PERMIT DESIGN SUBMITTAL

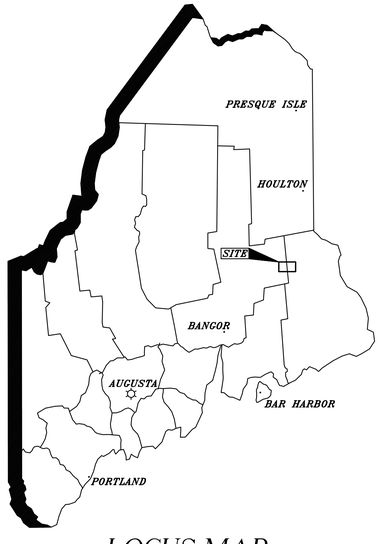
BOWERS MOUNTAIN WIND PROJECT

CARROLL PLANTATION, PENOBSCOT COUNTY
KOSSUTH TOWNSHIP, WASHINGTON COUNTY

PREPARED FOR CHAMPLAIN WIND, LLC

83328E

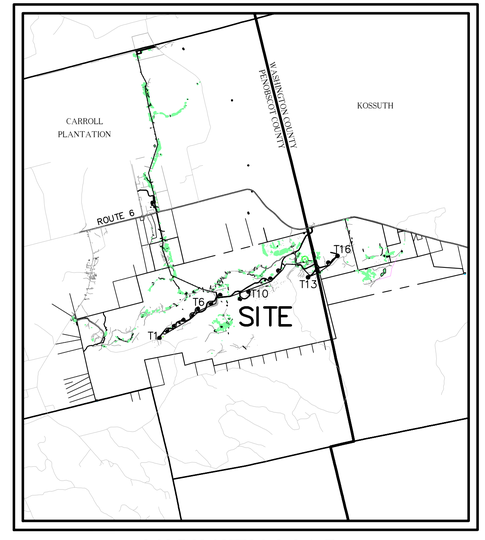
SEPTEMBER 26, 2012



LOCUS MAP

SHEET INDEX

SHEET NO.	DESCRIPTION
	COVER
1	SITE INDEX
2-4	DETAILS
5	O&M SITE AND ACCESS ROAD PLAN & PROFILE
6-7	AR 50 ACCESS ROAD PLAN & PROFILE
10-11	DIPPER POND ACCESS ROAD PLAN & PROFILE
20-21	BASKAHEGAN ACCESS ROAD PLAN & PROFILE
30-31	MOOSE ROAD ACCESS PLAN
100-108	BOWERS CRANE PATH PLAN & PROFILE
300	DILL HILL ACCESS ROAD PLAN & PROFILE
302-303	DILL HILL CRANE PATH PLAN & PROFILE & MET TOWER ACCESS PROFILE
402	STORMWATER PLANS O&M BUILDING, SUBSTATION, AND ACCESS ROADS
500	STORMWATER PLANS DIPPER POND ACCESS ROAD
501	STORMWATER PLANS BASKAHEGAN ACCESS ROAD
600-603	STORMWATER PLANS BOWERS CRANE PATH
800-801	STORMWATER PLANS DILL HILL
900-901	PRE DEVELOPMENT DRAINAGE PLAN
902-903	POST DEVELOPMENT DRAINAGE PLAN
904	PHOSPHORUS DEVELOPMENT PLAN



VICINITY MAP

DESIGN TEAM:

SEWALL

JAMES W. SEWALL COMPANY /*Since 1880*

SEWALL.COM 800 648 4202

SEAL
STATE OF MAINE
THOMAS M. HENAGHEN
No. 12433
LICENSED
PROFESSIONAL ENGINEER
9-26-12
COLLECTOR DESIGN

SGC

SGC ENGINEERING, LLC
- Civil Design & Survey Engineering
- Environmental & Regulatory Permitting
- Electrical Power Systems Engineering

SERVING OUR CLIENTS IN THE U.S.A. & CANADA

501 County Road, Westbrook, Maine 04092, Tel# 207-347-8100, Fax: 207-347-8101
Target Technology Center, 20 Godfrey Drive, Suite 200, Orono, Maine, 04473, Tel: 207-866-5571, Fax: 207-866-5501
69 Swift Street, Suite 305, South Burlington, Vermont 05403, Tel# 802-863-1530, Fax: 802-860-1718

PRELIMINARY FOR AGENCY REVIEW

SEAL
STATE OF MAINE
JANINE M. MORRISON
No. 7125
LICENSED
PROFESSIONAL ENGINEER
CIVIL DESIGN

PROPOSED SUBSTATION

NORTH ROAD

MATCHLINE SEE THIS SHEET

SHEET 7

SHEET 6

SHEET 5

DANFORTH ROAD

NORTH ROAD TO SUBSTATION

ROUTE 6

OSGOOD ROAD

BROWN ROAD

MOOSE ROAD

SHEET 30

SHEET 31

SHEET 10

SHEET 11

SHEET 21

SHEET 20
SHEET 106
SHEET 300

SHEET 303

SHEET 302

SHEET 105

SHEET 104

SHEET 108
SHEET 103
SHEET 102

SHEET 107
SHEET 101

SHEET 100

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16

LINE LEGEND

PROPOSED		EXISTING
	PROPERTY LINE	
	CENTERLINE	
	STREAM	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL	
	BUILDING	
126	CONTOUR	126
X 126.3	SPOT GRADE	X 126.3
	GUARDRAIL	
	EDGE OF WETLANDS	
	TREELINE	
	UTILITY POLE	
OHE	OVERHEAD ELECTRIC	OHE
UGE	UNDERGROUND ELECTRIC	UGE
	STORM DRAIN	
BMD	BARK MULCH BERM	
	DIVERSION DITCH	
TP 36	TEST PIT	
	OBSERVATION POINT	
ELLIOTTSVILLE (VARIANT) C	SOILS BOUNDARY	
SCD	STONE CHECK DAM	
LS	LEVEL SPREADER	
BL	BUFFER LEVEL SPREADER	

HATCH LEGEND

WETLAND	TURNOUTS
RIP RAP	CONSTRUCTION ENTRANCE
VERNAL POOL	BUFFER
SIGNIFICANT VERNAL POOL	ROCK SANDWICH
LAYDOWN AREA	REVEGATATIVE HATCH

NOTE:

1. PHOTOGRAMMETRIC MAPPING AT 2' CONTOUR INTERVALS COMPILED ON JANUARY 28, 2010 BY THE SEWALL CO FROM PHOTOGRAPHS DATED NOVEMBER 18, 2009.
2. NATURAL RESOURCE INFORMATION PROVIDED BY STANTEC.
3. ELECTRICAL INFORMATION PROVIDED BY SGC.

GRAPHIC SCALE

900 0 450 900 1800 3600

(IN FEET)
1 inch = 900 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Date	Dwg. By	Description	Date
1				
2				
3				

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: 1"=900'
Approved: JSM
Checked: BCH

BOWERS WIND PROJECT

Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description: **OVERALL LOCATION PLAN**

Seal: STATE OF MAINE 13126 REGISTERED PROFESSIONAL ENGINEER

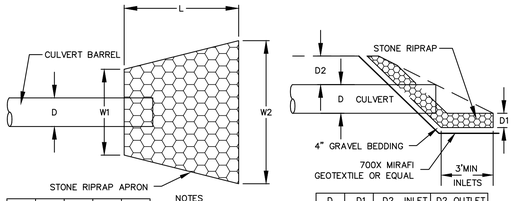
Project No.: 83328E

Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 tel 8 4202
SEWALL.COM

Phase: PERMIT

Sheet No.: 1



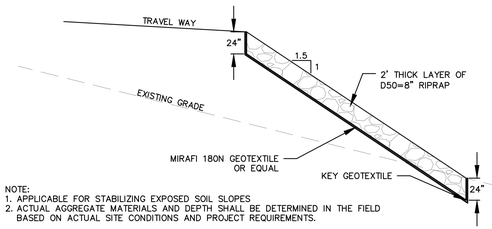
D	W1	W2	L	d50
15"	4'	14'	10'	4"
18"	5'	15'	10'	6"
24"	6'	16'	12'	6"
30"	15'	25'	22'	8"
36"	18'	28'	25'	10"

NOTES
1. THE RIPRAP APRON SHALL BE CONSTRUCTED WITH NO SLOPE ALONG ITS LENGTH.

CULVERT OUTLET DETAIL PLAN VIEW
NOT TO SCALE

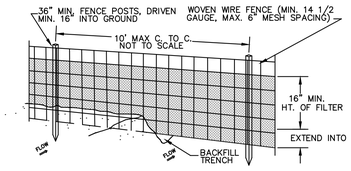
D	D1	D2 INLET	D2 OUTLET
15"	9"	24"	12"
18"	13.5"	24"	12"
24"	13.5"	36"	12"
30"	18"	36"	15"
36"	23"	36"	18"

CULVERT INLET/OUTLET DETAIL PLAN VIEW
NOT TO SCALE

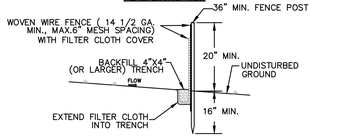


NOTE:
1. APPLICABLE FOR STABILIZING EXPOSED SOIL SLOPES
2. ACTUAL AGGREGATE MATERIALS AND DEPTH SHALL BE DETERMINED IN THE FIELD BASED ON ACTUAL SITE CONDITIONS AND PROJECT REQUIREMENTS.

RIPRAP SLOPE PROTECTION DETAIL
NOT TO SCALE



PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

NOTE: THE CONTRACTOR HAS THE OPTION TO NOT USE WOVEN WIRE MESH IF STAKE SPACERS ARE REDUCED TO 6' O.C.

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP OF MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. SILT FENCE SHOWN ON THE PLANS IS SYMBOLIC: ALL SILT FENCE SHALL BE INSTALLED ALONG THE CONTOUR WITH EXACT LOCATION/ORIENTATION TO BE FIELD DETERMINED BASE ON ACTUAL SITE CONDITIONS.
6. NO MORE THAN ¼ ACRE OF DRAINAGE AREA FOR EACH 100 FEET OF FENCING.

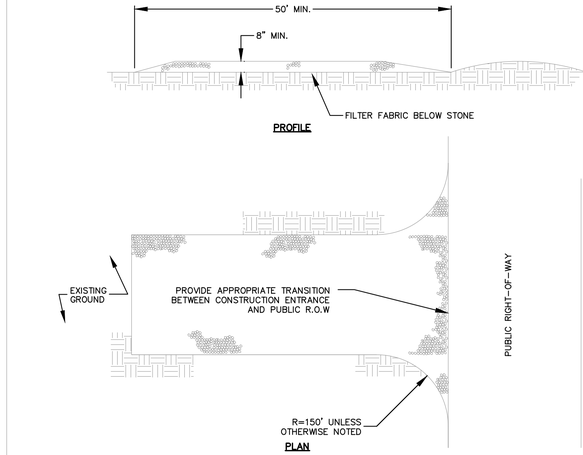
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MARAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE DETAIL
NOT TO SCALE

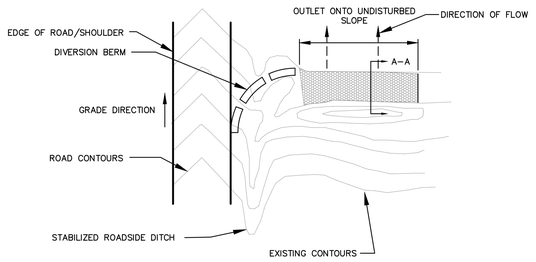


PROFILE

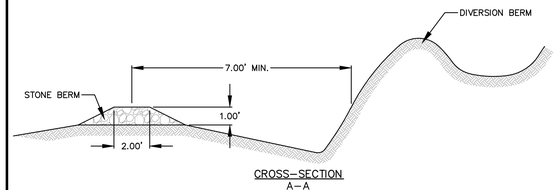
PLAN

NOTES:
1. APPROXIMATE STONE SIZE – AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH – AS SHOWN ON GRADING PLAN, MIN. 50 FEET.
3. THICKNESS – APPROXIMATELY EIGHT (8) INCHES (MINIMUM)
4. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



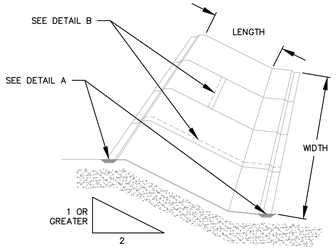
PLAN VIEW



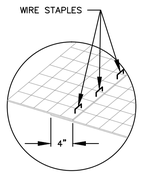
CROSS-SECTION
A-A

DITCH TURNOUT NOTES
1) ALL DITCH TURNOUT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION.
2) ALL DITCH TURNOUT SHALL BE CONSTRUCTED IN A CUT SECTION, I.E. THERE SHALL BE NO EARTH FILL ALONG DOWNSTREAM EDGE.
3) ALL DITCH TURNOUT SHALL BE ALIGNED PARALLEL TO THE EXISTING CONTOURS.
4) THE DITCH TURNOUT SHALL HAVE A LONGITUDINAL GRADE OF 0.0%
5) DITCH TURNOUTS ON THE PLANS ARE SYMBOLIC. LOCATION AND ORIENTATION OF DITCH TURNOUTS SHALL BE FIELD DETERMINED BASED ON ACTUAL SITE CONDITIONS.
6) STONE BERM SHALL CONSIST OF DURABLE ROCK THAT WILL NOT DISINTEGRATE BY EXPOSURE TO WEATHER OR WATER.
7) ROCK SIZE SHALL BE WELL-GRADED WITH A MEDIAN SIZE OF 3" AND A MAXIMUM SIZE OF 6".

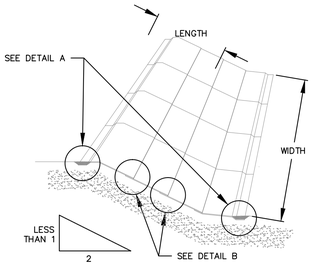
TYPICAL DITCH TURNOUT
NOT TO SCALE



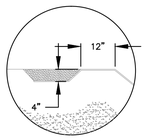
STEEP SLOPES



DETAIL B: LAP JOINT



FLATTER SLOPES



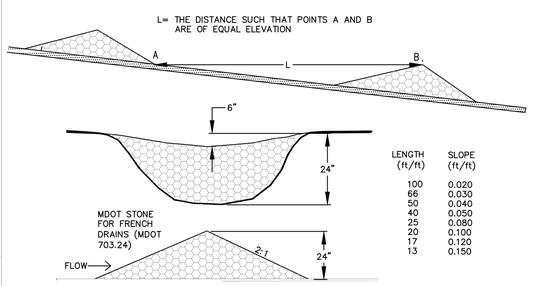
DETAIL A: ANCHOR TRENCH

REF: BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL – EROSION CONTROL BLANKET

NOTE:
TO BE USED ON SLOPE NOT STABILIZED W/ BLAST ROCK IN CONSULTATION W/ THIRD PARTY INSPECTOR.

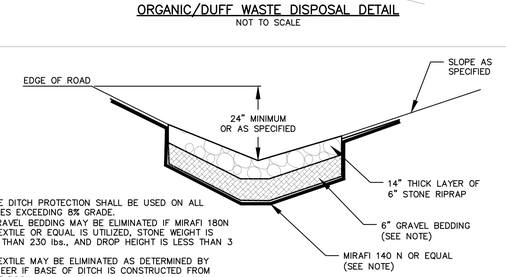
SLOPE APPLICATION–FOR EROSION CONTROL MESH
NOT TO SCALE

NOTE:
LENGTH L MAY BE ADJUSTED IN THE FIELD, AS APPROVED BY THE ENGINEER, FOR THE STONE-LINED DITCH SECTIONS.



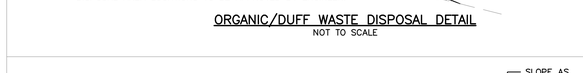
LENGTH (ft/ft)	SLOPE (ft/ft)
100	0.020
66	0.030
50	0.040
40	0.050
25	0.080
20	0.100
17	0.120
13	0.150

STONE CHECK DAM DETAILS
NOT TO SCALE



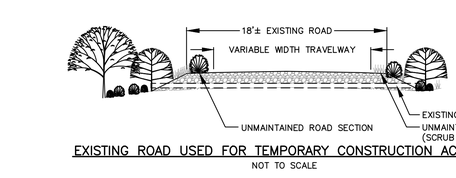
NOTE:
1. STONE DITCH PROTECTION SHALL BE USED ON ALL DITCHES EXCEEDING 8% GRADE.
2. 6" GRAVEL BEDDING MAY BE ELIMINATED IF MIRAFI 180N GEOTEXTILE OR EQUAL IS UTILIZED, STONE WEIGHT IS LESS THAN 230 lbs., AND DROP HEIGHT IS LESS THAN 3 FEET.
3. GEOTEXTILE MAY BE ELIMINATED AS DETERMINED BY ENGINEER IF BASE OF DITCH IS CONSTRUCTED FROM BLAST ROCK.
4. ALL DITCHES EXPERIENCING GROUNDWATER FLOW SHALL HAVE STONE PROTECTION.
5. EXTEND STONE DITCH PROTECTION ABOVE GROUNDWATER SEEPAGE LIMIT.

TYPICAL STONE DITCH PROTECTION DETAIL
NOT TO SCALE

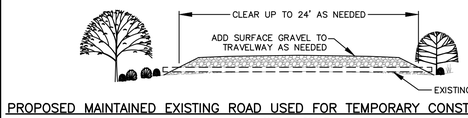


NOTE:
DISPOSAL AREA LOCATIONS TO BE APPROVED BY ENGINEER.

ORGANIC/DUFF WASTE DISPOSAL DETAIL
NOT TO SCALE

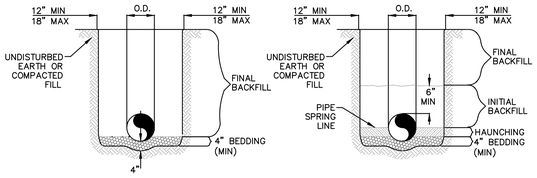


EXISTING ROAD USED FOR TEMPORARY CONSTRUCTION ACCESS
NOT TO SCALE



PROPOSED MAINTAINED EXISTING ROAD USED FOR TEMPORARY CONSTRUCTION ACCESS
NOT TO SCALE

NOTES:
1. CONTRACTOR SHALL REMOVE EXISTING VEGETATION WITHIN ROAD FOOTPRINT (INCLUDING DRAINAGE DITCHES)
2. CONTRACTOR SHALL NOT IMPACT PROTECTED NATURAL RESOURCES UNLESS OTHERWISE PERMITTED.
3. EXISTING CULVERTS SHALL BE REPLACED IN KIND AS NECESSARY. ADDITIONAL CULVERTS MAY BE INSTALLED AS NECESSARY.
4. BARK MULCH BERMS OR SILT FENCE OR INLET PROTECTION SHALL BE USED DOWNSTREAM OF ANY MAINTENANCE WORK ALONG ACCESS ROADS AS NEEDED; SEE TYPICAL DETAIL



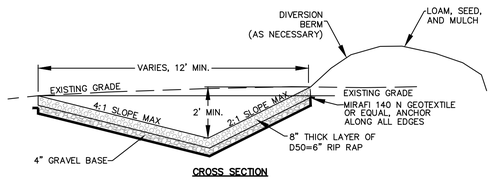
RIGID PIPE

FLEXIBLE PIPE

GENERAL NOTES
*AASHTO SOIL CLASSIFICATIONS USED

1. BEDDING SHALL BE CLASS I-A WORKED BY HAND, IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
4. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3.
5. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-LATEST EDITION.
6. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
7. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
8. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)
9. ACTUAL MATERIALS USED AND DEPTH OF COVER OVER PIPE SHALL BE FIELD DETERMINED BASED ON ACTUAL SITE CONDITIONS AND PROJECT REQUIREMENTS.

CULVERT TRENCH AND BEDDING
NOT TO SCALE

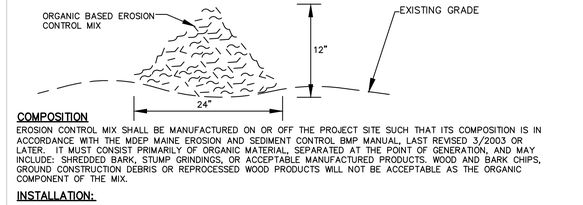


CROSS SECTION

NOTE: SEE GRADING PLAN FOR LENGTH

LEVEL SPREADER NOTES
1) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION.
2) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN A CUT SECTION, I.E. THERE SHALL BE NO EARTH FILL ALONG DOWNSTREAM EDGE.
3) ALL LEVEL SPREADERS SHALL BE ALIGNED PARALLEL TO THE EXISTING CONTOURS.
4) THE ENTRANCE DITCH TO THE LEVEL SPREADER SHALL HAVE A MAXIMUM GRADE OF 1.0% FOR AT LEAST 50 FEET IMMEDIATELY PRIOR TO ENTERING THE SPREADER.
5) THE LEVEL SPREADER SHALL HAVE A LONGITUDINAL GRADE OF 0.0%.
6) LEVEL SPREADERS SHOWN ON THE PLANS ARE SYMBOLIC. LOCATION AND ORIENTATION OF LEVEL SPREADERS SHALL BE FIELD DETERMINED BASED ON ACTUAL SITE CONDITIONS.

TYPICAL LEVEL SPREADER
NOT TO SCALE



COMPOSITION
EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL, LAST REVISED 3/2003 OR LATER. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

INSTALLATION:
1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.
5. EROSION CONTROL MIX BERMS SHOWN ON THE PLANS ARE SYMBOLIC. LOCATION AND ORIENTATION SHALL BE FIELD DETERMINED BASED ON ACTUAL SITE CONDITIONS.

EROSION CONTROL MIX BERM
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1			-
2			-
3			-

Designed By
Drawn By
Date 09/26/2012
Scale -

Checked BCH
Approved JSM

BOWERS WIND PROJECT - EROSION CONTROL DETAILS

Project Location CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description

Project No. 83328E
Engineer

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
Since 1880
JAMES W. SEWALL COMPANY
207-866-4820
SEWALL.COM

Seal

Phase PERMIT

Sheet No. 2

GENERAL NOTES & CONSTRUCTION SPECIFICATIONS

1. EVERY WEEK AND AFTER PRECIPITATION PRODUCING THE EQUIVALENT OF ONE–HALF INCH OF RAINFALL, THE CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REMOVAL OF SEDIMENT FROM SILT FENCES IF SOIL ACCUMULATES TO A DEPTH OF ONE–HALF THE FABRIC HEIGHT AND REMOVAL OF EXCESS ACCUMULATED SEDIMENT FROM DETENTION BASINS (IF APPLICABLE).
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH "MAINE EROSION & SEDIMENT CONTROL: BEST MANAGEMENT PRACTICES," BY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MEASURES, INCLUDING MATERIALS, CONSTRUCTION, MAINTENANCE AND REMOVAL.
4. SEE DETAILS FOR SLOPE STABILIZATION OPTIONS.
5. CONTRACTOR SHALL ADJUST CULVERT INVERT ELEVATIONS AND DITCHLINE AS NECESSARY TO PROVIDE APPROPRIATE COVER AND POSITIVE DRAINAGE.

CONSTRUCTION SEQUENCE & PHASING NOTES

CLEARING OF VEGETATION AND STOCKPILING OF TOPSOIL

1. INSTALL EROSION CONTROL MEASURES PRIOR TO SOIL DISTURBANCE.
2. FLAG & MARK CLEARING LIMITS OF ACCESS ROADS, CRANE PATHS, & COLLECTION LINES, WITH THE OTHER CONSTRUCTION AREAS TO FOLLOW.
3. STUMPS TO BE REMOVED FROM LOCATIONS WHERE STRUCTURES (i.e., ROADS, TURBINES, SUBSTATION, O&M BUILDING, STORMWATER MANAGEMENT SYSTEMS, ETC.) ARE TO BE INSTALLED/CONSTRUCTED. STUMPS TO BE BURIED IN PLACE OR GROUND ON–SITE AND USED AS AN EPSC MEASURE BY THE CONTRACTOR.
4. LOW GROWING VEGETATION TO REMAIN, WHERE FEASIBLE TO PROVIDE SOIL STABILITY.
5. EXISTING TOPSOIL IN AREAS OF DEVELOPMENT TO BE STOCKPILED ON–SITE FOR USE IN FINAL STABILIZATION OF ROAD SHOULDERS, TURBINE CLEARINGS AND LAY DOWN AREAS.
6. MULTIPLE LAYERS OF SEDIMENTATION PROTECTION SHALL BE INSTALLED AROUND TOPSOIL STOCKPILES TO PROTECT DOWN STREAM RESOURCES.

CONSTRUCTION OF ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS

1. MINOR GRADING CHANGES INCLUDING VERTICAL AND HORIZONTAL ADJUSTMENTS MAY BE NECESSARY, DEPENDING ON FIELD CONDITIONS. CONTRACTOR MAY COMPLETE HORIZONTAL AND VERTICAL ADJUSTMENTS TO ROADWAY ALIGNMENT IN ORDER TO OPTIMIZE EARTHWORK BALANCING. THESE MODIFICATIONS SHALL NOT INCREASE INCREASE THE TOTAL PROJECT FOOTPRINT OR INTENT OF STORMWATER DRAINAGE DESIGN. IN ADDITION, THESE MODIFICATIONS SHALL IN NO WAY HINDER DELIVERY OF COMPONENTS OR CONTRACTIBILITY OF PROJECT IN GENERAL. CONTRACTOR SHALL RECORD ALL MODIFICATIONS FOR INCLUSION IN PROJECT AS–BUILT DRAWINGS.
2. CONSTRUCTION OF ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS WILL OCCUR IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL AT ANY ONE TIME (INCLUSIVE OF ANY OTHER EXPOSED SOIL AREAS WITHIN THE DESIGNATED LIMITS OF DISTURBANCE).

CONSTRUCTION OF MOUNTAINTOP COLLECTOR

1. EARTHWORK (SUCH AS BENCHING) MAY BE REQUIRED FOR CONSTRUCTION OF COLLECTOR LINE FOR THE PURPOSE OF STABILIZING CONSTRUCTION EQUIPMENT AND GAINING ACCESS TO COLLECTOR STRUCTURES. APPROPRIATE EARTHWORK BMP'S WILL BE UTILIZED DURING THESE ACTIVITIES AND AREAS WILL BE ALLOWED TO REVEGETATE UPON COMPLETION OF CONSTRUCTION.
2. CLEARING BEYOND DEPICTED CLEARING LIMITS MAY BE REQUIRED FOR INSTALLATION OF GUY ANCHORS AND REMOVAL OF DANGER TREES.

CONSTRUCTION OF PERMANENT STORMWATER MANAGEMENT SYSTEMS

1. GRADING TO BE CONDUCTED IN ACCORDANCE WITH PERMITTED PERMANENT STORMWATER MANAGEMENT DESIGN.
2. ONCE FINAL GRADES ARE ACHIEVED, EXPOSED SOIL SURROUNDING THE STORMWATER MANAGEMENT STRUCTURES TO BE PERMANENTLY STABILIZED.
3. FINAL LOCATIONS OF STORMWATER STRUCTURES SHALL BE FIELD DETERMINED BASED UPON EXISTING TOPOGRAPHY BUT SHALL GENERALLY MEET THE INTENT OF THE STORMWATER DESIGN PLANS. CLEARING WILL BE PERMITTED BEYOND CLEARING LIMITS SHOWN ON THIS DESIGN TO ALLOW CONSTRUCTION OF STORMWATER MANAGEMENT SYSTEMS (SUCH AS LEVEL SPREADERS, DITCH TURNOUTS, ETC.). WHILE CONSTRUCTING STORMWATER MANAGEMENT SYSTEMS, CONTRACTOR SHALL MINIMIZE DISTURBANCE OUTSIDE FLAGGED CLEARING LIMITS TO SMALLEST EXTENT PRACTICABLE AND SHALL AVOID PROTECTED NATURAL RESOURCES.

CONSTRUCTION OF CRANE PADS

1. AFTER THE SUBGRADE IS ESTABLISHED, CRANE PAD TO BE CONSTRUCTED WITH APPROPRIATE AGGREGTE MATERIAL SPREAD & COMPACTED OVER A GEOTEXTILE LINER AS NECESSARY; MINOR GRADE ADJUSTMENTS MAYBE NEEDED DEPENDENT ON FIELD CONDITIONS.
2. CRANE PADS TO REMAIN IN PLACE FOR FUTURE MAINTENANCE & OPERATION.
3. EXPOSED SOIL SURROUNDING CRANE PADS & TURBINE FOUNDATIONS TO BE STABILIZED. (SEE DETAIL)

CLEAN–UP & FINAL STABILIZATION

1. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL WORK AREAS TO BE CLEARED OF CONSTRUCTION DEBRIS & OTHER MATERIALS.
2. SPECIFIC CLEAN–UP REQUIREMENTS TO INVOLVE: REMOVAL OF ALL TEMPORARY WORK TRAILERS; REMOVAL OF MATERIAL & EQUIPMENT; DISPOSAL OF ALL RUBBISH RESULTING FROM CLEARING, CONSTRUCTION, & INSTALLATION; ROUGH GRADING & STABILIZATION OF EMBANKMENTS MADE FOR CONSTRUCTION PURPOSES; FILLING OF ANY EXCAVATIONS; & REPAIRING RUTS IN ACCESS ROADS.
3. FINAL STABILIZATION OF ALL AREAS OF DISTURBED SOIL, WHERE FINAL GRADE HAS BEEN ACHIEVED, WLL INVOLVE RESPREADING OF STOCKPILED TOPSOIL MATERIAL & SEEDING, MULCHING WITH WOODWASTE MULCH, OR APPLICATION OF OTHER APPROVED STABILIZATION METHODS. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE PROJECTS PERMITS AND PLANS.
4. LAYDOWN AREAS SHALL BE ALLOWED TO REVEGETATE WITHIN ONE YEAR. CONTRACTOR SHALL REGRADE AS NECESSARY TO AVOID CONCENTRATED FLOWS.

TURBINE FOUNDATIONS

1. ELEVATIONS OF TURBINE FOUNDATIONS ARE BASED ON AERIAL SURVEY. FINAL ELEVATIONS OF FOUNDATIONS MAY BE ADJUSTED IN FIELD TO ACCOMMODATE ACTUAL TERRAIN CONDITIONS AND REDUCE IMPACTS.
2. FOUNDATION DRAIN MAY BE PROVIDED AT FOUNDATIONS AS SPECIFIED BY FOUNDATION CONSTRUCTION PLANS.

WINTER CONSTRUCTION NOTES

1. THE WINTER CONSTRUCTION PERIOD SHALL BE FROM NOVEMBER 1 THROUGH APRIL 15.
2. WHERE FEASIBLE, A MINIMUM 25–FT BUFFER SHALL BE MAINTAINED BETWEEN SILT FENCE OR OTHER PERIMETER CONTROLS AND ROADS TO ALLOW FOR SNOW CLEARING AND MAINTENANCE.
3. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
4. ACCEPTABLE OVER–WINTER STABILIZATION SHALL CONSIST OF VEGETATION (MIN. 75% MATURE) MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP OR GRAVEL ROAD BASE.
5. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT REQUIRE EARTH DISTURBANCE (e.g., CONSTRUCTION FENCE AND SILT FENCE) SHALL BE INSTALLED PRIOR TO THE GROUND FREEZING. DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS.
6. FROM NOVEMBER 1 TO APRIL 15, MULCH SHALL BE INSTALLED AT DOUBLE THE NORMAL RATE. NETTING OR OTHER MEANS APPROVED BY THE ENGINEER SHALL BE USED TO MINIMIZE WIND EROSION OF MULCHING.
7. PRIOR TO STABILIZATION, ICE AND SNOW SHALL BE REMOVED TO LESS THAN 1–IN.
8. EXCAVATED FROZEN SOILS SHALL BE STOCKPILED IN LEVEL AREAS AND SHALL NOT BE USED UNTIL THAWED. SEE STOCKPILING NOTES.
9. EXCAVATION OF SOILS IN SHALLOW GROUNDWATER AREAS SHALL BE MINIMIZED IF AT ALL POSSIBLE, DURING WINTER, AND LIMITED TO ONLY THOSE AREAS THAT CAN BE STABILIZED DURING THE SAME DAY.
10. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
    A. IF NO PRECIPITATION OR MELTING EVENT IS FORECAST WITHIN 24 HOURS AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
    B. DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS BUILDING FOUNDATIONS AND OPEN UTILITY TRENCHES.
11. ENGINEER MAY MAKE NECESSARY ADJUSTMENTS TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN AND ASSOCIATED EROSION PREVENTION AND SEDIMENT CONTROL MEASURES (e.g., CONSTRUCTION FENCE AND SILT FENCE) TO ACCOMMODATE ANTICIPATED SNOW STORAGE AREAS.
12. AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCE, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL COVER. DURING WINTER CONSTRUCTION A DOUBLE ROW OF SEDIMENT BARRIERS SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. NATURAL RESOURCE CROSSINGS SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.
13. STOCKPILES OF SOIL SHALL BE MULCHED FOR OVER–WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4–INCH LAYER OF EROSION CONTROL MIX.
14. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES OR BARE SPOTS.
15. WINTER CONSTRUCTION SHALL BE IN ACCORDANCE WITH REGULATORY PERMIT. PERMIT REQUIREMENTS SHALL SUPERCEDE ANY DISCREPANCY IN ABOVE LISTED NOTES.

NOTES:

TEMPORARY SEEDING NOTES

1. ANY DISTURBED AREAS TO BE LEFT IN ROUGH GRADED FORM FOR MORE THAN 30 DAYS (7 DAYS FOR SENSITIVE AND CRITICAL AREAS) BUT LESS THAN ONE GROWING SEASON SHALL BE LIMED, FERTILIZED, TEMPORARILY SEEDED AND MULCHED OR OTHERWISE STABILIZED.
2. EXPOSED OR BARE SOIL IN SENSITIVE AND CRITICAL AREAS ARE TO BE MULCHED AT THE COMPLETION OF WORK, EACH DAY, IF SIGNIFICANT RAINFALL IS PREDICTED.
3. APPLICATION RATES AND MATERIALS USED SHALL BE THE SAME AS FOR PERMANENT SEEDING EXCEPT SEED MIXTURE SHALL BE ANNUAL RYEGRASS.

PERMANENT SEEDING NOTES

1. DURING PERIODS FROM APRIL 15 TO SEPTEMBER 15, AREAS DISTURBED SHALL BE PERMANENTLY SEEDED WITH CONSERVATION SEED MIX (A MIXTURE OF CREEPING RED FESCUE, REDTOP, TALL FESCUE, CLOVER AND ANNUAL RYE), AT A RATE OF 1.0 LB/1,000 SF.

SPECIFIC MAINTENANCE INSTRUCTION:

1. STRAW/HAY BALE BARRIERS, SILT FENCE, FILTER BARRIERS– MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REPLACE W/ TEMPORARY CHECK DAM IF THERE IS UNDERCUTTING AT CENTER OR EDGES, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED. REPLACE DECOMPOSED OR INEFFECTIVE FABRIC IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AFTER EACH STORM. DEPOSITS REMAINING IN PLACE AFTER SILT FENCE OR FILTER FABRIC IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM W/ EXISTING GRADE, PREPARED AND STABILIZED.
2. CULVERTS – CULVERTS SHOULD BE CHECKED MONTHLY FOR ACCUMULATION OF DEBRIS. IF NEEDED THEY SHOULD BE DREDGED.
3. A STORMWATER MAINTENANCE LOG SHOULD BE MAINTAINED TO DOCUMENT COMPLIANCE WITH THE SUGGESTED SCHEDULE.

DEWATERING

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DEWATERING EXCAVATIONS DURING CONSTRUCTION.
2. CONTRACTOR SHALL DISPOSE OF PUMPED WATER IN APPROPRIATE MANNER TO AVOID CONCENTRATED FLOWS FROM SITE. THE USE OF SETTLEMENT BASINS OR SEDIMENT CONTROL DEVICES SUCH AS "DIRTBAGS" AND TEMPORARY SEDIMENT BASINS SHALL BE EMPLOYED TO SEPARATE SEDIMENTS FROM DEWATERING ACTIVITIES AS NECESSARY. PUMPED WATER WILL BE DIRECTED AWAY FROM RESOURCES TO NATURAL BUFFER AREAS OR OTHER ACCEPTABLE STABILIZED AREAS. METHODS OF DEWATERING AND THE SEDIMENT CONTROL DEVICES SHALL BE APPROVED BY THE ENGINEER AND THIRD PARTY INSPECTOR AT EACH LOCATION.
3. DURING TEMPORARY DEWATERING ACTIVITIES CONTRACTOR SHALL OUTLET FLOWS TO SEDIMENT CONTROL DEVICES. THESE DEVICES SHALL BE LOCATED ON UNDISTURBED SOILS THAT ARE CAPABLE OF ALLOWING SURFACE INFILTRATION. LOCATIONS FOR ALL OUTLETS OF DEWATERING ACTIVITIES SHALL NOT BE PLACED WITHIN PROTECTED NATURAL RESOURCES.
4. PERMANENT DEWATERING REQUIRED FOR FOUNDATION DRAINAGE SHALL OUTLET AS GRADES ALLOW. PERMANENT OUTLETS SHALL BE LOCATED ON UNDISTURBED SOILS THAT ARE CAPABLE OF ALLOWING SURFACE INFILTRATION OR IN NEAREST AVAILABLE ROADSIDE DITCH. PERMANENT OUTLETS LOCATED WITHIN DITCH LINES SHALL BE STABILIZED WITH RIPRAP. PERMANENT OUTLETS LOCATED IN WOODED AREAS SHALL BE STABILIZED WITH RIPRAP FOLLOWED BY A LEVEL SPREADER TO ELIMINATE CONCENTRATED FLOWS. ALL OUTLETS SHALL HAVE STAINLESS STEEL RODENT SCREENS.
5. IN LOCATIONS WHERE OUTLET REQUIRES THE PLACEMENT OUTSIDE THE DEPICTED CLEARING LIMITS CONTRACTOR SHALL MINIMIZE DISTURBANCE TO SMALLEST EXTENT PRACTICABLE AND SHALL AVOID PROTECTED NATURAL RESOURCES.

BUFFER LEVEL SPREADER SCHEDULE

BMP Type & #	Roadway Align. or Turbine Site	Berm Length (ft)	Buffer Length (ft)
		Mill Privilege Pond Watershed	
BL17	BOWERS	50	150
BL18	BOWERS	63	150
BL19	BOWERS	33	150
BL21	BOWERS	39	100
BL25	T6 SPUR	46	75
BL41	T2	47	150
		Dipper Pond Watershed	
BL7	DILL	13	150
BL8	DILL	10	150
		Pleasant Lake (CP) Watershed	
BL12	DILL	14	75
BL20	BOWERS	34	150
BL26	BOWERS	54	150
BL29	BOWERS	42	100
BL31	BOWERS	45	150
BL36	T10 SPUR	56	150
BL37	T10 SPUR	36	100
BL38	T10 SPUR	28	150
		Pleasant Lake (KT) Watershed	
BL14	DILL	34	100

BMP Type & #	Roadway Align. or Turbine Site	Berm Length (ft)	Buffer Length (ft)
		Baskahegan Lake (CP) Watershed	
BL3	BASK	39	75
BL4	BASK	26	75
BL5	BASK	17	150
BL6	DILL	15	75
BL9	DILL	26	75
BL10	DILL	17	100
BL11	DILL	34	75
BL22	BOWERS	42	100
BL23	BOWERS	48	100
BL24	T6 SPUR	25	150
BL27	BOWERS	45	150
BL28	BOWERS	53	75
BL30	T11	47	150
BL32	BOWERS	26	75
BL33	BOWERS	25	75
BL34	BOWERS	36	150
BL35	BOWERS	35	100
BL40	O&M	29	150
		Baskahegan Lake (KT) Watershed	
BL10A	DILL	46	75
BL13	DILL	17	100
BL15	DILL	31	100

LEVEL SPREADER SCHEDULE

CL Station	Flow (Q)	Construct Level Spreader (ft)
	Bowers Mountain	
100859	2.28	10
T3	0.12	10
102800	0.38	10
103528	1.12	10
105663	1.44	10
106000	0.10	10
T7	1.96	10
108015	0.32	10
108887	2.32	10
109230	1.71	10
109772	1.45	10
110259	0.11	10
111050	3.32	13
111400	1.90	10
111800	2.15	10
112203	1.55	10
112670	0.67	10
114063	1.76	10
115480	3.10	12
	T 10 Spur	
181155	1.59	10
181544	1.10	10
	Baskahegan Access Road	
525	0.24	10
927	0.69	10

CL Station	Flow (Q)	Construct Level Spreader (ft)
	Dipper Pond Access Road	
432	2.51	10
613	2.22	10
823	6.62	26
1140	0.08	10
	Dill Hill Access Road	
5670	6.11	24
6020	3.46	14
	Dill Hill Crane Path	
T16 West	0.50	10
T16 East	0.30	10
10650	0.21	10
11650	0.11	10
	O&M Site	
65	0.50	10
300	6.98	28
	AR-50	
1310	3.95	16
2470	10.60	2-21

CULVERT SCHEDULE

CL Station	Drainage Area	Culvert Diameter (in)
	Bowers Mountain	
100859	3.04	15
103528	1.49	12
105070	0.68	12
105663	1.92	12
106240	3.36	15
107800	0.81	12
108015	0.42	12
108887	3.09	15
109772	1.93	12
110259	0.14	12
111050	4.43	15
111400	2.53	12
111800	2.87	12
112203	2.07	12
112670	0.89	12
113103	4.12	15
113400 right	0.37	12
114063	2.34	12
115480	4.13	15
115873	0.6	12
116182	0.8	12
116486	1.01	12
116700 left	0.62	12
116877	0.59	12
117563	3.48	15
	T 10 Spur	
180341	1.81	12
180850	4.69	15
181155	2.12	12
181544	1.46	12

CL Station	Drainage Area	Culvert Diameter (in)
	Baskahegan Access Road	
36	0.99	12
927	0.92	12
1186	1.07	12
1636	0.56	12
	Dipper Pond Access Road	
28	1.69	12
432	3.35	15
613	2.96	12
823	8.82	18
1125	16.18	30
	Dill Hill Access Road	
4968	0.37	12
5000 right	0.15	12
5200 left	3.36	15
5650	31.11	36
6020	4.61	15
6355	4.55	15
6547	6.32	18
	Dill Hill Crane Path	
10650	0.28	12
11650	0.15	12

CL Station	Drainage Area	Culvert Diameter (in)
	O&M Site	
65	0.66	12
300	9.31	18
571	43.85	36
	Substation	
734	43.72	30
1456	49.98	36
	AR-50	
7	3.66	15
1310	5.27	15
2470	13.24	24
3083	40.49	36

1 C-3 TYPICAL CONSTRUCTION NOTES
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1		-	-

Designed By
Drawn By
Date 09/26/2012
Scale
Checked BCH
Approved JSM

BOWERS WIND PROJECT - 83328E

Project Location CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description EROSION CONTROL DETAILS

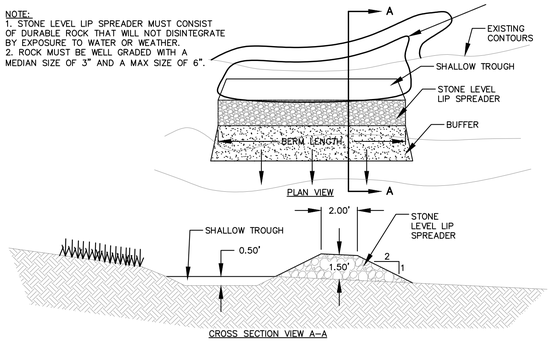
Project No.
Engineer

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY Since 1880
SEWALL.COM

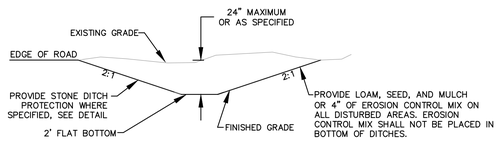
Seal

Phase PERMIT

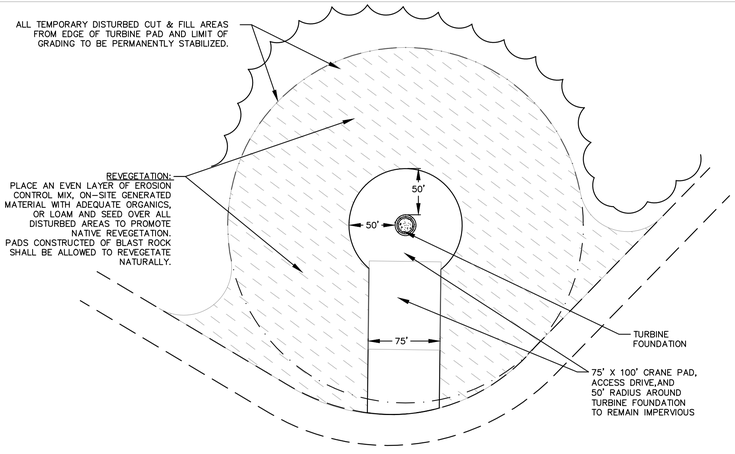
Sheet No. 3



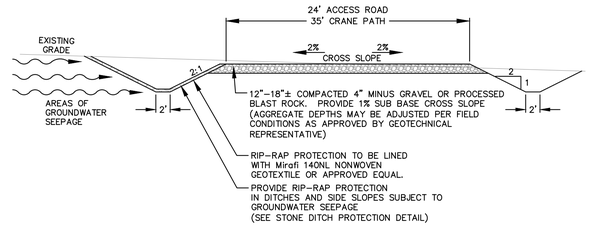
STONED LEVEL LIP SPREADER DETAIL
NOT TO SCALE



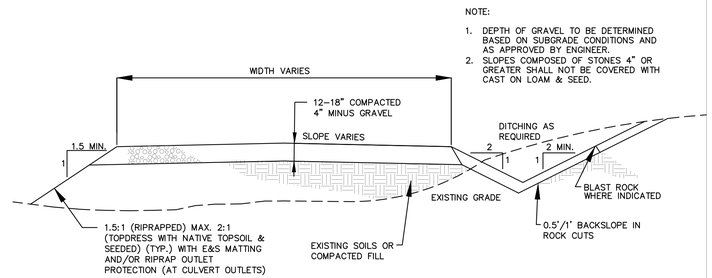
TYPICAL LEVEL DITCH CROSS SECTION
NOT TO SCALE



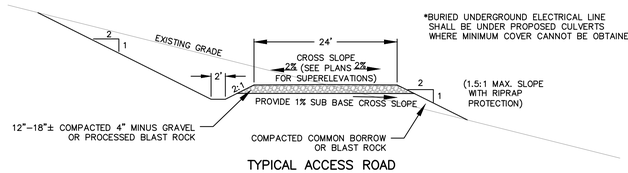
TYPCIAL TURBINE PAD STABILIZATION DETAIL
SCALE: NTS



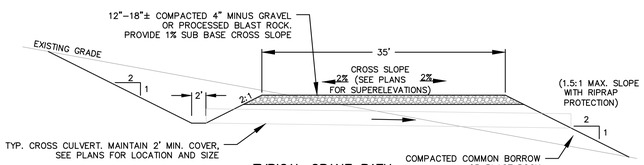
TYPICAL ROAD DETAIL IN CUT SECTION
NOT TO SCALE



TYPICAL TURBINE PAD
NOT TO SCALE



TYPICAL ACCESS ROAD



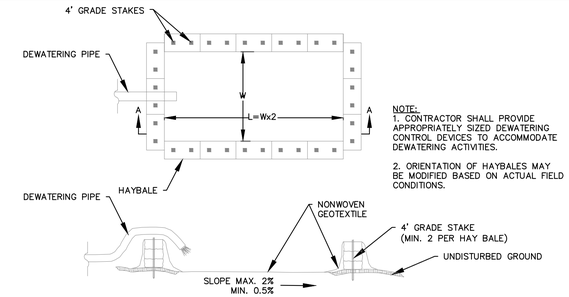
TYPICAL CRANE PATH

NOTES:
1. DITCHES SHALL BE CONSTRUCTED TO AVOID GROUND WATER TABLE WHEN POSSIBLE. DITCH DEPTH SHALL BE 24" MEASURED FROM ROADWAY, EXCEPT AT CROSS CULVERTS OR AS APPROVED BY THE ENGINEER. DITCHES SHALL BE STONE LINED WHEN THE LONGITUDINAL SLOPES OF THE DITCH EXCEEDS 8%.
2. ACTUAL AGGREGATE MATERIALS AND DEPTH SHALL BE DETERMINED IN THE FIELD BASED ON ACTUAL SITE CONDITIONS AND PROJECT REQUIREMENTS TO ADEQUATELY SUPPORT CONSTRUCTION EQUIPMENT.

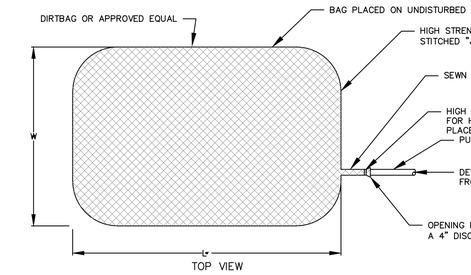
FILL AREAS:
1. EXISTING GROUND SHALL BE GRUBBED WITHIN FOOTPRINT OF ROAD IN FILL SECTIONS. HOWEVER, WHEN EMBANKMENT FILL DEPTH EXCEEDS 5', MEASURED VERTICALLY, ALL VEGETATION SHALL BE CUT BUT GRUBBING IS NOT REQUIRED.
2. STABILIZE FILL SLOPES WITH BLAST ROCK, EROSION CONTROL MIX, OR LOAM AND SEED. ALL SLOPES STEEPER THAN 3:1 SHALL BE PROTECTED WITH EROSION CONTROL MIX, EROSION CONTROL MESH, OR BLAST ROCK/RIPRAP. SLOPES STEEPER THAN 2:1 SHALL BE PROTECTED WITH RIPRAP OR SUITABLE BLAST ROCK.
3. BENCH EXISTING GROUND AS NECESSARY TO STABILIZE EXTENSION.

CUT AREAS:
1. 1:4 CUT FACES ARE PERMITTED IN AREAS OF ROCK EXCAVATION ONLY AS APPROVED BY ENGINEER.
2. ALL NON ROCK-FACE SLOPES STEEPER THAN 3:1 SHALL BE PROTECTED WITH EROSION CONTROL MIX, EROSION CONTROL MESH, OR BLAST ROCK. SLOPES STEEPER THAN 2:1 SHALL BE PROTECTED WITH BLAST ROCK.

TYPICAL TURBINE PAD AND ROAD DETAILS
NOT TO SCALE

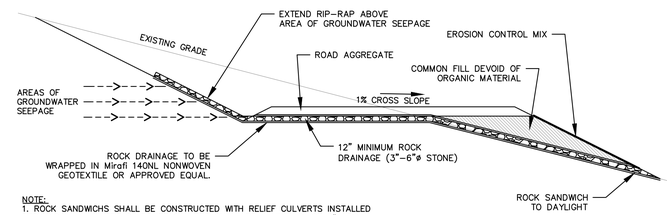


TEMPORARY DEWATERING SEDIMENT BASIN
NOT TO SCALE



NOTES
1. CONTRACTOR SHALL PROVIDE APPROPRIATE SIZED DEWATERING CONTROL DEVICES TO ACCOMMODATE DEWATERING ACTIVITIES BASED ON MANUFACTURES RECOMMENDATIONS AND ANTICIPATED FLOW RATES.
2. SEDIMENT CONTROL DEVICES SHALL BE REPLACED WHEN FULL. SEDIMENT CAN BE DISPOSED OF IN NON STRUCTURAL FILL AREAS OUTSIDE OF RESOURCE PROTECTION ZONES.

DIRT BAG DETAIL
NOT TO SCALE



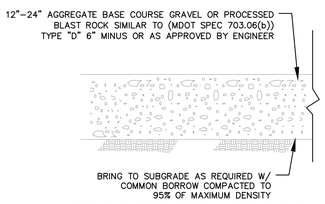
NOTE:
1. ROCK SANDWICHS SHALL BE CONSTRUCTED WITH RELIEF CULVERTS INSTALLED PERIODICALLY. INVERT OF RELIEF CULVERT SHALL BE A MINIMUM OF 6" ABOVE THE ROCK DRAINAGE LAYER. ADJUST INLET INVERT AND ROCK SANDWICH ELEVATION AS REQUIRED TO MAINTAIN APPROPRIATE COVER OVER CULVERT.

2. ROCK SANDWICH TYPICALLY UTILIZED IN ROADWAYS TRAVERSING AREAS WITH SHALLOW GROUNDWATER.

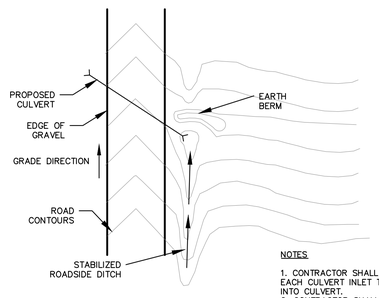
3. CONTRACTOR SHALL RESTORE ROCK SANDWICH IF DISTURBED BY UNDERGROUND ELECTRICAL INSTALLATION.

TYPICAL ROCK SANDWICH DETAIL
NOT TO SCALE

NOTE:
1. COMPACT GRAVEL BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. ALL CRANE PADS SHALL BE CONSTRUCTED WITH NO CROSS SLOPE IN ANY DIRECTION.
3. CRANE PADS SHALL BE 75'x100' (MINIMUM). EXACT LOCATION SHALL BE DETERMINED IN THE FIELD BY GENERAL CONTRACTOR.
4. ACTUAL AGGREGATE MATERIALS AND DEPTH SHALL BE DETERMINED IN THE FIELD BASED ON ACTUAL SITE CONDITIONS AND REQUIREMENTS, AS APPROVED BY GEOTECHNICAL REPRESENTATIVE.



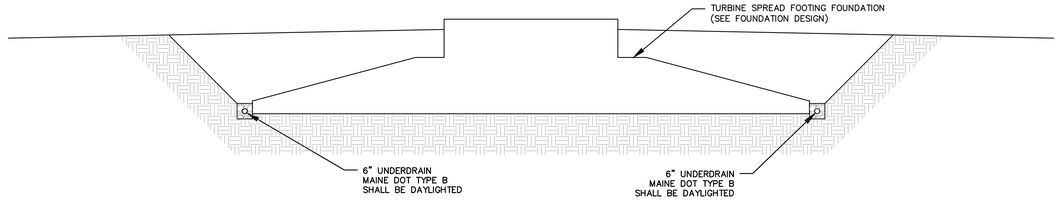
TYPICAL GRAVEL CRANE PAD SECTION
NOT TO SCALE



NOTES
1. CONTRACTOR SHALL CONSTRUCT BERM AT EACH CULVERT INLET TO DIRECT DITCH FLOW INTO CULVERT.
2. CONTRACTOR SHALL LOWER INVERT ELEVATION AS APPROPRIATE TO MAINTAIN COVER BETWEEN CROSS CULVERTS , ROADWAY AND DITCH ON OPPOSITE SIDE OF ROAD.

BERMED CULVERT INLET DETAIL
NOT TO SCALE

NOTE:
6" UNDERDRAINS WILL NOT BE REQUIRED AT ROCK ANCHOR FOUNDATIONS.



UNDERDRAIN AT SPREAD FOOTING: TYPICAL SECTION
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By
Drawn By
Date 09/26/2012
Scale
Checked BCH
Approved JSM

BOWERS WIND PROJECT - EROSION CONTROL DETAILS

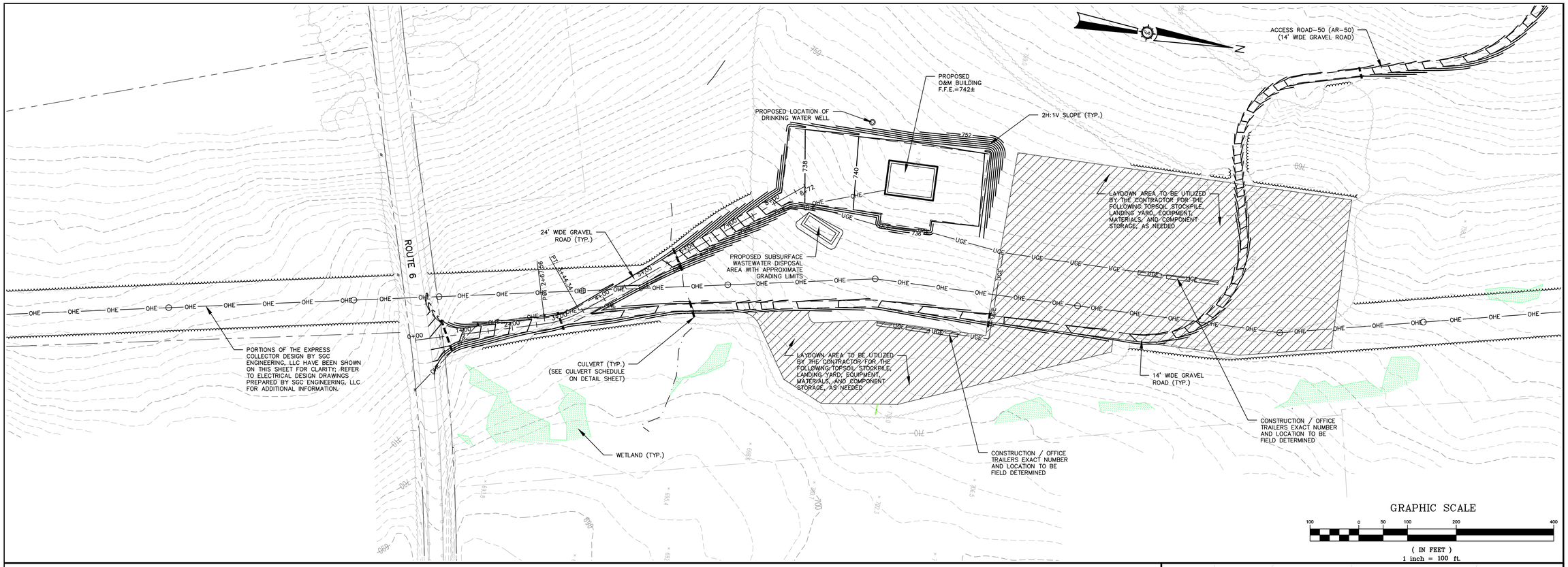
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description
Project No. 83328E
Engineer

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY Since 1880
207.945.5930
SEWALL.COM

Seal

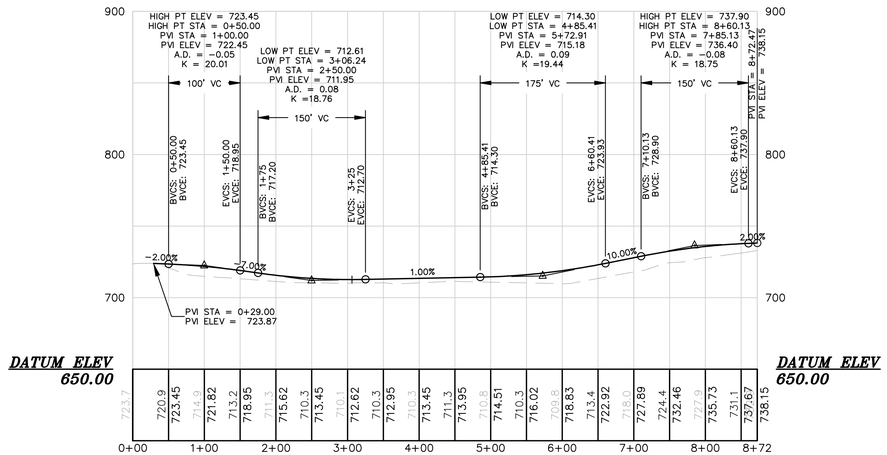
Phase PERMIT

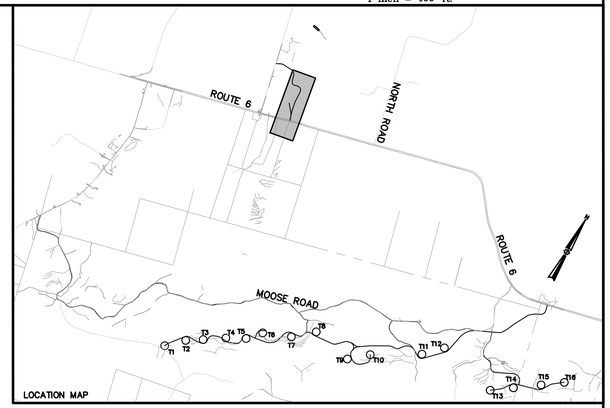
Sheet No. 4



O&M ACCESS ROAD

(0+00 TO 8+72.47 ACCESS ROAD)





Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **O&M SITE ACCESS ROAD**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"=50'
Approved: JSM
Checked: BCH

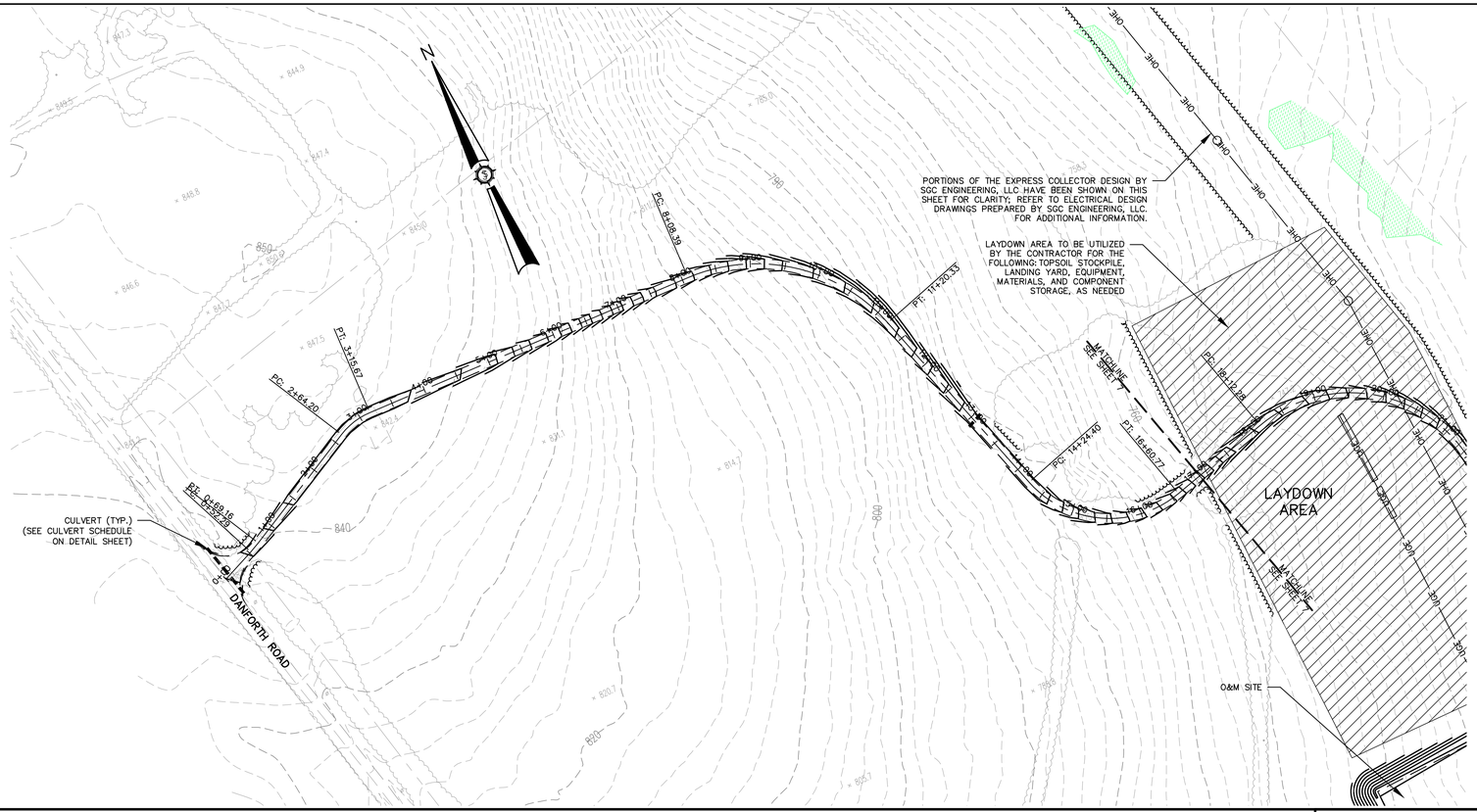
Seal: STATE OF MAINE — 83328E — REGISTERED PROFESSIONAL ENGINEER — Steven C. Nixon, No. 7124 — 12/12/2013

Project No.: 83328E
Engineer:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / Since 1880
SEWALLCOM
800 448 4202

Phase: PERMIT

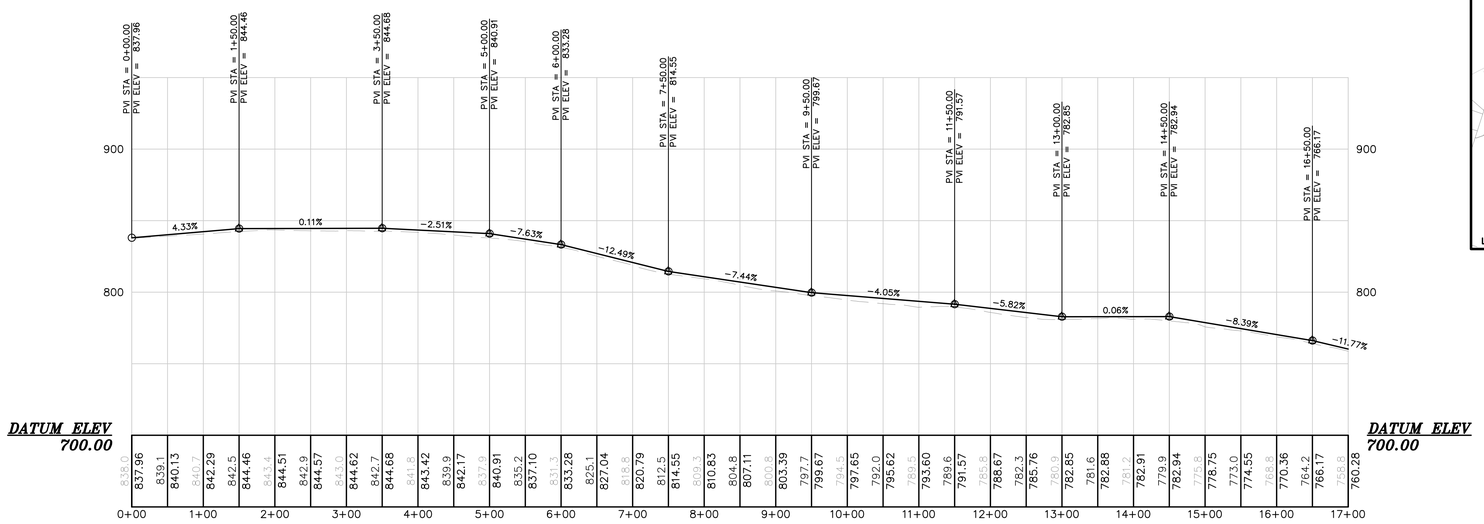
Sheet No.: 5

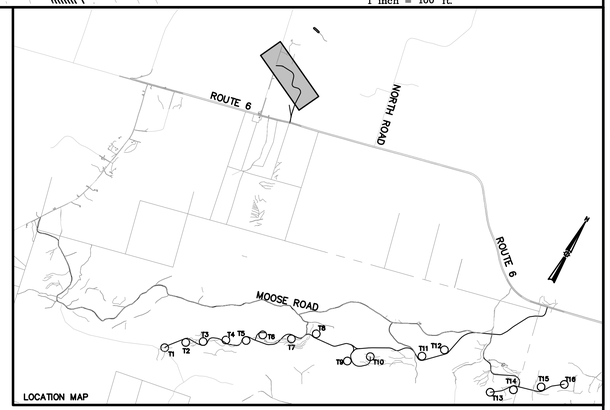
PRELIMINARY NOT FOR CONSTRUCTION



AR-50 ACCESS ROAD

(0+00 TO 17+00 ACCESS ROAD)





PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **AR 50 ACCESS ROAD STATION 0+00 TO 17+00**

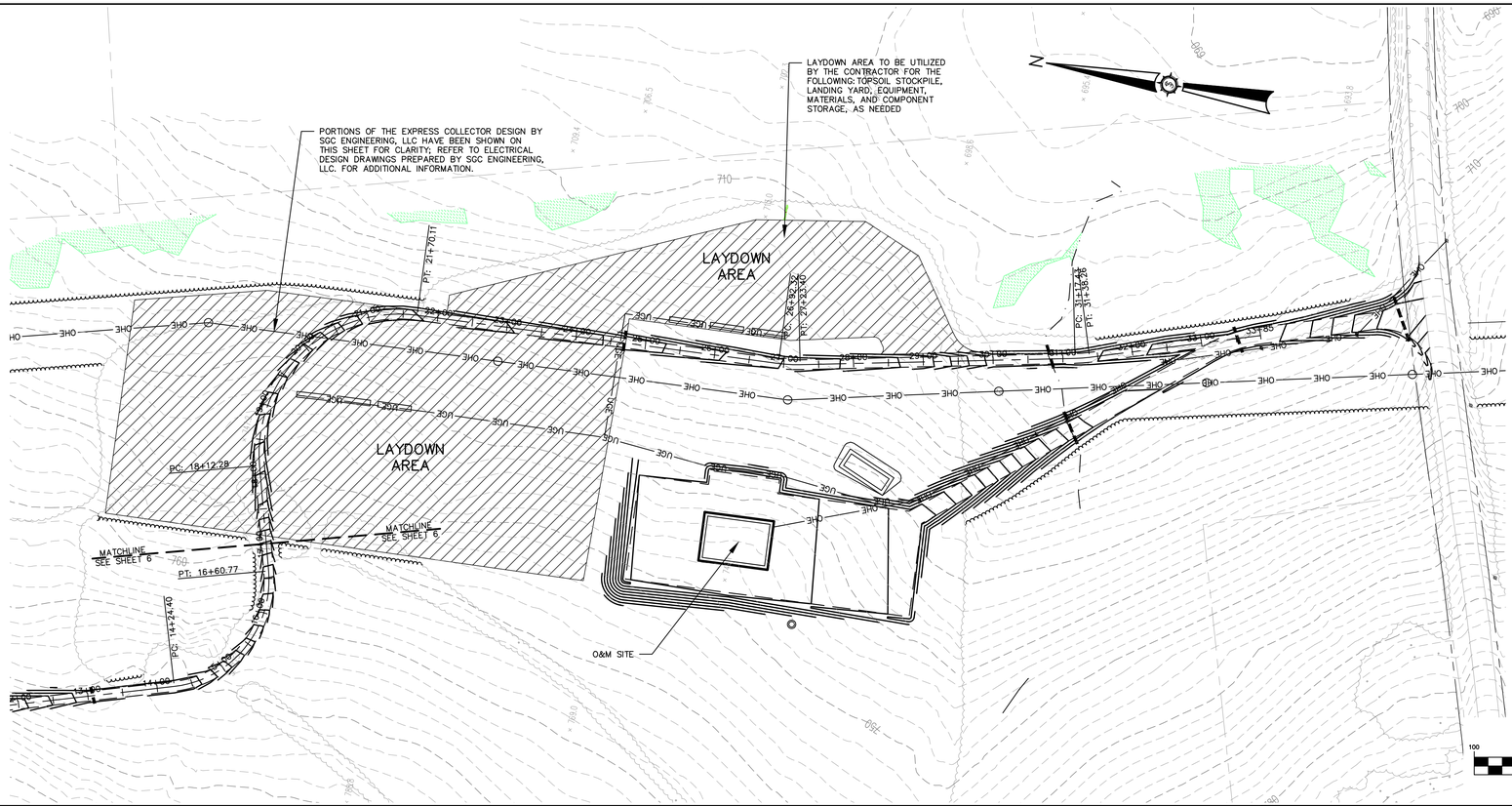
Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"=100' V:1"=50'
Approved: JSM
Checked: BCH

Seal

Project No.: 83328E
Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 648 4202
SEWALL.COM

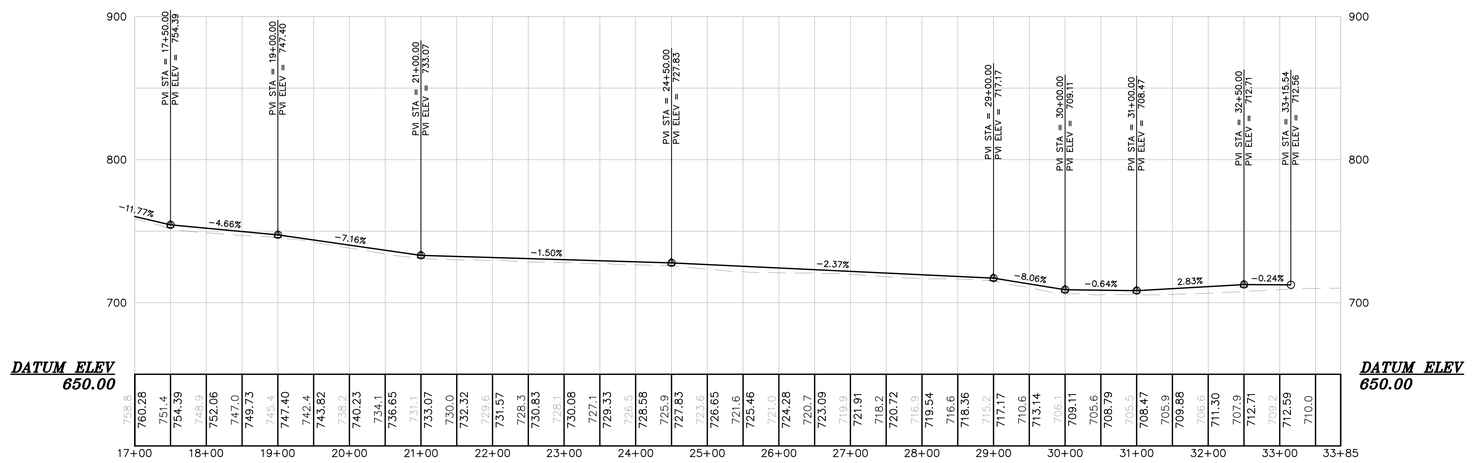
Phase: PERMIT

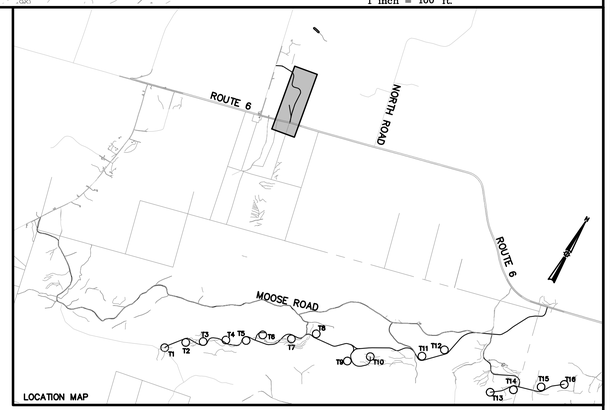
Sheet No.: 6



AR-50 ACCESS ROAD

(17+00 TO 33+85.11 ACCESS ROAD)





PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: AR 50 ACCESS ROAD STATION 17+00 TO 33+85.11

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"=50'
Approved: JSM
Checked: BCH

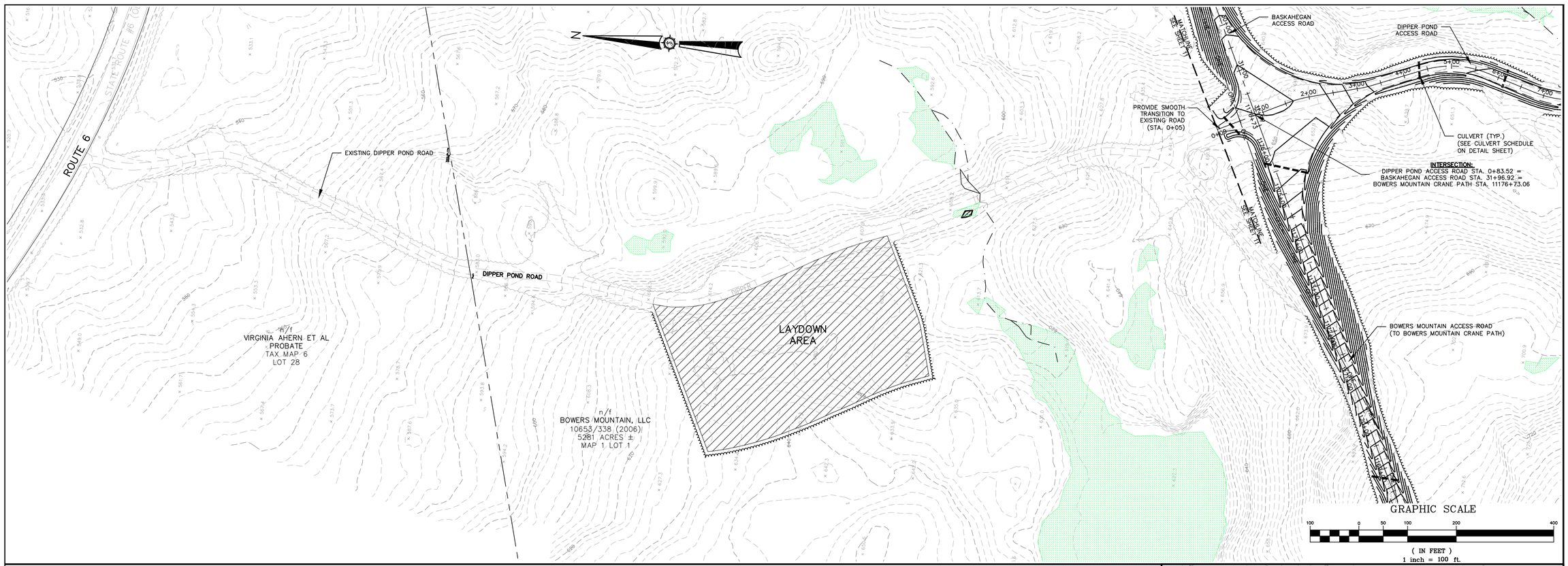
83328E
Project No.

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM 800 648 4202

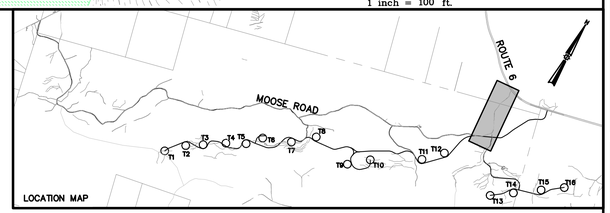
Seal

Phase: PERMIT

Sheet No.: 7



DIPPER POND ROAD
(LAYDOWN AREA)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **DIPPER POND ROAD**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"=100' V:1"=50'
Approved: JSM
Checked: BCH

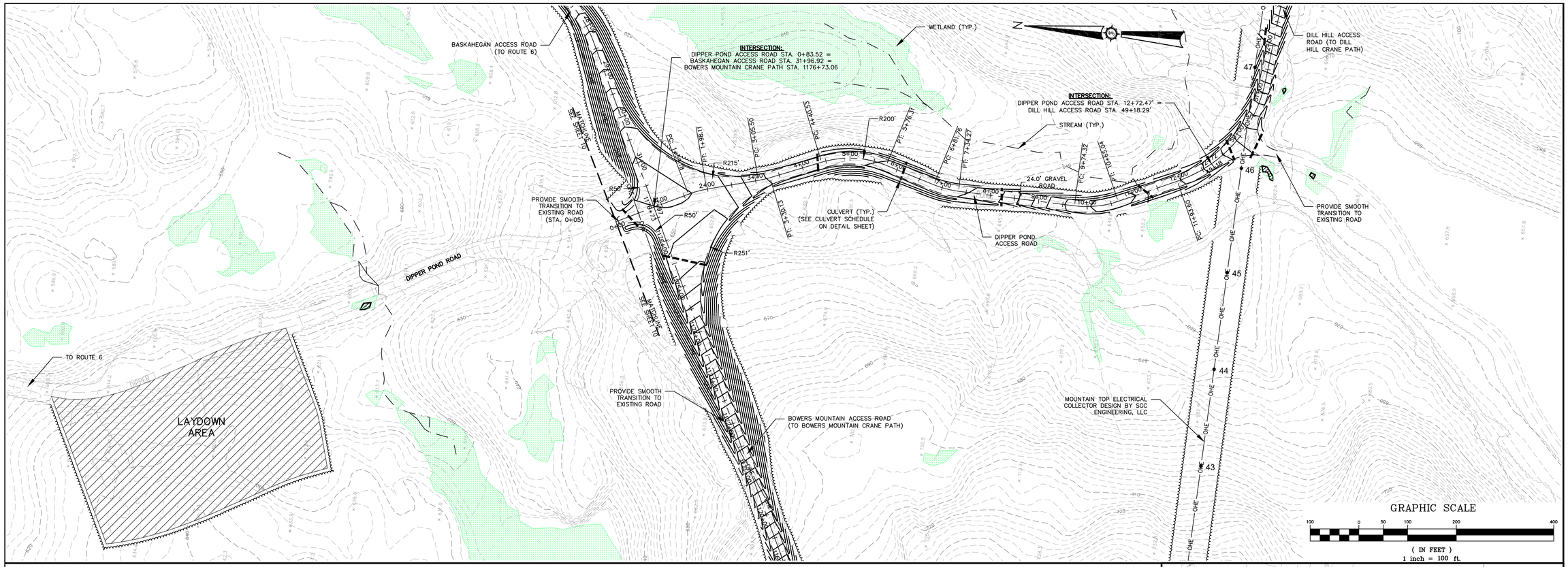
Seal

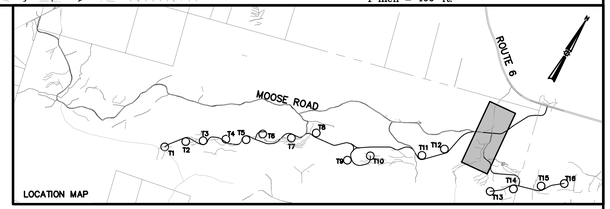
Project No.: 83328E
Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / *Since 1880*
800 688 4202
SEWALL.COM

Phase: PERMIT

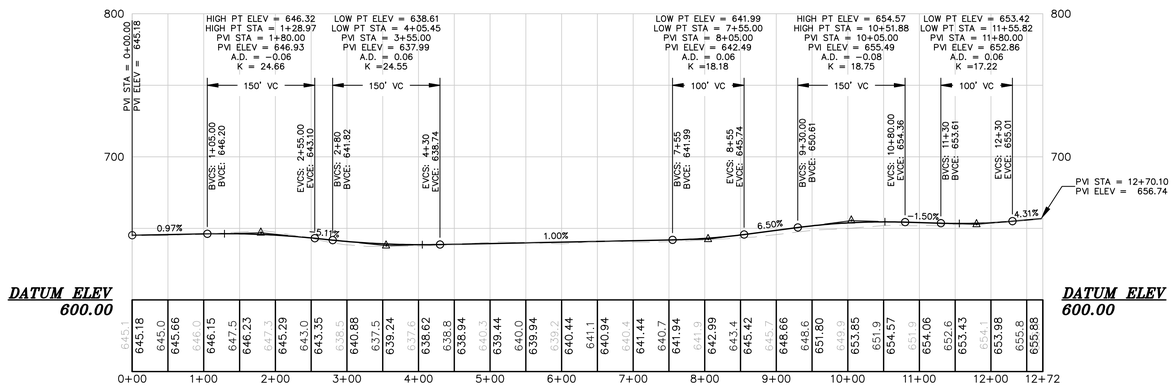
Sheet No.: 10





DIPPER POND ACCESS ROAD

(0+00 TO 12+72.47 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **DIPPER POND ACCESS ROAD STATION 0+00 TO 12+72.47**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

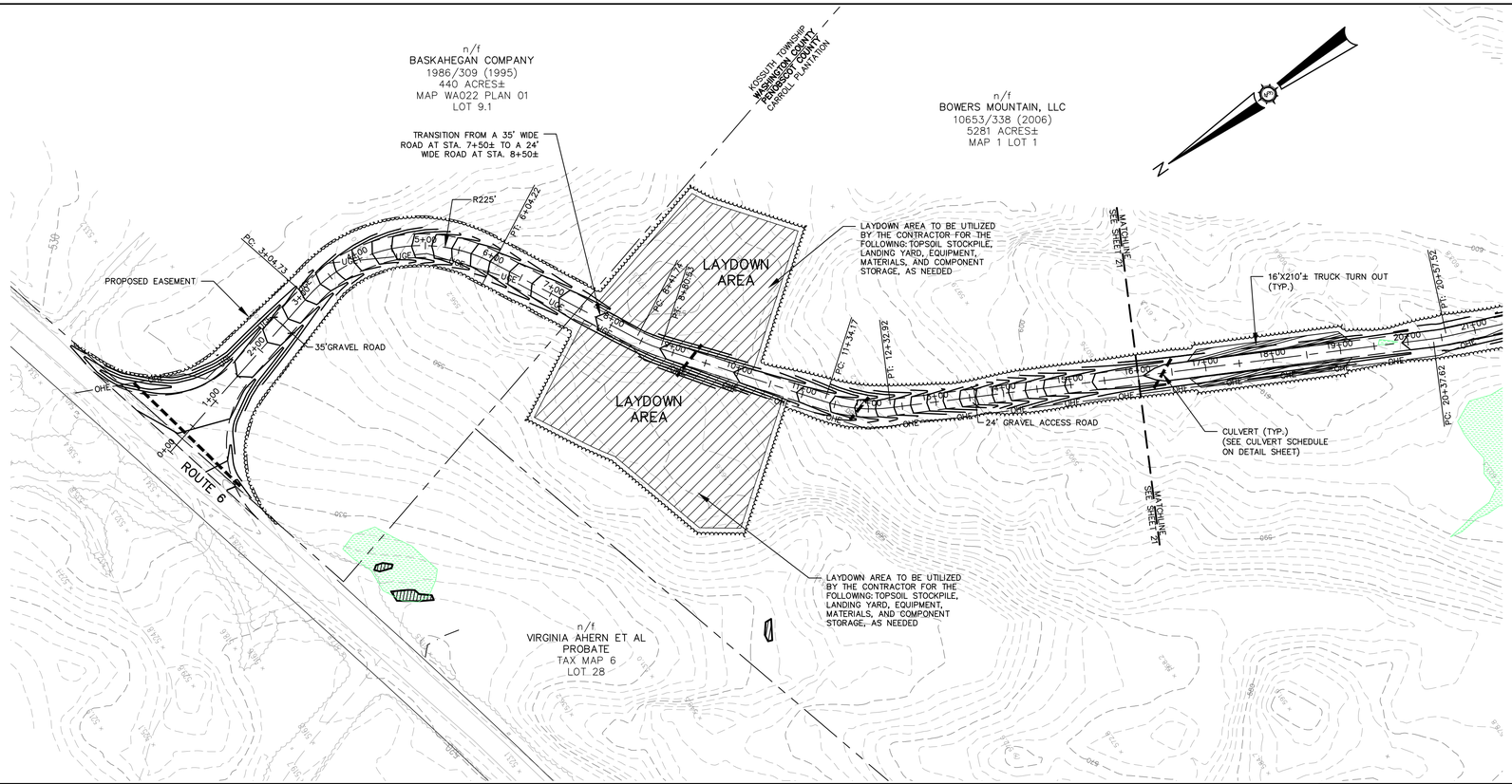
Project No.: **83328E**
Engineer:

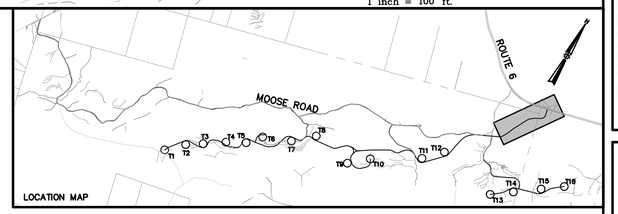
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / Since 1880
800 688 4202
SEWALL.COM

Seal: STATE OF MAINE 20321 REGISTERED PROFESSIONAL ENGINEER

Phase: PERMIT

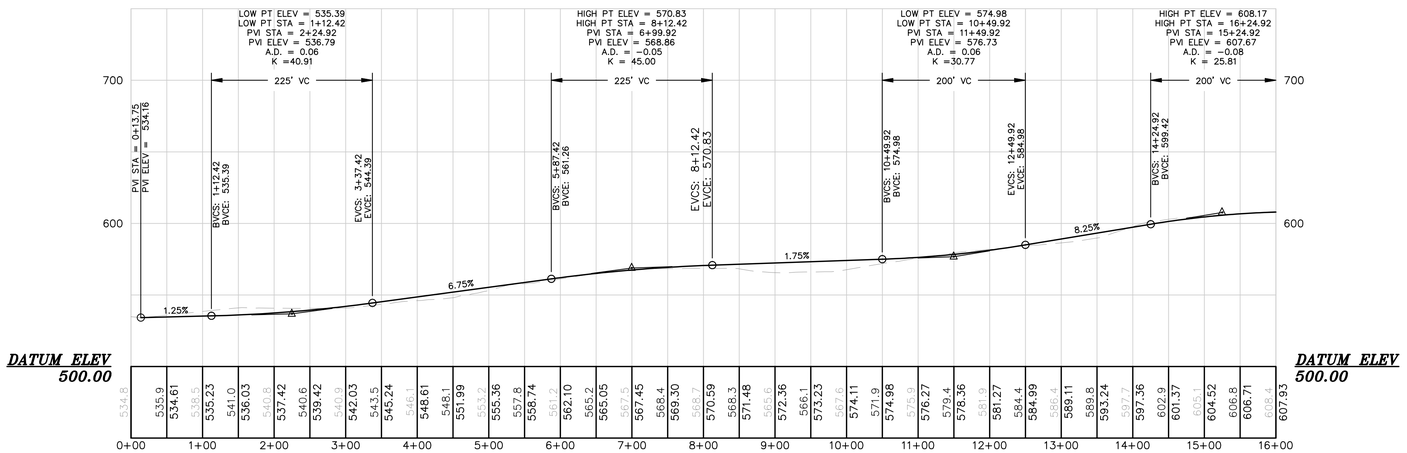
Sheet No.: **11**





BASKAHEGAN ACCESS ROAD

(0+00 TO 16+00 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description
BASKAHEGAN ACCESS ROAD
STATION 0+00 TO 16+00

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

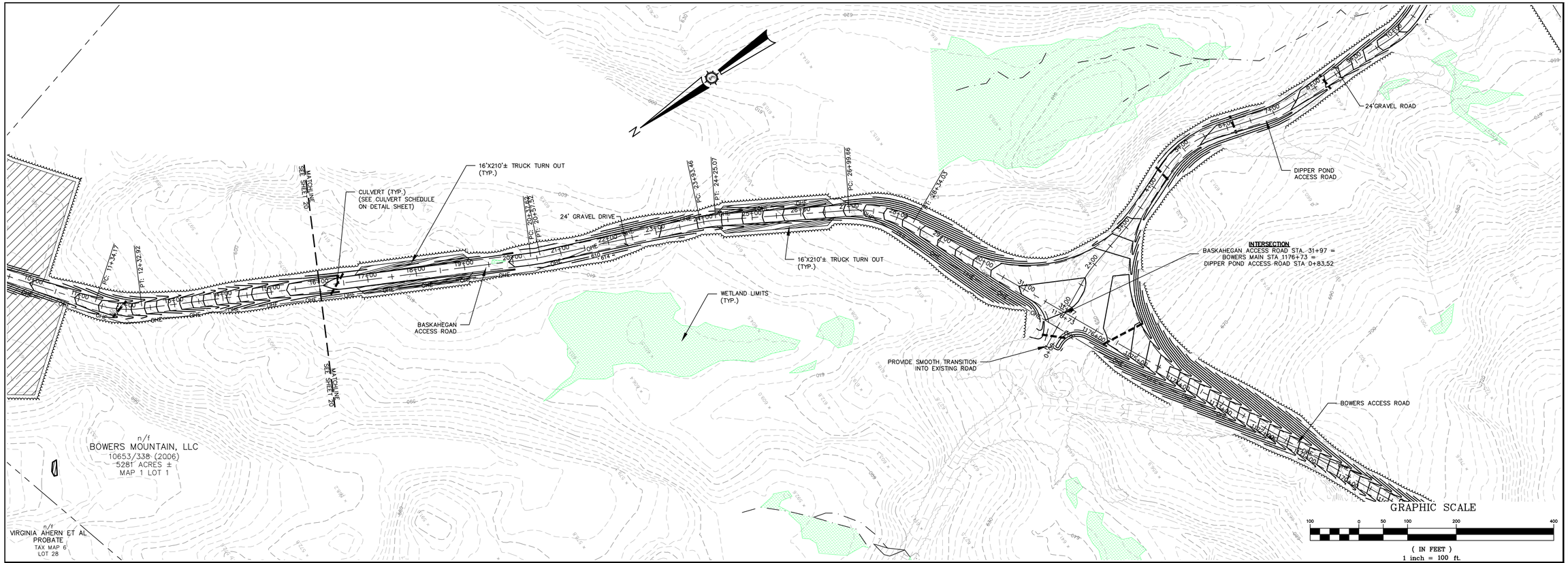
Seal

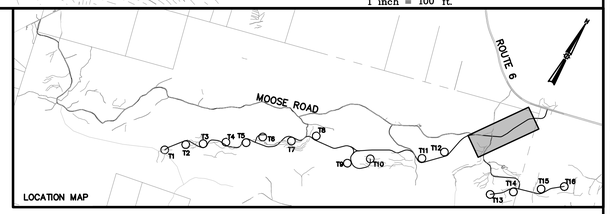
Project No.
83328E

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
Since 1880
JAMES W. SEWALL COMPANY
800 648 4202
SEWALL.COM

Phase
PERMIT

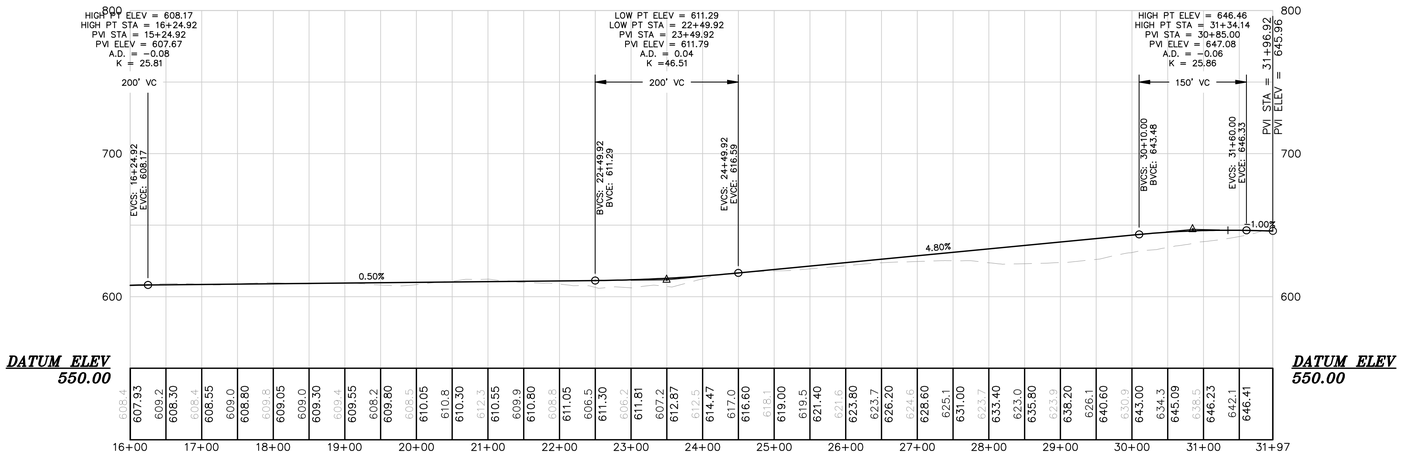
Sheet No.
20





BASKAHEGAN ACCESS ROAD

(16+00 TO 31+96.92 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BASKAHEGAN ACCESS STATION 16+00 TO 31+96.92**

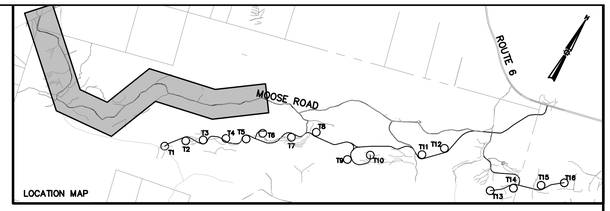
Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

Seal: STATE OF MAINE 83328E REGISTERED PROFESSIONAL ENGINEER JAMES W. SEWALL

Project No.: 83328E
Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM 800 648 4202

Phase: PERMIT

Sheet No.: 21



N

n/f
LAKEVILLE SHORES, LLC
10216/281(2005)
TAX MAP 3
LOT 20

BROWN ROAD
(TO ROUTE 6)

600+00

n/f
CHARLES H. KLIE
ANNA R. KLIE
3338/78(1982)
TAX MAP 3 LOT 23

MOOSE ROAD
APPROXIMATELY 18' WIDE

610+00

620+00

66' R.O.W.

n/f
NORTHERN STARR CLOUGH
9182/336(2004)
TAX MAP 3 LOT 21

630+00

n/f
LAKEVILLE SHORES, LLC
10400/46 (2006)

640+00

650+00

660+00

670+00

680+00

690+00

700+00

710+00

720+00

730+00

740+00

750+00

760+00

MATCHLINE
SEE SHEET 5A

NOTE:
TEMPORARY TURNOUTS MAY BE INSTALLED EVERY 500'±, TURNOUTS WILL NOT BE PLACED WITHIN PROTECTED NATURAL RESOURCES. SEE DETAIL FOR ACCESS ROAD MAINTENANCE SHEET 4.

GRAPHIC SCALE

400 0 200 400 800 1600

(IN FEET)
1 inch = 400 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1			
2			
3			

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
MOOSE ROAD
STATION 600+00 TO 760+00

Designed By
JSM

Drawn By
JCH

Date
09/26/2012

Scale
1"=400

Approved
JSM

Checked
BCH

Seal
STATE OF MAINE
83328E
REGISTERED
PROFESSIONAL
ENGINEER
JAMES W. SEWALL
No. 7125
Professional Engineer
Land Surveyor
Certified Soil Scientist
Certified Wetland Scientist

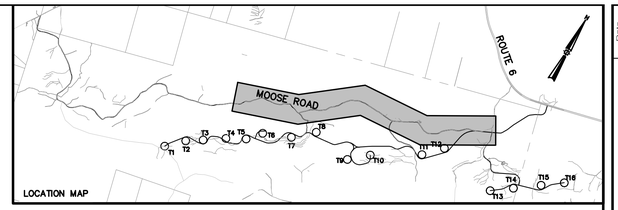
Project No.
83328E

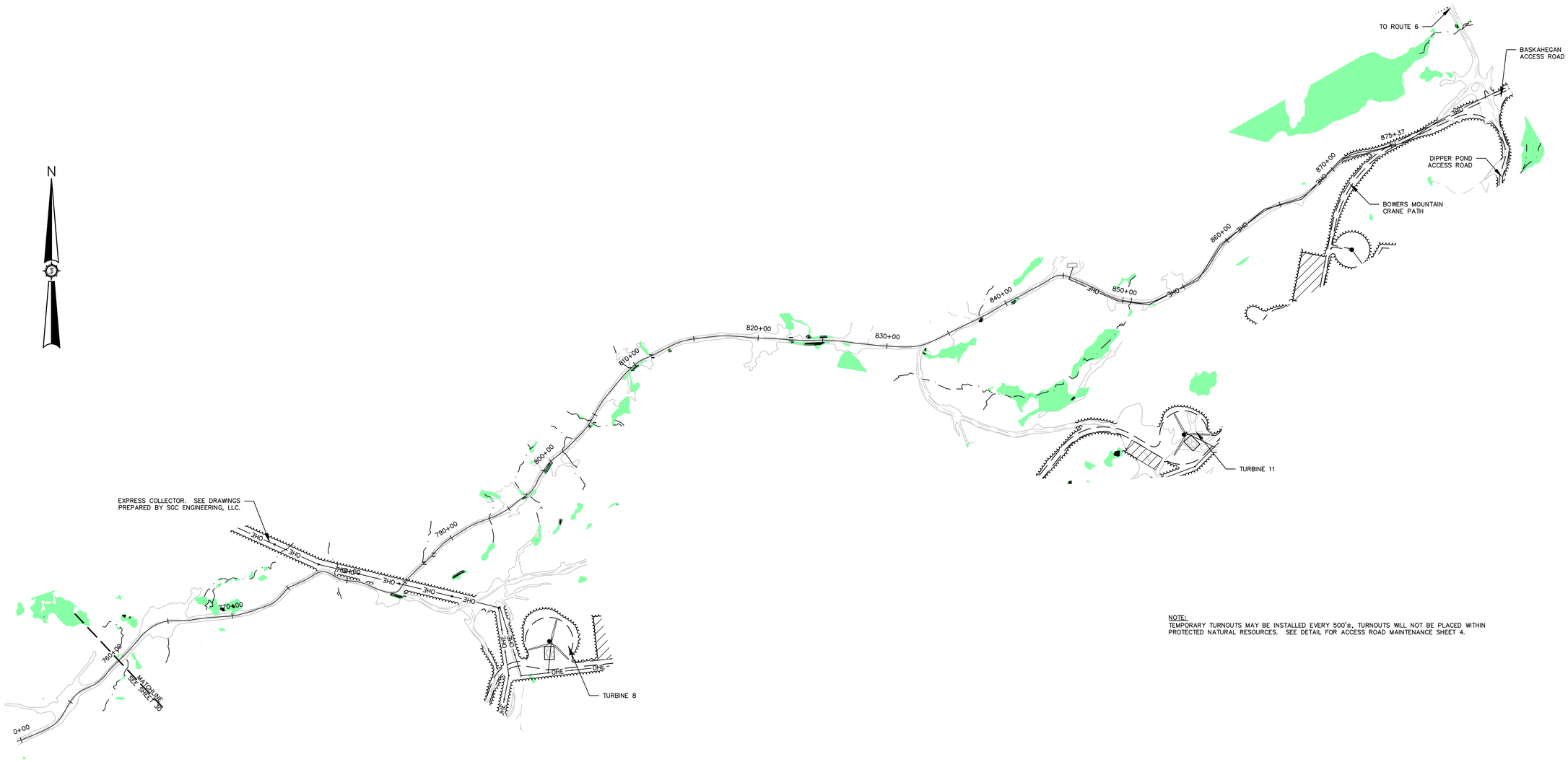
Engineer

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM
800 688 4202

Phase
PERMIT

Sheet No.
30





NOTE:
TEMPORARY TURNOUTS MAY BE INSTALLED EVERY 500'±, TURNOUTS WILL NOT BE PLACED WITHIN PROTECTED NATURAL RESOURCES. SEE DETAIL FOR ACCESS ROAD MAINTENANCE SHEET 4.

GRAPHIC SCALE

400 0 200 400 800 1600

(IN FEET)
1 inch = 400 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
MOOSE ROAD
STATION 760+00 TO 875+37.27

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: 1"=400
Approved: JSM
Checked: BCH

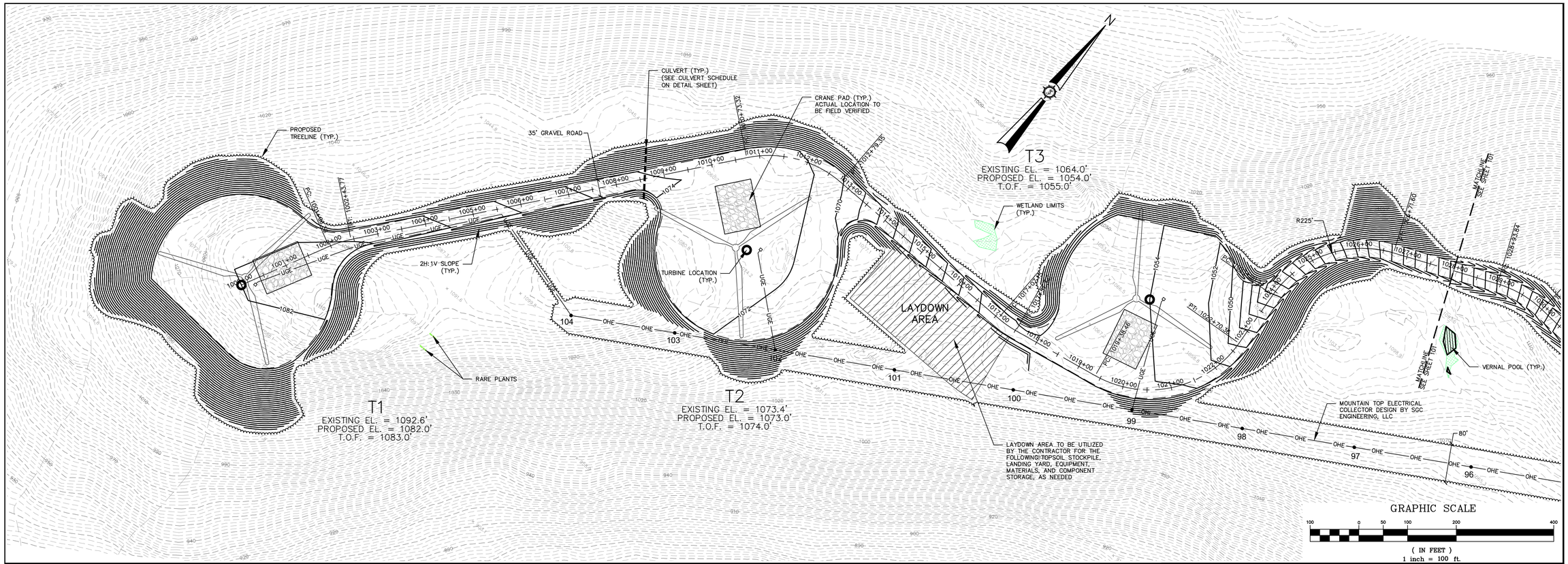
Seal

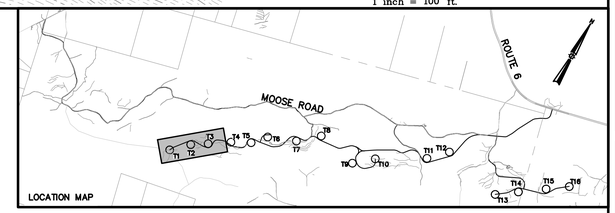
Project No.
83328E

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
Since 1880
JAMES W. SEWALL COMPANY
800 648 4202
SEWALL.COM

Phase
PERMIT

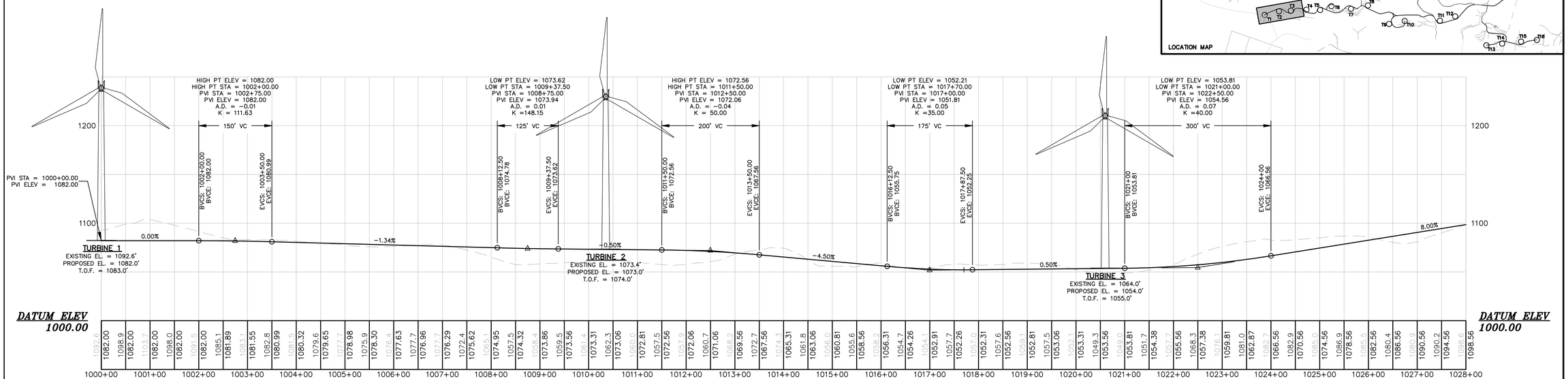
Sheet No.
31





BOWERS MOUNTAIN - CRANE PATH

(1000+00 TO 1028+00 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1000+00 TO 1028+00**

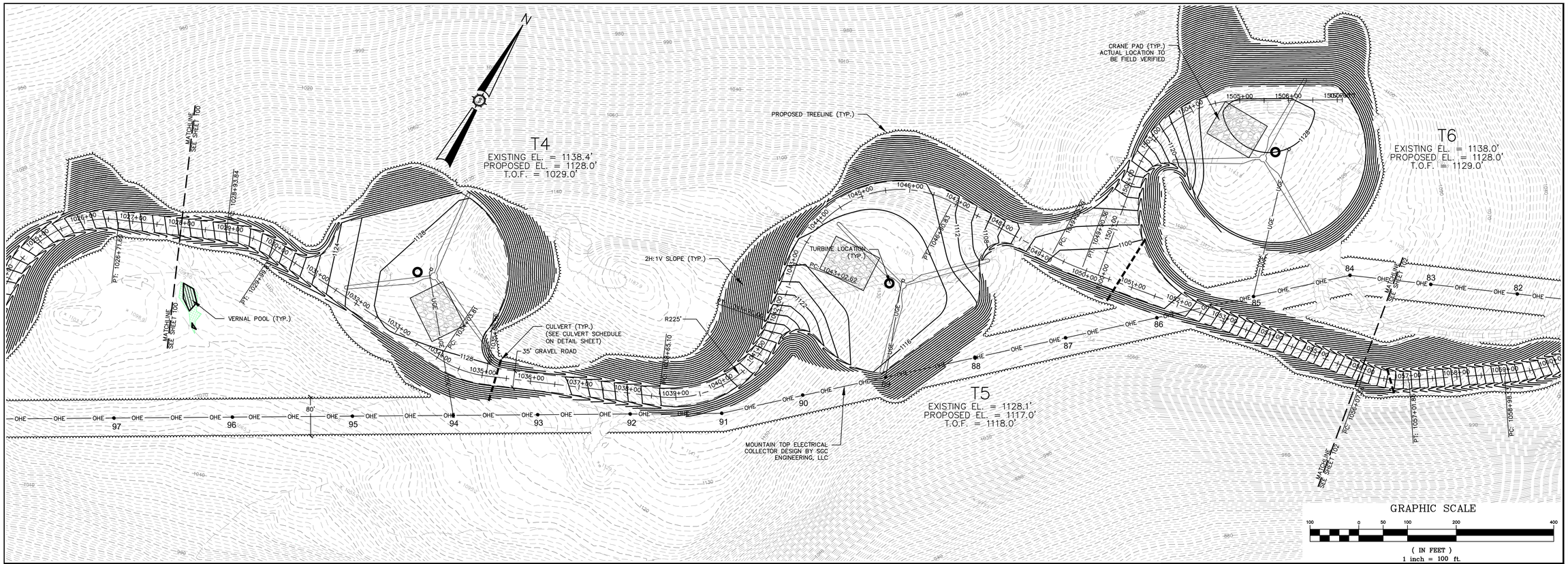
Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

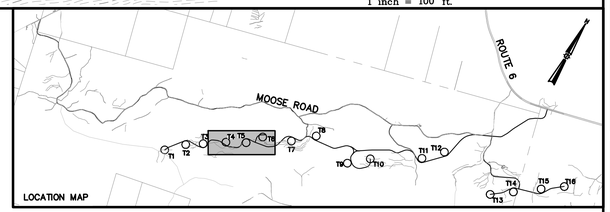
Seal

Project No.: **83328E**
Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 606 4202
SEWALL.COM

Phase: PERMIT

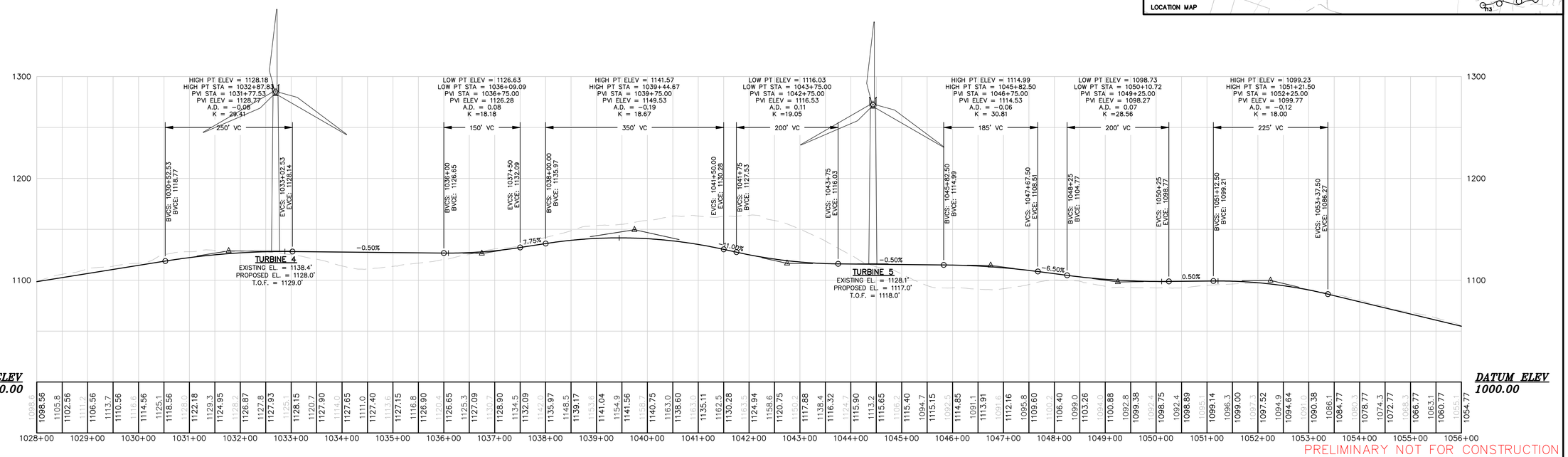
Sheet No.: **100**





BOWERS MOUNTAIN - CRANE PATH

(1028+00 TO 1056+00 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Chkd. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1028+00 TO 1056+00**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

Seal: STATE OF MAINE BRIAN C. HAWKINS 83328 REGISTERED PROFESSIONAL ENGINEER

Project No.: 83328E

Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM 800 688 4202

Phase: PERMIT

Sheet No.: **101**

NOTE:
PORTIONS OF THE EXPRESS COLLECTOR DESIGN BY SGC ENGINEERING, LLC HAVE BEEN SHOWN ON THIS SHEET FOR CLARITY; REFER TO ELECTRICAL DESIGN DRAWINGS PREPARED BY SGC ENGINEERING, LLC FOR ADDITIONAL INFORMATION

T6
EXISTING EL. = 1138.0'
PROPOSED EL. = 1128.0'
T.O.F. = 1129.0'

T7
EXISTING EL. = 906.1'
PROPOSED EL. = 904.0'
T.O.F. = 905.0'

T8
EXISTING EL. = 819.1'
PROPOSED EL. = 814.0'
T.O.F. = 815.0'

FIRST STRUCTURE OF THE EXPRESS COLLECTOR LINE

SPUR ROAD FROM MOOSE ROAD

LAYDOWN AREA TO BE UTILIZED BY THE CONTRACTOR FOR THE FOLLOWING: TOPSOIL STOCKPILE, LANDING YARD, EQUIPMENT, MATERIALS, AND COMPONENT STORAGE, AS NEEDED

2H:1V SLOPE (TYP.)

CRANE PAD (TYP.)
ACTUAL LOCATION TO BE FIELD VERIFIED

TURBINE LOCATION (TYP.)

CULVERT (TYP.)
(SEE CULVERT SCHEDULE ON DETAIL SHEET)

TREELINE (TYP.)

35' GRAVEL ROAD

WETLAND (TYP.)

LAYDOWN AREA

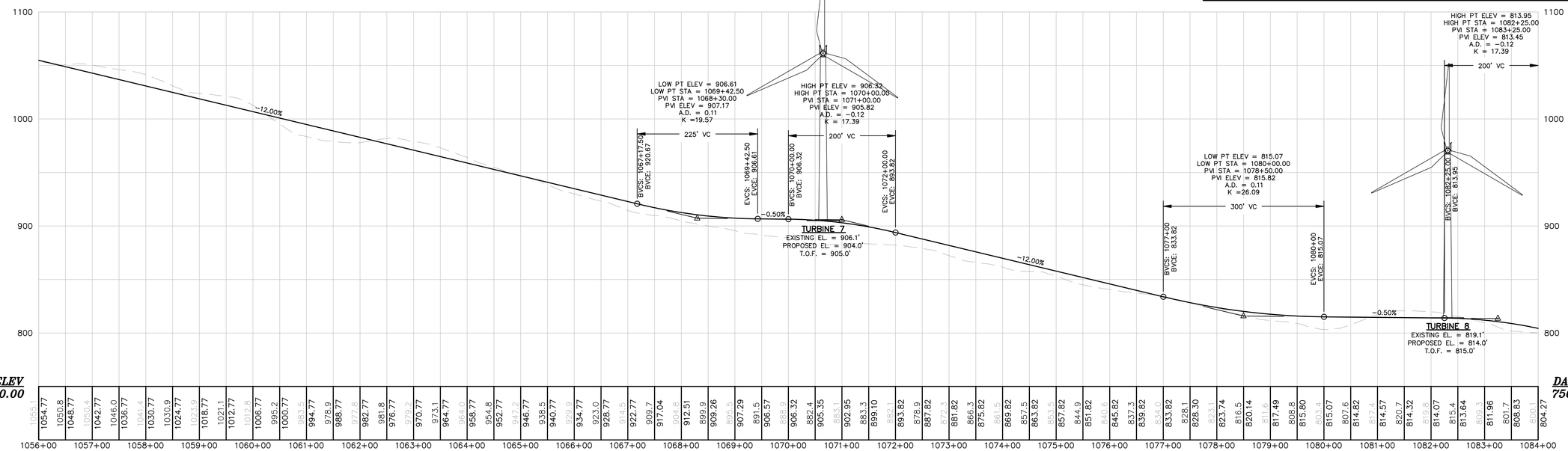
MOUNTAIN TOP ELECTRICAL COLLECTOR DESIGN BY SGC ENGINEERING, LLC

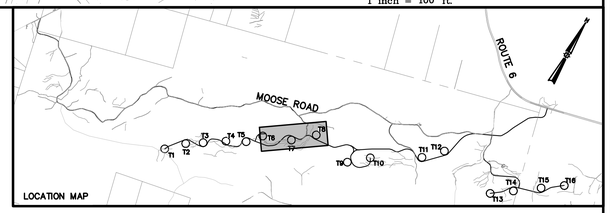
SEE SHEET 101

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

BOWERS MOUNTAIN - CRANE PATH

(1056+00 TO 1084+00 CRANE PATH)





PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"=100' V:1"=50'
Approved: JSM
Checked: BCH

BOWERS WIND PROJECT
-
Project Location: CAROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1056+00 TO 1084+00**

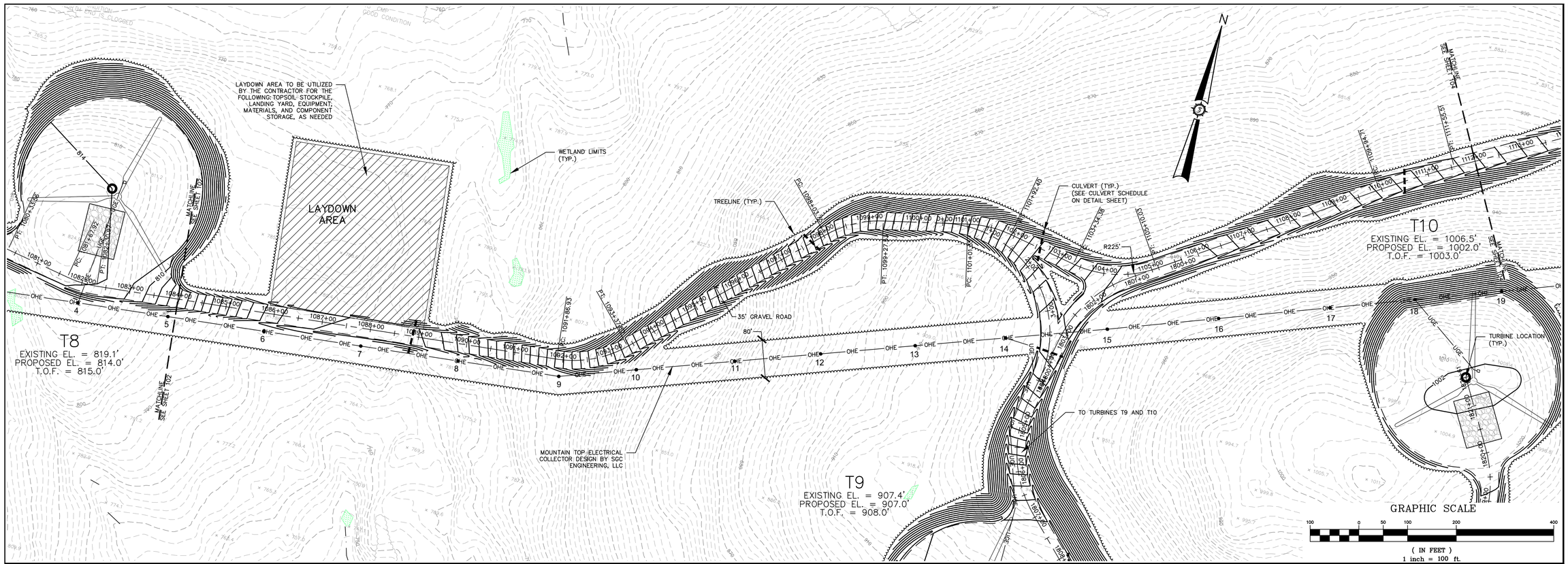
Seal

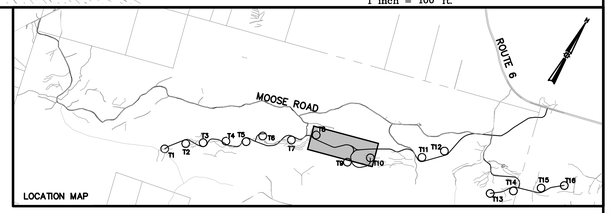
Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
Since 1880
JAMES W. SEWALL COMPANY
800 688 4202
SEWALL.COM

Project No.: **83328E**

Phase: PERMIT

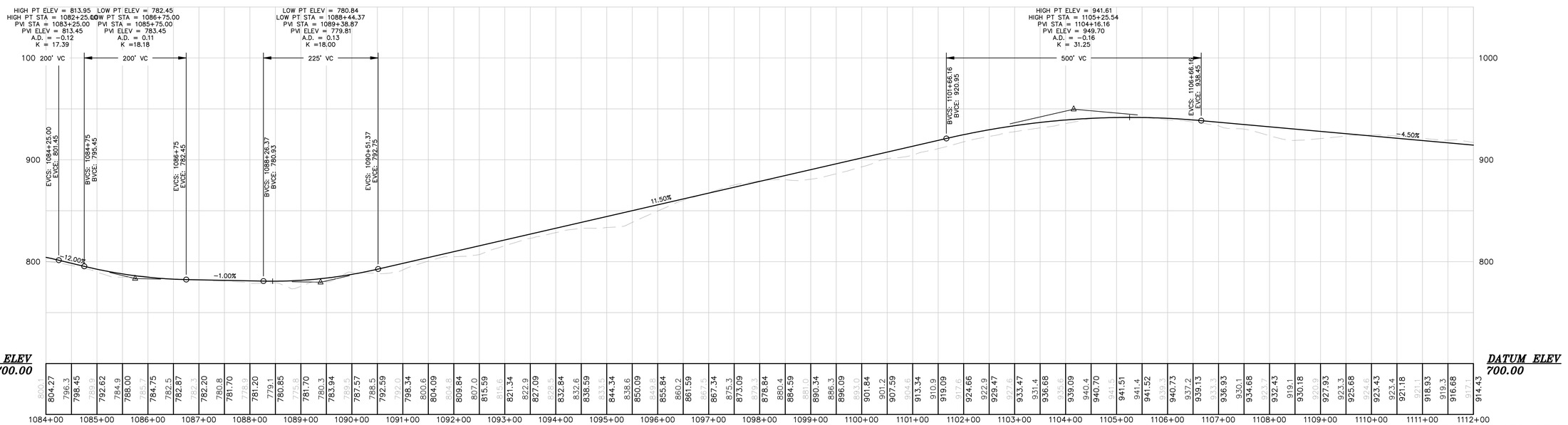
Sheet No.: **102**





BOWERS MOUNTAIN - CRANE PATH

(1084+00 TO 1112+00 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1084+00 TO 1112+00**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

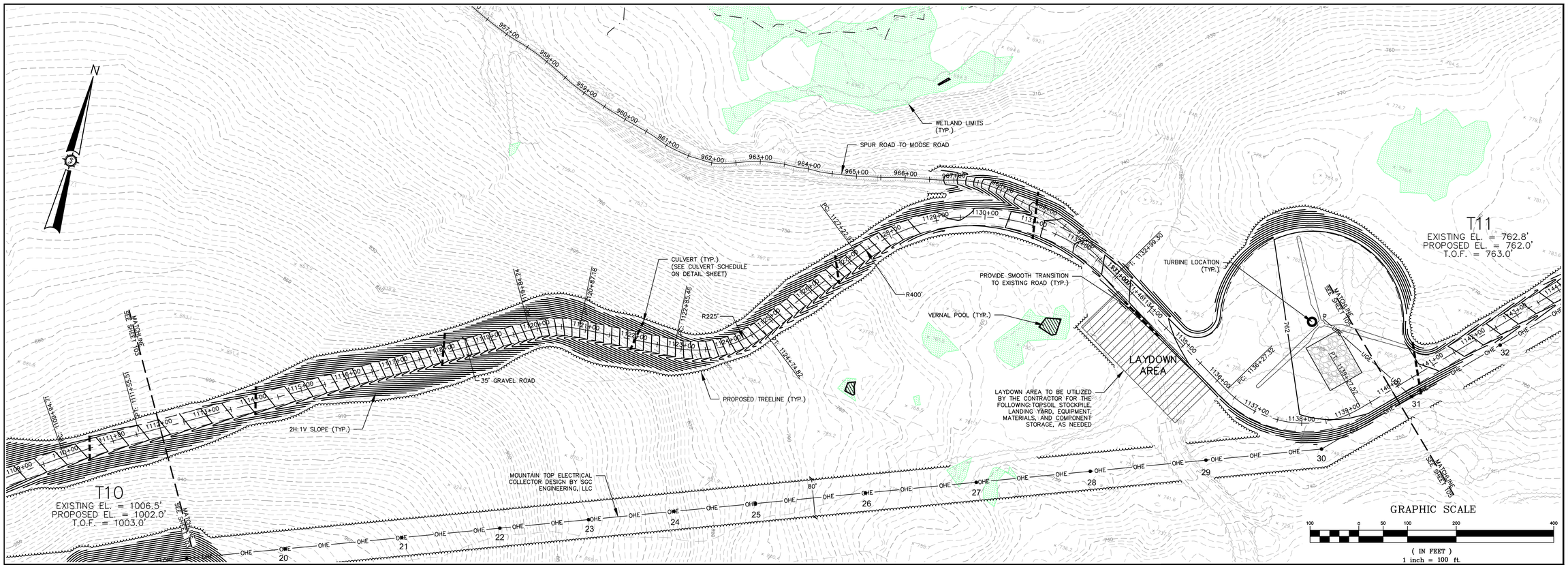
Seal

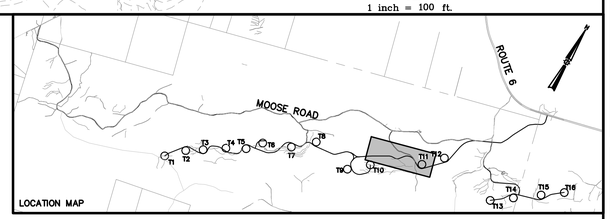
Project No.: **83328E**

Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM 800 648 4202

Phase: PERMIT

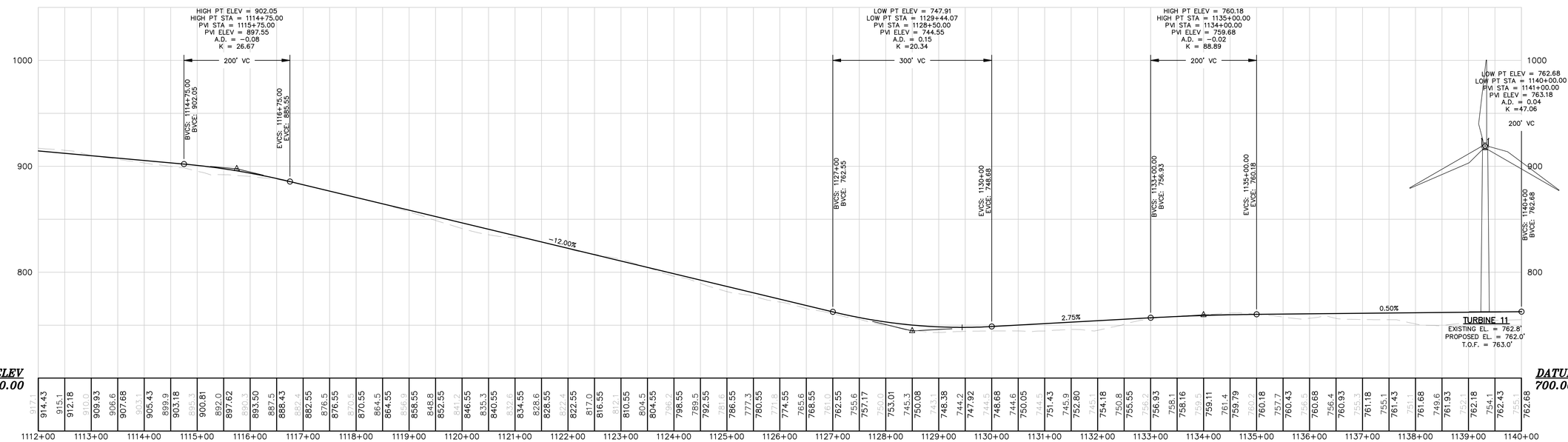
Sheet No.: **103**





BOWERS MOUNTAIN - CRANE PATH

(1112+00 TO 1140+00 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
1			

BOWERS WIND PROJECT
-
Project Location: CAROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1112+00 TO 1140+00**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

Seal

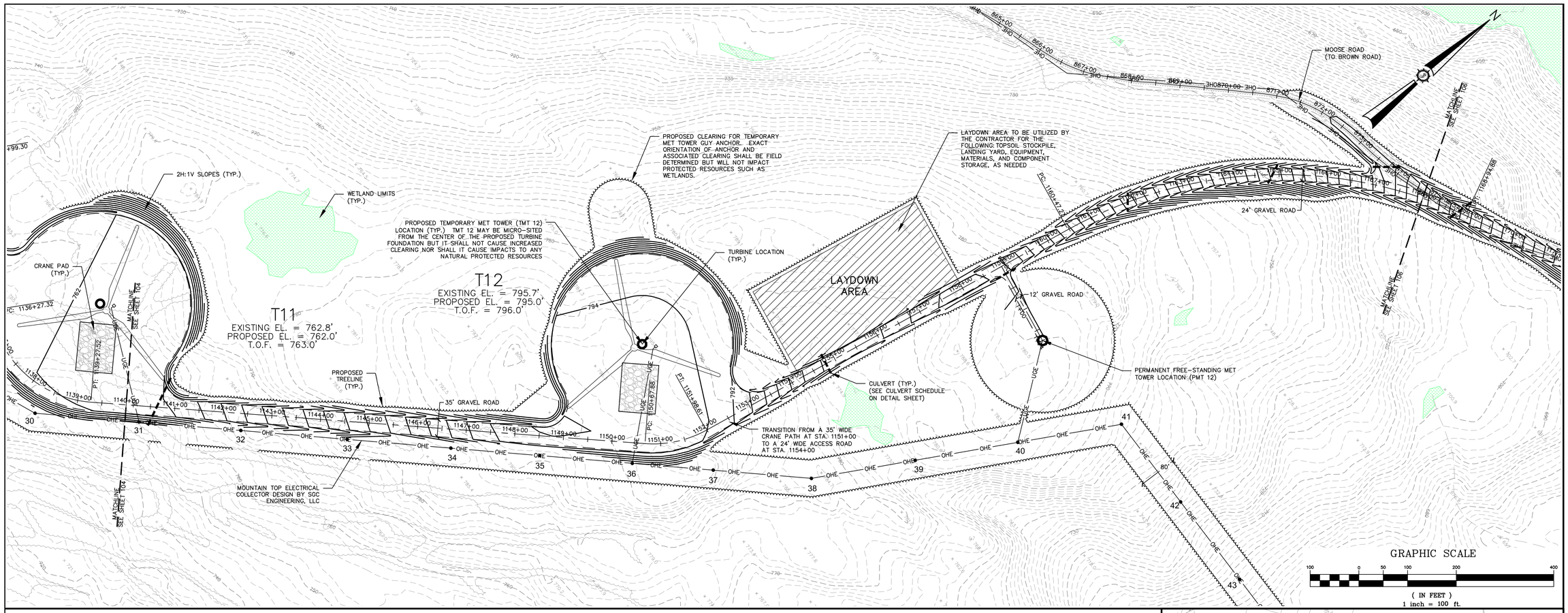
83328E
Project No.
Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 688 4202
SEWALL.COM

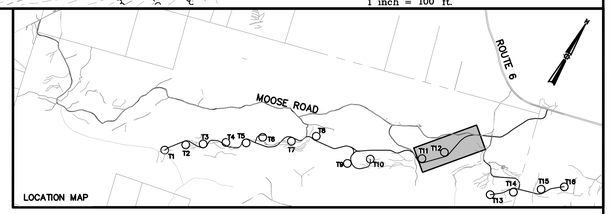
Phase: PERMIT

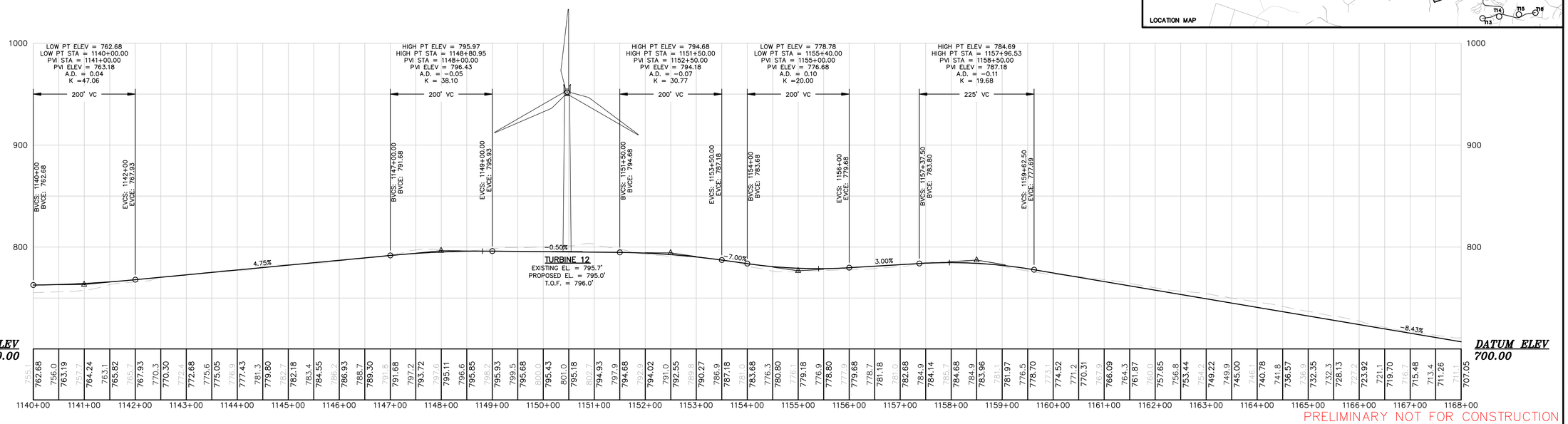
Sheet No.: **104**

BOWERS MOUNTAIN - CRANE PATH AND ACCESS ROAD

(1140+00 TO 1151+00 CRANE PATH AND 1151+00 TO 1168+00 ACCESS ROAD)







PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Date	Description	Dwn. By	Chkd. By
A	-	-	-	-

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Checked: BCH
Approved: JSM

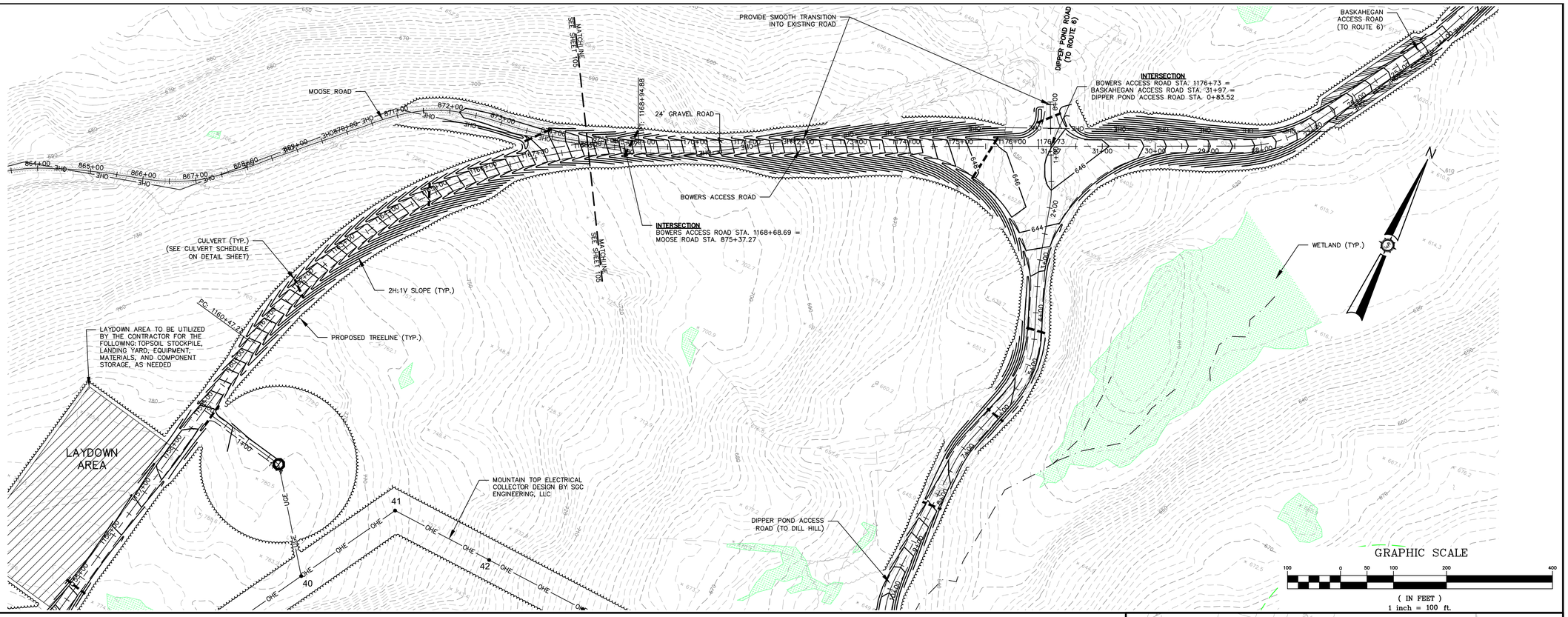
BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1140+00 TO 1168+00**

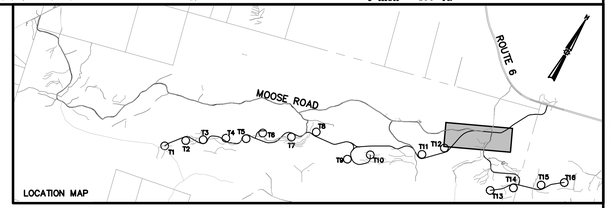
Seal: STATE OF MAINE, BRIAN C. HAWKINS, 23226, REGISTERED PROFESSIONAL ENGINEER

Project No.: **83328E**
Engineer:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 698 4202
SEWALL.COM

Phase: PERMIT

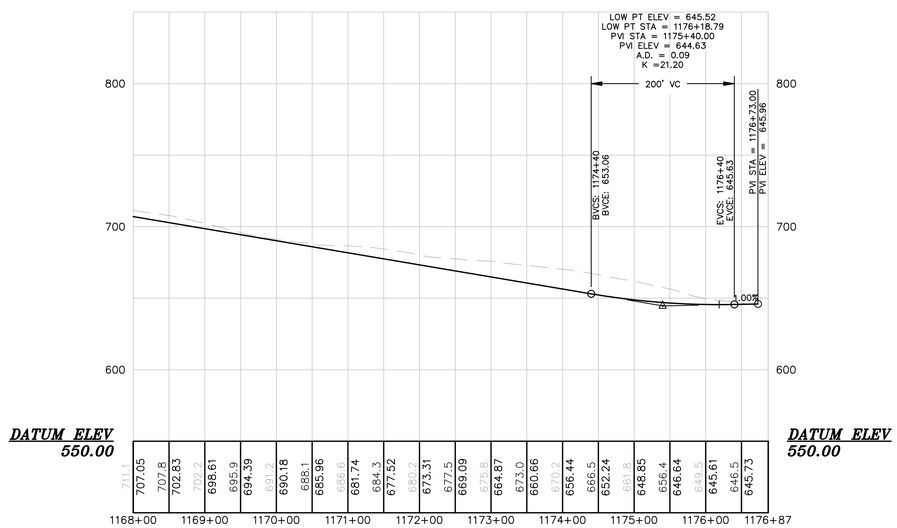
Sheet No.: **105**





BOWERS MOUNTAIN - ACCESS ROAD

(1168+00 TO 1176+87.31 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
1	-	-	-

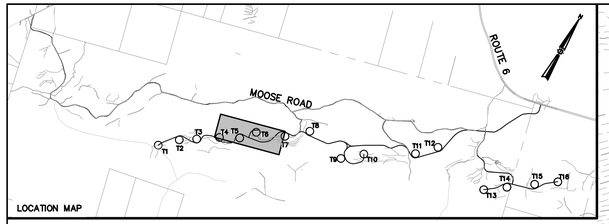
BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **BOWERS MOUNTAIN STATION 1168+00 TO 1176+87.31**
Designed By: JSM
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Drawn By: JCH
Approved: JSM
Checked: BCH

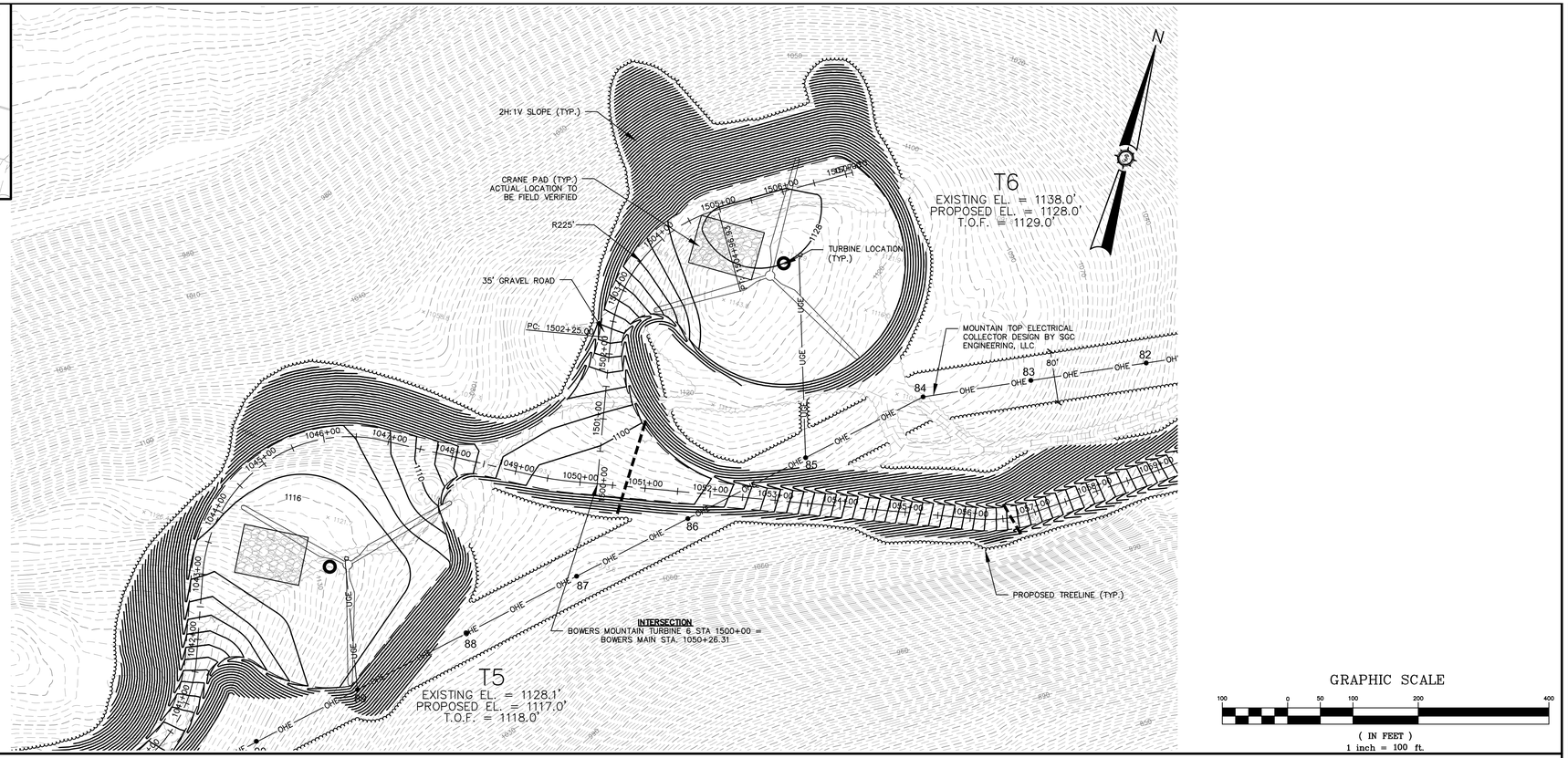
Seal: STATE OF MAINE 83328E JAMES W. SEWALL PROFESSIONAL ENGINEER

Project No.: 83328E
Engineer:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / Since 1880
800 688 4202
1 SEWALL WAY, OLD TOWN, MAINE 04468 www.sewall.com

Phase: PERMIT

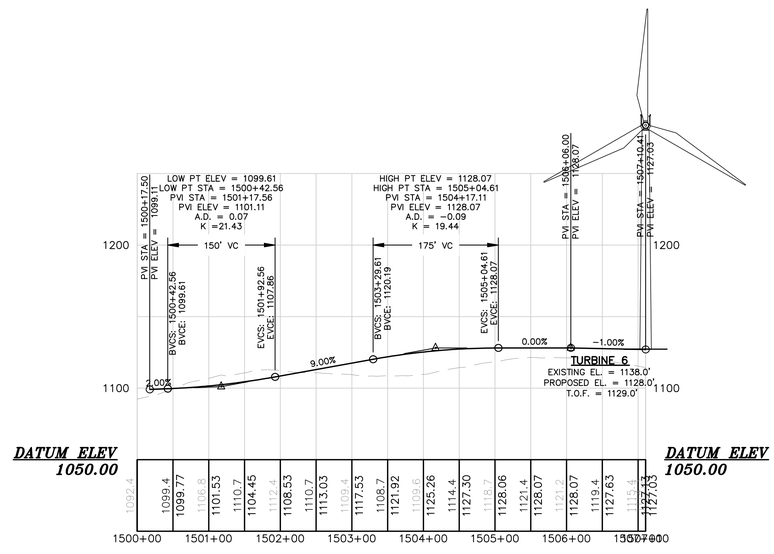
Sheet No.: **106**





BOWERS MOUNTAIN - TURBINE 6 - CRANE PATH

(1500+00 TO 1507+10.41 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
TURBINE 6
STATION 1500+00 TO 1507+10.41

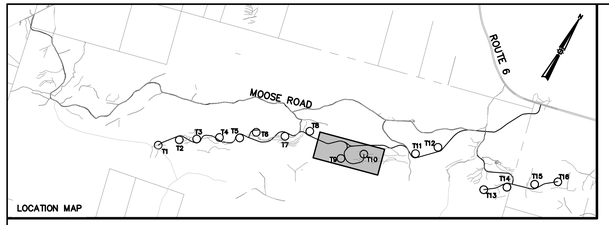
Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"=50'
Approved: JSM
Checked: BCH

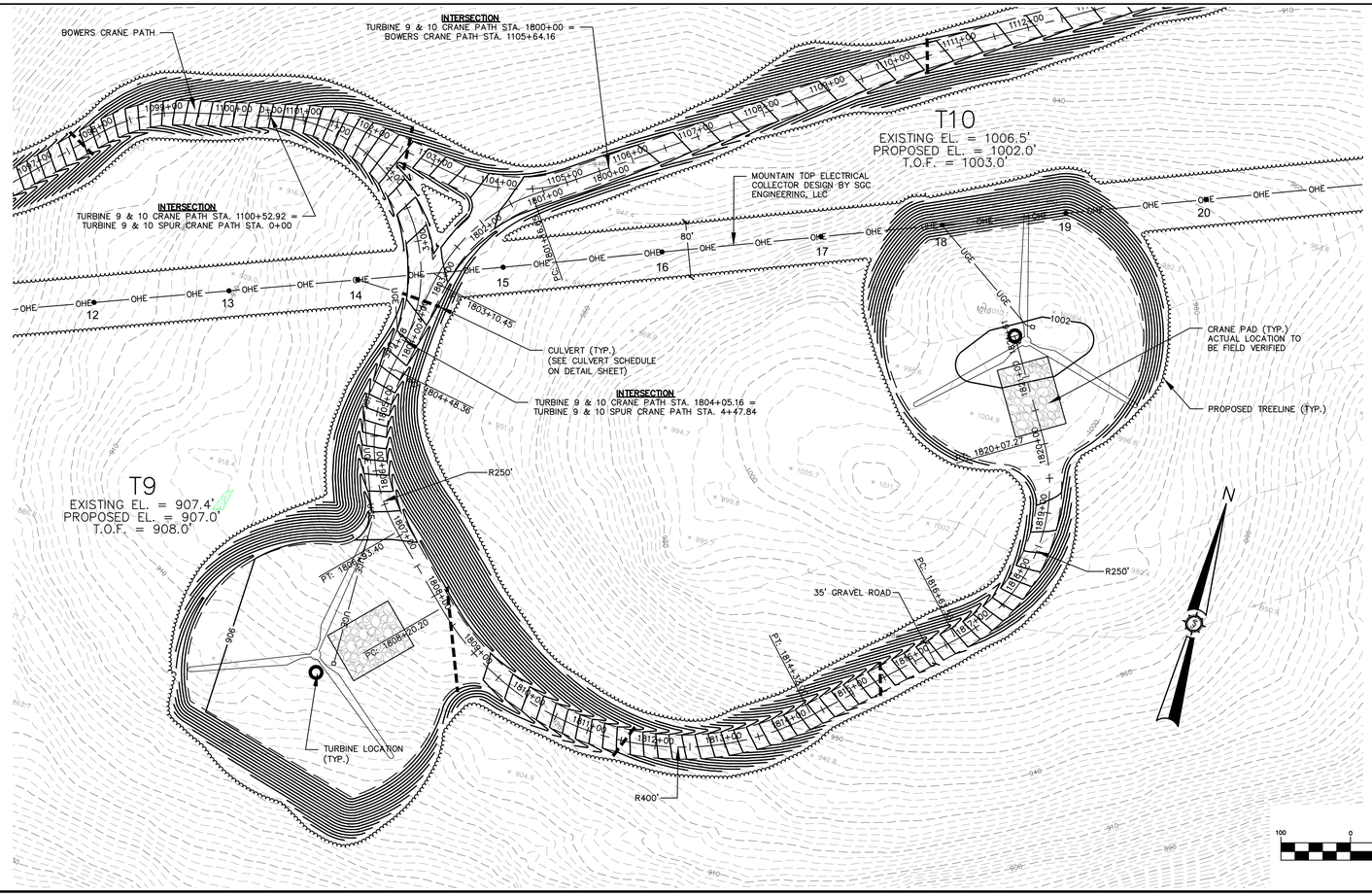
Seal
STATE OF MAINE
JAMES W. SEWALL
83328
REGISTERED
PROFESSIONAL
ENGINEER
9/27/12
No. 7125
Surveyor

Project No.
83328E
Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 6 98 4202
SEWALL.COM

Phase
PERMIT

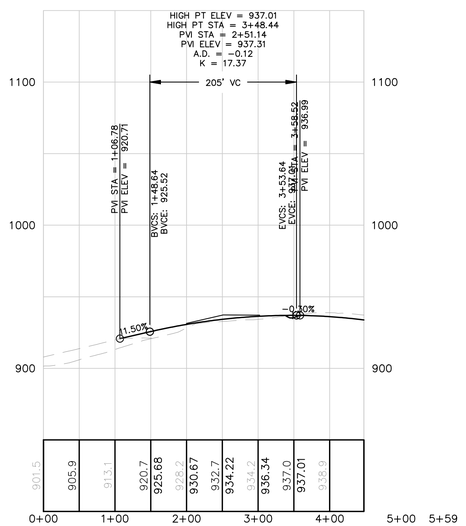
Sheet No.
107





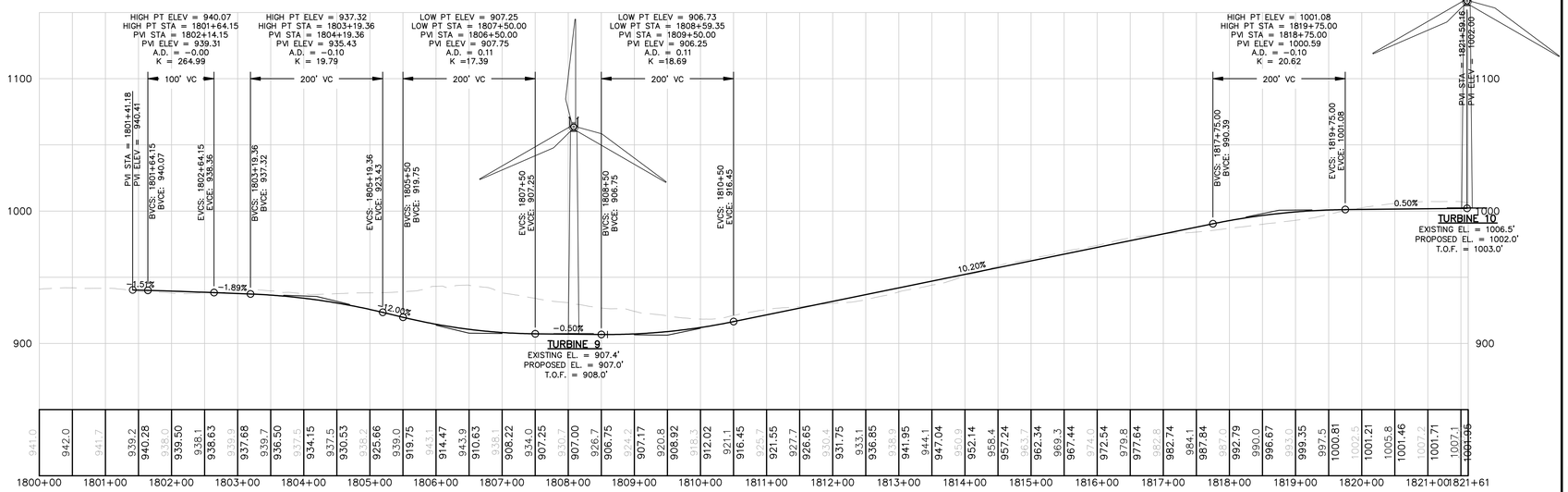
BOWERS MOUNTAIN - WYE - CRANE PATH

(0+00 TO 5+58.63 CRANE PATH)



BOWERS MOUNTAIN - TURBINE 9 & 10 - CRANE PATH

(1800+00 TO 1821+59.16 CRANE PATH)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description
TURBINES T9 & T10
STATION 1800+00 TO 1821+59.16

Designed By: JSM
Drawn By: JLD
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

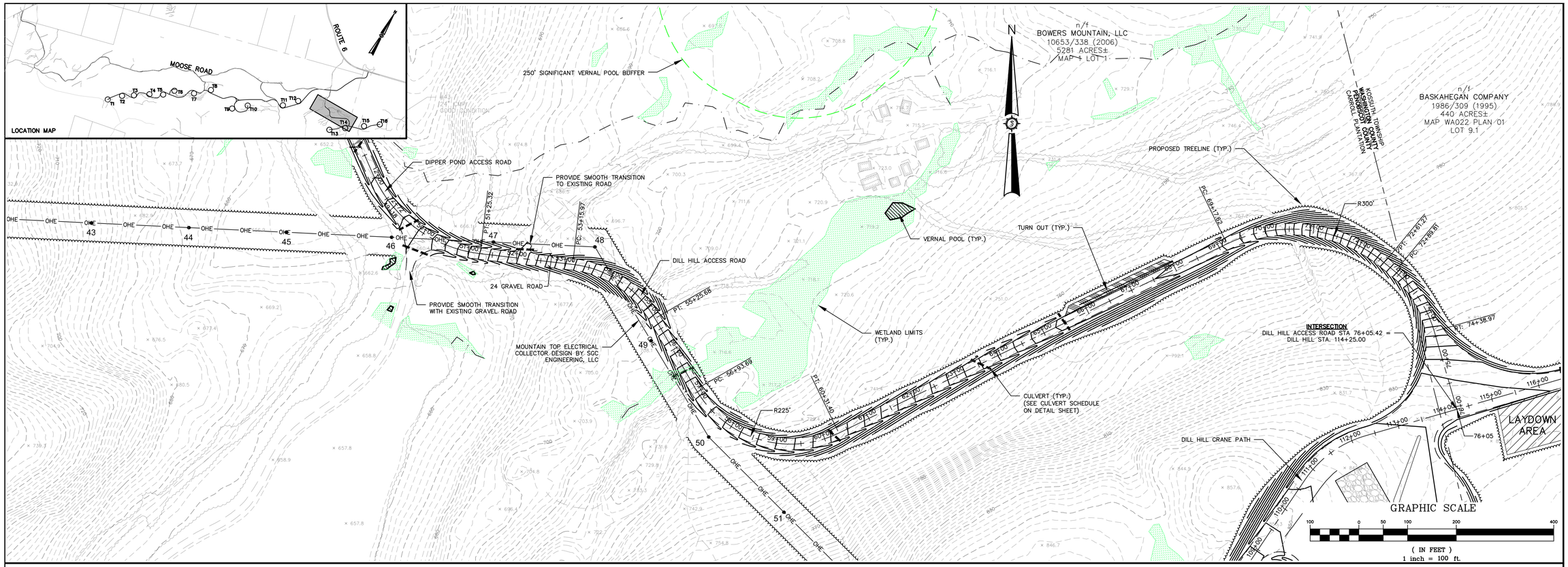
83328E
Engineer

SEWALL
JAMES W. SEWALL COMPANY / *Since 1880*
SEWALL.COM
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
800 688 4202

Project No.

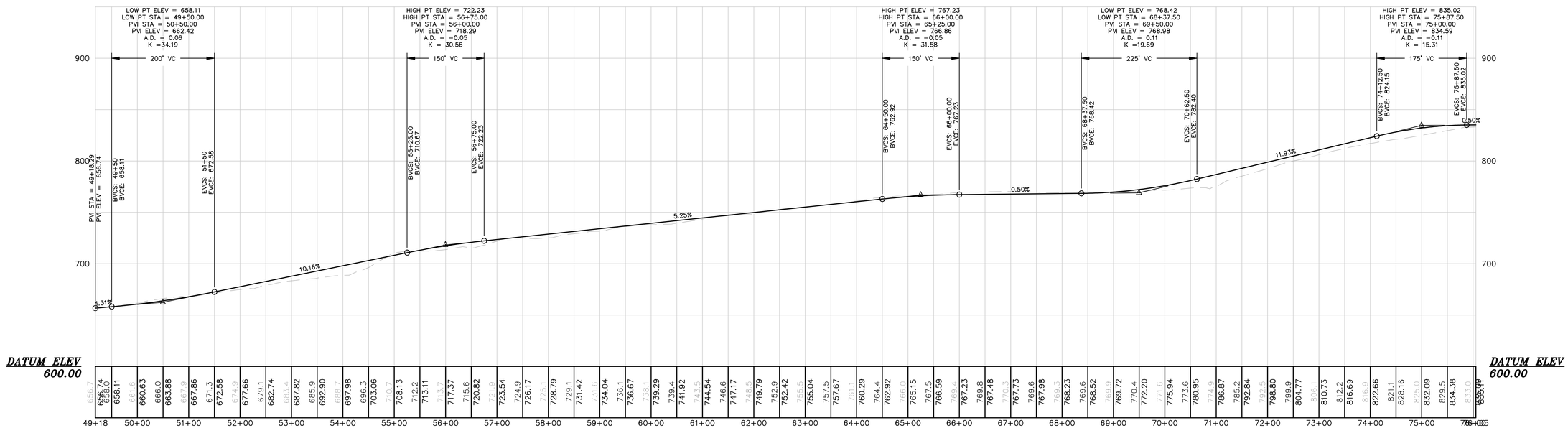
Phase
PERMIT

Sheet No.
108



DILL HILL ACCESS ROAD

(49+18.29 TO 64+00 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

No.	Date
1	
2	
3	
4	
5	

Rev. #	Dwg. By	Description
1		
2		
3		
4		
5		

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **DILL HILL ACCESS ROAD STATION 49+18.29 TO 64+00**

Designed By: JSM
Drawn By: JCH
Date: 09/26/2012
Scale: H: 1"= 100' V:1"= 50'
Approved: JSM
Checked: BCH

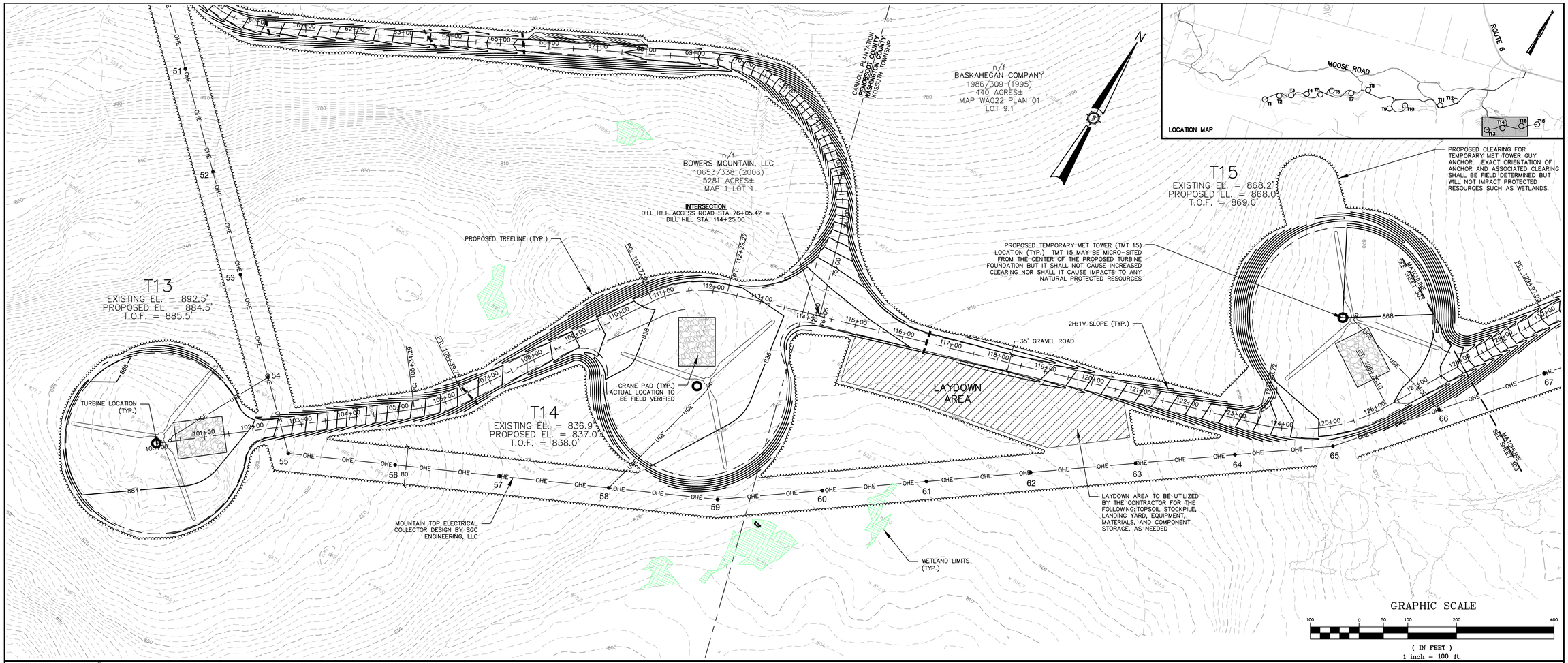
Project No.: 83328E

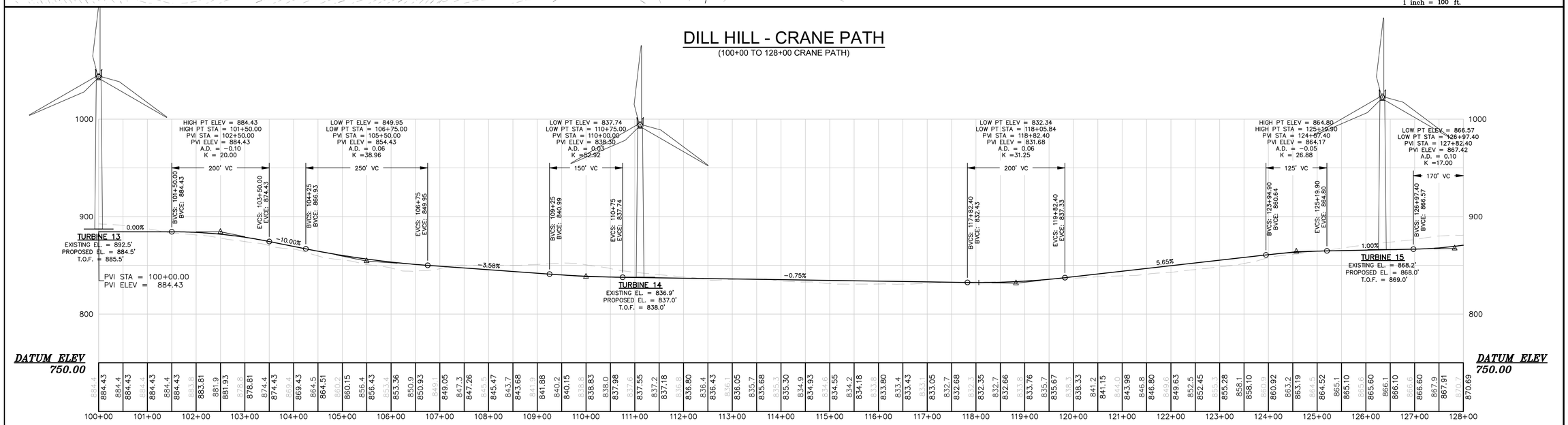
Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 688 4202
SEWALL.COM

Seal: STATE OF MAINE — JAMES W. SEWALL — 3512 — REGISTERED PROFESSIONAL ENGINEER — 12/31/2013

Phase: PERMIT

Sheet No.: 300





PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **DILL HILL STATION 100+00 TO 128+00**

Designed By: JSM
Date: 09/26/2012
Drawn By: DUP
Scale: H: 1"=100' V:1"=50'
Horizontal Datum: NAD 83 US Survey Feet
Vertical Datum: NAVD 88
Approved: JSM
Checked: BCH

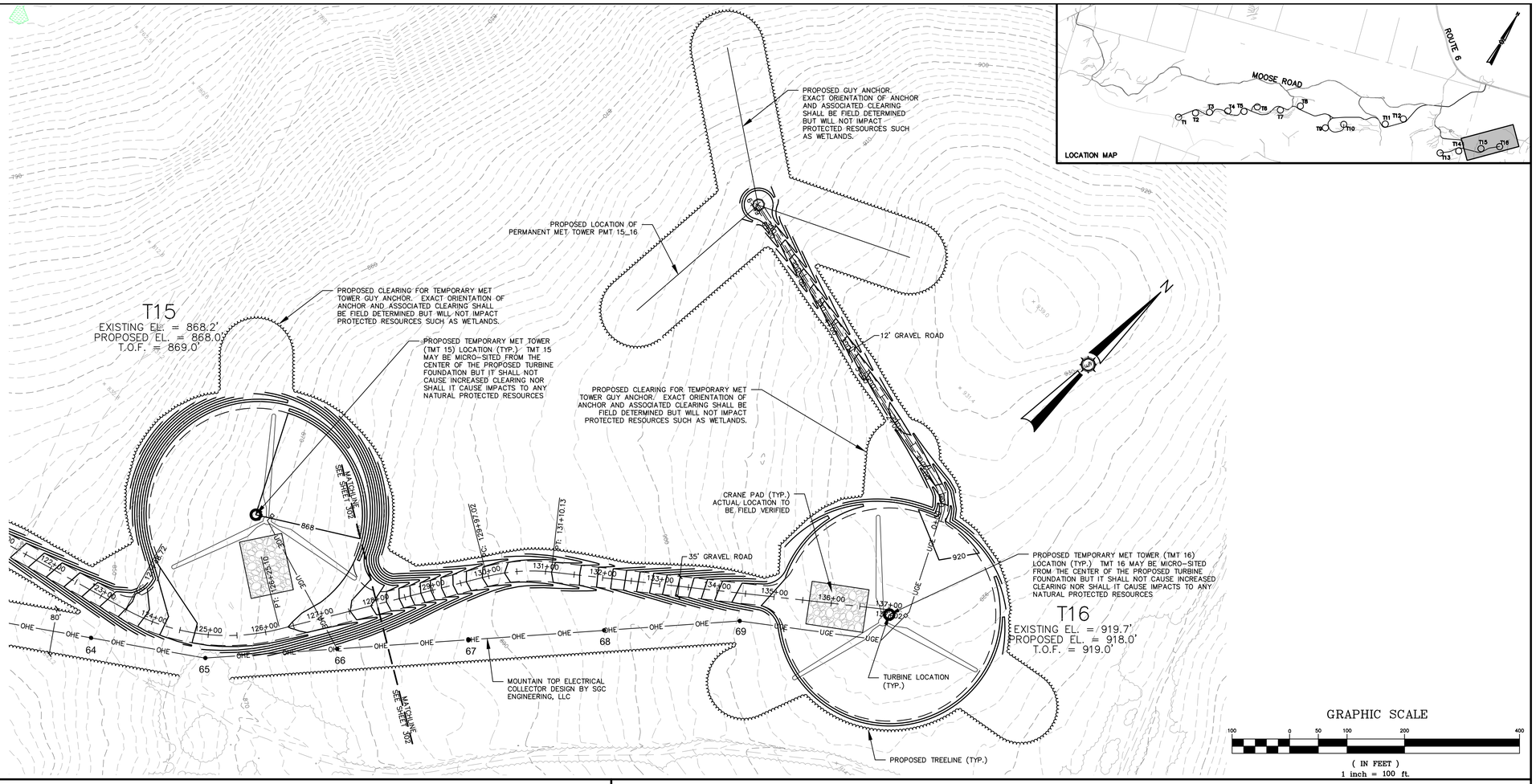
Seal

Project No.: **83328E**
Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM
207.989.4800

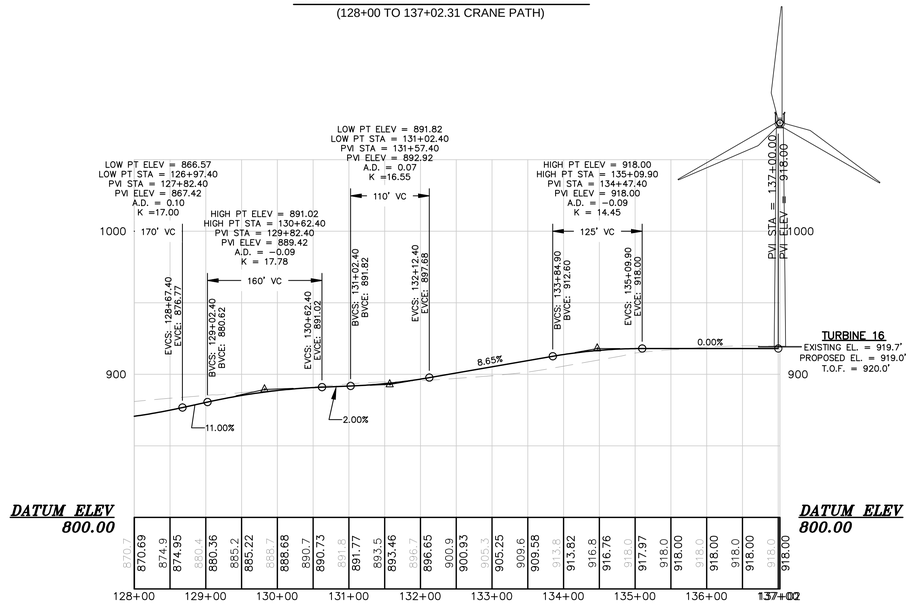
Phase: PERMIT

Sheet No.: **302**



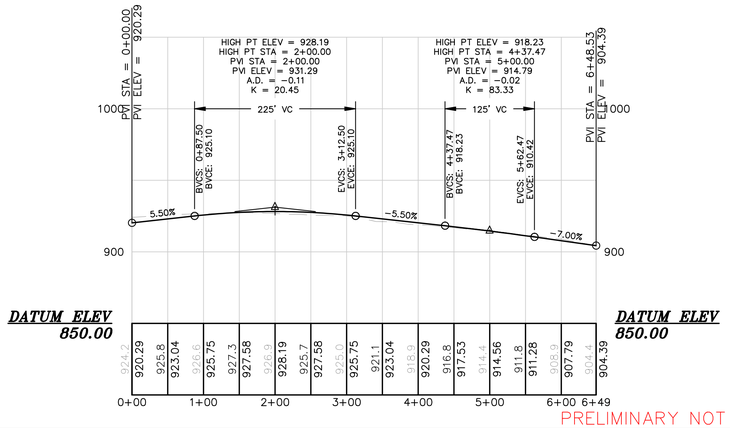
DILL HILL - CRANE PATH

(128+00 TO 137+02.31 CRANE PATH)



MET TOWER - ACCESS ROAD

(0+00 TO 6+48.53 ACCESS ROAD)



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

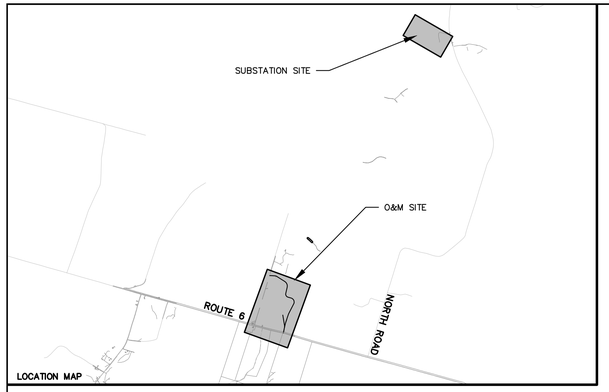
BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **DILL HILL STATION 128+00 TO 137+02.31**

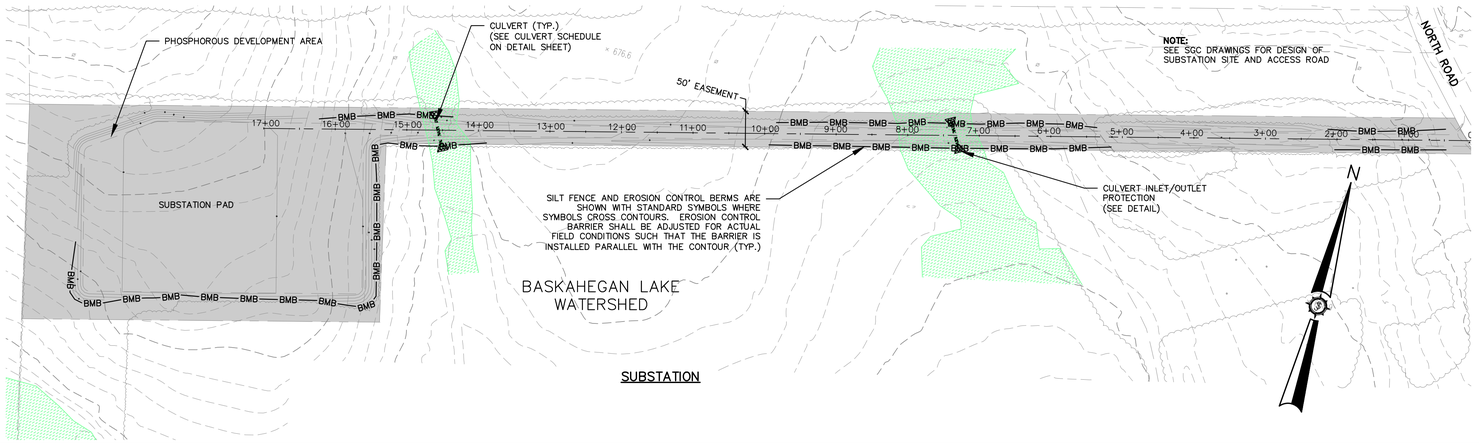
Designed By: JSM
Date: 09/26/2012
Drawn By: DUP
Checked: BCH
Approved: JSM
Scale: H: 1"=100' V:1"=50'
Plot Date/Time: 11/13/2012 11:13:24AM
Plot By: jsm
C:\Projects\83328E\Civil\Dwg\Sheets\83328E-303.dwg

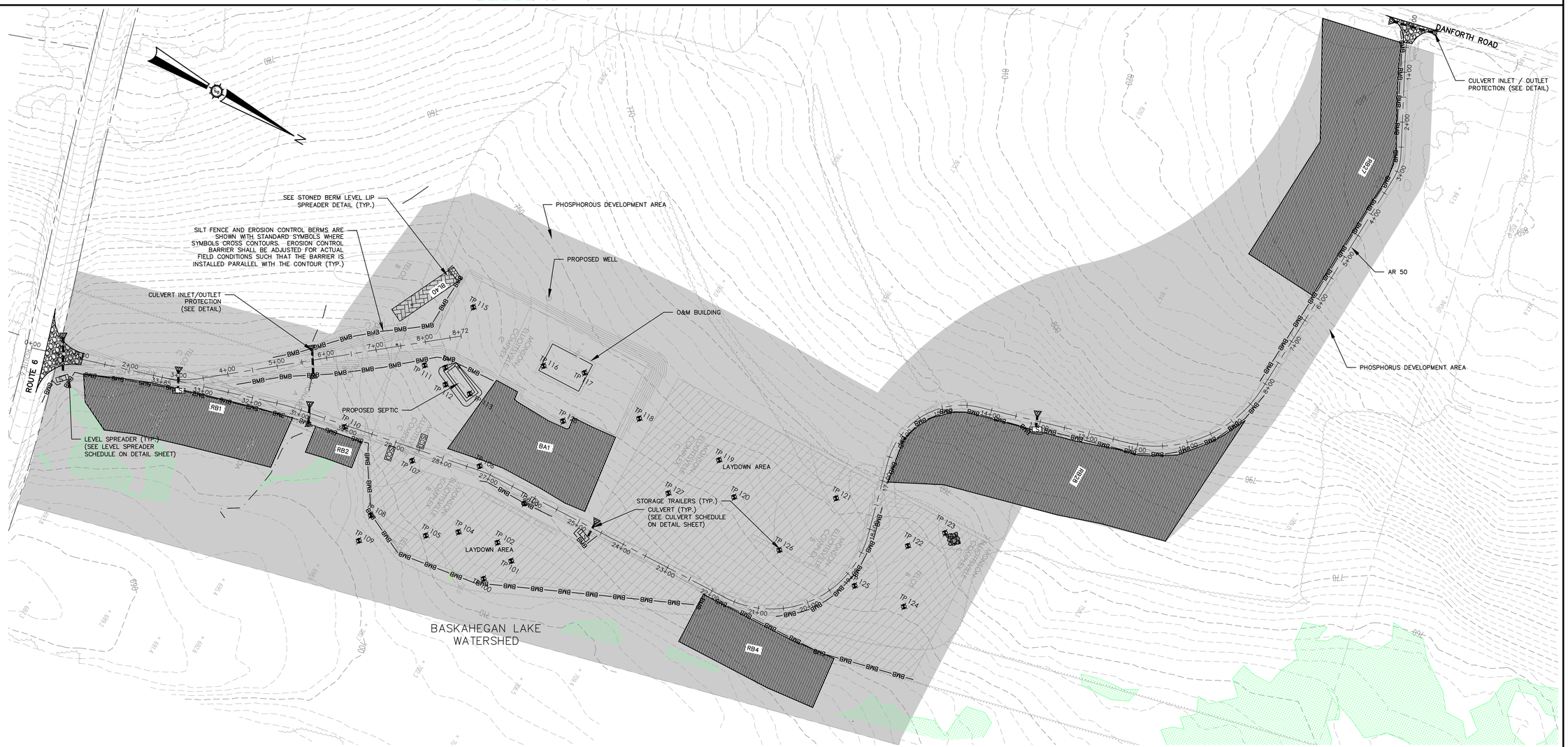
Seal: STATE OF MAINE, 13126, JAMES W. SEWALL, 71, REGISTERED PROFESSIONAL ENGINEER

Project No.: 83328E
Engineer:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY Since 1909
SEWALL.COM
800.448.1202

Phase: PERMIT
Sheet No.: 303







GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1"= 100'
Approved: JSM
Checked: BCH

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **STORMWATER PLANS O&M SITE ACCESS ROAD SUBSTATION SITE**

83328E

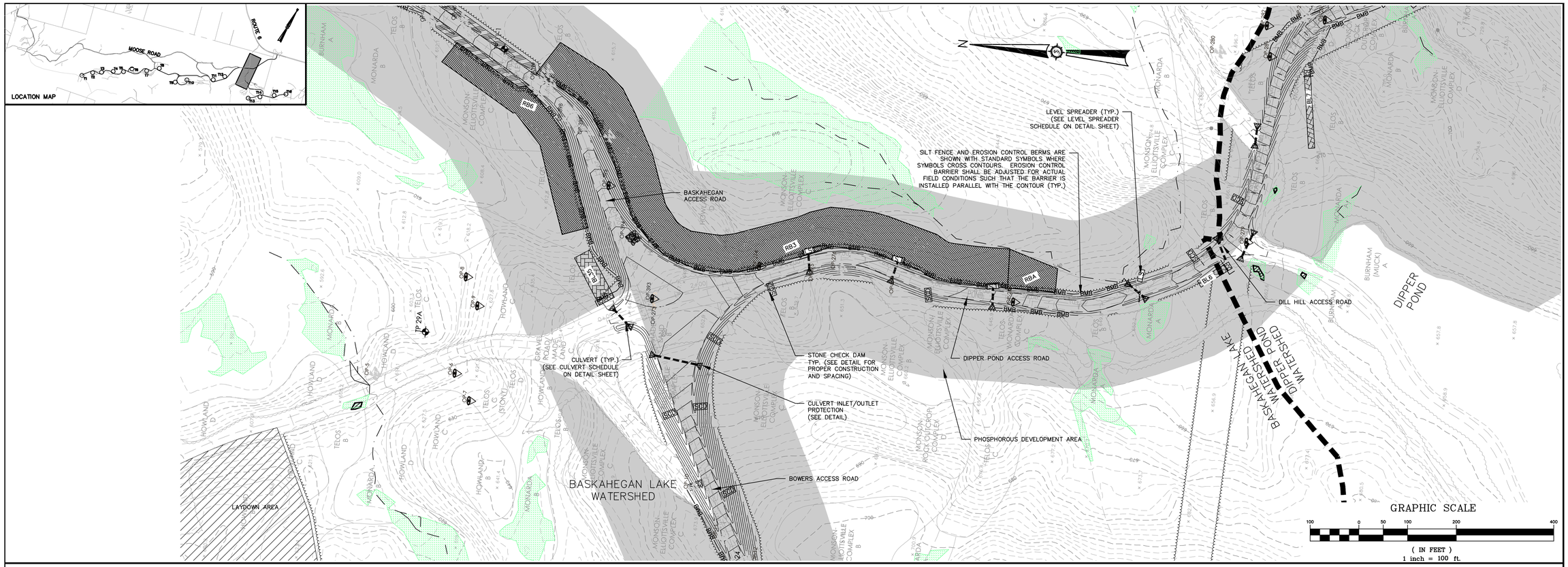
Project No.
Engineer

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 648 4202
SEWALL.COM

Seal

Phase: PERMIT

Sheet No.: 402



Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
STORMWATER PLANS DIPPER POND
ACCESS ROAD STATION 23+00 TO 38+41.89

Designed By: JAO
Drawn By: JOH
Date: 09/26/2012
Scale: 1"= 100'
Approved: JSM
Checked: BCH

Seal

STATE OF MAINE
JODI A. OWEN
No. 13070
LICENSED
PROFESSIONAL ENGINEER

Project No.
83328E

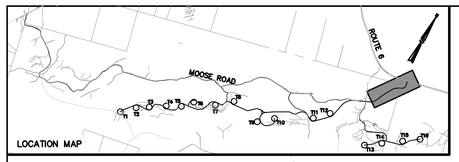
Engineer

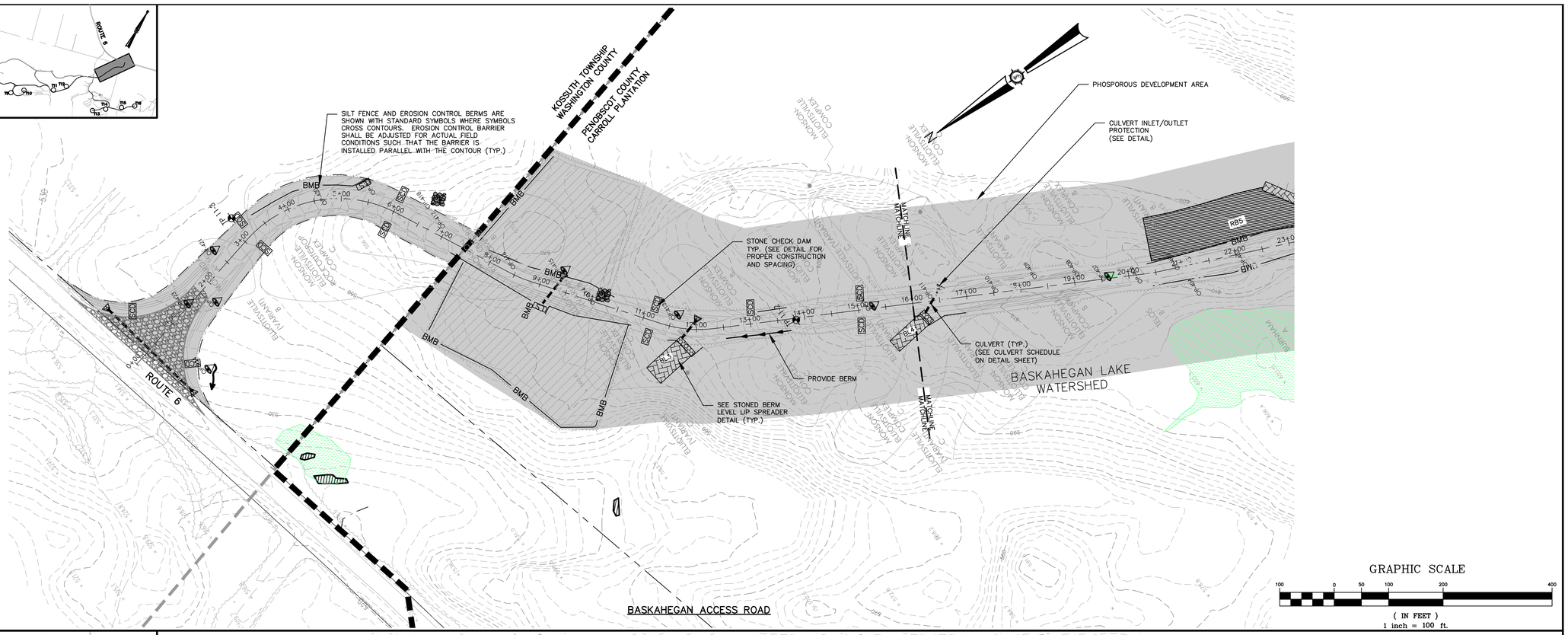
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 648 4202
SEWALL.COM

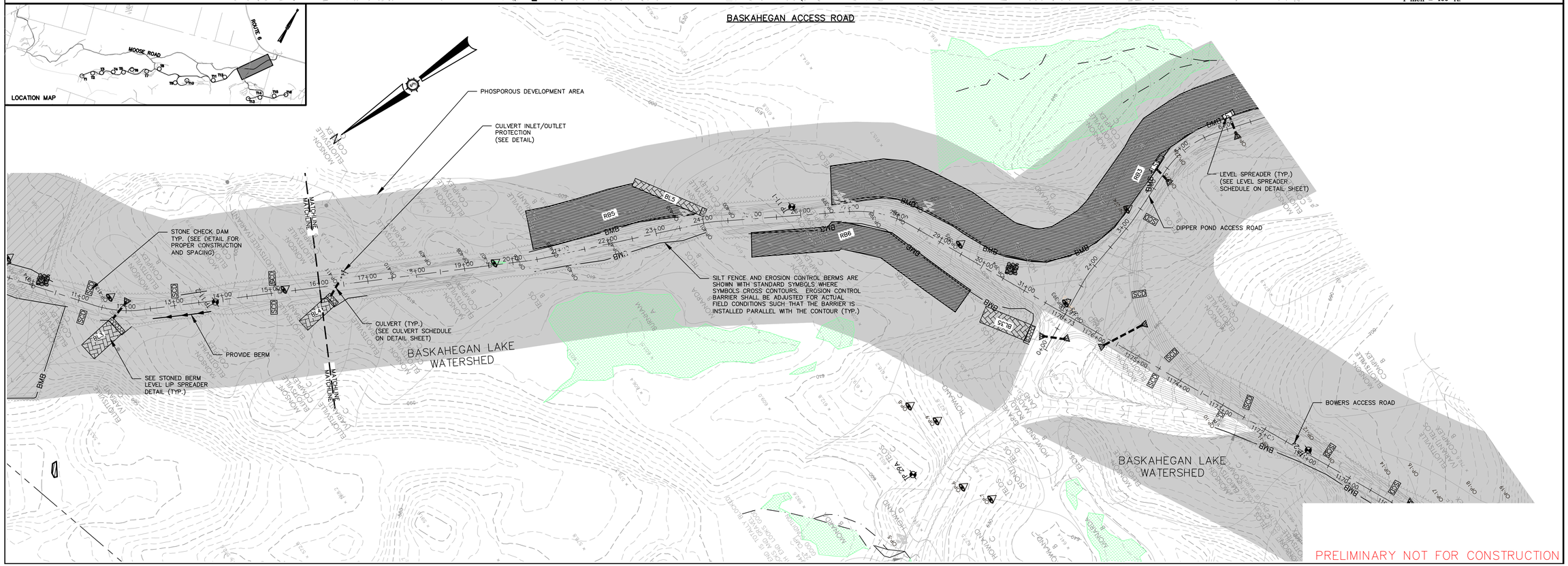
Phase
PERMIT

Sheet No.
500

PRELIMINARY NOT FOR CONSTRUCTION







Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **STORMWATER PLANS BASKAHEGAN ACCESS ROAD STATION 0+00 TO 31+97**

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1"= 100'
Approved: JSM
Checked: BCH

STATE OF MAINE — JOEL C. HUNT — 10/26/2012 — LICENSED PROFESSIONAL ENGINEER — NO. 13107

Seal

Engineer: SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM
800 ext 4202

Project No.: 83328E

Phase: PERMIT

Sheet No.: 501

SILT FENCE AND EROSION CONTROL BERMS ARE SHOWN WITH STANDARD SYMBOLS WHERE SYMBOLS CROSS CONTOURS. EROSION CONTROL BARRIER SHALL BE ADJUSTED FOR ACTUAL FIELD CONDITIONS SUCH THAT THE BARRIER IS INSTALLED PARALLEL WITH THE CONTOUR (TYP.)

LEVEL SPREADER (TYP.) (SEE LEVEL SPREADER SCHEDULE ON DETAIL SHEET)

CULVERT (TYP.) (SEE CULVERT SCHEDULE ON DETAIL SHEET)

DIVERSION DITCH

SEE STONED BERM LEVEL LIP SPREADER DETAIL (TYP.)

STONE CHECK DAM TYP. (SEE DETAIL FOR PROPER CONSTRUCTION AND SPACING)

LAYDOWN AREA

MILL PRIVILEGE POND WATERSHED

PHOSPHORUS DEVELOPMENT AREA

BOWERS CRANE PATH

BASKAHEGAN LAKE WATERSHED

PLEASANT LAKE WATERSHED

CULVERT INLET/OUTLET PROTECTION (SEE DETAIL)

POTENTIAL ROCK SANDWICH STA. 1052+00 TO STA. 1057+50

CULVERT (TYP.) (SEE CULVERT SCHEDULE ON DETAIL SHEET)

STONE CHECK DAM TYP. (SEE DETAIL FOR PROPER CONSTRUCTION AND SPACING)

MATCHLINE

SHEET 600

SHEET 600

PRELIMINARY NOT FOR CONSTRUCTION

LOCATION MAP

MOOSE ROAD

ROUTE 6

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Rev. #	Dwng. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT

-

Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description: **STORMWATER PLANS BOWERS MOUNTAIN STATION 1000+00 TO 1056+00**

Designed By	Drawn By	Checked
JAO	JDH	BDH
Date: 09/26/2012		
Scale: 1" = 100'		
Approved: JSM		

Seal: STATE OF MAINE JOHN D. HEA... NO. 13... LICENSED PROFESSIONAL ENGINEER

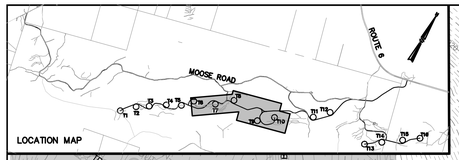
Project No.: 83328E

Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
Since 1880
JAMES W. SEWALL COMPANY
SEWALL.COM
800 848 4202

Phase: PERMIT

Sheet No.: 600



BASKAHEGAN LAKE WATERSHED

PLEASANT LAKE WATERSHED

PLEASANT LAKE WATERSHED BOWERS CRANE PATH

SEE STONED BERM LEVEL LIP SPREADER DETAIL (TYP.)

PHOSPHORUS DEVELOPMENT AREA

STONE CHECK DAM TYP. (SEE DETAIL FOR PROPER CONSTRUCTION AND SPACING)

POTENTIAL ROCK SANDPIT STA. 1052+00 TO STA. 1057+50

CULVERT (TYP.) (SEE CULVERT SCHEDULE ON DETAIL SHEET)

LEVEL SPREADER (TYP.) (SEE LEVEL SPREADER SCHEDULE ON DETAIL SHEET)

SILT FENCE AND EROSION CONTROL BERMS ARE SHOWN WITH STANDARD SYMBOLS WHERE SYMBOLS CROSS CONTOURS. EROSION CONTROL BARRIER SHALL BE ADJUSTED FOR ACTUAL FIELD CONDITIONS SUCH THAT THE BARRIER IS INSTALLED PARALLEL WITH THE CONTOUR (TYP.)

LAYDOWN AREA

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

WATERSHED

BOWERS CRANE PATH

LAYDOWN AREA

PROVIDE BERM

SILT FENCE AND EROSION CONTROL BERMS ARE SHOWN WITH STANDARD SYMBOLS WHERE SYMBOLS CROSS CONTOURS. EROSION CONTROL BARRIER SHALL BE ADJUSTED FOR ACTUAL FIELD CONDITIONS SUCH THAT THE BARRIER IS INSTALLED PARALLEL WITH THE CONTOUR (TYP.)

STONE CHECK DAM TYP. (SEE DETAIL FOR PROPER CONSTRUCTION AND SPACING)

CULVERT INLET/OUTLET PROTECTION (SEE DETAIL)

BASKAHEGAN LAKE WATERSHED

PLEASANT LAKE WATERSHED

PHOSPHORUS DEVELOPMENT AREA

SILT FENCE AND EROSION CONTROL BERMS ARE SHOWN WITH STANDARD SYMBOLS WHERE SYMBOLS CROSS CONTOURS. EROSION CONTROL BARRIER SHALL BE ADJUSTED FOR ACTUAL FIELD CONDITIONS SUCH THAT THE BARRIER IS INSTALLED PARALLEL WITH THE CONTOUR (TYP.)

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT

Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description: **STORMWATER PLANS BOWERS MOUNTAIN STATION 1056+00 TO 1112+00**

Designed By: JAO

Date: 09/26/2012

Scale: 1"= 100'

Drawn By: JCH

Approved: JSM

Checked: BCH

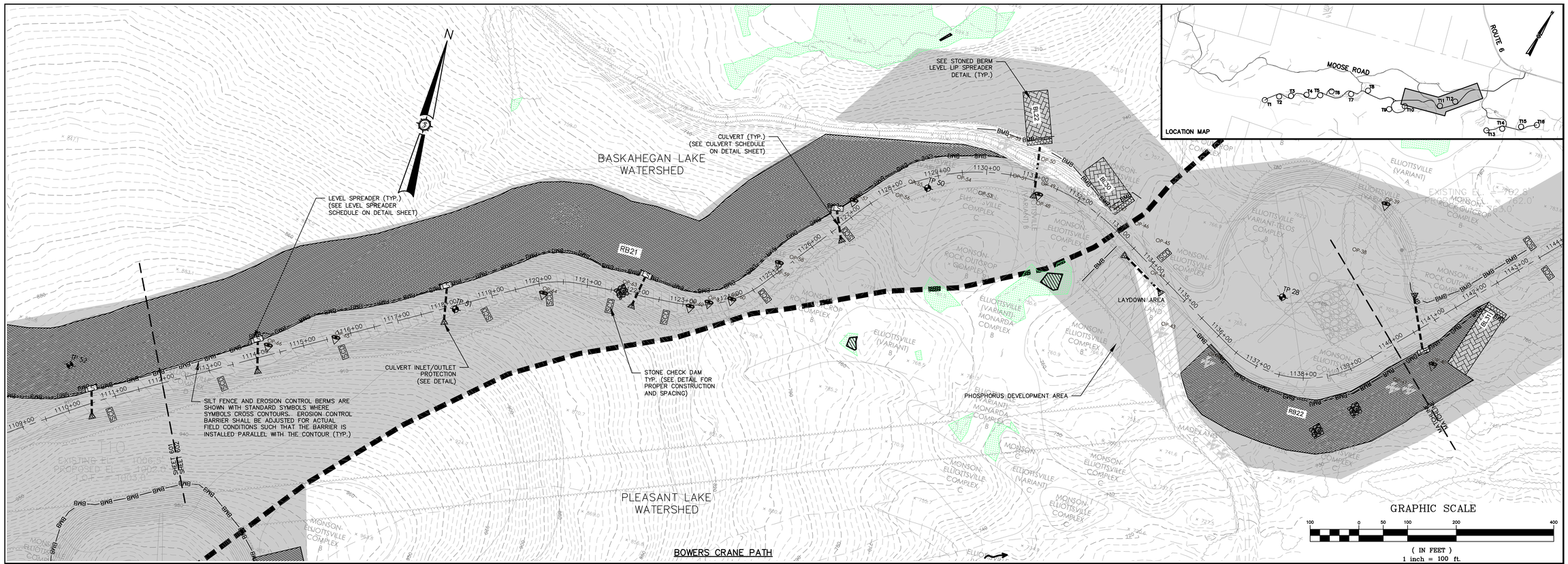
Seal: STATE OF MAINE JOHN C. HOLLAND 10/26/2012 NO. 13201 REGISTERED PROFESSIONAL ENGINEER

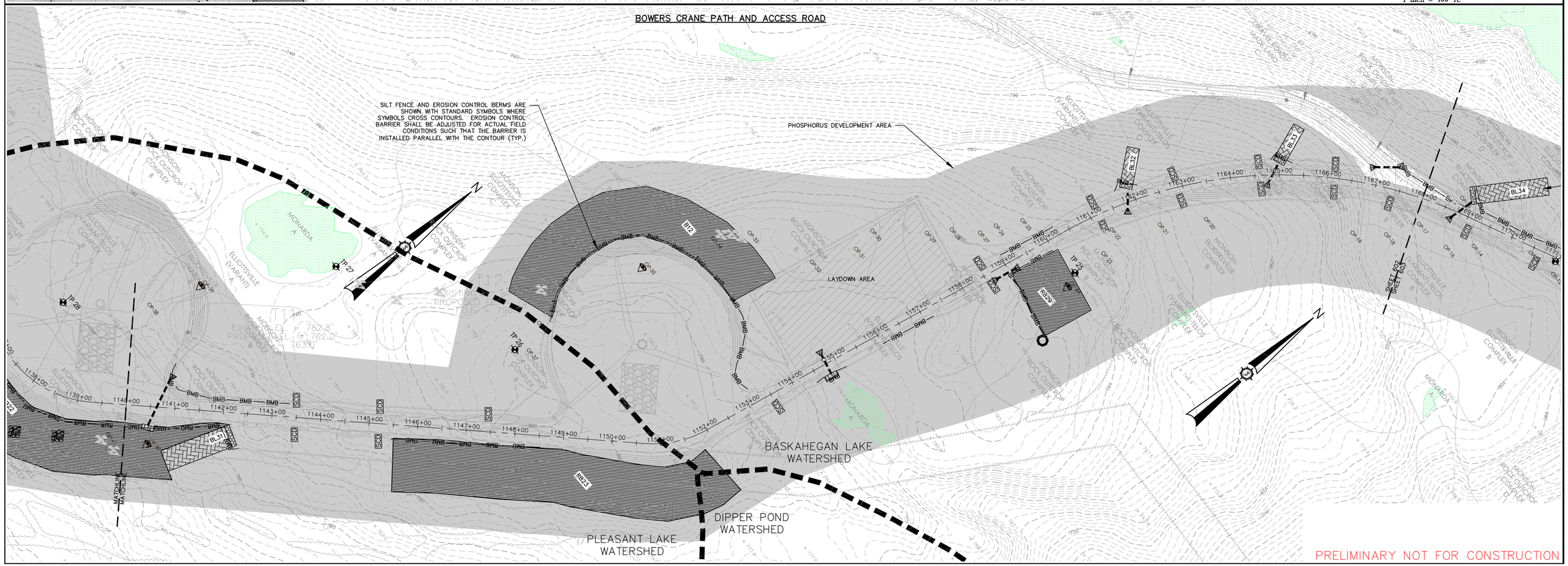
Project No.: **83328E**

Engineer: SEWALL — AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS — JAMES W. SEWALL COMPANY *Since 1880* — SEWALL.COM — 800 688 4202

Phase: PERMIT

Sheet No.: **601**





Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **STORMWATER PLANS BOWERS MOUNTAIN STATION 1112+00 TO 1168+00**

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1" = 100'
Approved: JSM
Checked: BCH

STATE OF MAINE — OWEN L. CASEY — No. 13020 — LICENSED PROFESSIONAL ENGINEER — 01/07/2013

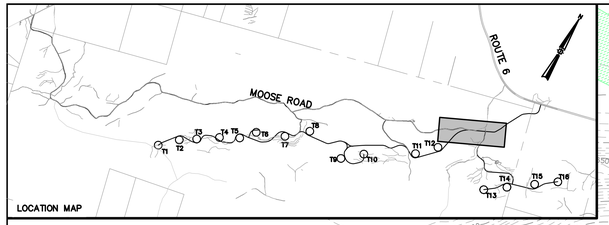
Seal

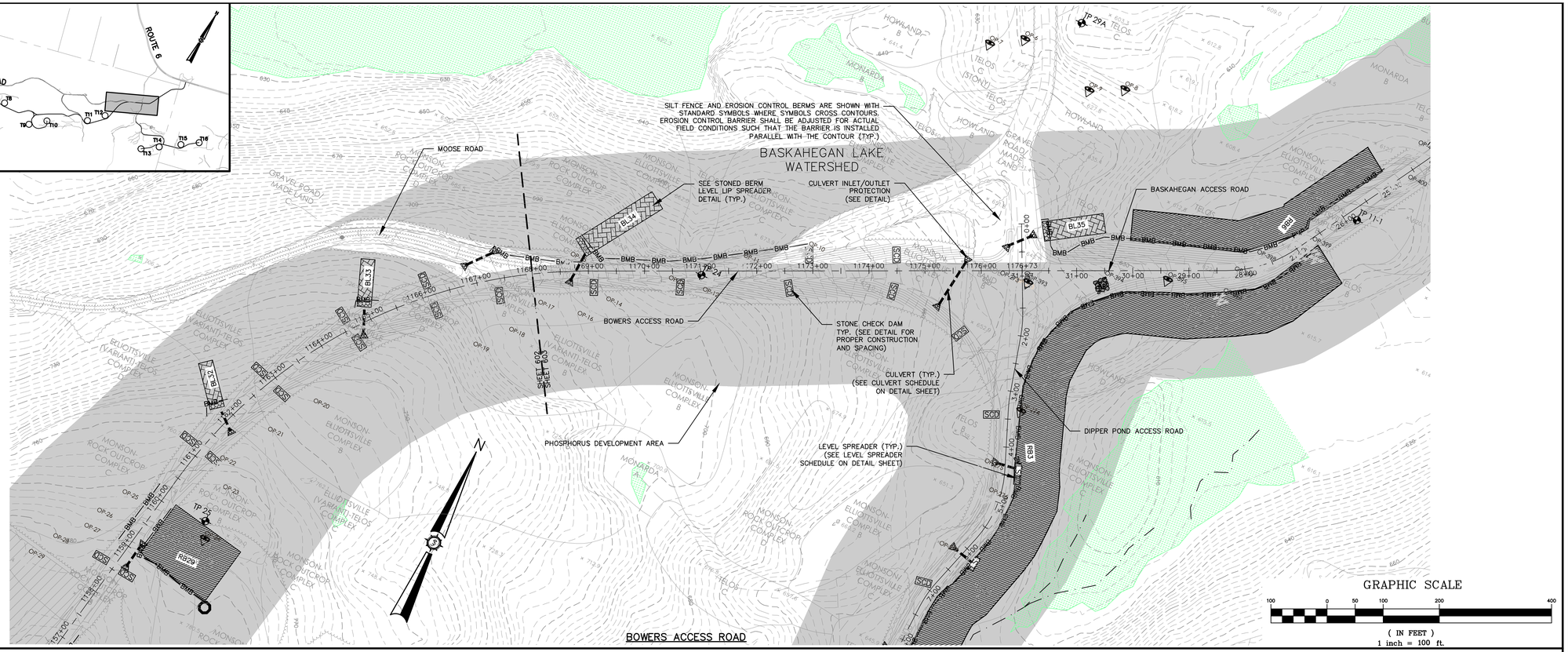
Prepared By:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 688 4202
SEWALL.COM

Engineer
Project No.
83328E

Phase
PERMIT

Sheet No.
602





PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1	-	-	-

BOWERS WIND PROJECT
-
Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description
STORMWATER PLANS BOWERS MOUNTAIN STATION 1168+00 TO 1176+73

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1"= 100'
Approved: JSM
Checked: BCH

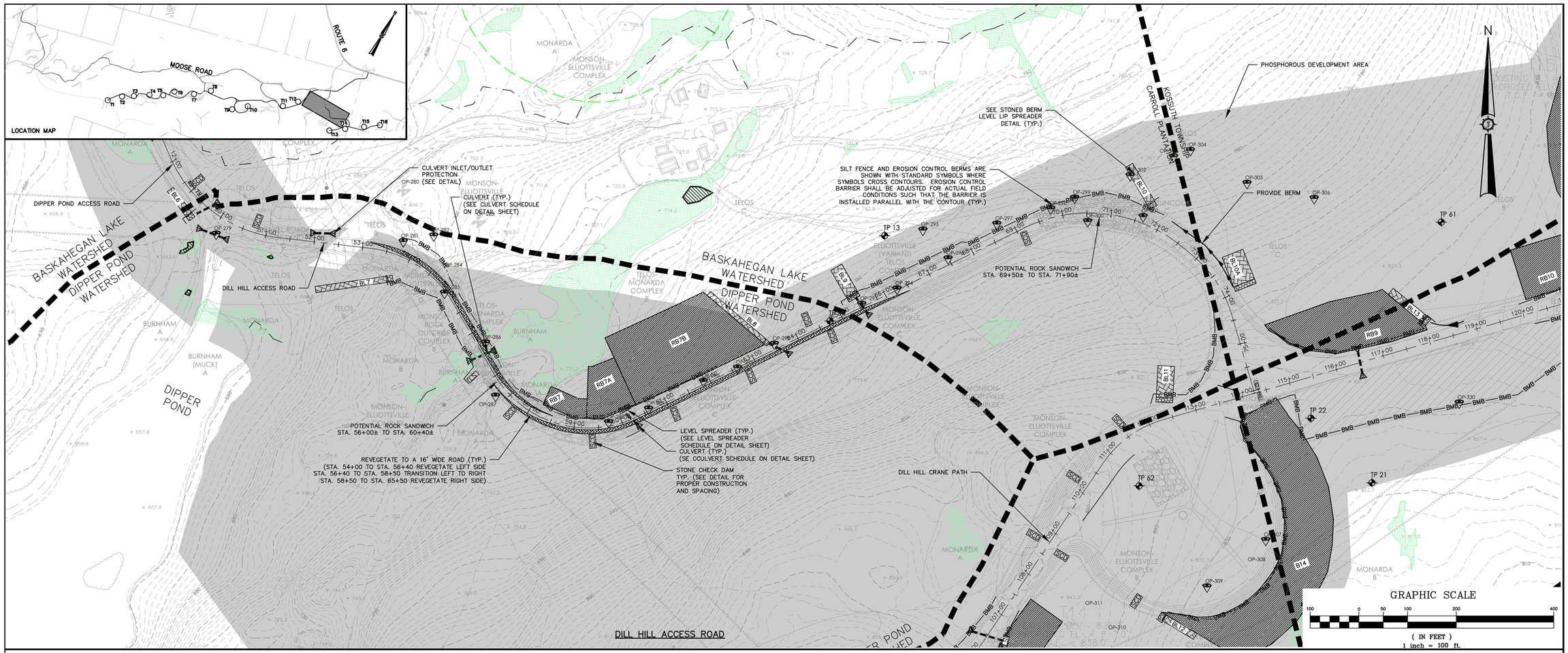
Seal
STATE OF MAINE
JODY A. ALBRIGHT
No. 13201
LICENSED PROFESSIONAL ENGINEER

AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
SEWALL
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM
800 688 4202

Project No.
83328E
Engineer

Phase
PERMIT

Sheet No.
603



DILL HILL ACCESS ROAD

PRELIMINARY NOT FOR CONSTRUCTION

Rev.	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
STORMWATER PLANS DILL HILL ACCESS ROAD
STATION 49+18.29 TO 76+05

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1" = 100'
Approved: JSM
Checked: BCH

Seal

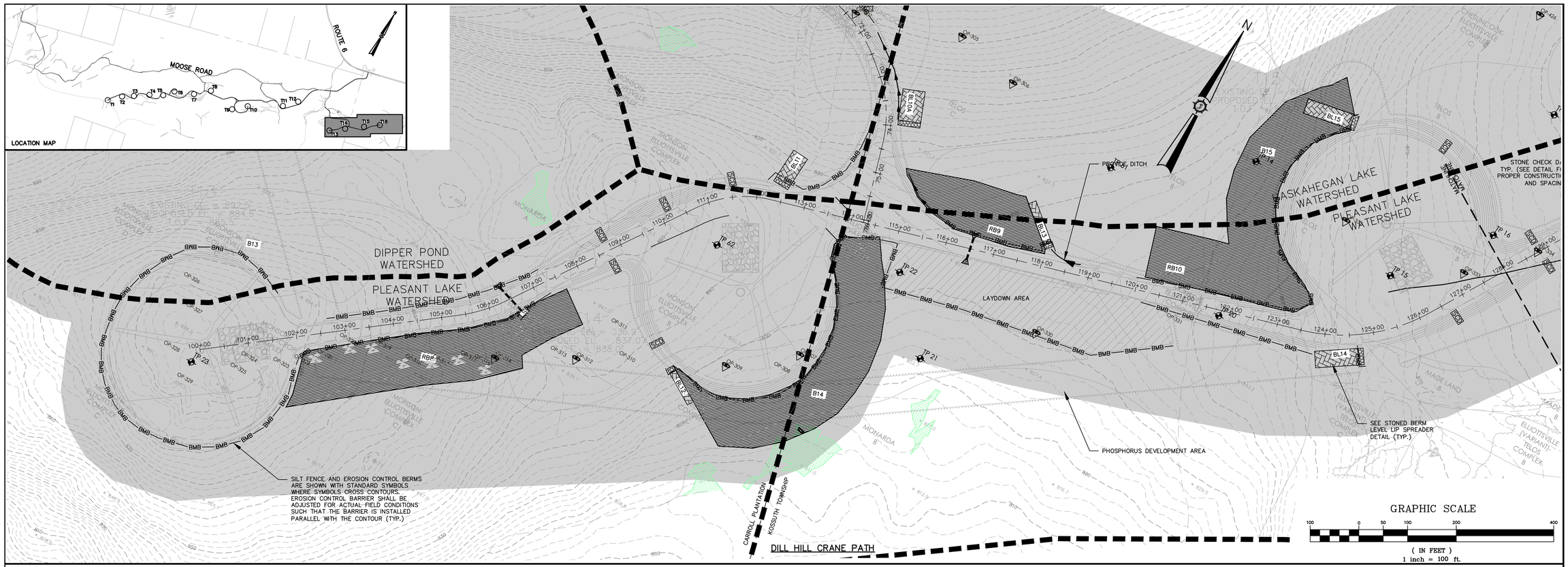
STATE OF MAINE
JODY A. OLSEN
No. 13001
LICENSED PROFESSIONAL ENGINEER

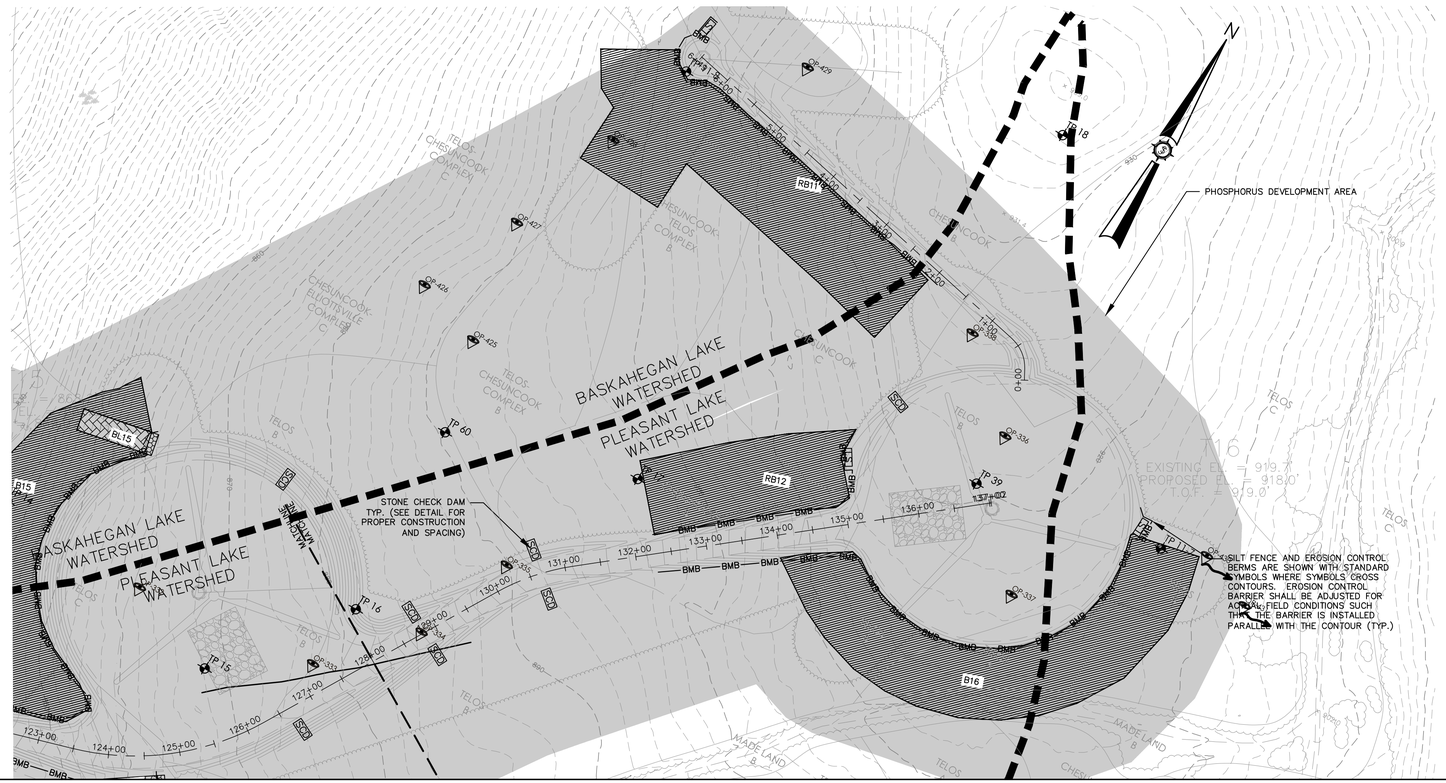
Project No.
83328E

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 688 1202
SEWALL.COM

Phase
PERMIT

Sheet No.
800





PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Chkd. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **STORMWATER PLANS DILL HILL CRANE PATH STATION 100+00 TO 137+02**

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1" = 100'
Approved: JSM
Checked: BCH

Seal: STATE OF MAINE — JAMES W. SEWALL — No. 13201 — LICENSED PROFESSIONAL ENGINEER — 10/26/2012

Project No.: 83328E
Engineer:
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1889*
800.698.4202
SEWALL.COM

Phase: PERMIT

Sheet No.: **801**

STORMWATER LEGEND

TIME OF CONCENTRATION
SUBCATCHMENT LINE

MATTAWAMKEAG RIVER WATERSHED

ROUTE 6

BASKAHEGAN LAKE WATERSHED
CARROLL PLANTATION
7864 ACRES

SHEET 900
SHEET 901

BROWN ROAD

DUCK LAKE WATERSHED

150' SHEET
S = 0.243

420' SCF
S = 0.114

1495' SCF
S = 0.025

PLEASANT LAKE WATERSHED
CARROLL PLANTATION
1595 ACRES

MILL PROVILEDGE POND WATERSHED
1382 ACRES

1615' SCF
S = 0.159

150' SHEET
S = 0.053

MILL PRIVILEGE POND WATERSHED
1382 ACRES

N

GRAPHIC SCALE

800 0 400 800 1600 3200

(IN FEET)
1 inch = 800 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
PRE DEVELOPMENT DRAINAGE PLAN

Designed By JAO
Drawn By JAO
Date 09/26/2012
Scale 1"=800
Approved JSM
Checked BCH

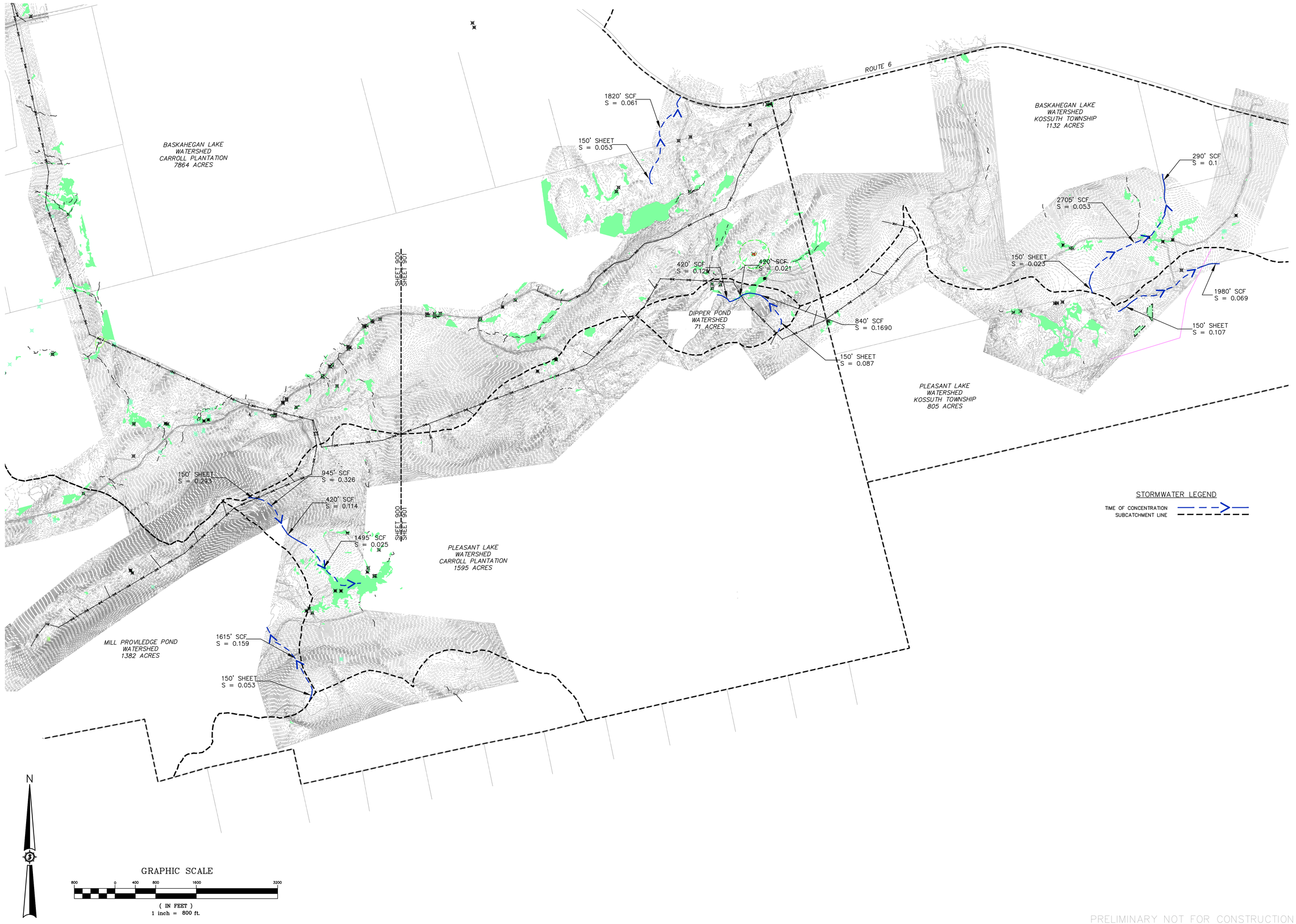
STATE OF MAINE
JODI A. DOLLEA
No. 13000
LICENSED PROFESSIONAL ENGINEER

Project No.
83328E

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
800 648 4202
SEWALL.COM

Phase
PERMIT

Sheet No.
900



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

Designed By: JAO
Drawn By: JAO
Date: 09/26/2012
Scale: 1"=800
Checked: BCH
Approved: JSM

BOWERS WIND PROJECT
- -

Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description: **PRE DEVELOPMENT DRAINAGE PLAN**

STATE OF MAINE — JODI A. ODELL — No. 13020 — LICENSED PROFESSIONAL ENGINEER

Project No.: 83328E
Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / Since 1880
800 store 4202
SEWALL.COM

Phase: PERMIT

Sheet No.: 901

STORMWATER LEGEND

TIME OF CONCENTRATION
SUBCATCHMENT LINE

MATTAWAMKEAG RIVER WATERSHED

ROUTE 6

BASKAHEGAN LAKE WATERSHED
CARROLL PLANTATION
7864 ACRES

SHEET 902
SHEET 903

BROWN ROAD

DUCK LAKE WATERSHED

150' SHEET
S = 0.293

795' SCF
S = 0.326

420' SCF
S = 0.114

PLEASANT LAKE WATERSHED
CARROLL PLANTATION
1595 ACRES

1495' SCF
S = 0.025

MILL PROVILEDGE POND WATERSHED
1382 ACRES

1615' SCF
S = 0.159

150' SHEET
S = 0.053

MILL PRIVILEGE POND WATERSHED
1382 ACRES

N

GRAPHIC SCALE

800 0 400 800 1600 3200

(IN FEET)
1 inch = 800 ft.

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WINDPROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
POST DEVELOPMENT DRAINAGE PLAN

Designed By: JAO
Drawn By: JAO
Date: 09/26/2012
Scale: 1"=800
Approved: JSM
Checked: BCH

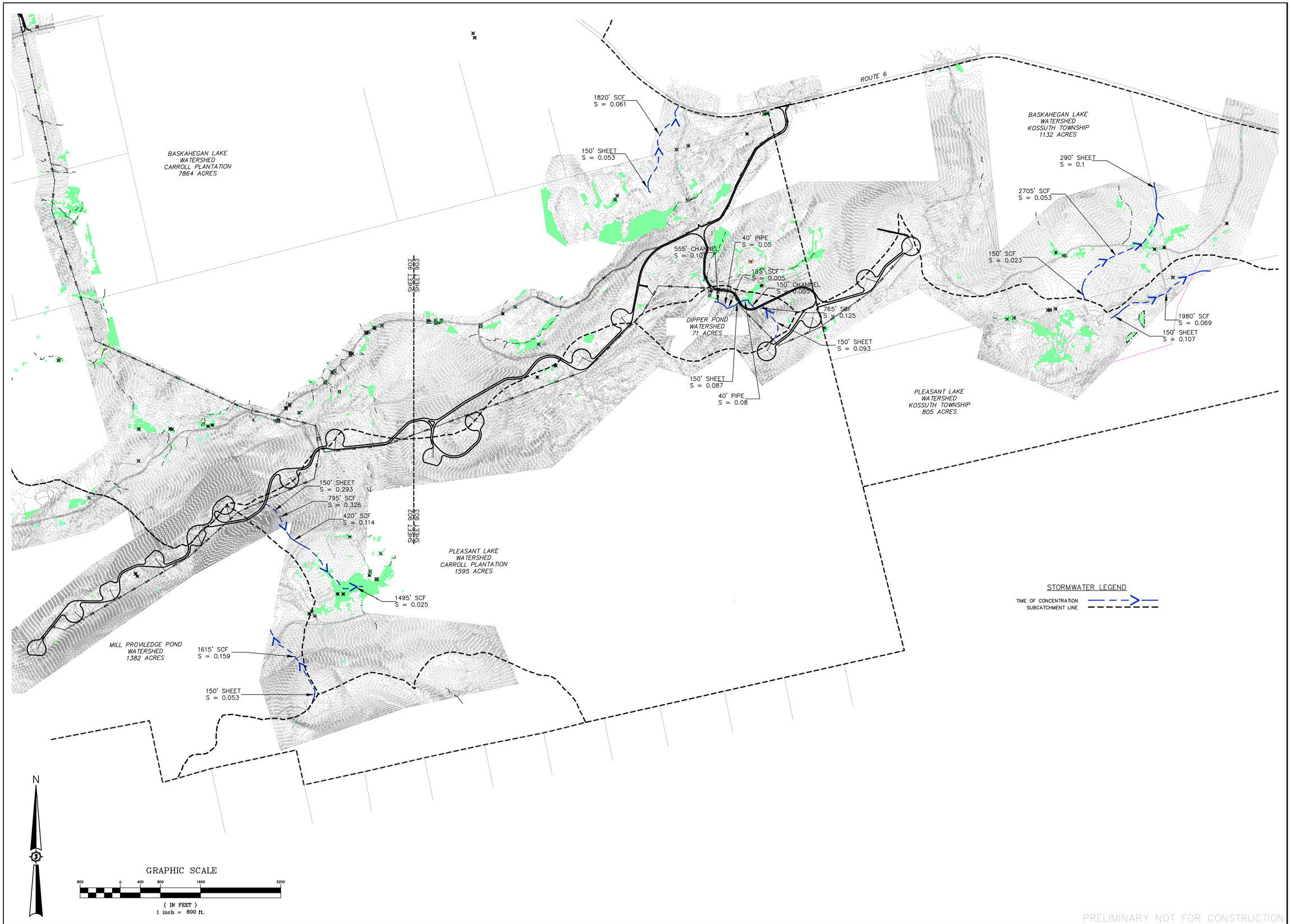
STATE OF MAINE
JOHN A. OLSEN
No. 13200
LICENSED PROFESSIONAL ENGINEER

Project No.: 83328E
Engineer:

SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY *Since 1880*
SEWALL.COM
800.698.4202

Phase
PERMIT

Sheet No.
902



STORMWATER LEGEND

TIME OF CONCENTRATION
SUBCATCHMENT LINE

PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
1			

BOWERS WIND PROJECT
-

Project Location
CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE

Drawing Description
POST DEVELOPMENT DRAINAGE PLAN

Designed By: JAO
Drawn By: JAO
Date: 09/26/2012
Scale: 1"=800'
Approved: JSM
Checked: BCH

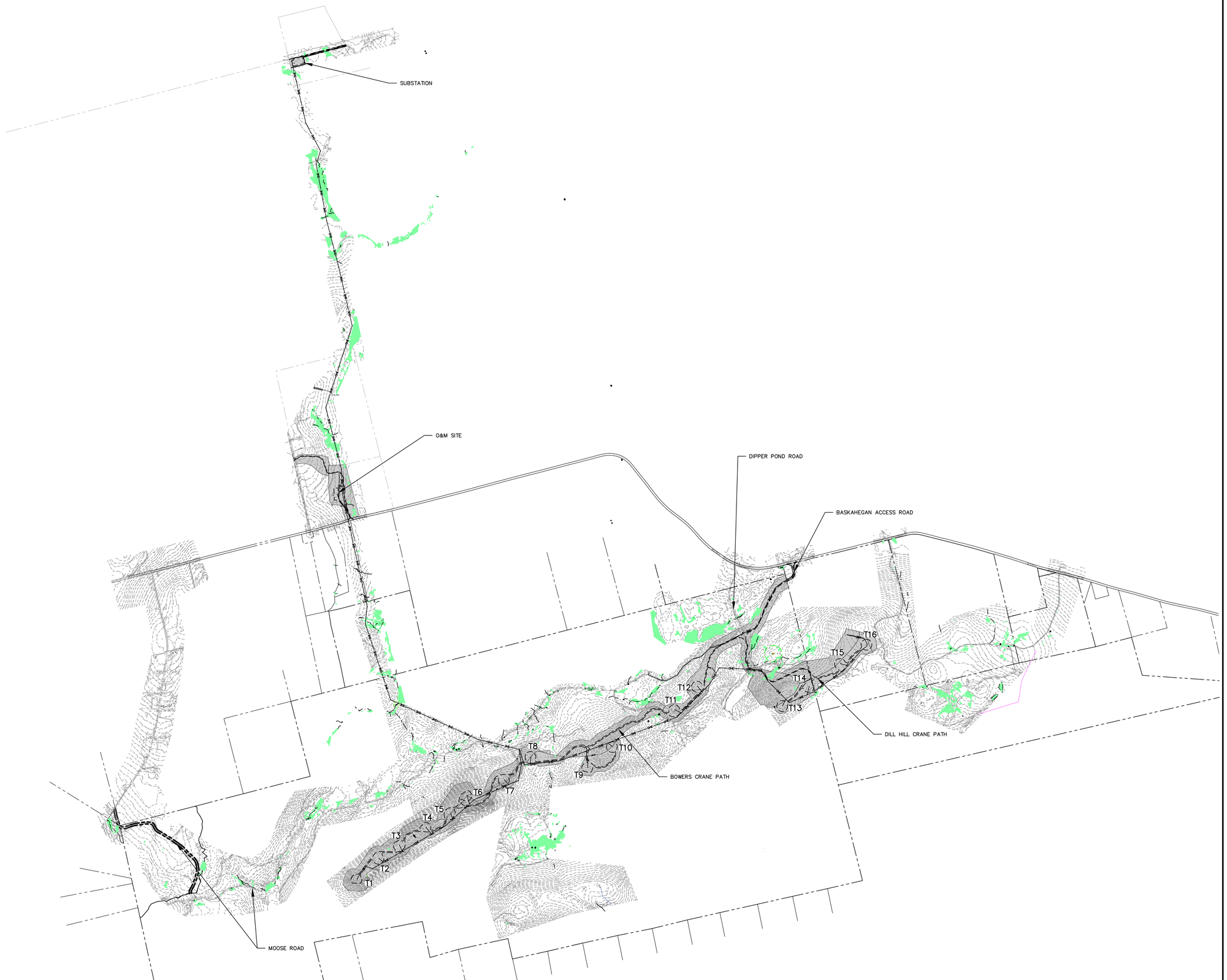
STATE OF MAINE
JODY A. OLSEN
No. 13010
LICENSED PROFESSIONAL ENGINEER
No. DACS-NEA 2011

Project No.
83328E

Engineer
SEWALL
AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
JAMES W. SEWALL COMPANY / *Since 1880*
800 tel 800 fax 4202
SEWALL.COM

Phase
PERMIT

Sheet No.
903



PRELIMINARY NOT FOR CONSTRUCTION

Rev. #	Dwg. By	Description	Date
-	-	-	-

BOWERS WIND PROJECT
-
Project Location: CARROLL PLANTATION & KOSSUTH TOWNSHIP, MAINE
Drawing Description: **PHOSPHOROUS PLAN**

Designed By: JAO
Drawn By: JCH
Date: 09/26/2012
Scale: 1" = 1500'
Checked: BCH
Approved: JSM
Project No.: 83328E
Engineer: SEWALL

Seal: STATE OF MAINE — JOEL A. CRAM — No. 13201 — LICENSED PROFESSIONAL ENGINEER

AN INTEGRATED TEAM OF GEOSPATIAL ENGINEERING, SURVEYING AND NATURAL RESOURCE CONSULTANTS
SEWALL
Since 1880
JAMES W. SEWALL COMPANY
800.688.4202
SEWALL.COM

Phase: PERMIT

Sheet No.: **904**