIPE FOUND
IP-F	IRON PIN FOUND
DH-F	DRILL HOLE FOUND
	PROPOSED SIGN
	PROPOSED LIGHT
W	PROPOSED WELL
S	PROPOSED SEWER MANHOLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
EOP	EDGE OF PAVEMENT
	SETBACK
	EASEMENT
	TREELINE
	PROPOSED PROPERTY LINE
	PROPOSED TREELINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BITUMINOUS CURB
	PROPOSED SWALE
	PROPOSED STONEWALL

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
☼	1	P3	Single	DS771FC-2M-T3-30-530M-BLK / AP8502.10-BLK (10' POLE)	Amerlux LLC
☼	10	P4	Single	DS771FC-2M-T4-30-530M-BLK / AP8502.10-BLK (10' POLE	Amerlux LLC
☼	4	P5	Single	DS77x1FC-2M-T5-30-530M-BLK / AP8502.10-BLK (10' POLE)	Amerlux LLC

StatArea_1
COMMUNITY BUILDING PARKING IN FRONT
Illuminance (Fc)
Average = 1.15
Maximum = 2.5
Minimum = 0.4
Avg/Min Ratio = 2.88
Max/Min Ratio = 6.25

StatArea_2
COMMUNITY BUILDING SIDE PARKING
Illuminance (Fc)
Average = 1.82
Maximum = 3.9
Minimum = 0.7
Avg/Min Ratio = 2.60
Max/Min Ratio = 5.57

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603.759.1043
6 SCOTT RD | HAMPTON, NH 03842 | 603.601.8080
EXPOSURE2LIGHTING.COM
New England's Premier Lighting, Controls and Electrical Rep Agency

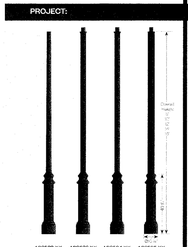
Houston Series

amerlux
A Delta Group Company

Houston Series

PROJECT:

TYPE:



AP8502.XX AP8503.XX AP8504.XX AP8505.XX

See pgs 3-4 for more details.

Features
Aluminum light poles with a decorative base, featuring a choice of extruded shafts. Accepts a wide variety of Amerlux post top luminaires.

11" diameter fluted cast aluminum base

Choice of extruded shafts (0.125 wall)
- 4" to 3" OD smooth tapered
- 3" OD fluted (12 flutes)
- 4" OD smooth round
- 5" OD fluted (12 flutes)

Extruded shaft is circumferentially welded to the base

Access door for wiring is secured with stainless steel screws

Ground lug provided inside base

Materials:
Base - Cast aluminum (356-T6)
Shaft - Extruded Aluminum (6063-T6)
- - Tapered Aluminum (6063-T6)
Anchor Bolts - Hot dipped, galvanized steel, ordered separately

Finish:
Premium quality thermoset polyester powdercoat for a durable finish.

Accessories:
- Single or double sided field rotatable banner arms
- Flag pole holder
- GFCI - covered ground fault circuit protected duplex outlet
- Direct burial extension

Amerlux reserves the right to change specs that do not affect overall performance
Amerlux LLC - 178 Route Drive, Glenrock, NJ, 07452 - T: 973-882-5001 F: 973-882-2855 - amerlux.com

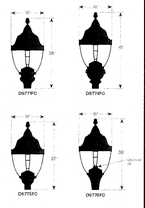
DS770FC Series
Dark Sky Acorn

amerlux
A Delta Group Company

DS400 Series Luminaire

PROJECT:

TYPE:



DS771FC DS772FC DS773FC DS776FC

Features
Lighting for exterior retail, commercial and hospitality environments. The DS770FC Series consists of a cast aluminum fixter and cage assembly and a spun aluminum cap. Includes Full Cutoff optics for Dark Sky friendly applications. An optional Smartsite wireless lighting controller is available.

Product Overview

Wattage:	2M: 44W, 49W 3M: 60W, 67W 4M: 76W, 88W
Lumen Output:	9,124 lm (4M, 88W, T5, 40K)
Color Temp:	3000K, 4000K
Dimming:	0-10V dimming

Installation:
The luminaire will mount to a 3" OD post or tenon with 5/16" black oxide coated stainless steel set screws to ensure a solid connection.

Optical Module:
The luminaire utilizes 2, 3 or 4 individually sealed optical modules consisting of a high performance LED board with an acrylic (TIR) lens to deliver maximum spacing and uniformity. A choice of Type II, III, IV and V IES distributions are available with the scalability to meet application criteria. Custom configurations available.

Electrical:
- Over voltage and short circuit protected driver
- Series connected 10kV/20kA surge protector
- Automatic AQ incoming voltage sensing (120V-277V)
- 347V-480V option consult factory
- 0-10V dimming

Light Distribution:
- Type II (**T2**)
- Type III (**T3**)
- Type IV (**T4**)
- Type V (**T5**)

CCT:
- 3000K (**30**)
- 4,000K (**40**)

Drive Current:
- 590mA
- 800mA

L70:
72,200+ hrs

Finish:
Durable thermoset polyester powdercoat finish in the following:
- Satin Black (**BLK**)
- Classic Bronze (**CLB**)
- Gloss Textured Bronze (**GBZ**)
- Green (**GRN**)
- Gloss Textured Black (**GTB**)
- Textured Black (**TBK**)
- Gloss Textured Green (**TQR**)

Accessories:
- Dusk-to-dawn button type photocell (**PCL**)
- Black Light Shield (**BLS**)
- Wireless control option (**SSINT-1**)
- Optional 7 pin NEMA Receptacle (**7P**)

ETL listed, suitable for wet locations.

Amerlux reserves the right to change specs that do not affect overall performance
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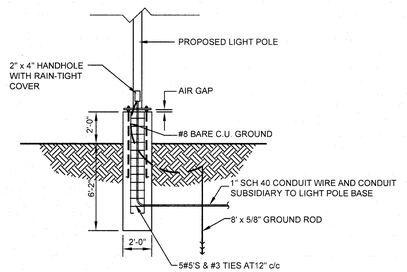

CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE
(MARCH 2008)

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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LIGHTING PLAN
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PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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LIGHTING NOTES:

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2. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION REGARDING LIGHT INSTALLATION AND WIRING REQUIREMENTS.
3. ALL PROPOSED SITE LIGHTING SHALL MEET IES FULL CUT-OFF CLASSIFICATION.
4. ALL LIGHTING MUST COMPLY WITH TOWN OF AUBURN'S SUBDIVISION/SITE PLAN REGULATIONS.
5. ALL FINAL SITE LIGHTING AND CONDUIT LAYOUT SHALL BE COORDINATED WITH LOCAL UTILITY PROVIDER.
6. LIGHT POLES SHOULD BE PLACED 4' FROM EDGE OF PAVEMENT WHEREVER POSSIBLE.

SEE SHEET 33 FOR LEGEND & DETAIL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

EXPOSURE ESS
New England's Premier Lighting, Controls and Electrical Rep Agency

KENNETH SWEENEY | APPLICATIONS ENGINEER
603.759.1043
6 SCOTT RD | HAMPTON, NH 03842 | 603.601.8080
EXPOSURE2LIGHTING.COM

DIG SAFE
811 CALL DIG, DIAL OR TEXT
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

LIGHTING PLAN
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

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1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023	SCALE: 1" = 40'
PROJECT NO: 19-1114-1	SHEET 34 OF 64

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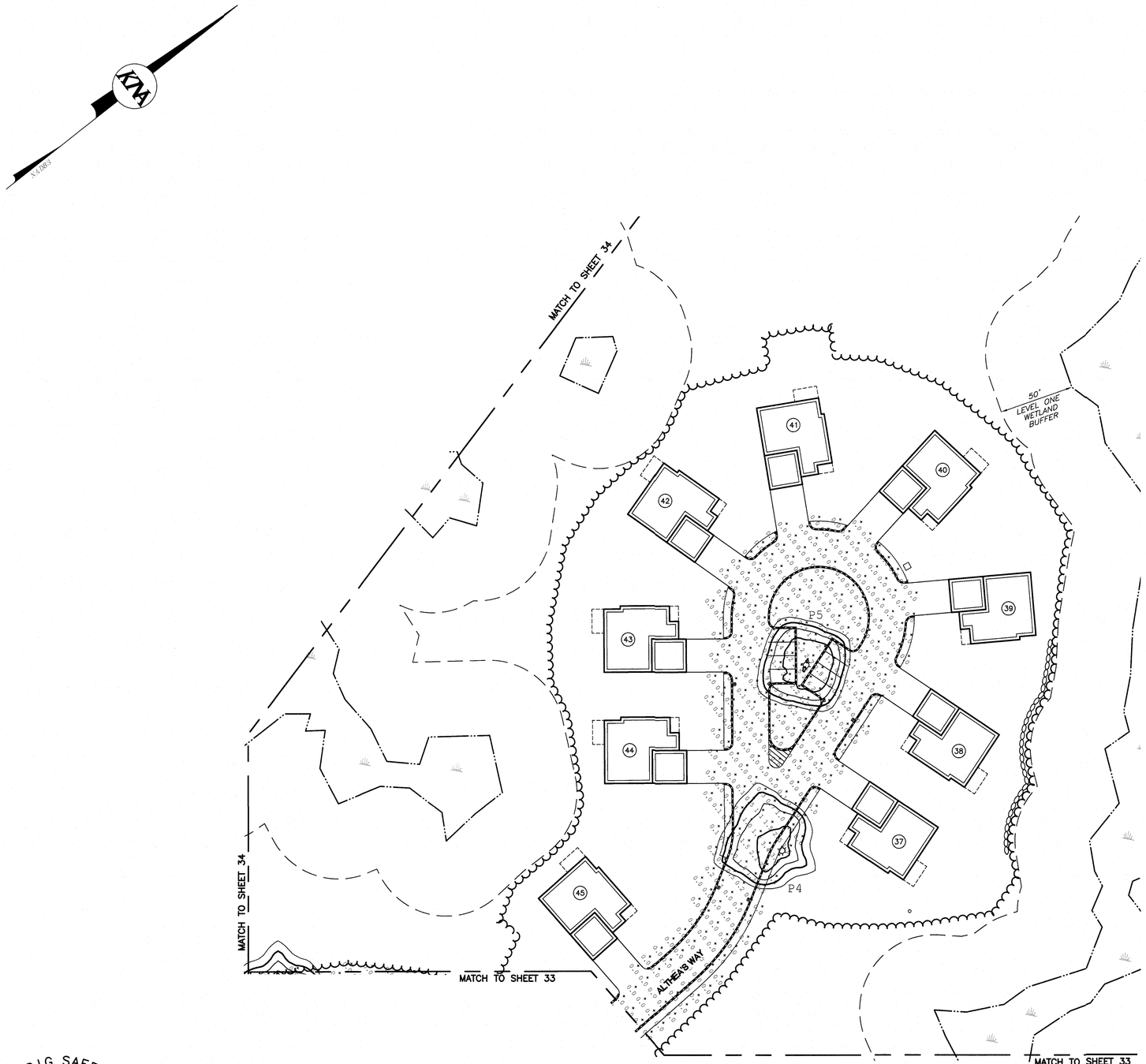

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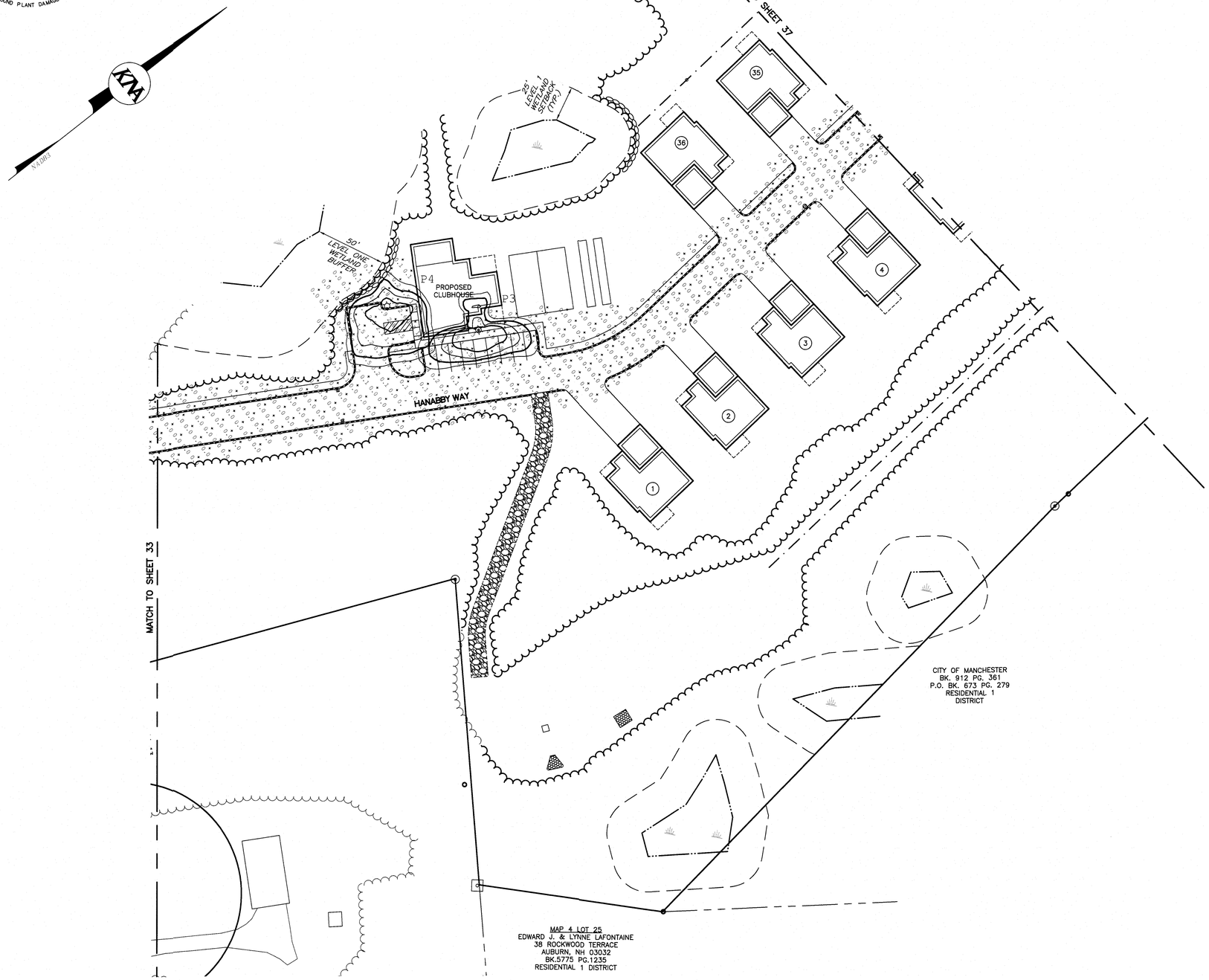
PROJECT NO: 19-1114-1 | SHEET 35 OF 64

DIG SAFE
811
CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM



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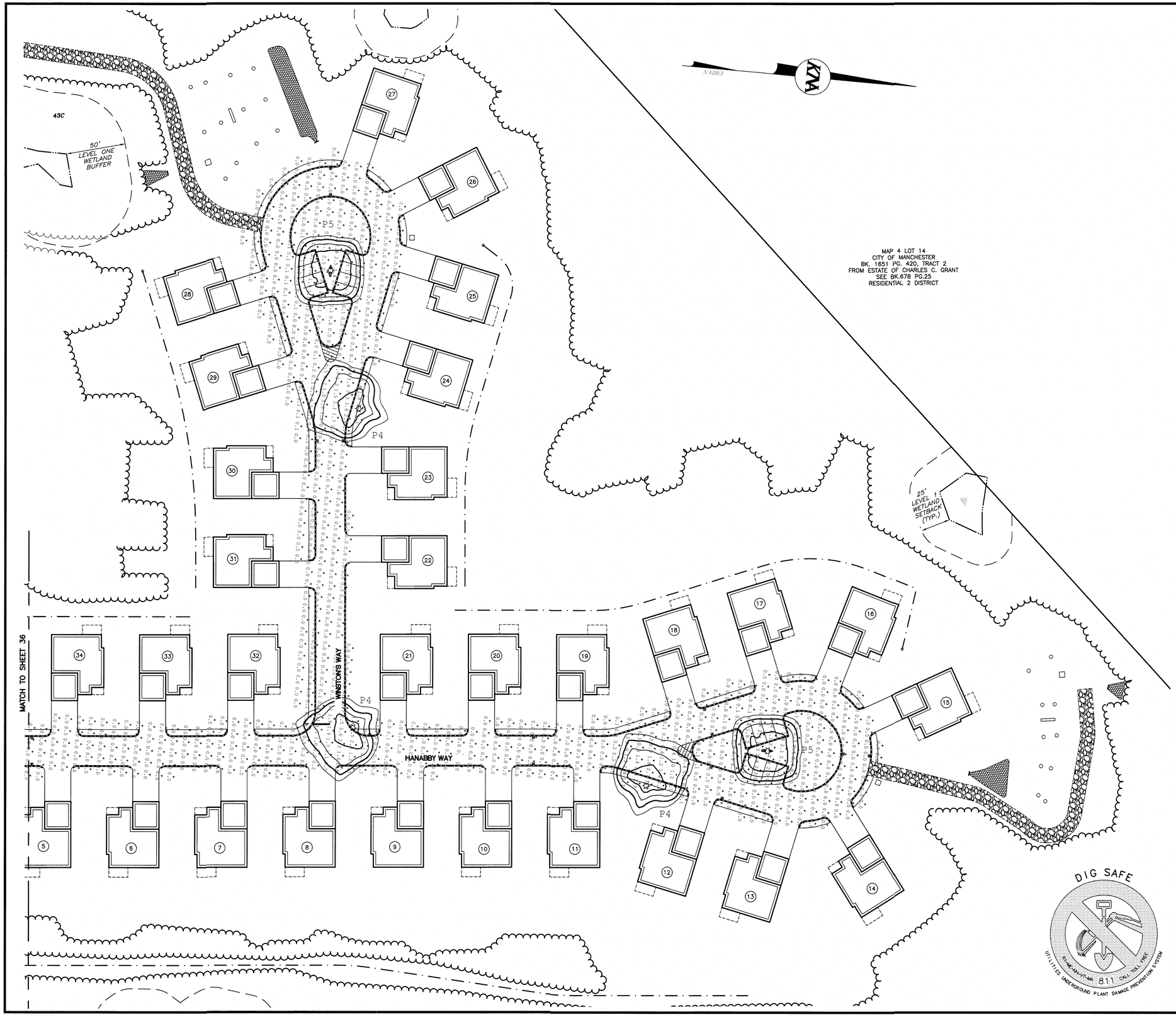

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DIG SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — 811 CALL TOLL FREE

STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER

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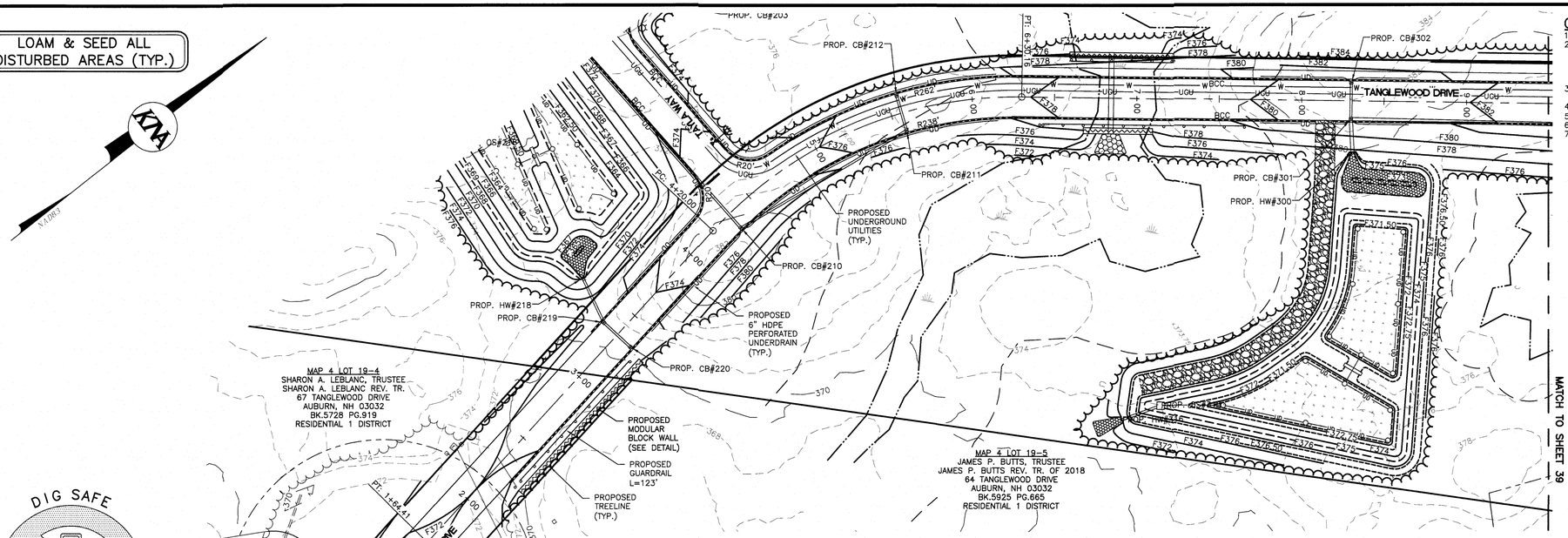
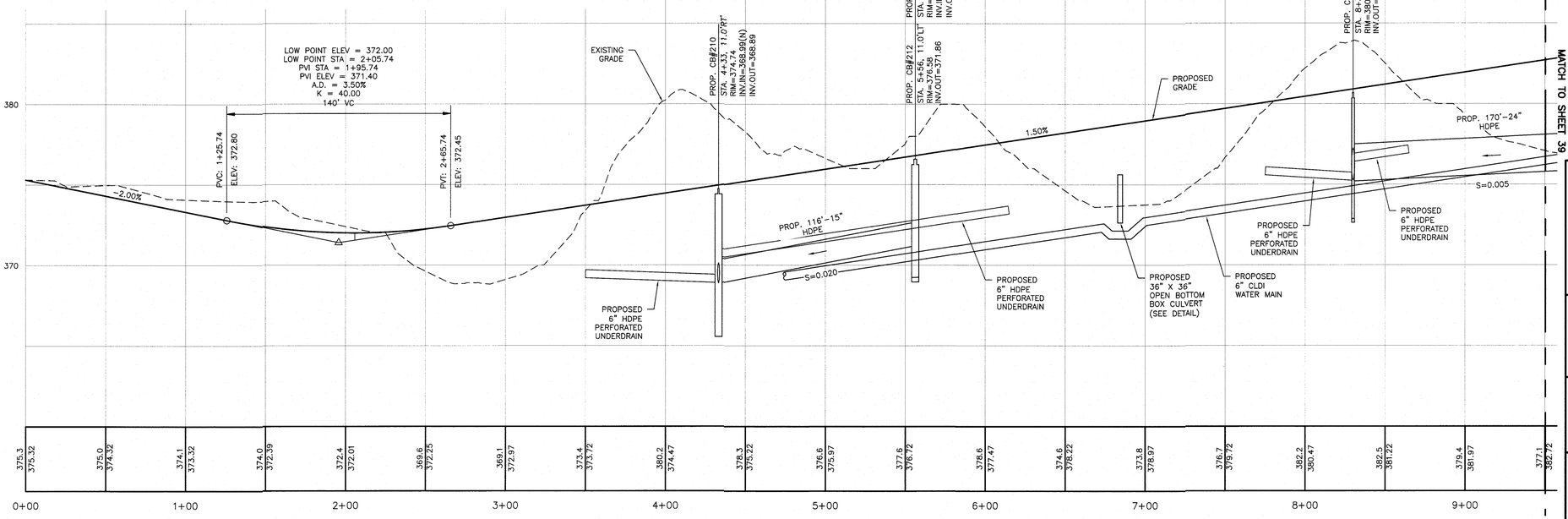
LOAM & SEED ALL DISTURBED AREAS (TYP.)



TANGLEWOOD DRIVE ROADWAY PLAN

SCALE: 1" = 40'



TANGLEWOOD DRIVE ROADWAY PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONSTRUCTION NOTES:

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3. ROADWAY CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS.
4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.

LEGEND

- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED WATER SHUT OFF
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES (UGU)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
- PROPOSED UNDERDRAIN (UD)
- PROPOSED WATER LINE (W)
- PROPOSED CENTER LINE
- PROPOSED DRAINAGE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR
- PROPOSED GAURDRAIL
- PROPOSED RETAINING WALL

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

ROADWAY PLAN & PROFILE
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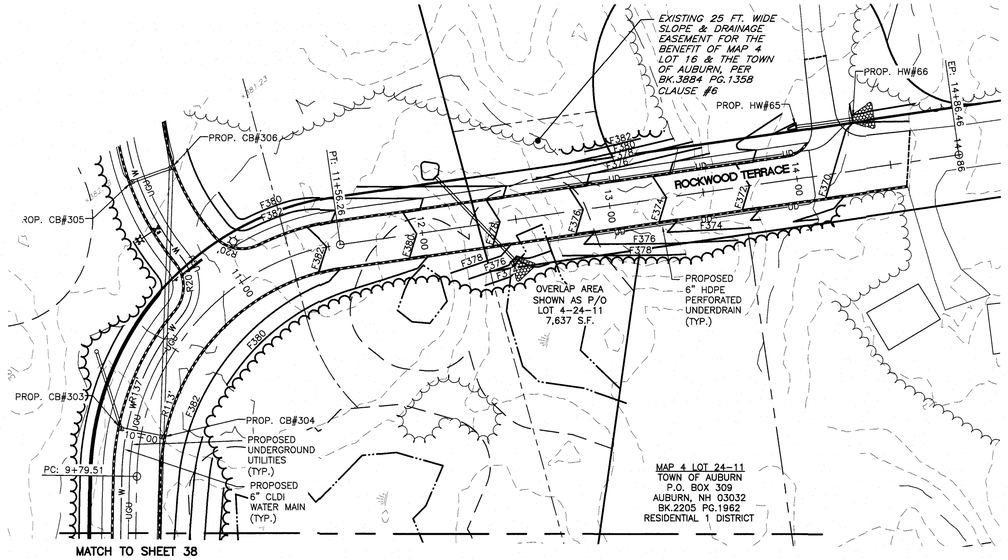
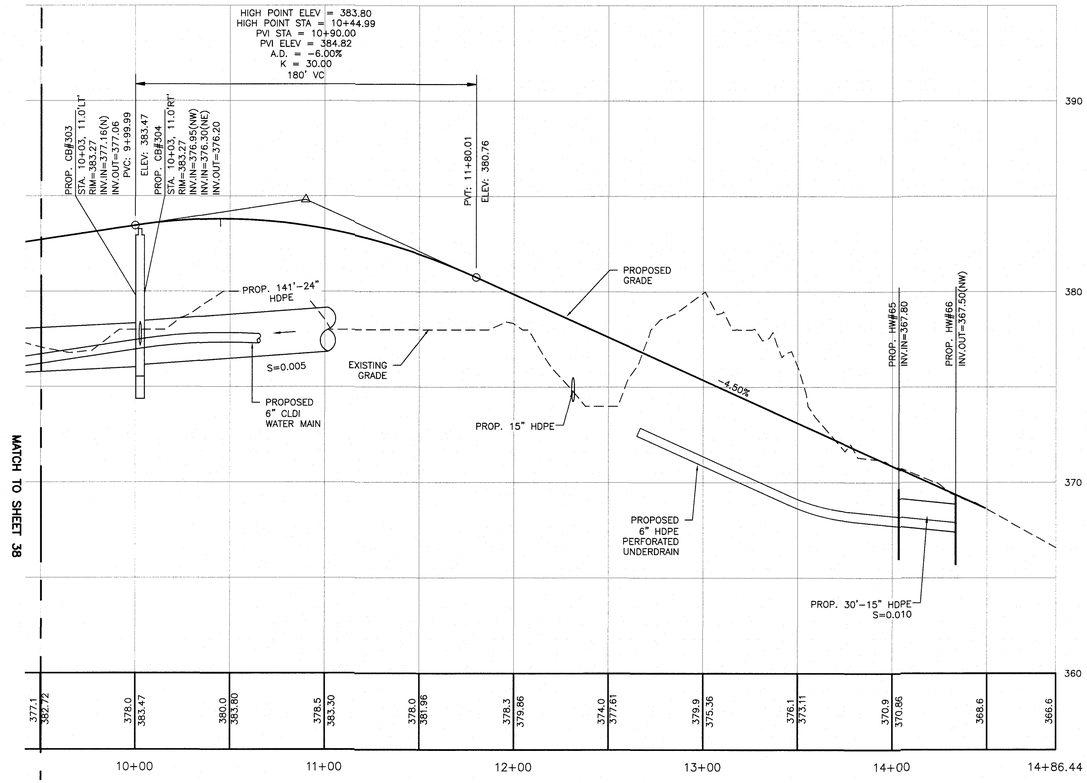
PROJECT NO: 19-1114-1 | SHEET 38 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)



TANGLEWOOD DRIVE ROADWAY PLAN

SCALE: 1" = 40'



TANGLEWOOD DRIVE ROADWAY PROFILE

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DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
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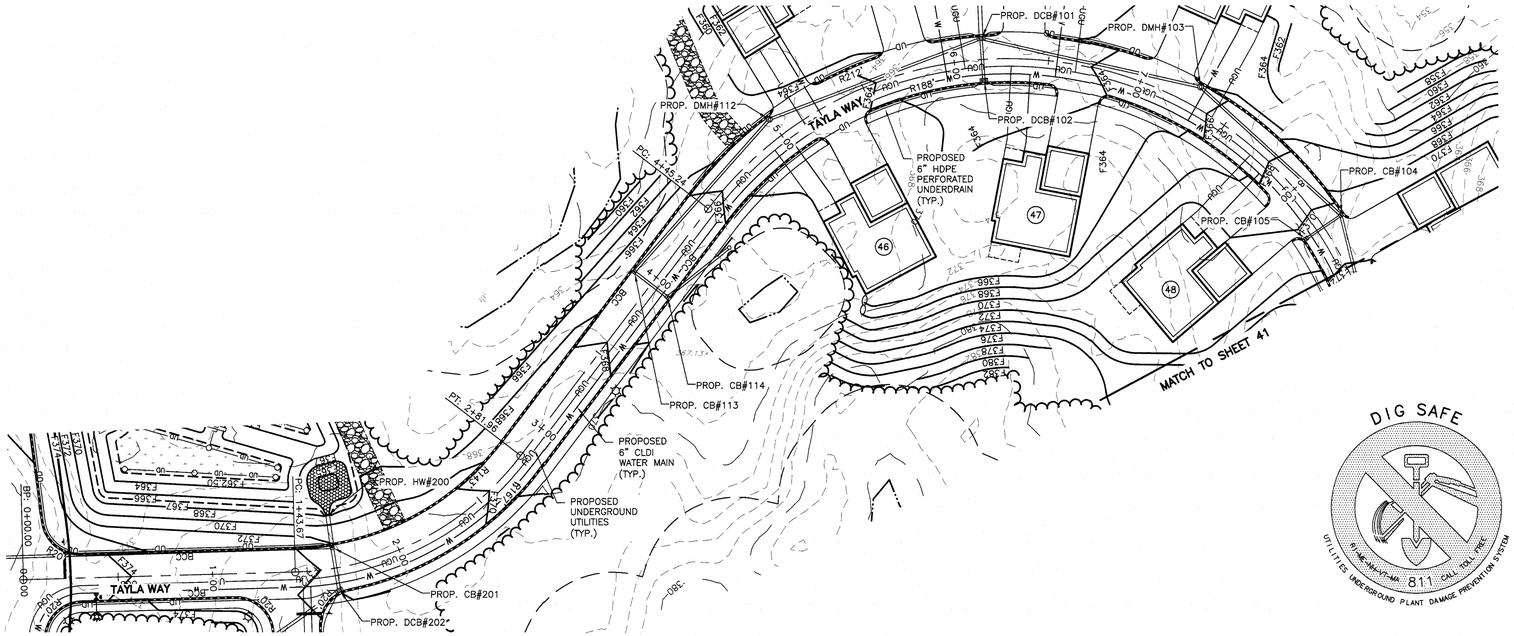
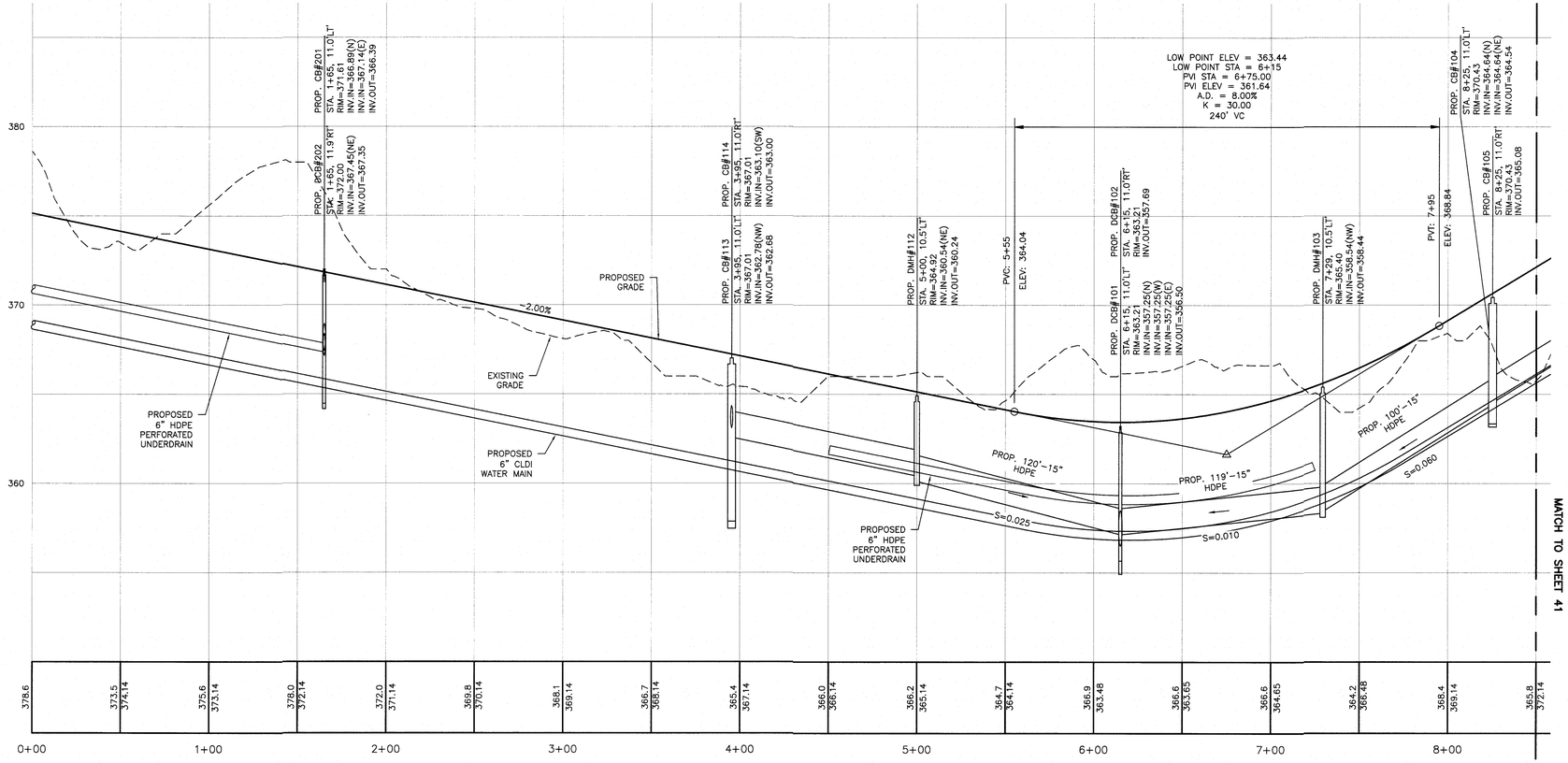
LOAM & SEED ALL DISTURBED AREAS (TYP.)



TAYLA WAY ROADWAY PLAN

SCALE: 1" = 40'



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DIG SAFE

811 CALL TOLL FREE

UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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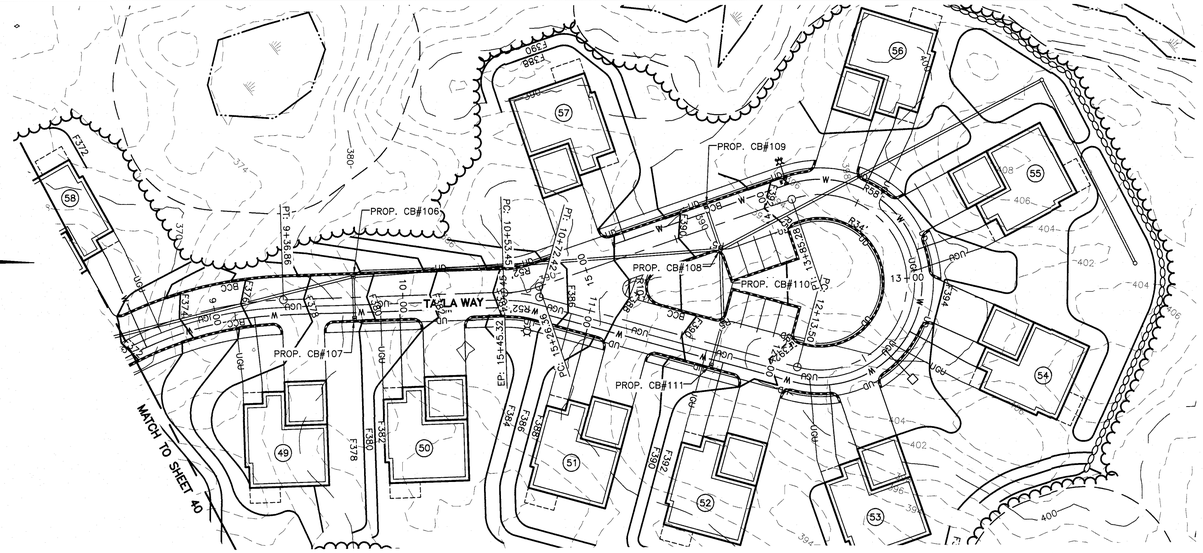
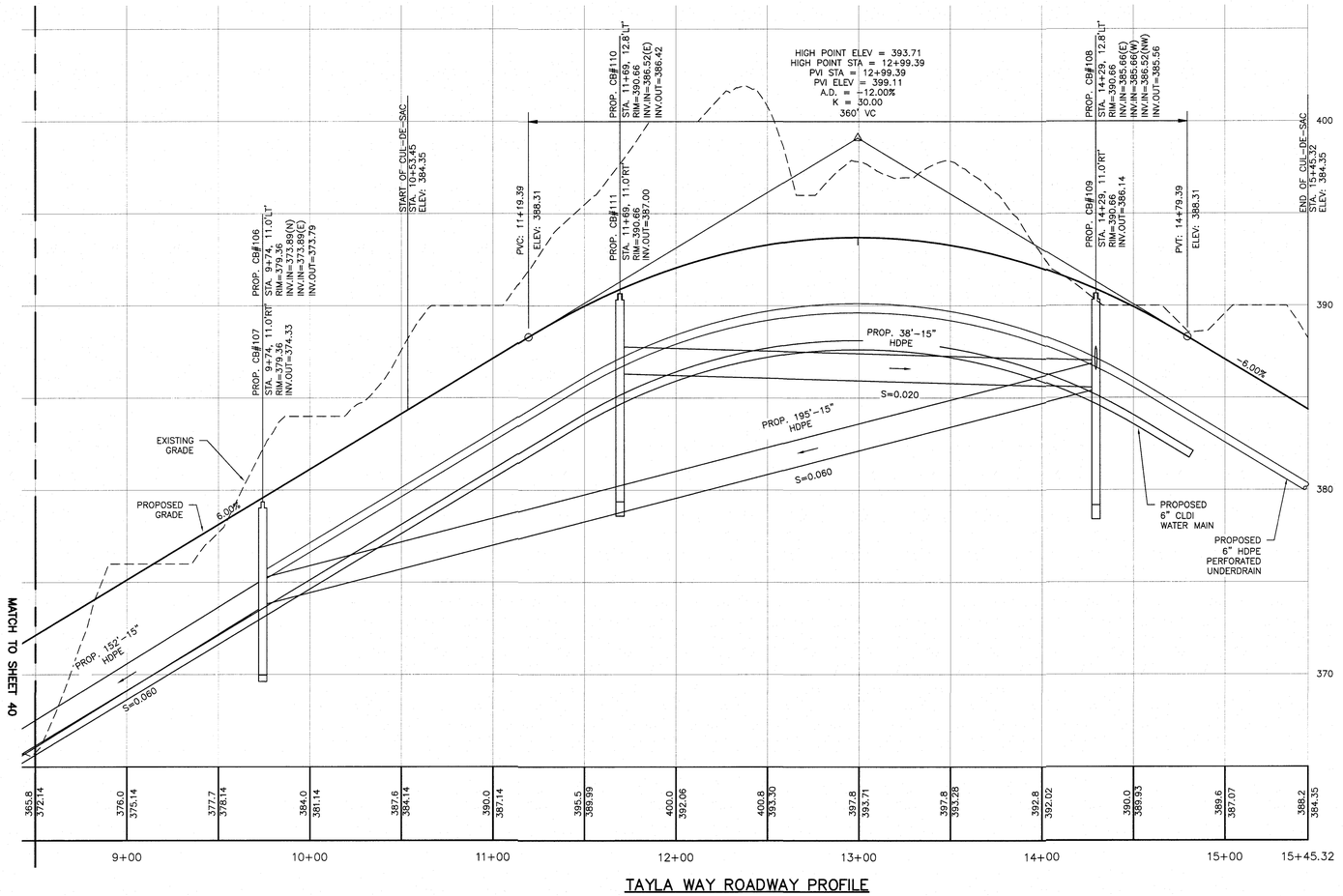
LOAM & SEED ALL DISTURBED AREAS (TYP.)

NAD83



TAYLA WAY ROADWAY PLAN

SCALE: 1" = 40'



TAYLA WAY ROADWAY PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED ROADWAY PROFILES FOR THIS SITE.
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5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
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LEGEND

- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED WATER SHUT OFF
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES (UGU)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
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- PROPOSED GAURDRAIL
- PROPOSED RETAINING WALL

NPDES NOTE

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

ROADWAY PLAN & PROFILE
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE – PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
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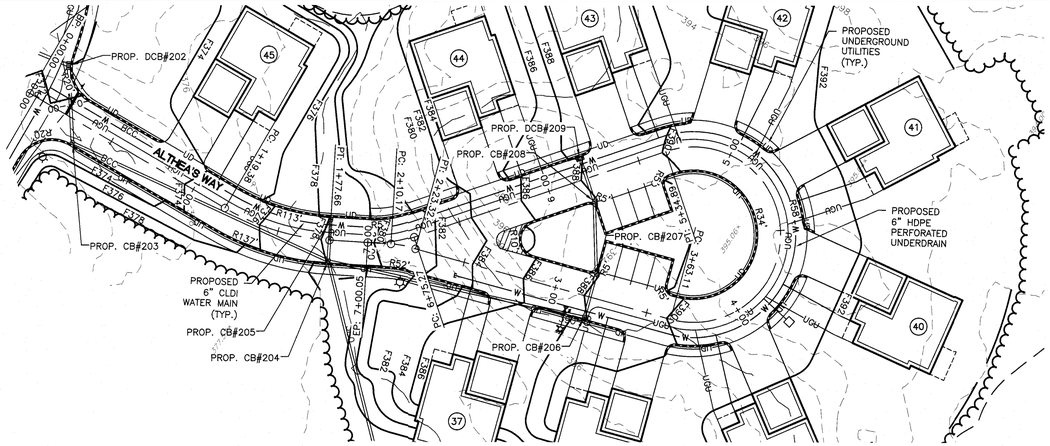
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

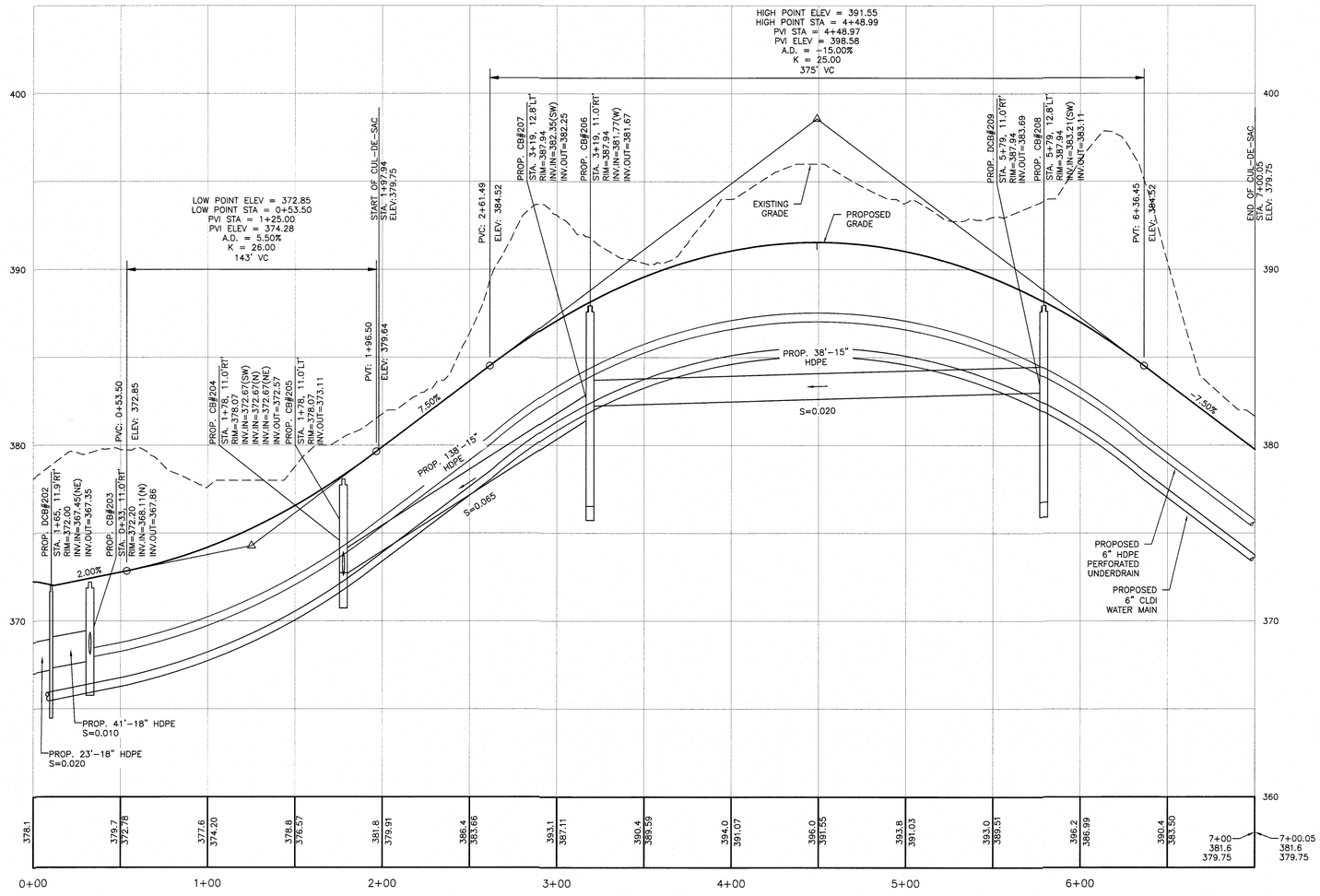
DATE: APRIL 19, 2023 | SCALE: 1" = 40'
PROJECT NO: 19-1114-1 | SHEET 41 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)



ALTHEA'S WAY ROADWAY PLAN

SCALE: 1" = 40'



ALTHEA'S WAY ROADWAY PROFILE

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1" = 4' (VERT.)

DIG SAFE
811 OR 1-888-DIG-SAFE
CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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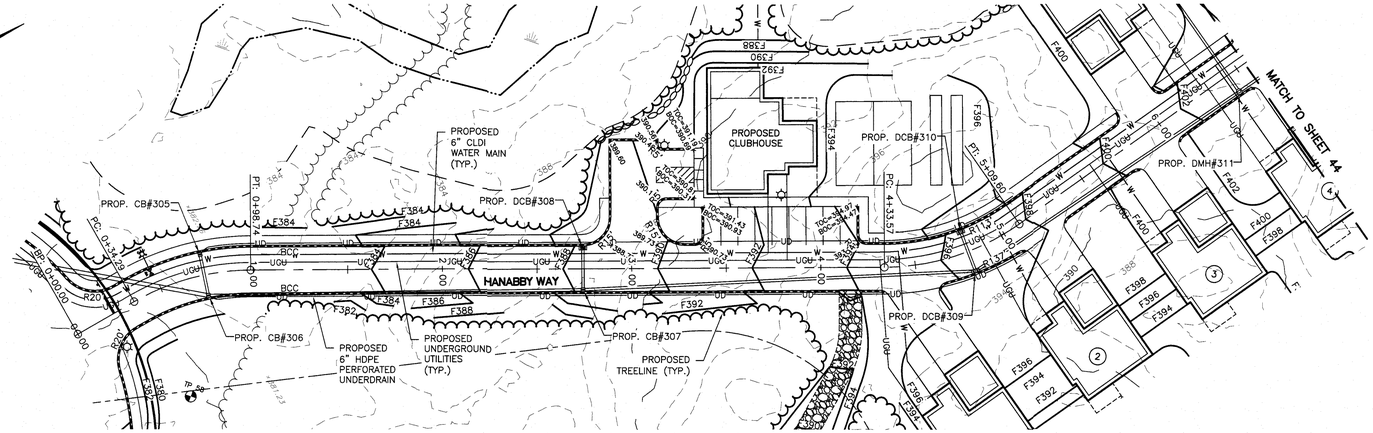
PROJECT NO: 19-1114-1	SHEET 42 OF 64



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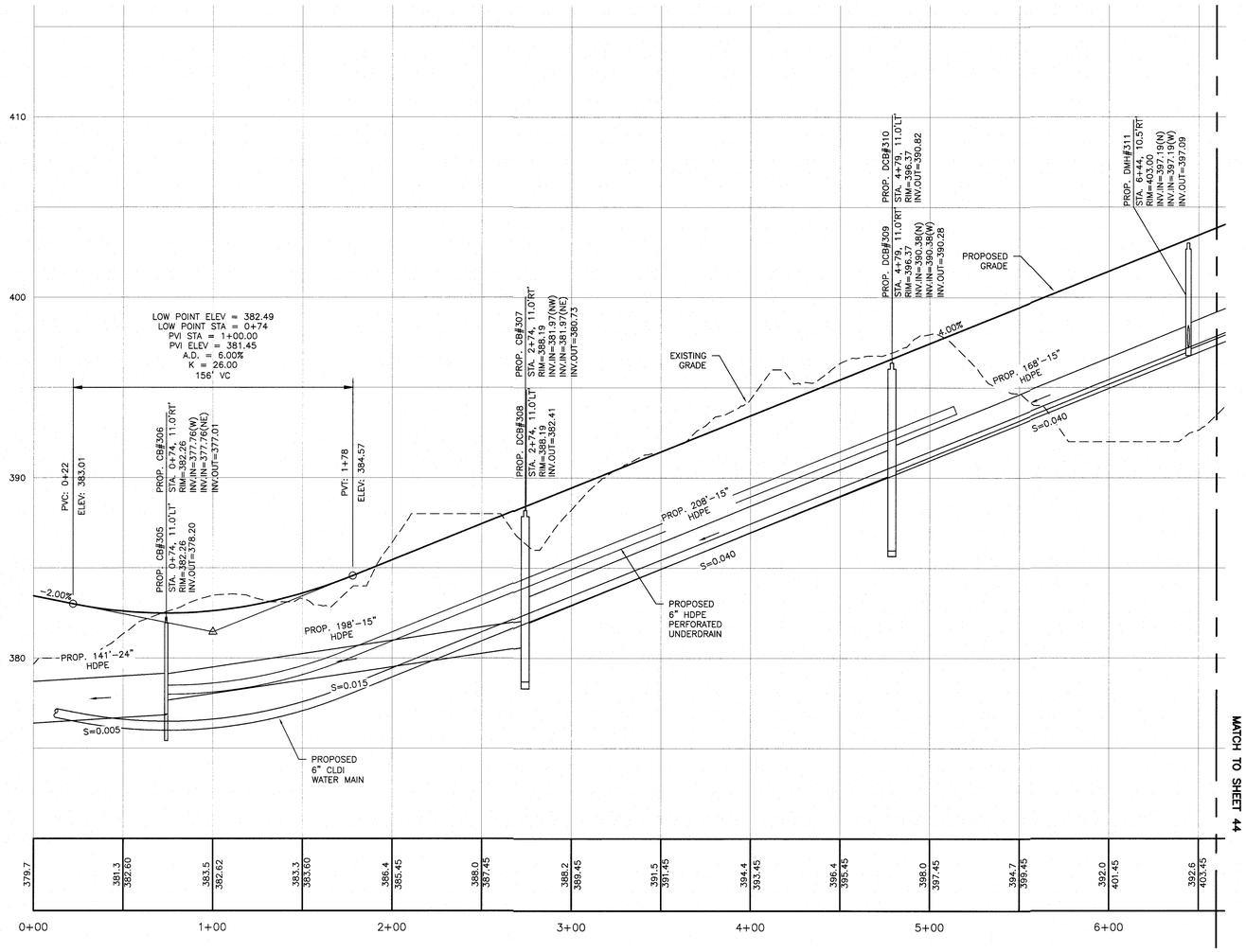
HANABBY WAY ROADWAY PLAN

SCALE: 1" = 40'



HANABBY WAY ROADWAY PROFILE

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1" = 4' (VERT.)

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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MAP 4 LOTS 13-4 & 16
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PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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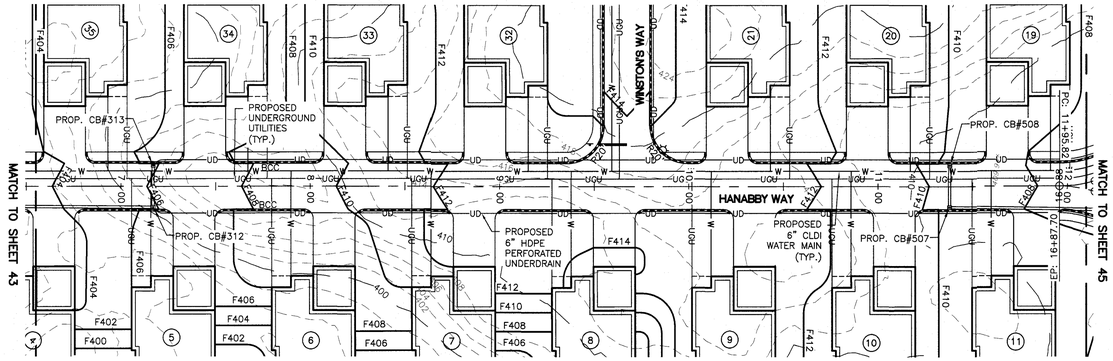
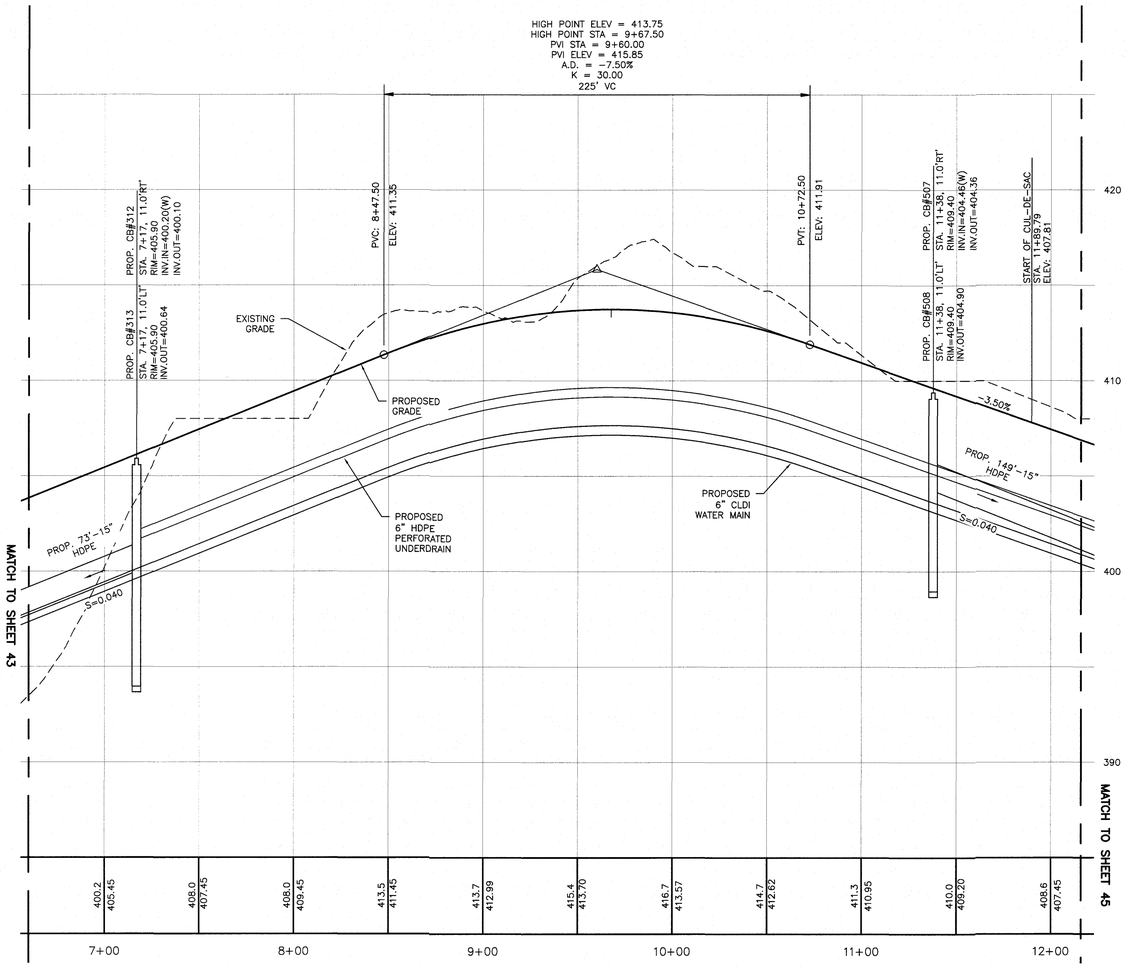
PROJECT NO: 19-1114-1 | SHEET 43 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)



HANABBY WAY ROADWAY PLAN

SCALE: 1" = 40'



HANABBY WAY ROADWAY PROFILE

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DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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GRAPHIC SCALE

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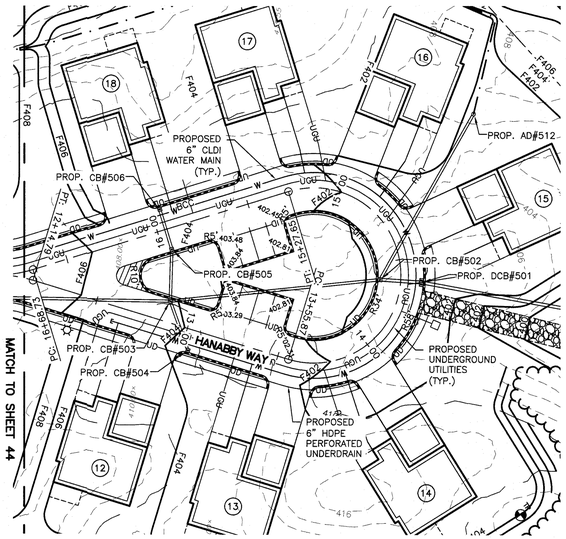
PROJECT NO: 19-1114-1 | SHEET 44 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)



HANABBY WAY ROADWAY PLAN

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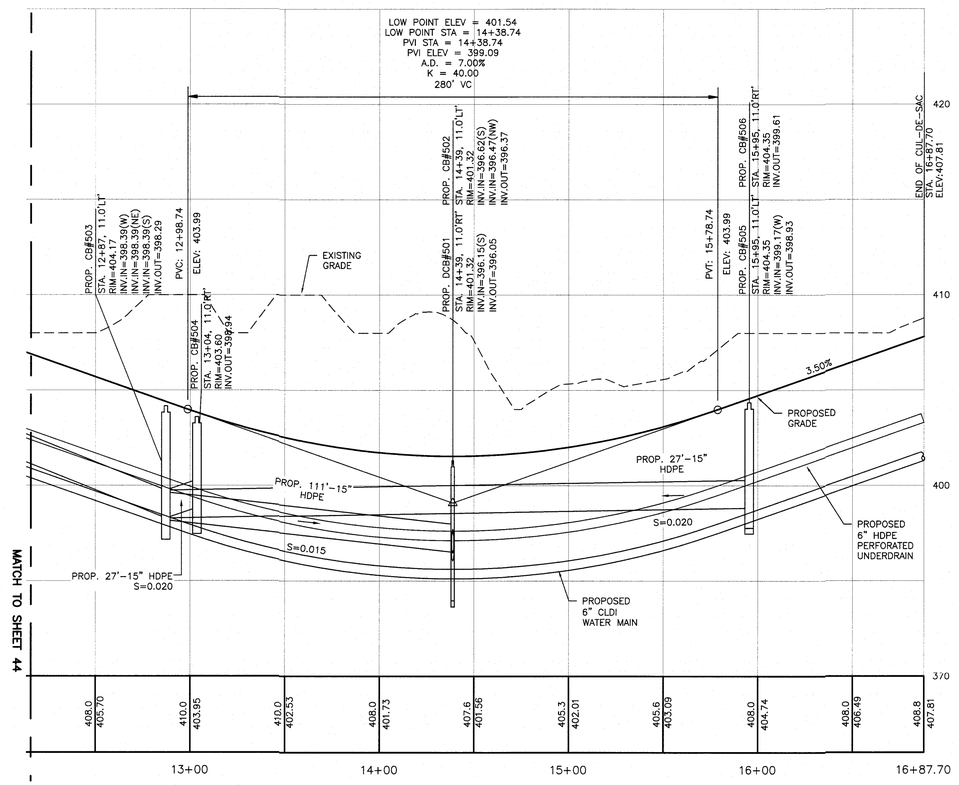

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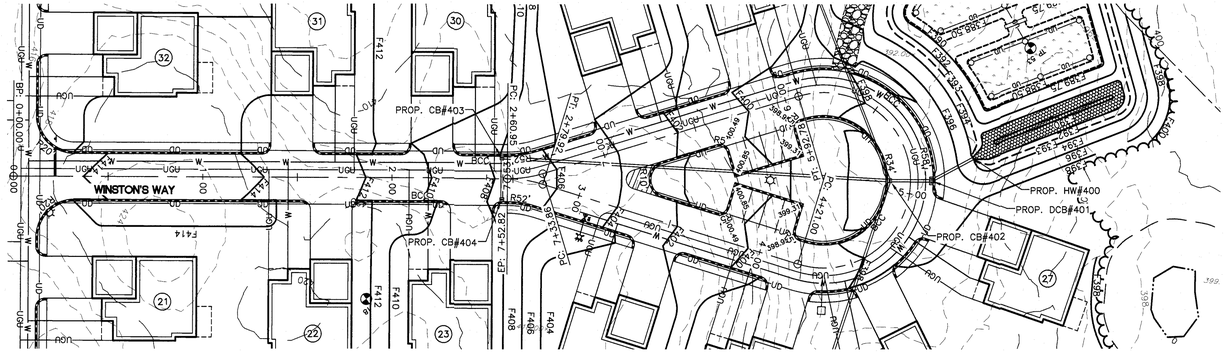
PROJECT NO: 19-1114-1	SHEET 45 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)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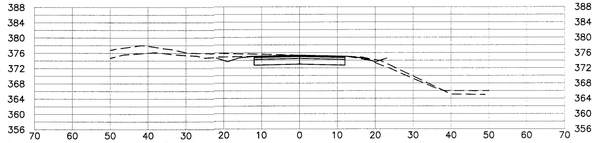

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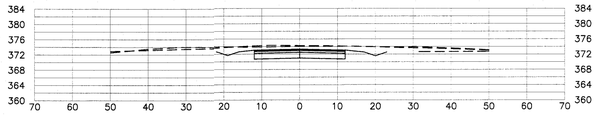

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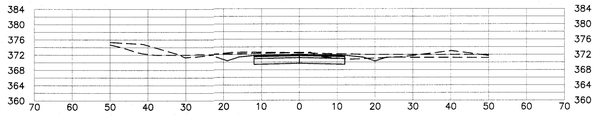

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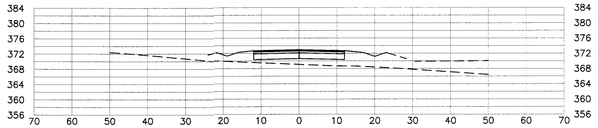

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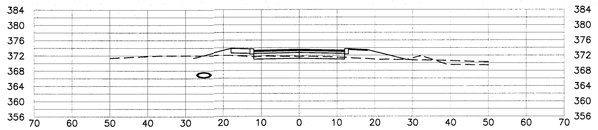

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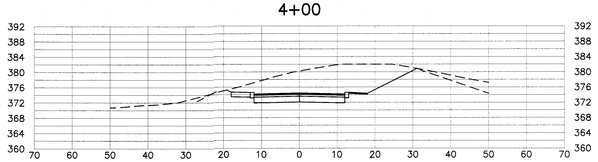

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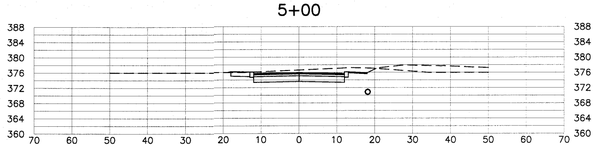

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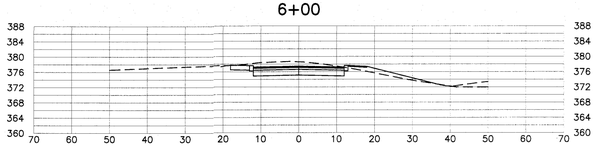
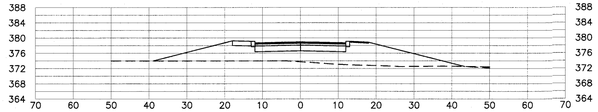


TANGLEWOOD DRIVE CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

7+00



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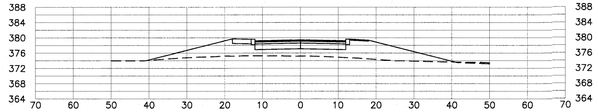

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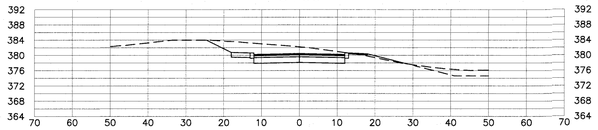

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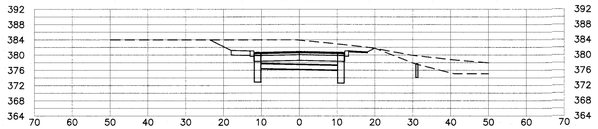

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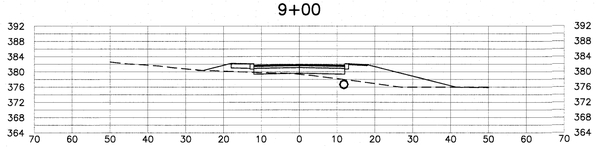

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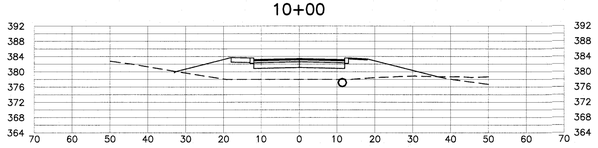

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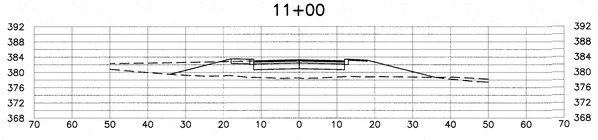

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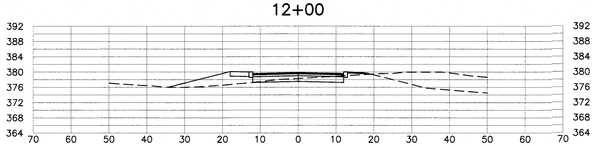
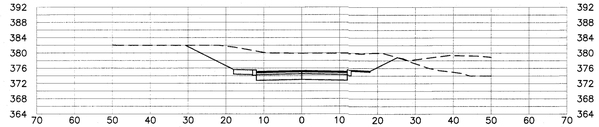


TANGLEWOOD DRIVE CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

13+00



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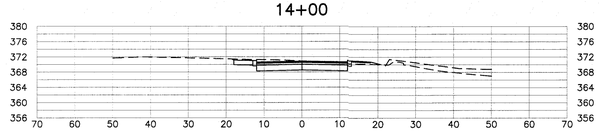

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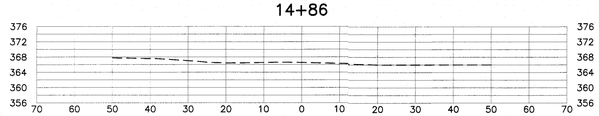
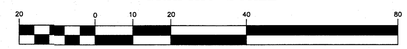


TANGLEWOOD DRIVE CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

ROADWAY CROSS SECTIONS
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

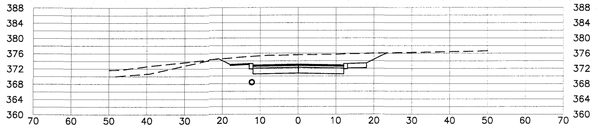
STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** 1" = 20'
PROJECT NO: 19-1114-1 **SHEET** 47 OF 64

1+00



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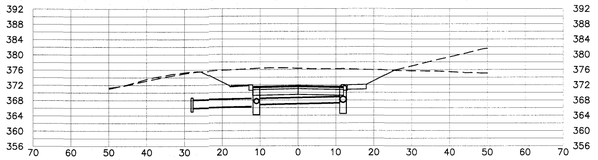

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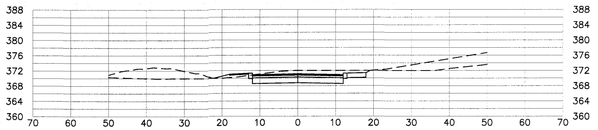

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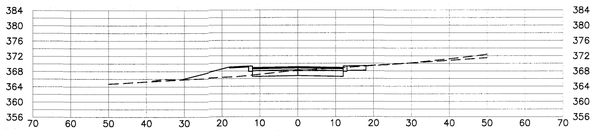

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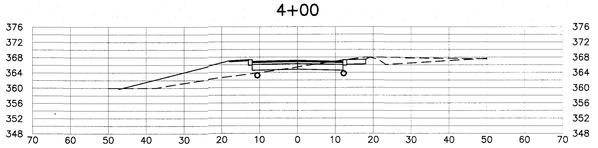

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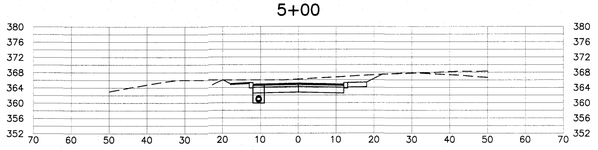

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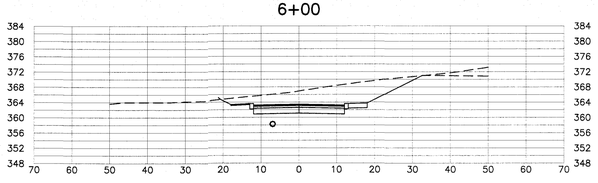
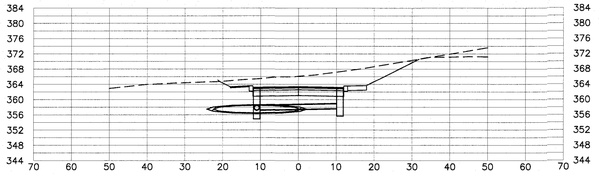


TAYLA WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

6+15



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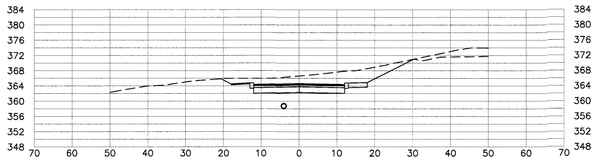

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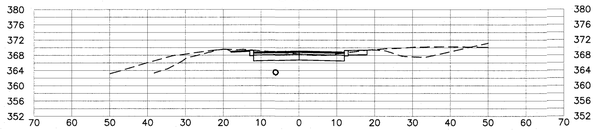

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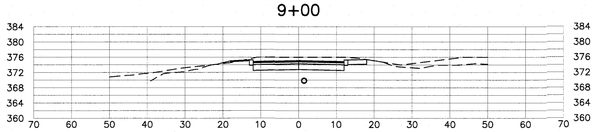

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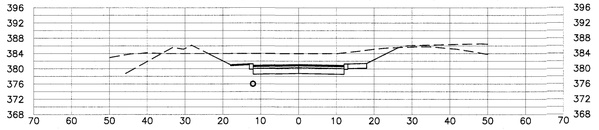

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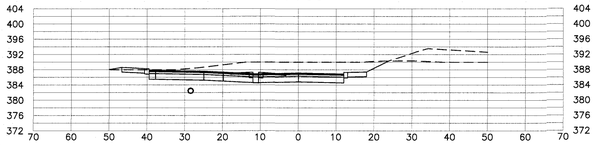

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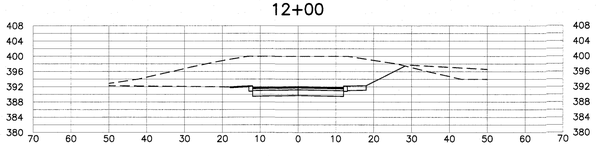
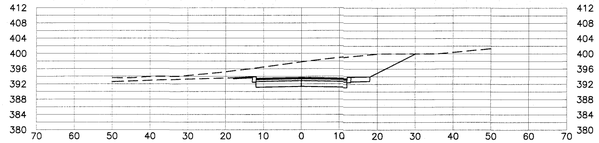


TAYLA WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

13+00



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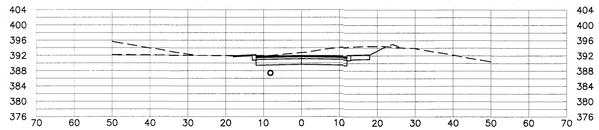

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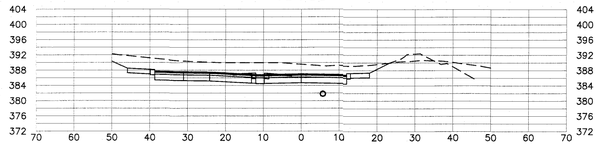
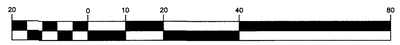


TAYLA WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

ROADWAY CROSS SECTIONS
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
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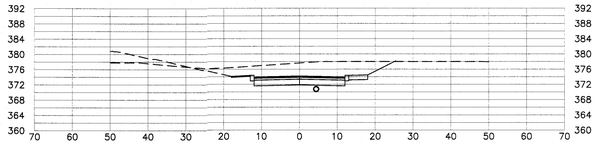
STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

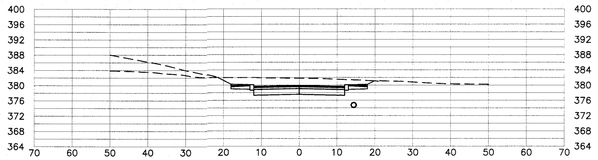
No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 | **SCALE:** 1" = 20'
PROJECT NO: 19-1114-1 | **SHEET** 48 OF 64

1+00



2+00



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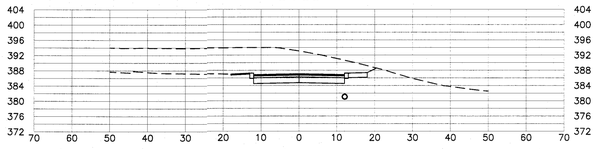

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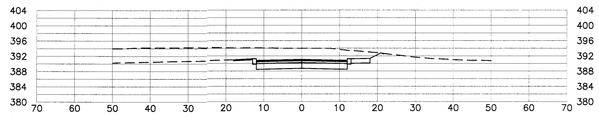
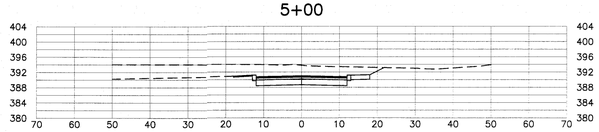
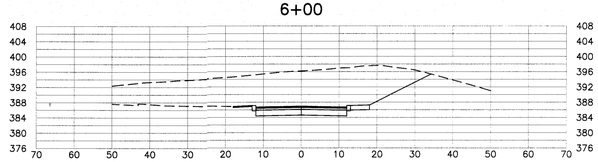


5+00



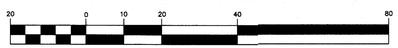
6+00



ALTHEA'S WAY DRIVE CROSS SECTIONS

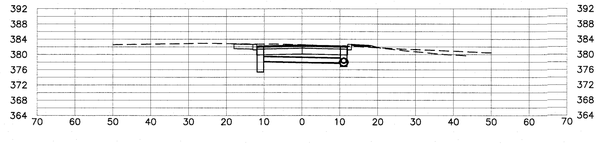
SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

GRAPHIC SCALE

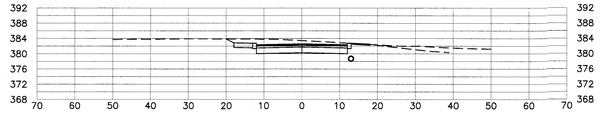


(IN FEET)
1 inch = 20 ft.

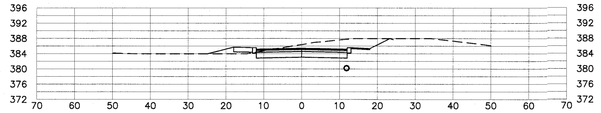
0+74



1+00



2+00



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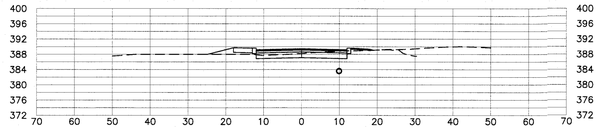
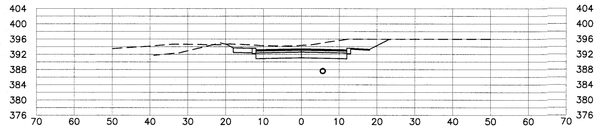
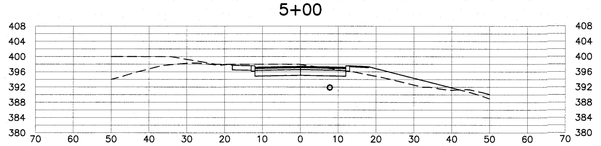


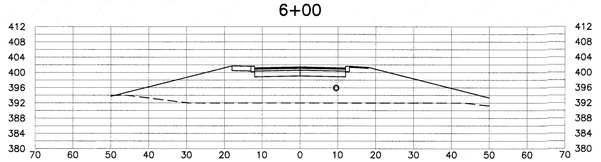
4+00



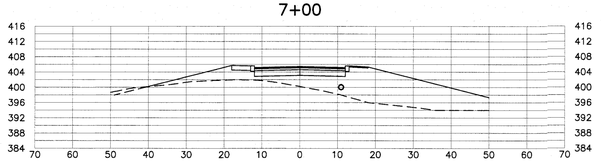
5+00



6+00



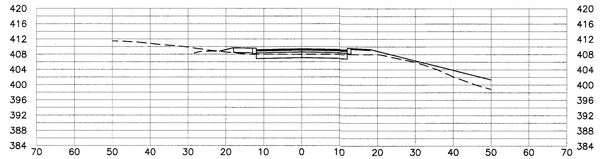
7+00



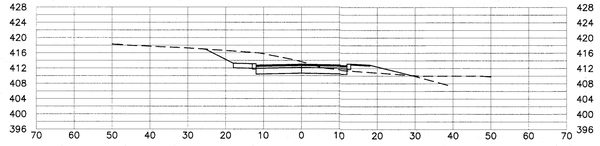
HANABBY WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

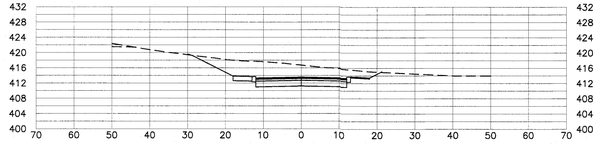
8+00



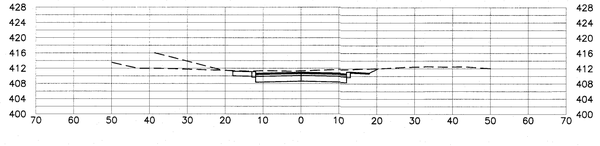
9+00



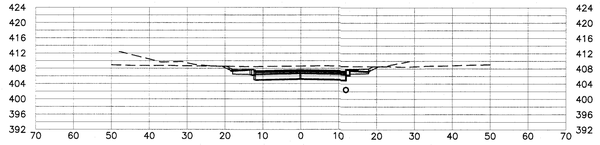
10+00



11+00



12+00



HANABBY WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

ROADWAY CROSS SECTIONS
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
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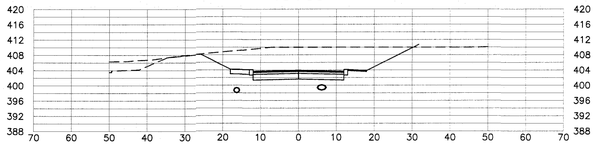
STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED
PROFESSIONAL ENGINEER

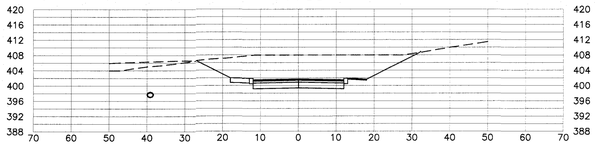
REVISIONS			
No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023	SCALE: 1" = 20'
PROJECT NO: 19-1114-1	SHEET 49 OF 64

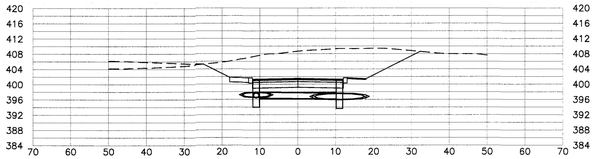
13+00



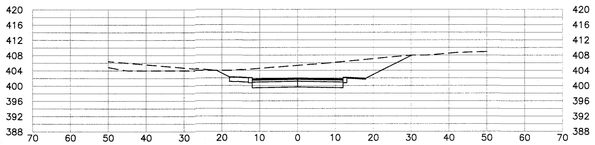
14+00



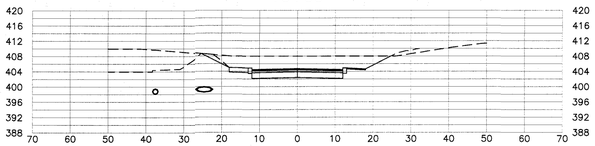
14+39



15+00



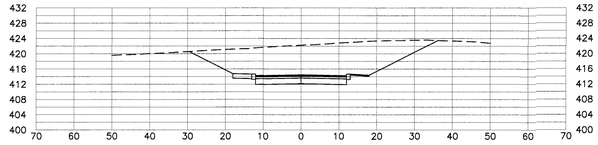
16+00



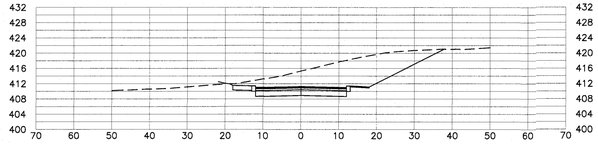
HANABBY WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

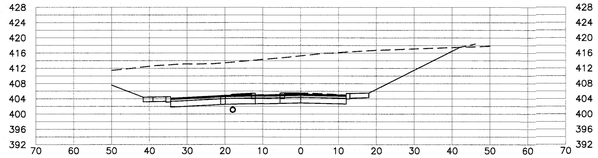
1+00



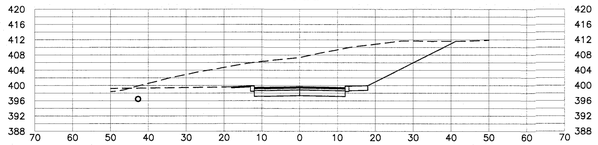
2+00



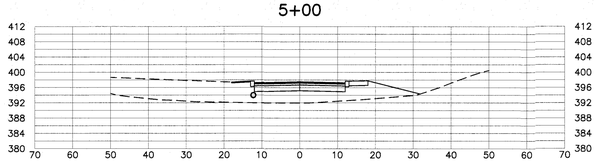
3+00



4+00



5+00



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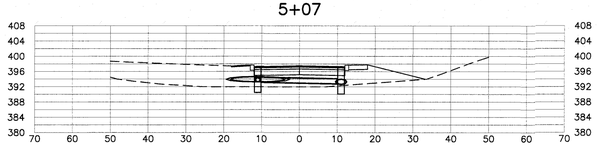
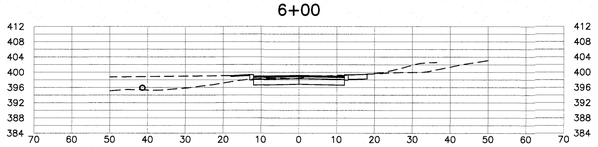


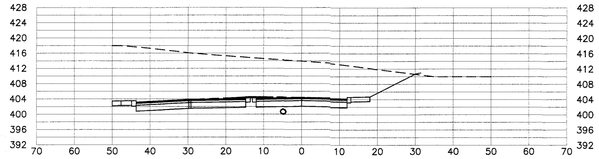
6+00



WINSTON'S WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

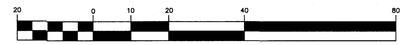
7+00



WINSTON'S WAY CROSS SECTIONS

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

ROADWAY CROSS SECTIONS
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15076
LICENSED PROFESSIONAL ENGINEER

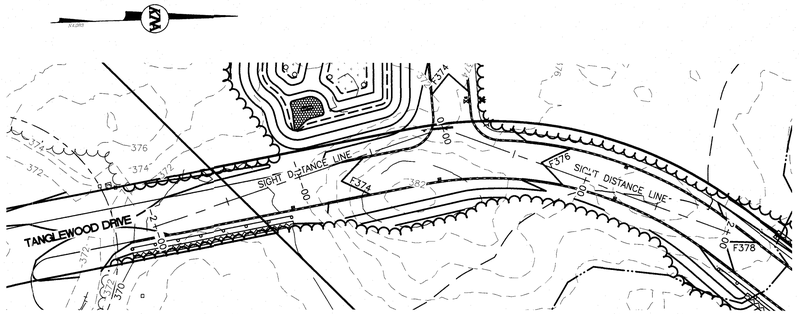
REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 | **SCALE:** 1" = 20'
PROJECT NO: 19-1114-1 | **SHEET** 50 **OF** 64

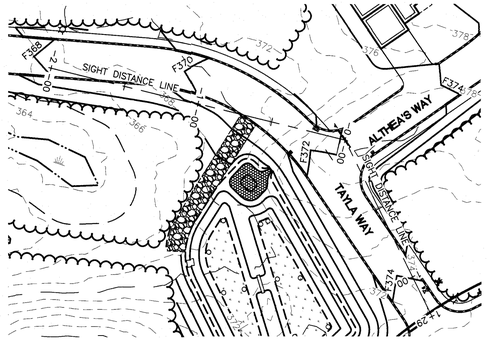
CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THAT ADEQUATE SIGHT DISTANCE IS ACHIEVED FOR ALL PROPOSED INTERSECTIONS WITHIN THE SUBDIVISION.
2. PROPOSED SIGHT DISTANCE IS IN ACCORDANCE WITH THE MOST RECENT STANDARDS FOR INTERSECTION SIGHT DISTANCE AS STATED WITHIN, "AASHTO GREEN BOOK – A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 7TH EDITION".



TAYLA WAY SIGHT DISTANCE PLAN

SCALE: 1" = 50'

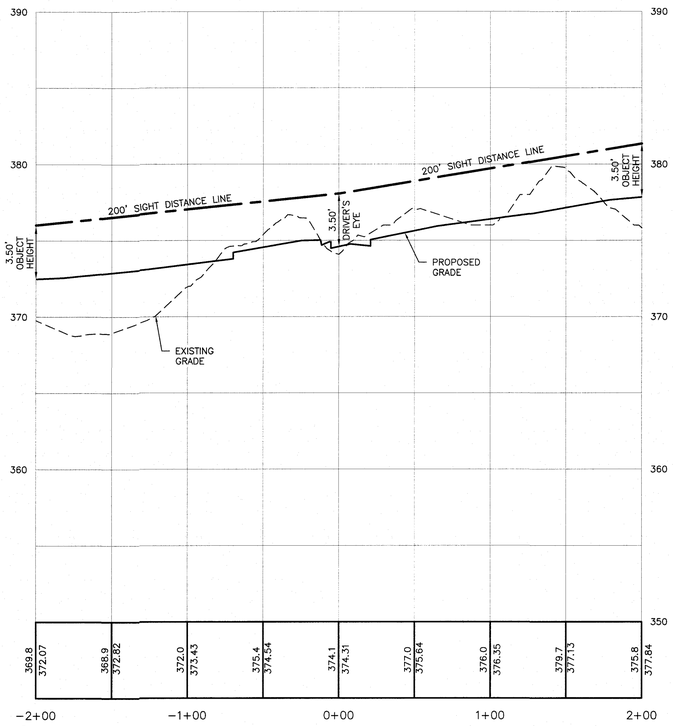


ALTHEA'S WAY SIGHT DISTANCE PLAN

SCALE: 1" = 50'

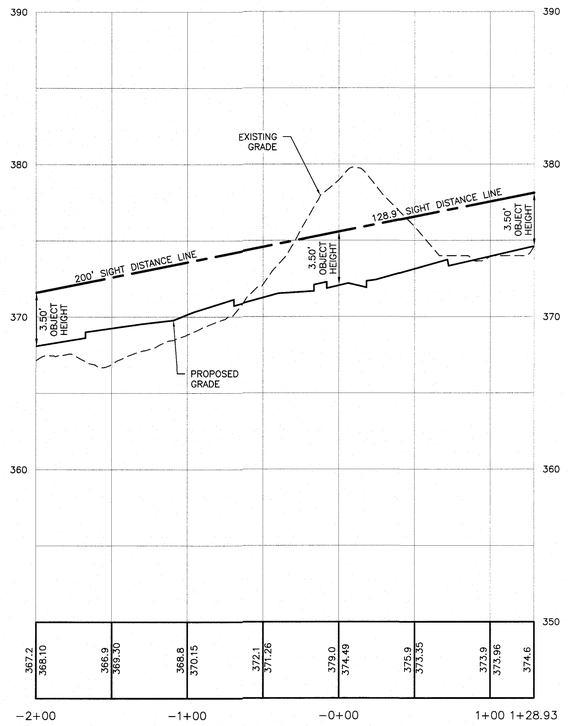
LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR



TAYLA WAY SIGHT DISTANCE PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 5' (VERT.)



ALTHEA'S WAY SIGHT DISTANCE PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 5' (VERT.)

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SIGHT DISTANCE PLAN & PROFILE

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
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STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

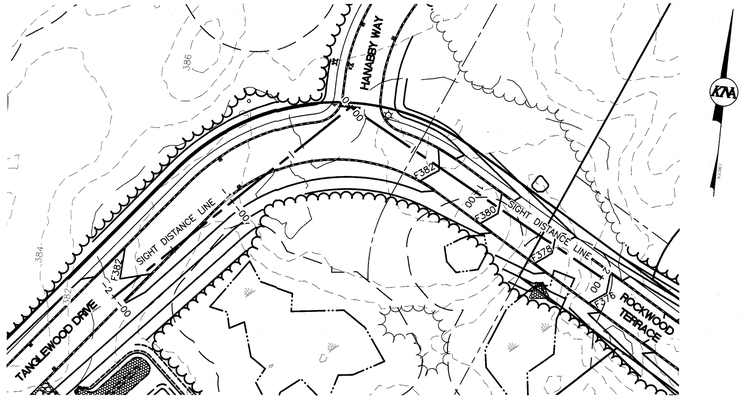
REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** 1" = 50'
PROJECT NO: 19-1114-1 **SHEET** 51 **OF** 64

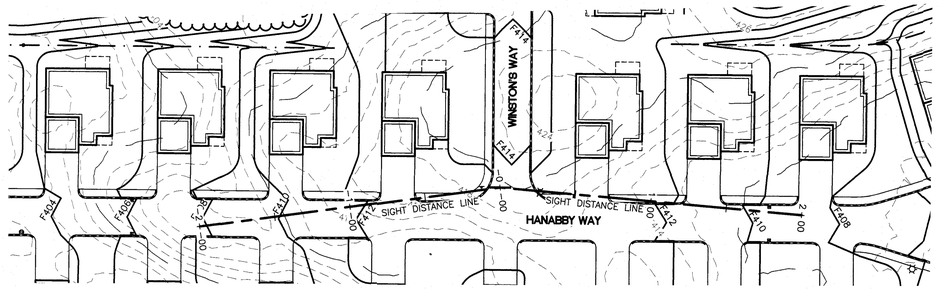
CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THAT ADEQUATE SIGHT DISTANCE IS ACHIEVED FOR ALL PROPOSED INTERSECTIONS WITHIN THE SUBDIVISION.
2. PROPOSED SIGHT DISTANCE IS IN ACCORDANCE WITH THE MOST RECENT STANDARDS FOR INTERSECTION SIGHT DISTANCE AS STATED WITHIN, "AASHTO GREEN BOOK – A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 7TH EDITION".


HANABBY WAY
TANGLEWOOD DRIVE
ROCKWOOD TERRACE
SIGHT DISTANCE LINE
SIGHT DISTANCE LINE
386
384
382
238'
238'
227'
15'
15'
15

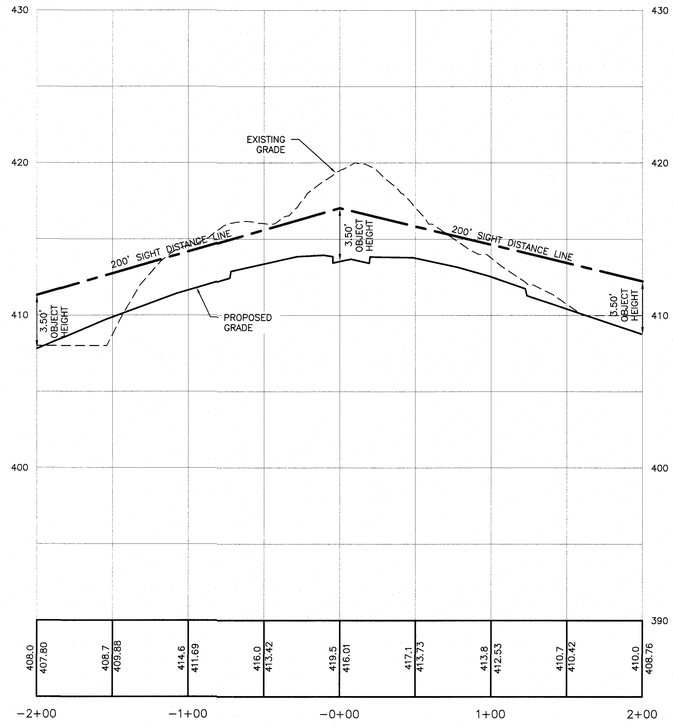
CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THAT ADEQUATE SIGHT DISTANCE IS ACHIEVED FOR ALL PROPOSED INTERSECTIONS WITHIN THE SUBDIVISION.
2. PROPOSED SIGHT DISTANCE IS IN ACCORDANCE WITH THE MOST RECENT STANDARDS FOR INTERSECTION SIGHT DISTANCE AS STATED WITHIN, "AASHTO GREEN BOOK – A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 7TH EDITION".



WINSTON'S WAY SIGHT DISTANCE PLAN

SCALE: 1" = 50'



WINSTON'S WAY SIGHT DISTANCE PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 5' (VERT.)

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR

DIG SAFE
811 CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SIGHT DISTANCE PLAN & PROFILE
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
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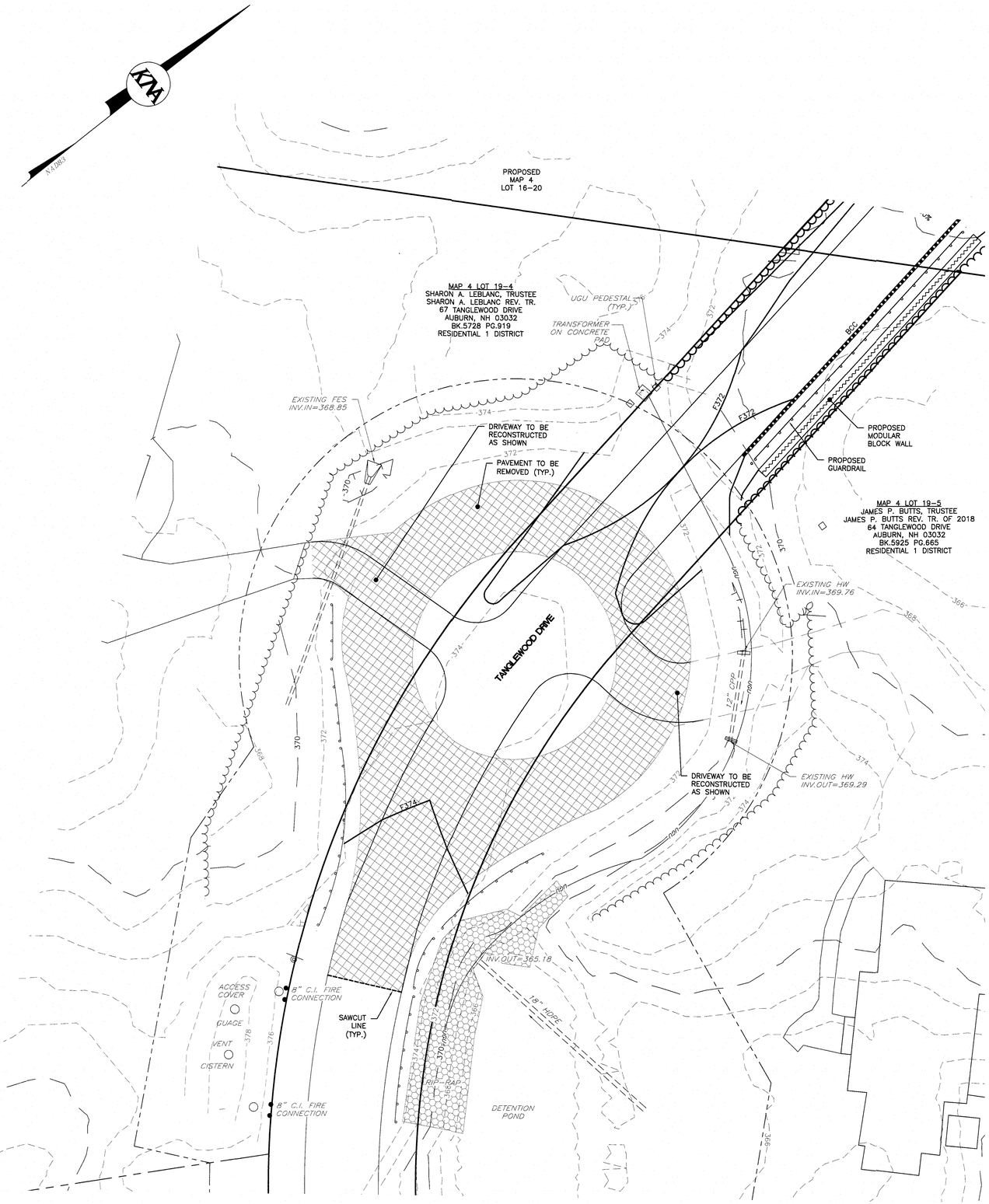
STATE OF NEW HAMPSHIRE – PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023	SCALE: 1" = 50'
PROJECT NO: 19–1114–1	SHEET 53 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)



REMOVALS/DEMOLITION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO THE OFFSITE IMPROVEMENTS REQUIRED TO CONSTRUCT THE EXTENSION OF TANGLEWOOD DRIVE AND ROCKWOOD TERRACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. CONTRACTOR TO REMOVE AND SALVAGE ITEMS SHOWN.
4. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
5. ALL EXISTING PAVEMENT WITHIN THE CROSS HATCHED AREA IS TO BE REMOVED DURING THE DEMOLITION PHASE OF THE PROJECT. EXCESS MATERIAL FROM THESE AREAS SHALL BE APPROPRIATELY DISPOSED OF OFFSITE BY AN APPROVED METHOD.
6. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
7. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF AUBURN, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
8. ROADWAY CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS.
9. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.
10. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
11. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
13. CONTRACTOR TO VERIFY THAT EXISTING OVERHEAD UTILITY SERVICE LINES ON TANGLEWOOD ADHERE TO ALL LOCAL AND STATE REQUIREMENTS.

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES (UGU)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
- PROPOSED DRAINAGE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR
- SAWCUT LINE
- PAVEMENT TO BE REMOVED

DIG SAFE
811
CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

OFFSITE IMPROVEMENT PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS			
No.	DATE	DESCRIPTION	BY
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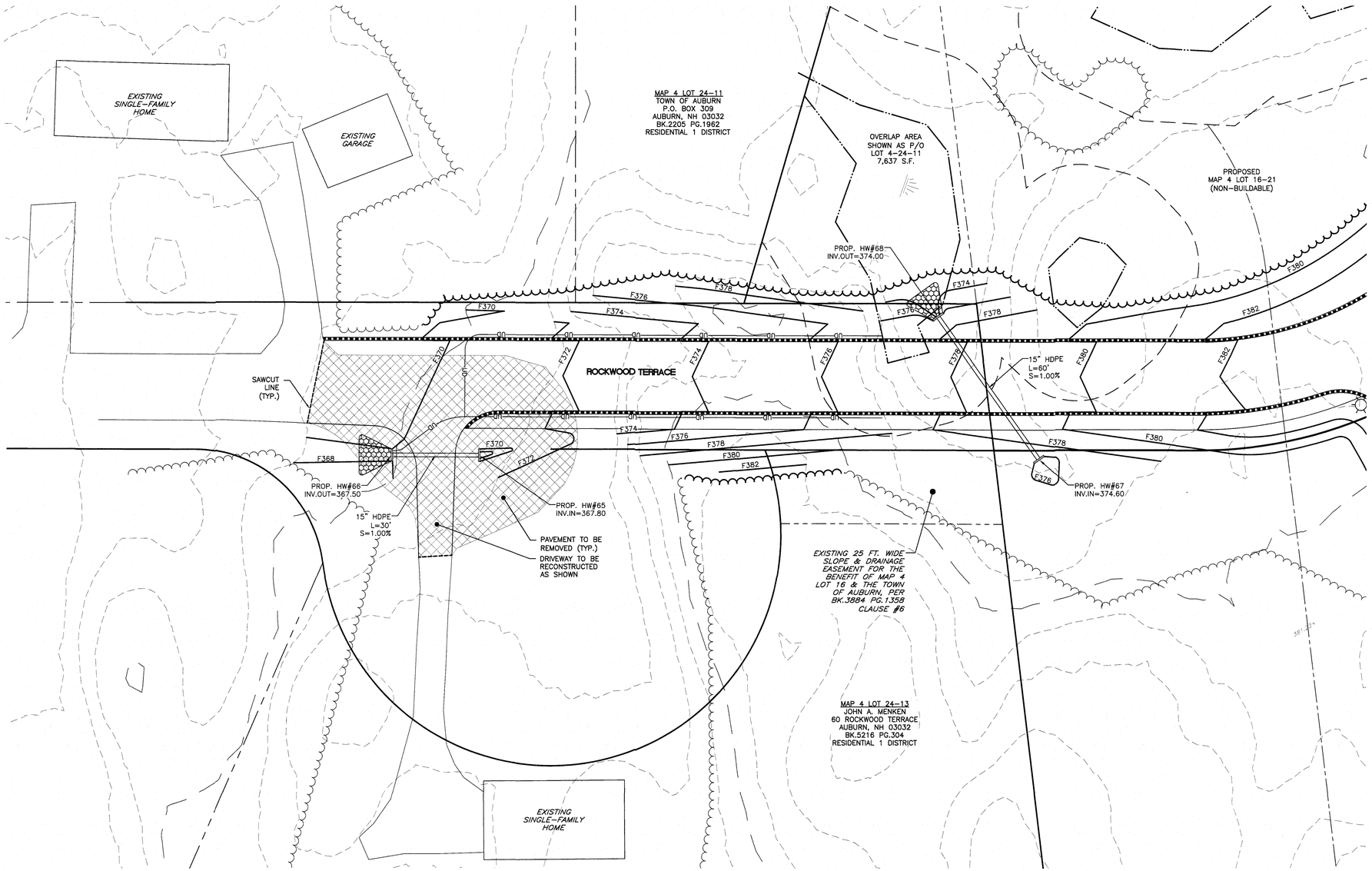
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023	SCALE: 1" = 20'
PROJECT NO: 19-1114-1	SHEET 54 OF 64

LOAM & SEED ALL DISTURBED AREAS (TYP.)

SEE SHEET 54 FOR NOTES



LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES (UGU)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
- PROPOSED DRAINAGE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR
- SAWCUT LINE
- PAVEMENT TO BE REMOVED

DIG SAFE
811
CALL TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

OFFSITE IMPROVEMENT PLAN
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
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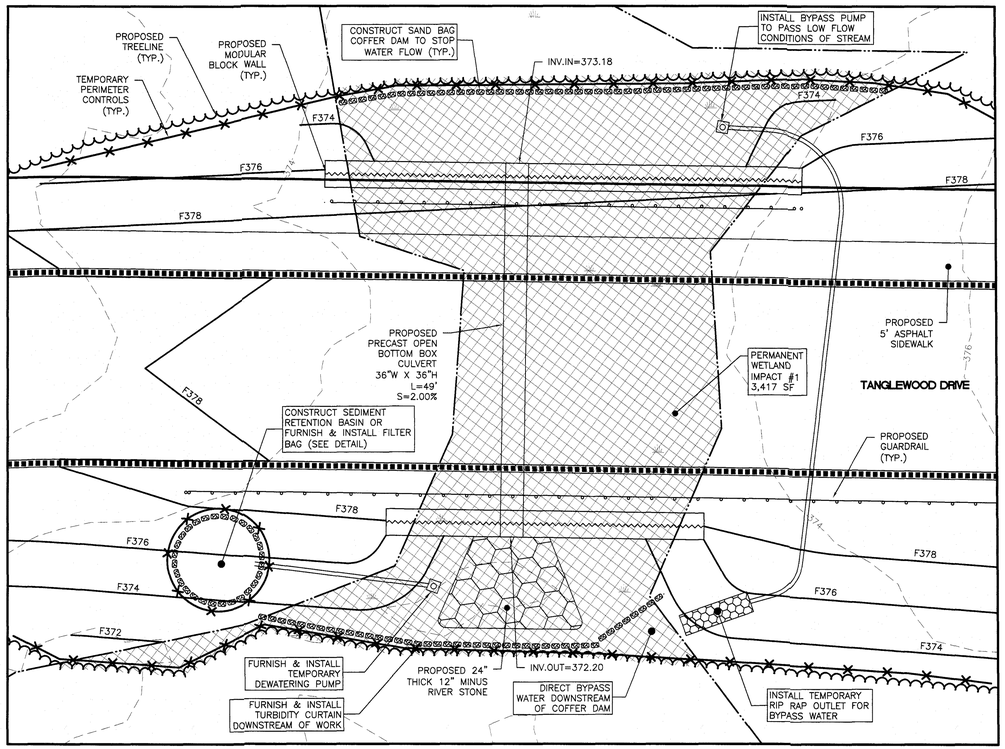
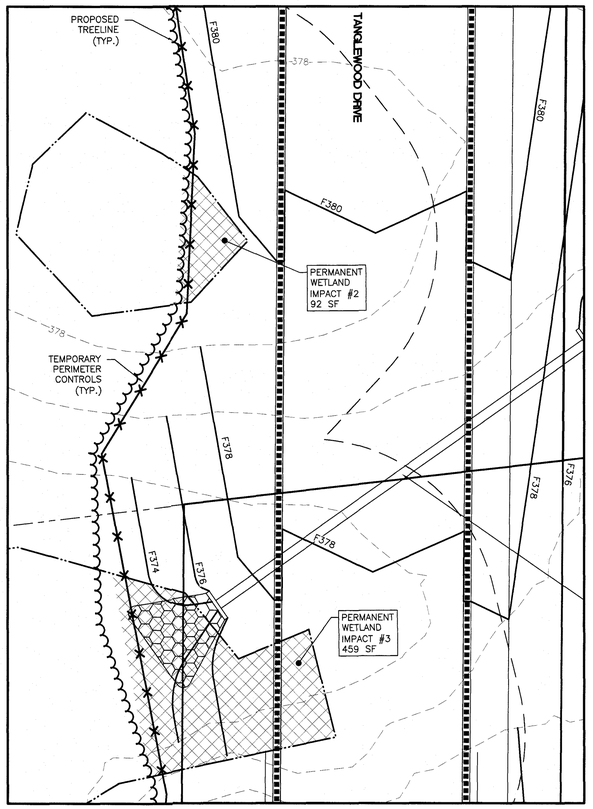
DATE: APRIL 19, 2023 | **SCALE:** 1" = 50'

PROJECT NO: 19-1114-1 | **SHEET** 55 **OF** 64



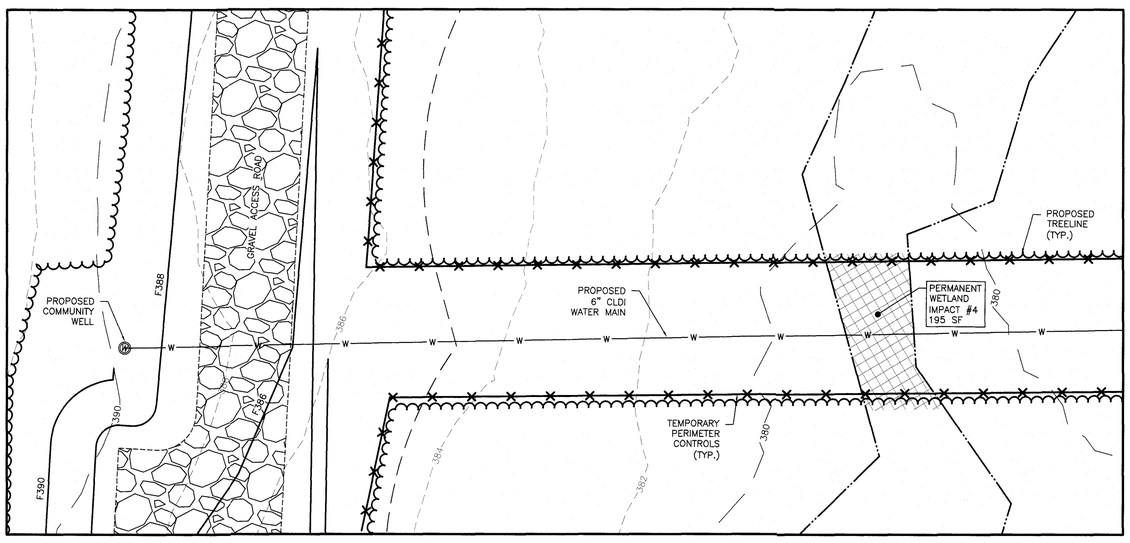
WETLAND IMPACT #1

SCALE: 1" = 10'



WETLAND IMPACTS #2 & #3

SCALE: 1" = 10'



WETLAND IMPACT #4

SCALE: 1" = 10'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED WETLAND IMPACTS REQUIRED TO CONSTRUCT A PAVED ROADWAY AND TWO PAVED DRIVEWAYS ASSOCIATED WITH THE 23 LOT SUBDIVISION.
2. PROPER EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED (I.E. SILT FENCE, HAY BALES, ETC.) PRIOR TO COMMENCING WITH EXCAVATION EFFORTS. THE CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL COMPLETION OF CONSTRUCTION. THE TOWN OF AUBURN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION, IF NECESSARY.
3. TEMPORARY EROSION CONTROLS SHALL BE REMOVED UPON FINAL STABILIZATION OF DISTURBED AREAS.
4. SITE CONTRACTOR MAY PROPOSE ALTERNATIVE MEANS FOR DEWATERING, TO BE REVIEWED AND APPROVED PRIOR TO INSTALLATION.
5. THE TOTAL PERMANENT WETLAND IMPACTS ARE AS FOLLOWS:
   PERMANENT WETLAND IMPACT #1 = 3,417 SF
   PERMANENT WETLAND IMPACT #2 = 92 SF
   PERMANENT WETLAND IMPACT #3 = 459 SF
   PERMANENT WETLAND IMPACT #4 = 195 SF
   TOTAL PERMANENT WETLAND IMPACT = 4,163 SF

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT (EOP)
- SETBACK
- EASEMENT
- TREELINE
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED PROPERTY LINE
- PROPOSED UNDERGROUND UTILITIES (UGU)
- PROPOSED DRAINAGE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR
- PERMANENT WETLAND IMPACT

COWARDIN WETLAND CLASSIFICATION

SYMBOL	SUBSYSTEM
PF01C	PALUSTRINE FORESTED BROAD LEAVED DECIDUOUS SEASONALLY FLOODED
PF01E	PALUSTRINE FORESTED BROAD LEAVED DECIDUOUS SEASONALLY FLOODED SATURATED
PEM2C	PALUSTRINE EMERGENT PERSISTENT SEASONALLY FLOODED

DIG SAFE

811 CALL DIG SAFE

UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

LOAM & SEED ALL DISTURBED AREAS (TYP.)

FURNISH & INSTALL EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 OR STEEPER (TYP.)

EROSION & SEDIMENT CONTROL LEGEND

- PERMANENT OUTLET PROTECTION APRON (RIP RAP)
- TEMPORARY PERIMETER CONTROLS
- LIMITS OF CLEARING

STATE OF NEW HAMPSHIRE — CHRISTOPHER K. DANFORTH — No. 077 — CERTIFIED WETLAND SCIENTIST

THE LIMITS OF JURISDICTIONAL WETLANDS AS SHOWN ON THIS PLAN WERE DELINEATED BY CHRISTOPHER DANFORTH OF KEACH–NORDSTROM ASSOCIATES, INC. OF BEDFORD, NH IN ACCORDANCE WITH:

–US ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR–12–1, JANUARY 2012, VERSION 2.0.
–NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2018 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
–NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, CURRENT VERSION

WETLAND DELINEATION PREPARED BY:

CHRISTOPHER DANFORTH
CERTIFIED WETLAND SCIENTIST (#077)

DATE: 8/22/2023

WETLAND IMPACT PLAN
THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4–16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
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STATE OF NEW HAMPSHIRE — PAUL CHISHOLM No. 15076 — LICENSED PROFESSIONAL ENGINEER

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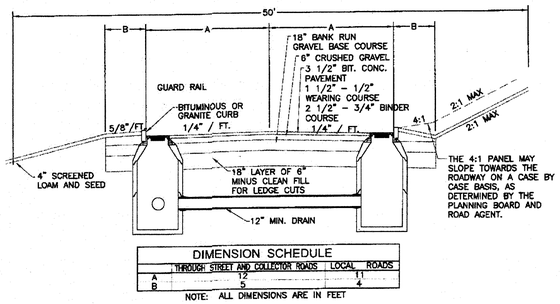
DATE: APRIL 19, 2023 — SCALE: 1" = 10'
PROJECT NO: 19–1114–1 — SHEET 56 OF 64

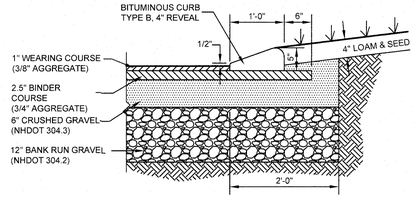


DIMENSION SCHEDULE		
	THROUGH STREET AND COLLECTOR ROADS	LOCAL ROADS
A	12	11
B	5	4

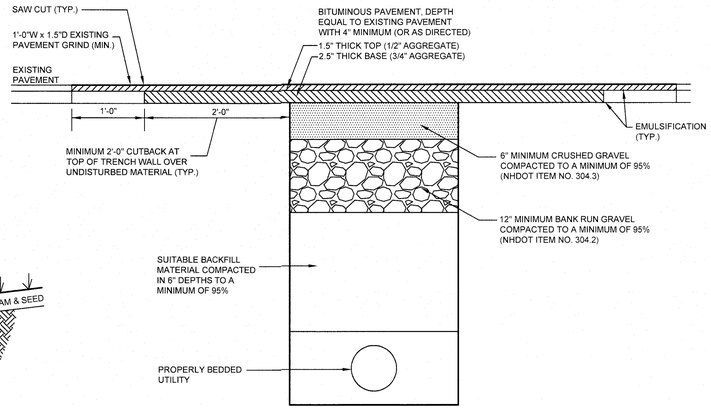
NOTE: ALL DIMENSIONS ARE IN FEET

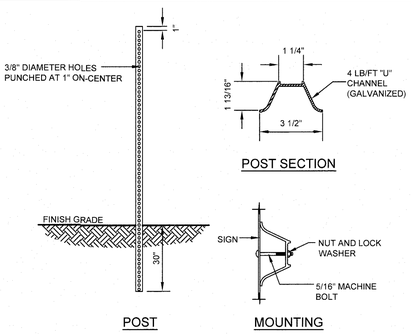
ALL ROADWAY FILL SLOPES SHALL CONFORM TO THE MOST RECENT EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE. ALL GUARDRAIL AND END-SECTIONS SHALL CONFORM TO THE MOST RECENT NHDOT REQUIREMENTS. WHERE GUARDRAILS ARE PROPOSED, THE FACE OF THE RAIL SHALL BE PLACED OUTSIDE OF THE REQUIRED 5/8" / FT SHOULDER (DIMENSION B). THE SHOULDER SLOPE SHALL EXTEND AT LEAST 12" BEHIND THE POSTS, PRIOR TO THE SLOPE BREAK.

ROADWAY SECTION
NOT TO SCALE



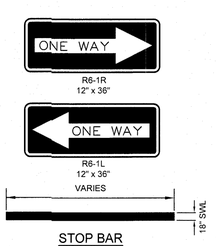
BITUMINOUS CURB TYPE B DETAIL
NOT TO SCALE
(MARCH 2008)





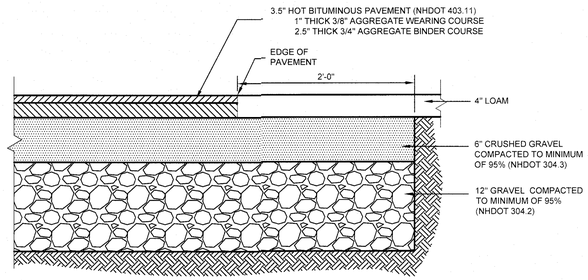
NOTE:
POST SHALL CONFORM TO NHDOT 615.2.5.3

STEEL SIGN POST DETAIL
NOT TO SCALE
(MARCH 2008)

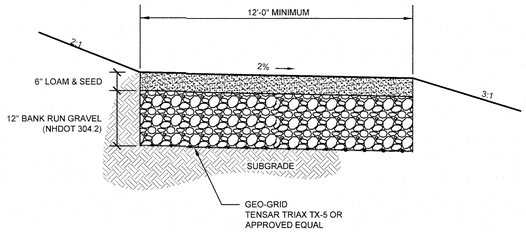


STOP SIGN DETAIL
NOT TO SCALE
(MARCH 2008)

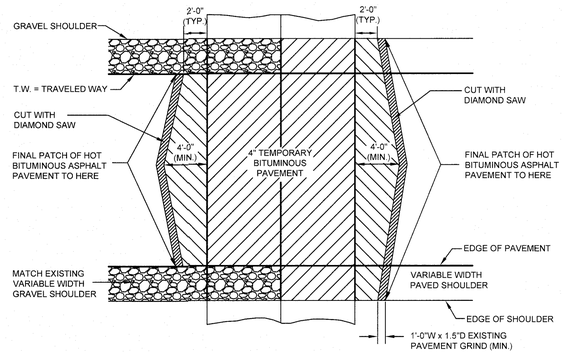
STOP BAR



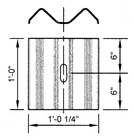
DRIVEWAY SECTION
NOT TO SCALE
(MARCH 2008)



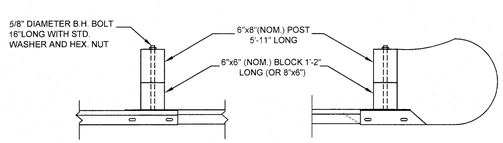
DRAINAGE ACCESS WAY DETAIL
NOT TO SCALE



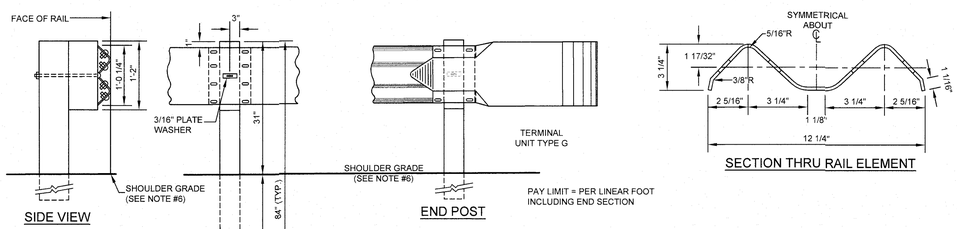
PERMANENT PAVEMENT REPAIR
NOT TO SCALE
(MARCH 2008)



W-BEAM BACK-UP PLATE (STEEL POST ONLY)

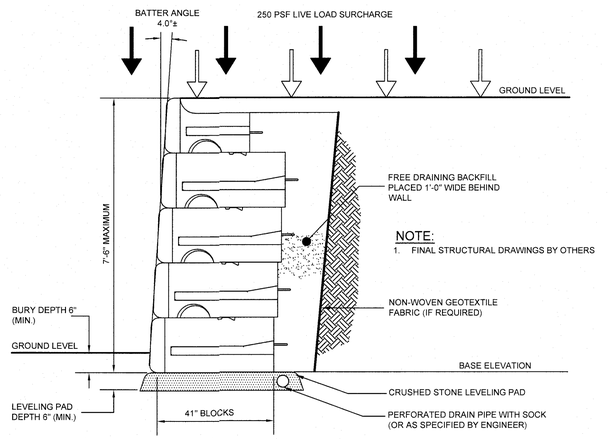


PLAN FOR WOOD POST AND OFFSET BLOCK



NOTES:
1. STEEL POSTS, OFFSET BLOCKS, ANCHORS, PLATES AND ALL FITTINGS TO BE GALVANIZED.
2. ALL DIMENSIONS SUBJECT TO MANUFACTURERS TOLERANCES.
3. RAIL PANELS AND END SECTIONS TO BE 12 GAUGE STEEL.
4. BACK-UP PLATE TO BE PLACED BEHIND RAIL ELEMENTS AT INTERMEDIATE STEEL POSTS.
5. ALL PARTS SHALL CONFORM TO CURRENT STANDARD SPECIFICATIONS.
6. WHEN GUARDRAIL IS CONSTRUCTED AT UP TO FOUR FEET FROM THE EDGE OF PAVEMENT, THE GUARDRAIL HEIGHT WILL BE SET FROM THE GRADE AT THE EDGE OF PAVEMENT. WHEN GUARDRAIL IS CONSTRUCTED MORE THAN FOUR FEET FROM THE EDGE OF PAVEMENT, THE GUARDRAIL WILL BE SET FROM THE GRADE AT FACE OF RAIL.

BEAM GUARDRAIL DETAIL
NOT TO SCALE
(MARCH 2008)



DENSE WELL GRADED SAND, SAND & GRAVEL - INTERNAL ANGLE OF FRICTION (F)=34° CONDITION B - NO BACK SLOPE, 250 PSF LIVE LOAD SURCHARGE

7'-6" GRAVITY WALL 41" GRAVITY BLOCKS

REDI-ROCK WALL
NOT TO SCALE
(AUGUST 2011)

CONSTRUCTION DETAILS
THE WOODLANDS OF AUBURN
MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
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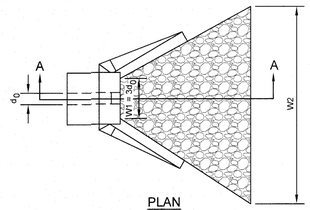
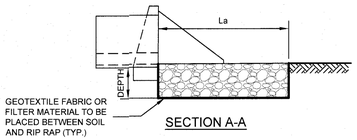
DATE: APRIL 19, 2023 **SCALE:** AS SHOWN
PROJECT NO: 19-1114-1 **SHEET** 57 **OF** 64



PLAN



SECTION A-A

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

NOT TO SCALE

(MARCH 2008)

LOCATION	La	W1	W2	d50	DEPTH
PROP. HW#66	11'	4'	15'	3"	8"
PROP. HW#68	10'	4'	14'	3"	8"
PROP. HW#100	30'	6'	18'	4"	10"
PROP. HW#114	13'	4'	16'	3"	8"
PROP. HW#200	21'	6'	27'	4"	10"
PROP. HW#217	20'	4'	12'	3"	8"
PROP. HW#218	9'	4'	13'	3"	8"
PROP. HW#300	27'	6'	17'	4"	10"
PROP. HW#316	17'	4'	10'	3"	8"
PROP. HW#400	26'	4'	14'	4"	10"
PROP. HW#406	19'	4'	11'	3"	8"
PROP. HW#500	28'	5'	16'	3"	8"
PROP. HW#518	13'	4'	16'	3"	8"
PROP. HW#600	9'	4'	13'	3"	8"
PROP. HW#700	9'	4'	13'	3"	8"

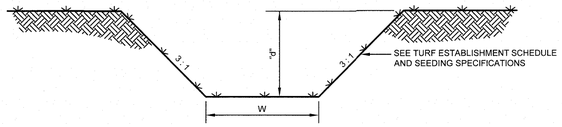
TABLE 7-24 -- RECOMMENDED RIP RAP GRADATION RANGES	
PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100%	1.5 TO 2.0 d50
85%	1.3 TO 1.8 d50
50%	1.0 TO 1.5 d50
15%	0.3 TO 0.5 d50

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.



SWALE NUMBER	SWALE WIDTH "W"	SWALE LENGTH	SWALE SLOPE	DEPTH "d"
1	1'	815'	0.0235 FT/FT	1'
2	1'	200'	0.0400 FT/FT	1'
3	1'	270'	0.0550 FT/FT	1'
4	1'	450'	VARIES	1'
5	1'	300'	VARIES	1'

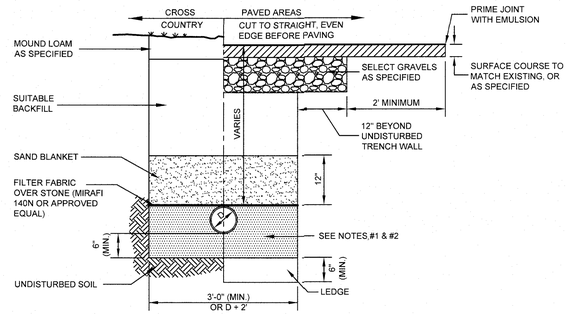
MAINTENANCE

1. TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.
2. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

CONVEYANCE SWALE DETAIL

NOT TO SCALE

(MARCH 2008)



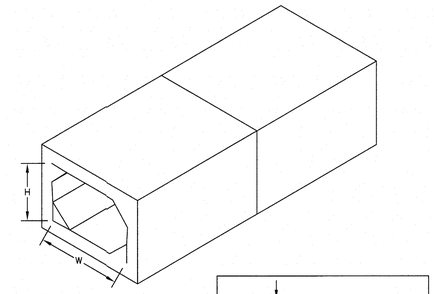
NOTES

1. THOROUGHLY COMPACTED SCREENED GRAVEL FOR RCP PIPE. SCREENED GRAVEL TO EXTEND TO SELECT FILL LINE.
2. FOR HDPE OR PVC PIPE, BEDDING SHALL BE 3/4" STONE TO THE TOP OF THE PIPE.

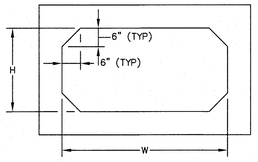
STORM DRAINAGE TRENCH DETAIL

NOT TO SCALE

(MARCH 2008)



TYP JOINT DETAIL



END VIEW

NOTES:

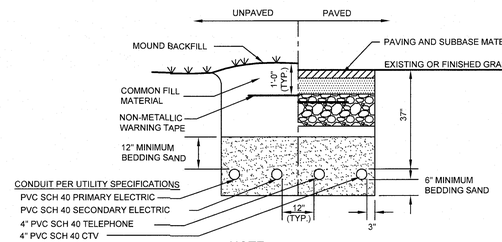
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS
2. DESIGN PER ASTM C1433 BOX CULVERT
3. ALL REINFORCEMENT PER ASTM A615
4. DESIGNED FOR AASHTO HS-20 LOADING

DESIGNED FOR LOADS/SIZES AS NEEDED

LOCATION	H (INCHES)	W (INCHES)	INV.IN	INV.OUT	LENGTH (FEET)	SLOPE
CROSSING #1	36"	36"	373.18	372.20	49'	2.00%

PRECAST BOX CULVERT DETAIL

NOT TO SCALE

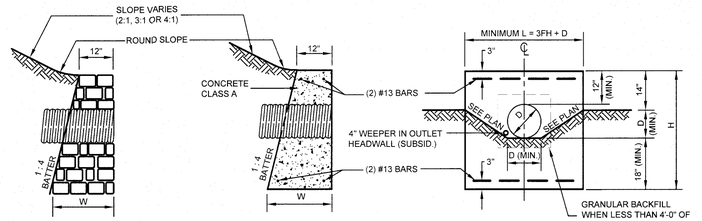


NOTE:
INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.

UTILITY TRENCH DETAIL

NOT TO SCALE

(MARCH 2008)



MORTAR RUBBLE MASONRY SECTION ON CENTERLINE

CONCRETE SECTION ON CENTERLINE

ELEVATION

NOTE:
DIMENSIONS SHOWN ARE TO PAYMENT LINES. MORTAR RUBBLE MASONRY TO BE STEPPED OUTSIDE PAYMENT LINES ON SLOPING FACES.

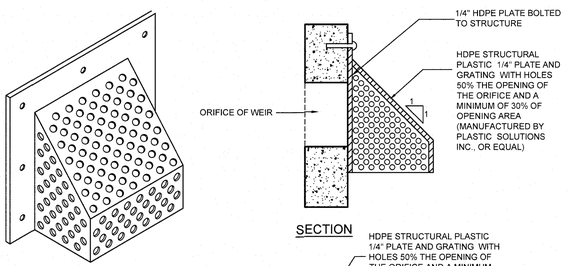
DIAMETER D (INCH)	AREA OF PIPE (SF)	MASONRY PER FOOT OF WALL (CU. YD.)	MASONRY PER HOLE (CU. FT.)	MASONRY PER STANDARD HEADER (CU. YD.)	STEEL PER STANDARD HEADER (LB)	LENGTH OF BARS	PIPE EXC. 1' DEPTH 1' LENGTH (CU. YD.)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)	ITEM 209 PER LINEAR FOOT	HEADER LENGTH L	HEADER HEIGHT H	FILL HEIGHT FH	WIDTH AT BOTTOM OF HEADER W	"L" HEADWALL	
														MASONRY IN CORNER FRUSTRUM (CU. YD)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)
12"	0.79	0.186	1.08	0.61	9	3'-2"	0.111	0.789	0.30	3'-6"	3'-6"	10"	1'-10 1/2"	0.28	1.057
15"	1.23	0.202	1.73	0.85	11	3'-10"	0.120	0.947	0.35	4'-6"	3'-9"	1'-1"	1'-11 1/4"	0.31	1.232
18"	1.77	0.222	2.52	1.13	14	5'-2"	0.130	1.111	0.39	5'-6"	4'-0"	1'-4"	2'-0"	0.35	1.406
24"	3.14	0.260	4.71	1.78	20	7'-2"	0.148	1.451	0.48	7'-6"	4'-6"	1'-10"	2'-1 1/2"	0.42	1.776
30"	4.91	0.301	7.67	2.58	25	9'-2"	0.185	1.810	0.65	9'-6"	5'-0"	2'-4"	2'-3"	0.51	2.164
36"	7.07	0.344	11.49	3.53	31	11'-2"	0.222	2.187	0.85	11'-6"	5'-6"	2'-10"	2'-4 1/2"	0.61	2.572
42"	9.62	0.389	16.24	4.65	36	13'-2"	0.259	2.581	1.07	13'-6"	6'-0"	3'-4"	2'-6"	0.72	3.000
48"	12.57	0.436	21.99	5.95	42	15'-2"	0.296	3.000	1.31	15'-6"	6'-6"	3'-10"	2'-7 1/2"	0.84	3.447
54"	15.90	0.486	28.83	7.44	47	17'-2"	0.333	3.432	1.58	17'-6"	7'-0"	4'-4"	2'-9"	0.98	3.914
60"	19.63	0.538	36.82	9.13	52	19-2"	0.370	3.882	1.87	19'-6"	7'-6"	4'-10"	2'-10 1/2"	1.12	4.401
66"	23.76	0.593	46.03	11.04	58	21'-2"	0.407	4.350	2.17	21'-6"	8'-0"	5'-4"	3'-0"	1.28	4.907
72"	28.27	0.649	56.55	13.17	63	23'-2"	0.445	4.838	2.50	23'-6"	8'-6"	5'-10"	3'-11/2"	1.46	5.433

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY.

MORTAR RUBBLE MASONRY AND CONCRETE HEADWALLS

NOT TO SCALE

(MARCH 2008)



TRASH RACK DETAIL

NOT TO SCALE

CONSTRUCTION DETAILS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

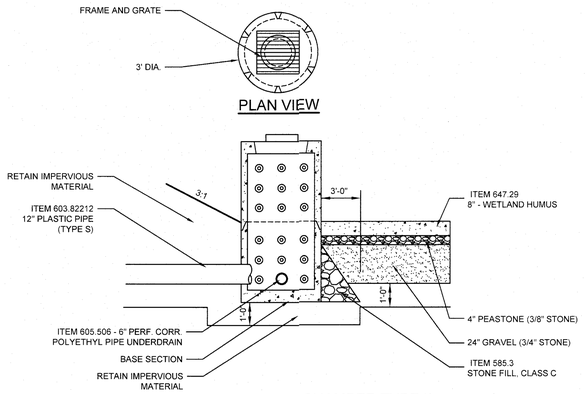
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

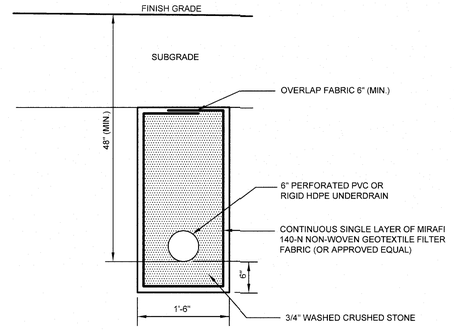
DATE: APRIL 19, 2023 **SCALE:** AS SHOWN
PROJECT NO: 19-1114-1 **SHEET** 58 **OF** 64



PLAN VIEW

LEACHING CHAMBER TYPE I

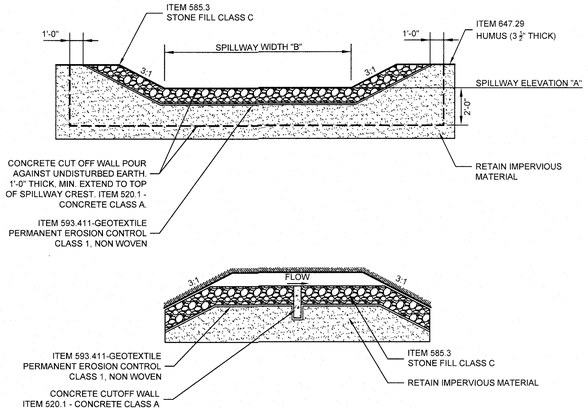
ITEM 604.92199 NOT TO SCALE



PIPE UNDERDRAIN

NOT TO SCALE

(MARCH 2008)



SPILLWAY NUMBER	A	B
SPILLWAY #1	351.60	8'
SPILLWAY #2	363.50	8'
SPILLWAY #3	372.10	8'
SPILLWAY #4	389.25	8'
SPILLWAY #5	391.65	8'

SPILLWAY DETAIL

NOT TO SCALE

CONSTRUCTION PRACTICE REQUIREMENTS:

1. STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE INSTALLED BEFORE ROUGH GRADING TO SITE.
2. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
3. STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
4. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
5. AFTER THE INFILTRATION SYSTEM AREA IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
6. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
7. INFILTRATION BASIN FLOOR PREPARATION WILL INCLUDE GRASS TURF THAT CAN BE INUNDATED FOR UP TO 72 HOURS.
8. INFILTRATION AREAS ARE TO BE PROTECTED FROM OVER-COMPACTION DURING CONSTRUCTION.

MAINTENANCE REQUIREMENTS:

SEDIMENT FOREBAYS:

- INSPECT AT LEAST TWICE ANNUALLY;
- CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
- REMOVE DEBRIS FROM OUTLET STRUCTURES AT LEAST ONCE ANNUALLY;
- REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;
- INSTALL AND MAINTAIN A STAFF GAGE OR OTHER MEASURING DEVICE, TO INDICATE DEPTH OF SEDIMENT ACCUMULATION AND LEVEL AT WHICH CLEAN-OUT IS REQUIRED.

INFILTRATION PONDS:

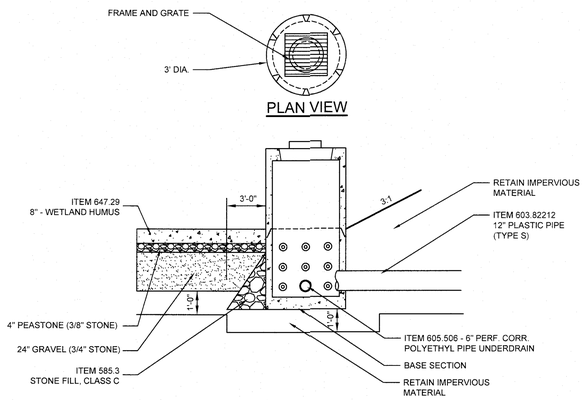
- REMOVAL OF DEBRIS FROM INLET AND OUTLET STRUCTURES;
- REMOVAL OF ACCUMULATED SEDIMENT;
- INSPECTION AND REPAIR OF OUTLET STRUCTURES AND APPURTENANCES;
- INSPECTION OF INFILTRATION COMPONENTS AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION;
- INSPECTION OF PRETREATMENT MEASURES AT LEAST TWICE ANNUALLY, AND REMOVAL OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY;
- PERIODIC MOWING OF EMBANKMENTS;
- REMOVAL OF WOODY VEGETATION FROM EMBANKMENTS;
- INSPECTION AND REPAIR OF EMBANKMENTS AND SPILLWAYS;
- IF AN INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION TRENCH.
- THE BOTTOMS, INTERIOR AND EXTERIOR SIDE SLOPES AND CREST OF EARTHEN DETENTION BASINS SHOULD BE MOWED, AND THE VEGETATION MAINTAINED IN HEALTHY CONDITION, AS APPROPRIATE TO THE FUNCTION OF THE FACILITY AND TYPE OF VEGETATION.
- VEGETATED EMBANKMENTS THAT SERVE AS "BERMS" OR "DAMS" THAT IMPOUND WATER SHOULD BE MOWED AT LEAST ONCE ANNUALLY TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION;
- INLET AND OUTLET PIPES, INLET AND OUTLET STRUCTURES, ENERGY DISSIPATION STRUCTURES OR PRACTICES AND OTHER STRUCTURAL APPURTENANCES SHOULD BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED PROFESSIONAL AND CORRECTIVE ACTION IMPLEMENTED (EG. MAINTENANCE, REPAIRS OR REPLACEMENT) AS INDICATED BY SUCH INSPECTION;
- TRASH AND DEBRIS SHOULD BE REMOVED FROM THE BASIN AND ANY INLET OR OUTLET STRUCTURES WHENEVER OBSERVED BY INSPECTION;
- ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT SIGNIFICANTLY AFFECTS BASIN CAPACITY.

WET PONDS:

- THE BOTTOMS, INTERIOR AND EXTERIOR SIDE SLOPES AND CREST OF EARTHEN DETENTION BASINS SHOULD BE MOWED, AND THE VEGETATION MAINTAINED IN HEALTHY CONDITION, AS APPROPRIATE TO THE FUNCTION OF THE FACILITY AND TYPE OF VEGETATION.
- VEGETATED EMBANKMENTS THAT SERVE AS "BERMS" OR "DAMS" THAT IMPOUND WATER SHOULD BE MOWED AT LEAST ONCE ANNUALLY TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION;
- INLET AND OUTLET PIPES, INLET AND OUTLET STRUCTURES, ENERGY DISSIPATION STRUCTURES OR PRACTICES AND OTHER STRUCTURAL APPURTENANCES SHOULD BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED PROFESSIONAL AND CORRECTIVE ACTION IMPLEMENTED (EG. MAINTENANCE, REPAIRS OR REPLACEMENT) AS INDICATED BY SUCH INSPECTION;
- TRASH AND DEBRIS SHOULD BE REMOVED FROM THE BASIN AND ANY INLET OR OUTLET STRUCTURES WHENEVER OBSERVED BY INSPECTION;
- ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT SIGNIFICANTLY AFFECTS BASIN CAPACITY.

SWALES:

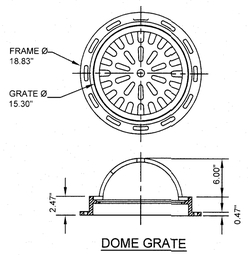
- INSPECT AT LEAST TWICE ANNUALLY
- CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
- REMOVE TRASH AND DEBRIS AT LEAST EACH INSPECTION;
- REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;



PLAN VIEW

LEACHING CHAMBER TYPE II

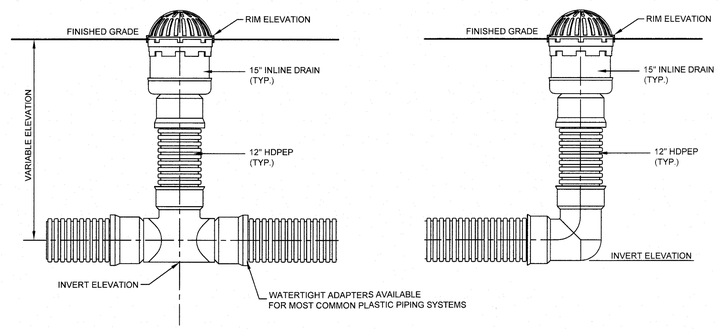
ITEM 604.92299 NOT TO SCALE



DOME GRATE

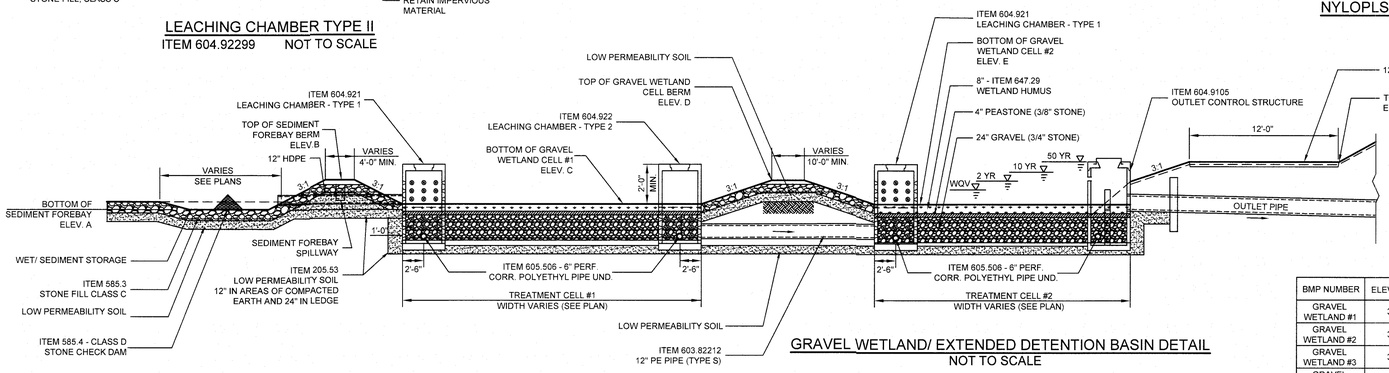
NYLOPLAST 15" GRATE

NOT TO SCALE



NYLOPLST AREA DRAIN DETAILS

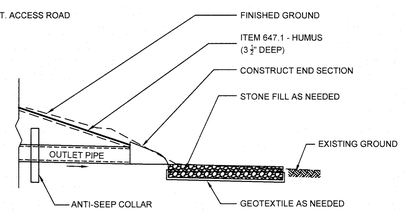
NOT TO SCALE



GRAVEL WETLAND/ EXTENDED DETENTION BASIN DETAIL

NOT TO SCALE

BMP NUMBER	ELEVATION A	ELEVATION B	ELEVATION C	ELEVATION D	ELEVATION E	ELEVATION F
GRAVEL WETLAND #1	353.00	355.00	350.00	352.00	350.00	358.00
GRAVEL WETLAND #2	364.00	366.00	362.50	364.00	362.50	367.00
GRAVEL WETLAND #3	373.00	375.00	371.75	372.75	371.75	376.50
GRAVEL WETLAND #4	390.00	392.00	388.50	389.75	388.50	393.00
GRAVEL WETLAND #5	393.00	395.00	390.00	392.00	390.00	396.00



CONSTRUCTION DETAILS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16

TANGLEWOOD DRIVE & ROCKWOOD TERRACE

AUBURN, NEW HAMPSHIRE

ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:

TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - PAUL CHISHOLM No. 15076 - LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
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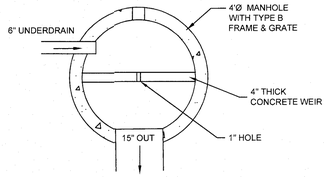
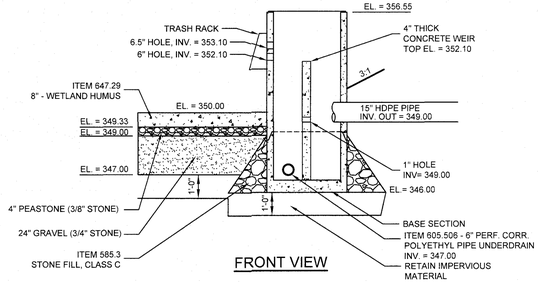
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** AS SHOWN

PROJECT NO: 19-1114-1 **SHEET** 59 **OF** 64



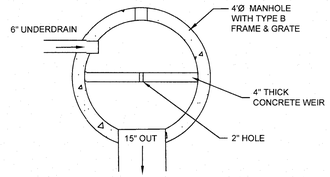
PLAN VIEW



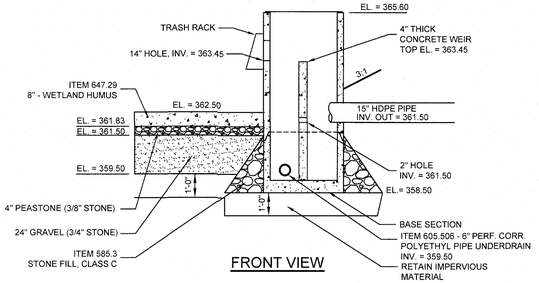
FRONT VIEW

OUTLET STRUCTURE #113

NOT TO SCALE



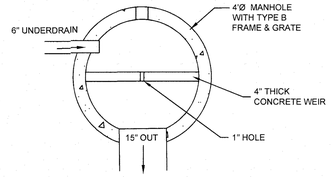
PLAN VIEW



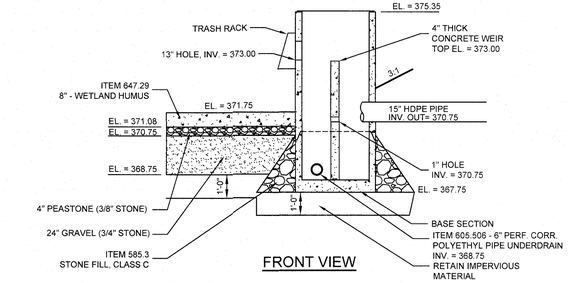
FRONT VIEW

OUTLET STRUCTURE #218

NOT TO SCALE



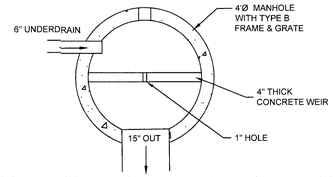
PLAN VIEW



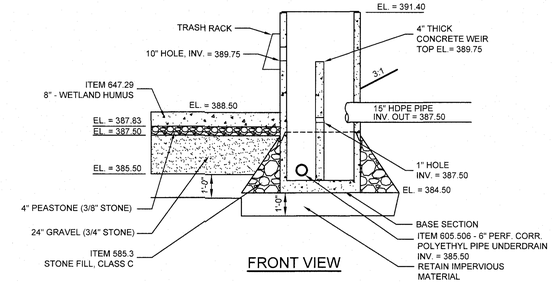
FRONT VIEW

OUTLET STRUCTURE #315

NOT TO SCALE



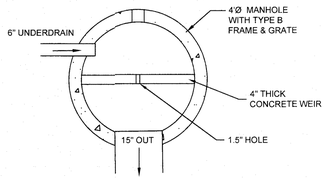
PLAN VIEW



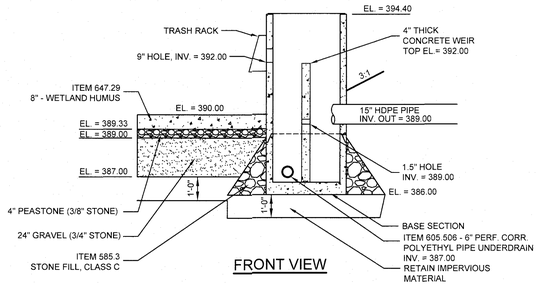
FRONT VIEW

OUTLET STRUCTURE #405

NOT TO SCALE



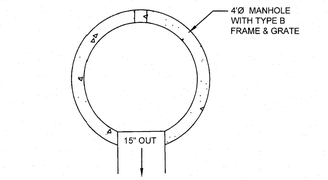
PLAN VIEW



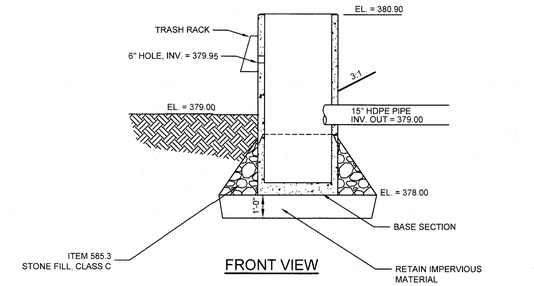
FRONT VIEW

OUTLET STRUCTURE #517

NOT TO SCALE



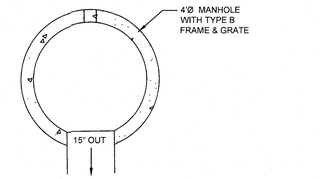
PLAN VIEW



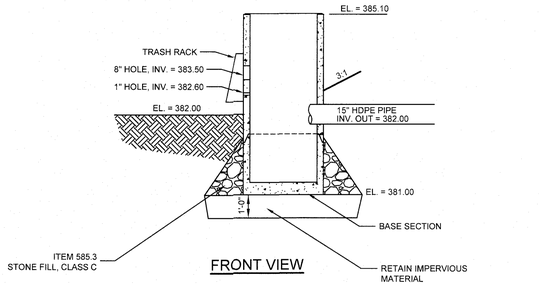
FRONT VIEW

OUTLET STRUCTURE #601

NOT TO SCALE



PLAN VIEW



FRONT VIEW

OUTLET STRUCTURE #701

NOT TO SCALE

CONSTRUCTION DETAILS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** AS SHOWN
PROJECT NO: 19-1114-1 **SHEET** 60 **OF** 64

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
3. FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED; TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF, HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3 : 1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:

1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:

1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM; FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
3. FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
   - 25% CREEPING RED FESCUE
   - 25% KENTUCKY BLUEGRASS
   - 25% REDTOP
   - 25% MANHATTAN PERENNIAL RYEGRASS
5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
   - 15% BLACKWELL OR SHELTER SWITCHGRASS
   - 30% NIAGRA OR KAW BIG BLUESTEM
   - 30% CAMPER OR BLAZE LITTLESTEM
   - 15% NE-27 OR BLAZE SAND LOVEGRASS
   - 10% VIKING BIRDSFOOT TREFOIL

   INOCULUM SPECIFIC TO BIRDSFOOT TREFOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
   - 30% CREEPING RED FESCUE
   - 40% PERENNIAL RYE GRASS
   - 15% REDTOP
   - 15% BIRDSFOOT TREFOIL
   - *IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3 : 1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
   - 25% CREEPING RED FESCUE
   - 15% SWITCH GRASS
   - 15% FOX SEDGE
   - 15% CREEPING BENTGRASS
   - 10% FLATPEA
   - 20% WILDFLOWER VARIETY
8. STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.
9. NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
10. ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.

CONSTRUCTION SEQUENCE

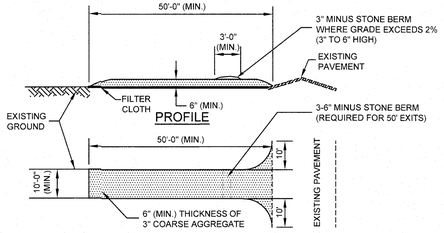
1. THE CONTRACTOR WILL ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME.
2. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
3. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTIONS ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
5. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
6. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
7. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
8. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
10. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
11. DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
12. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
13. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
14. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
15. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
16. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
17. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
18. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:

1. THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:
   - A. ROAD BASE COAT;
   - B. STOP SIGNS AND TEMPORARY STRIPING OF STOP BARS;
   - C. GRADING AND DRAINAGE;
   - D. LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY;
   - E. TEMPORARY STRIPING OF VISITOR PARKING; AND
   - F. UTILITIES.

EROSION CONTROL NOTES

1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITOR IS EMPLOYED THROUGH THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
5. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
6. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
7. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
8. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
9. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
10. THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
11. AREAS HAVING FINISH GRADE SLOPES OF 3 : 1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION."
12. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
13. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
14. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
15. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.



PLAN VIEW

STABILIZED CONSTRUCTION EXIT DETAIL

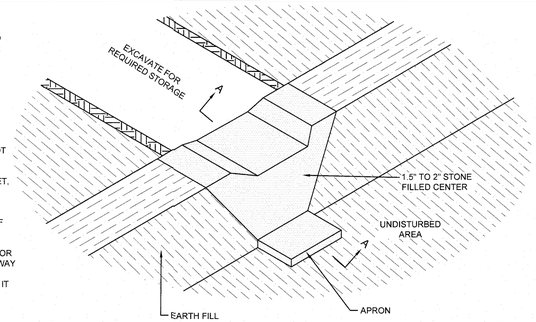
NOT TO SCALE

MAINTENANCE:

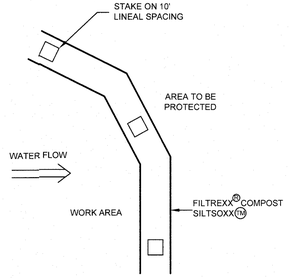
1. MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW, CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
2. IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS:

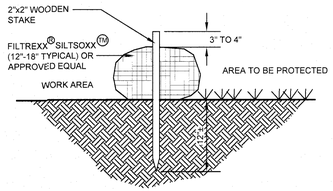
1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH MINIMUM STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. THE MOUNTABLE BERM IS REQUIRED FOR 50' LONG EXITS.



ISOMETRIC VIEW



PLAN VIEW



SECTION VIEW

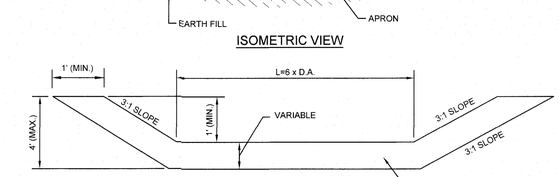
NOTES:

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILTSOXX™ COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILTSOXX™ DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

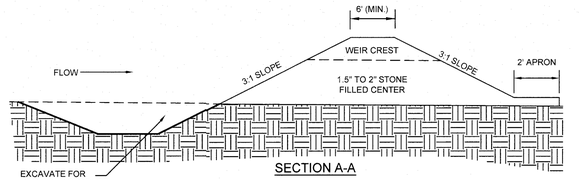
FILTREXX® SILTSOXX™ DETAIL

NOT TO SCALE

(AUGUST 2011)



PROFILE



SECTION A-A

NOTES:

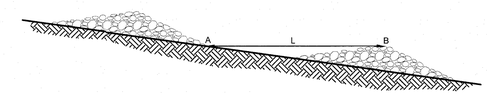
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED.

TEMPORARY SEDIMENT TRAP DETAIL

NOT TO SCALE

WINTER CONSTRUCTION NOTES:

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

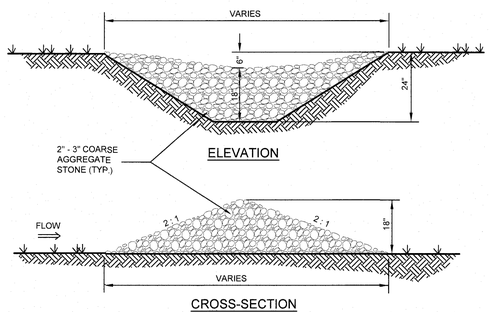


L = THE DISTANCE SUCH THAT POINTS A AND B ARE EQUAL ELEVATION, OR FOR FLAT SLOPES L = 75' MAXIMUM

STONE CHECK DAM SPACING DETAIL

NOT TO SCALE

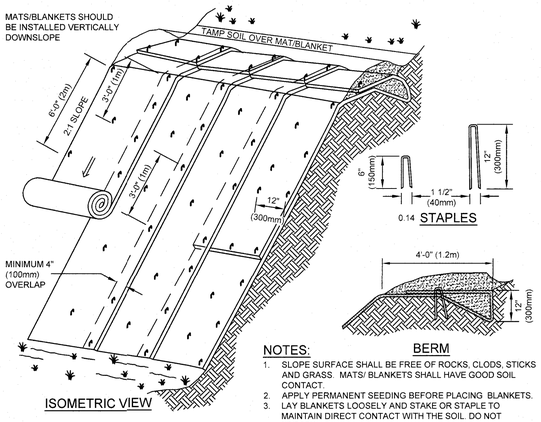
(MARCH 2008)



STONE CHECK DAM DETAIL

NOT TO SCALE

(MARCH 2008)



NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. EROSION BLANKETS TO BE A BCN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION

NOT TO SCALE

(AUGUST 2011)

CONSTRUCTION DETAILS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:

TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 SCALE: AS SHOWN

PROJECT NO: 19-1114-1 SHEET 61 OF 64

TP #1

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
32"	10YR 5/4, GRANULAR, FRIABLE, COARSE LOAMY SAND, MASSIVE,
60" BOTTOM OF HOLE	

TP #2

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 52"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
20"	10YR 5/4, GRANULAR, FRIABLE, COARSE LOAMY SAND, MASSIVE,
52" BOTTOM OF HOLE	

TP #3

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 60"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
24"	10YR 5/4, GRANULAR, FRIABLE, COARSE LOAMY SAND, MASSIVE,
60" BOTTOM OF HOLE	

TP #4

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 32"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS TO 20"
32" BOTTOM OF HOLE	

TP #5

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
32"	10YR 5/4, GRANULAR, FRIABLE, COARSE LOAMY SAND, MASSIVE,
96" BOTTOM OF HOLE	

TP #6

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 60"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
30"	10YR 5/4, GRANULAR, FRIABLE, COARSE LOAMY SAND, MASSIVE,
60" BOTTOM OF HOLE	

TP #7

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 42"
WATER ENCOUNTERED: 40"

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
24" SHWT	10YR 6/6, COARSE LOAMY SAND, REDOX FEATURES
42" BOTTOM OF HOLE	

TP #8

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 60"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
30" SHWT	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
60" BOTTOM OF HOLE	

TP #9

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 72"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
40"	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
72" BOTTOM OF HOLE	

TP #10

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 90"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
48"	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
90" BOTTOM OF HOLE	

TP #11

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 66"
WATER ENCOUNTERED: 36"

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
36" SHWT	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
66" BOTTOM OF HOLE	

TP #12

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
36"	10YR 5/4, COARSE LOAMY SAND,
72" BOTTOM OF HOLE	

TP #13

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 72"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
40" SHWT	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
72" BOTTOM OF HOLE	

TP #14

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 72"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
40" SHWT	10YR 5/4, COARSE LOAMY SAND, REDOX FEATURES
72" BOTTOM OF HOLE	

TP #15

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
36"	10YR 5/2, COARSE LOAMY SAND,
96" BOTTOM OF HOLE	

TP #16

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
26"	10YR 5/4, COARSE LOAMY SAND,
60" BOTTOM OF HOLE	

TP #17

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
32"	10YR 5/4, COARSE LOAMY SAND,
72" BOTTOM OF HOLE	

TP #18

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
24"	10YR 5/4, COARSE LOAMY SAND,
72" BOTTOM OF HOLE	

TP #19

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
40"	10YR 5/4, COARSE LOAMY SAND,
72" BOTTOM OF HOLE	

TP #20

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
36"	10YR 5/4, COARSE LOAMY SAND,
72" BOTTOM OF HOLE	

TP #21

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
18"	10YR 5/4, COARSE LOAMY SAND,
64" BOTTOM OF HOLE	

TP #22

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
24"	10YR 5/4, COARSE LOAMY SAND, ROOTS TO 36"
72" BOTTOM OF HOLE	

TP #23

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
5"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
20"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
32" SHWT	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
60" BOTTOM OF HOLE	

TP #24

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
20"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
34" SHWT	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
60" BOTTOM OF HOLE	

TP #25

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
24"	10YR 5/4, COARSE LOAMY SAND
60" BOTTOM OF HOLE	

TEST PIT LOGS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - PAUL CHIENGLIM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 | **SCALE:** AS SHOWN
PROJECT NO: 19-1114-1 | **SHEET** 62 **OF** 64

TP #26

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
36"	10YR 5/4, COARSE LOAMY SAND
72" BOTTOM OF HOLE	

TP #27

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
36"	10YR 5/4, COARSE LOAMY SAND
66" BOTTOM OF HOLE	

TP #28

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
36"	10YR 5/4, COARSE LOAMY SAND
72" BOTTOM OF HOLE	

TP #29

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
56"	10YR 5/4, COARSE LOAMY SAND, BOULDERS
84" BOTTOM OF HOLE	

TP #30

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
30"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
36"	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
72" BOTTOM OF HOLE	

TP #31

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
40"	10YR 5/4, COARSE LOAMY SAND, BOULDERS
65" BOTTOM OF HOLE	

TP #32

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, STONES
20"	10YR 5/4, COARSE LOAMY SAND, STONES
60" BOTTOM OF HOLE	

TP #33

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 30"

0"	FOREST MAT
4"	5Y 3/4, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
16"	10YR 3/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
30" SHWT	10YR 4/4, COARSE LOAMY SAND REEDOX FEATURES
60" BOTTOM OF HOLE	

TP #34

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
20"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
28"	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
66" BOTTOM OF HOLE	

TP #35

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-10-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: 65"
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
28"	10YR 5/4, COARSE LOAMY SAND, BOULDERS
65" BOTTOM OF HOLE	

TP #36

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
40"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
48"	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
66" BOTTOM OF HOLE	

TP #37

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
18"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
24"	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
60" BOTTOM OF HOLE	

TP #38

LOGGED BY GPC
PERC TEST @ 20"
DATE: 3-11-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
28"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
36"	10YR 6/1, COARSE LOAMY SAND REEDOX FEATURES
60" BOTTOM OF HOLE	

TP #39

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
30"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #40

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
30"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #41

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
26"	10YR 6/2, COARSE SAND, BOULDERS
60" BOTTOM OF HOLE	

TP #42

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
26"	10YR 6/2, COARSE SAND, BOULDERS
60" BOTTOM OF HOLE	

TP #43

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
24" S.H.W.T.	10YR 6/2, COARSE SAND, REDOX
60" BOTTOM OF HOLE	

TP #44

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
32"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #45

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/4, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
48" S.H.W.T.	10YR 4/1, COARSE SAND, REDOX
72" BOTTOM OF HOLE	

TP #46

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
30"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #47

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
32"	10YR 6/2, COARSE SAND, BOULDERS
70" BOTTOM OF HOLE	

TP #48

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
28"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #49

LOGGED BY GPC
PERC TEST @ 20"
DATE: 10-20-2021
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	10YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
30"	10YR 6/2, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TP #50

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-18-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
16"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS, BOULDERS
32"	10YR 4/3, COARSE SAND, BOULDERS
72" BOTTOM OF HOLE	

TEST PIT LOGS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
TANGLEWOOD DRIVE & ROCKWOOD TERRACE
AUBURN, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER OF MAP 4-16/APPLICANT:
TANGLEROCK HOLDINGS, LLC
27 MARTINS FERRY ROAD
HOOKSETT, NH 03103

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	5/19/23	REVISED PER DESIGN REVIEW	PCM
2	8/18/23	REVISED PER CHECKLIST REVIEW	MCH

DATE: APRIL 19, 2023 **SCALE:** AS SHOWN
PROJECT NO: 19-1114-1 **SHEET** 63 **OF** 64

TP #51

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-18-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
10"	10YR 5/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
24"	10YR 6/4, GRANULAR, FRIABLE, FINE SAND, MASSIVE, FEW ROOTS,
36"	10YR 4/3, COARSE SAND
72" BOTTOM OF HOLE	

TP #52

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
6"	7.5YR 6/6, GRANULAR, FRIABLE, FINE SANDY LOAM, MASSIVE, FEW ROOTS,
24"	10YR 6/6, GRANULAR, FRIABLE, LOAMY SAND, MASSIVE, FEW ROOTS,
36"	10YR 5/3, COARSE GRAVELY SAND
60" BOTTOM OF HOLE	

TP #53

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
8"	10YR 6/6, GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
24"	10YR 6/4, GRANULAR, FRIABLE, SAND, MASSIVE, FEW ROOTS,
36"	10YR 6/1, COARSE SAND
72" BOTTOM OF HOLE	

TP #54

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
12"	10YR 6/4, GRANULAR, FRIABLE, SAND, MASSIVE, FEW ROOTS,
24"	10YR 6/1, COARSE SAND
72" BOTTOM OF HOLE	

TP #55

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
12"	10YR 6/4, GRANULAR, FRIABLE, SAND, MASSIVE, FEW ROOTS,
24"	10YR 6/1, COARSE SAND
72" BOTTOM OF HOLE	

TP #56

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
12"	10YR 6/4, GRANULAR, FRIABLE, SAND, MASSIVE, FEW ROOTS,
24"	10YR 6/1, COARSE SAND
72" BOTTOM OF HOLE	

TP #57

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
12"	10YR 6/4 GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
24" S.H.W.T.	10YR 7/3, GRANULAR, FRIABLE, SAND, REDOX
48"	10YR 6/1, BLOCKY SAND, REDOX
72" BOTTOM OF HOLE	

TP #58

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
12"	10YR 6/4 GRANULAR, FRIABLE, FINE LOAMY SAND, MASSIVE, FEW ROOTS,
18" S.H.W.T.	10YR 5/3, GRANULAR, FRIABLE, SAND, REDOX
48"	10YR 6/1, BLOCKY SAND, REDOX
60" BOTTOM OF HOLE	

TP #59

LOGGED BY GPC
PERC TEST @ 20"
DATE: 11-19-2022
PERC RATE: 4 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT
4"	10YR 5/2 GRAVEL FILL
24"	10YR 6/6, GRANULAR, FRIABLE, loamy SAND
42" S.H.W.T.	10YR 7/1, BLOCKY SAND, REDOX
70" BOTTOM OF HOLE	

TEST PIT LOGS

THE WOODLANDS OF AUBURN

MAP 4 LOTS 13-4 & 16
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AUBURN, NEW HAMPSHIRE
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PROJECT NO: 19-1114-1 **SHEET** 64 **OF** 64