Application for
Site Location of Development Permit
(Volume I)

DCP Searsport, LLC
Searsport, Maine

Prepared for:

DCP Midstream Partners, LP
Denver, Colorado

Submitted to:

Maine Department of Environmental Protection
Bangor, Maine

Prepared by:

TRC Environmental Corporation
400 Southborough Drive
South Portland, Maine

May 2011

(As Revised June 2011)

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INTRODUCTION

DCP Midstream Partners, LP (DCP Partners) is submitting this Site Location of Development (Site Law) Application to allow for the construction and operation of a proposed liquid propane (LPG) terminal in Searsport, Maine. Forms A and D of the Site Law Application are provided on the following pages. This application is structured following Part II. (Submissions) of the Site Law Application, with each submission requirement addressed in the order it is presented in Part II. As explained in the corresponding section of this application, Section 13: Urban Impaired Stream Submissions, Section 23: Water Vapor, and Section 24: Sunlight do not apply to the DCP Terminal.

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION FORM AND CHECKLIST

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☒ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☒ **Structure** ☐ **Subdivision**	☐ **Major Amendment** ☐ **Minor Amendment**
1. Name of Applicant:	DCP Midstream Partners, LP Attn: Becky Malloy	**6. Name of Agent: (if applicable)**	TRC Environmental Corp. Attn: Steven Wallace
2. Applicant's Mailing Address:	370 17th Street, Suite 2500 Denver, CO 80202	**7. Agent's Mailing Address:**	400 Southborough Drive South Portland, ME 04106
3. Applicant's Daytime Phone #:	303-605-1961	**8. Agent's Daytime Phone # :**	207-879-1930 ext. 124
4. Applicant's Fax #: (if available)		**9. Agent's Fax # :**	
5. Applicant's *e-mail address*: (license will be sent via e-mail)	rpmalloy@dcpmidstream.com	**10. Agent's *e-mail address* (license will be sent via e-mail**	swallace@trcsolutions.com

PROJECT INFORMATION

11. Name of Development:	DCP Searsport Propane Terminal						
12. Map and Lot #'s:	**Map #:** 7	**Lot #:** 56, 60	**13. Deed Reference #'s:**		**Book #:** (See Section 2)	**Page #:** (See Section 2)	
14. Location of Project City/Town:	Searsport	**15. County:**	Waldo	**16. UTM Northing**	16153040.85 USFT	**17. UTM Easting**	1666531.72 USFT
18. Brief Description of Project including total parcel size:	The proposed DCP Terminal is a liquid propane (LPG) terminal in Searsport, Maine. The project facilities would include a LPG bulk storage tank, truck and rail loadout terminal buildings located on a 23.6-acre parcel of land, a LPG transfer pipeline from an existing marine terminal pier to the proposed bulk storage tank, and appurtenances to these facilities.						
19. Type of Direct Watershed: (Check all that apply)	☐ Lake not most at risk ☐ Lake most at risk ☐ Lake most at risk, severely blooming	☒ River, stream or brook ☐ Urban impaired stream ☒ Freshwater wetland	☒ Coastal wetland ☐ Wellhead or public water				
19. Name of Waterbody Project Site drains to:	Long Cove Penobscot Bay						
21. Amount of Developed Area: (on 23.6 acre site)	Total acres: 12.8	Existing Developed area: 0.4 acres	New Developed area: 12.4 acres				
22. Amount of Impervious Area: (on 23.6 acre site)	Total acres: 3.3	Existing Impervious areas 0 acres	New Impervious area: 3.3 acres				
23. Development started prior to obtaining a license?:	☐ **Yes** ☒ **No**						
24. .Development or any portion of the site subject to enforcement action?	☐ **Yes** ☒ **No**	**If yes**, name of enforcement staff involved?					
25. Common scheme of development?:	☐ **Yes** ☒ **No**	**26. Title, Right or Interest:**	☒ **own** ☐ **lease**	☐ **purchase option** ☒ **written agreement**			
27. Natural Resources Protection Act permit required?:	☒ **Yes** ☐ **No**	**If yes:**	☐ **PBR**	☐ **Tier 1** ☒ **Full Permit** ☐ **Tier 2**			
28. Existing DEP Permit number (if applicable):	N/A						
29. Names of DEP staff person(s) present at the pre-application meeting:	Robin Clukey Ken Libby						
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ☒ **No**						

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Signed: Michael S. Richards **Title** DCP General Counsel **Date:** 5-12-2011

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** Michael S. Richards **Date:** 5-12-2011

Sw Bruno Spec. 5-12-11

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: Steven Wallace

Name (print): Steven Wallace

Date: 5-18-11

Re/Cert/Lic No.: _____
Engineer _____
Geologist _____
Soil Scientist _____
Land Surveyor _____
Site Evaluator _____
Active Member of the Maine Bar _____
Professional Landscape Architect _____
Other: Environmental Consultant

"I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #5 for the applicant and #10 for the agent). ***Do not sign if you elect to "opt out" or receive the decision via regular mail.***

Signed (Applicant) Michael S. Richards **Date:** 5-12-2011

and/or

Signed (Agent) Steven Wallace **Date:** 5-18-2011

FORM D 08/08

SUBMISSIONS CHECKLIST (Revised June 2011)

If a provision is not applicable, put "NA"

Section 1. Development description

A. Narrative

__X__ 1. Objectives and details

__X__ 2. Existing facilities (with dates of construction)

B. Topographic map

__X__ 1. Location of development boundaries

__X__ 2. Quadrangle name

C. Construction plan

__X__ 1. Outline of construction sequence (major aspects)

__X__ 2. Dates

D. Drawings

_X___ 1. Development facilities

_X___ a. Location, function and ground area

_X___ b. Length/cross-sections for roads

_X___ 2. Site work (nature and extent)

_X___ 3. Existing facilities (location, function ground area and floor area)

4. Topography

_X___ a. Pre- and post-development (contours 2 ft or less)

_X__ b. Previous construction, facilities and lot lines

__X__ **Section 2. Title, right or interest** (copy of document)

Section 3. Financial capacity

__X__ A. Estimated costs

B. Financing

____ 1. Letter of commitment to fund

__X_ 2. Self-financing

____ a. Annual report

___ b. Bank statement

3. Other

____ a. Cash equity commitment

___ b. Financial plan

_X__ c. Letter

____ 4. Affordable housing information

Section 4. Technical ability (description)

__X__ A. Prior experience (statement)

__X__ B. Personnel (documents)

Section 5. Noise

_NA___ A. Developments producing a minor noise impact (statement)

____ 1. Residential developments

____ 2. Certain non-residential subdivisions

____ 3. Schools and hospitals

____ 4. Other developments

____ a. Type, source and location of noise

____ b. Uses, zoning and plans

____ c. Protected locations

____ d. Minor nature of impact

____ e. Demonstration

__X__ B. Developments producing a major noise impact (full noise study)
__X__ 1. Baseline
__X_ a. Uses, zoning and plans
__X__ b. Protected locations
_NA_ c. Quiet area
__X__ 2. Noise generated by the development
__X_ a. Type, source and location of noise
__X_ b. Sound levels
__X_ c. Control measures
__X_ d. Comparison with regulatory limits
_NA_ e. Comparison with local limits

__X__ **Section 6. Visual quality and scenic character**(narrative, description, visual impact analysis)

__X__ **Section 7. Wildlife and fisheries** (narrative)

_X___ **Section 8. Historic sites** (narrative)

__X__ **Section 9. Unusual natural areas** (narrative)

Section 10. Buffers
__X__ A. Site plan and narrative

Section 11. Soils
__X__ A. Soil survey map and report
__X__ 1. Soil investigation narrative
__X__ 2. Soil survey map
_NA__ B. Soil survey intensity level by development type
1. Class A (High Intensity) Soil Survey
2. Class B (High Intensity) Soil Survey
3. Class C (Medium High-Intensity) Soil Survey
4. Class D (Medium Intensity) Soil Survey
_X__ C. Geotechnical Investigation
__X__ D. Hydric soils mapping

Section 12. Stormwater management
_X___ A. Narrative
_X___ 1. Development location
_X___ 2. Surface water on or abutting the site
_X___ 3. Downstream ponds and lakes
_X___ 4. General topography
_X___ 5. Flooding
_X___ 6. Alterations to natural drainage ways
_X___ 7. Alterations to land cover
_X___ 8. Modeling assumptions
9. Basic standard
_X___ 10. Flooding standard
_X___ 11. General standard
_X___ 12. Parcel size
_X___ 13. Developed area
_X___ 14. Disturbed area
_X___ 15. Impervious area
_X___ B. Maps
_X___ 1. U.S.G.S. map with site boundaries
_X___ 2. S.C.S. soils map with site boundaries
_X___ C. Drainage Plans (a pre-development plan and a post-development plan)
_ X__ 1. Contours

_X___ 2. Plan elements
_X___ 3. Land cover types and boundaries
_X___ 4. Soil group boundaries
_X___ 5. Stormwater quantity subwatershed boundaries
_X___ 6. Stormwater quality subwatershed boundaries
_X___ 7. Watershed analysis points
_X___ 8. Hydrologic flow lines (w/flow types and flow lengths labeled)
_X___ 9. Runoff storage areas
_X___ 10. Roads and drives
_X___ 11. Buildings, parking lots, and other facilities
_X___ 12. Drainage system layout for storm drains, catch basins, and culverts
_X___ 13. Natural and man-made open drainage channels
_X___ 14. Wetlands
_X___ 15. Flooded areas
_X___ 16. Benchmark
_X___ 17. Stormwater detention, retention, and infiltration facilities
_X___ 18. Stormwater treatment facilities
_X___ 19. Drainage easements (to be provided)
_X___ 20. Identify reaches, ponds, and subwatersheds matching stormwater model
_NA_ 21. Buffers
_X___ D. Runoff analysis (pre-development and post development)
_X___ 1. Curve number computations
_X___ 2. Time of concentration calculations
_X___ 3. Travel time calculations
_X___ 4. Peak discharge calculations
_X___ 5. Reservoir routing calculations
_X___ E. Flooding Standard
_NA_ 1. Variance submissions (if applicable)
____ a. Submissions for discharge to the ocean, great pond, or major river
____ i. Map
____ ii. Drainage plan
____ iii. Drainage system design
____ iv. Outfall design
____ v. Easements
____ b. Insignificant increase
____ i. Downstream impacts
____
____ c. Submissions for discharge to a public stormwater system
____ i. Letter of permission
____ ii. Proof of capacity
____ ii. Outfall analysis and design (pictures)
_X__ 2. Sizing of storm drains and culverts
_NA_ 3. Stormwater ponds and basins
____ a. Impoundment sizing calculations
____ b. Inlet calculations
____ c. Outlet calculations
____ d. Emergency spillway calculations
____ e. Subsurface investigation report
____ f. Embankment specifications
____ g. Embankment seepage controls
____ h. Outlet seepage controls
____ i. Detail sheet
____ j. Basin cross sections
____ k. Basin plan sheet
_NA_ 4. Infiltration systems
____ a. Well locations map
____ b. Sand and gravel aquifer map
____ c. Subsurface investigation report with test pit or boring logs
____ d. Permeability analysis

____ e. Infiltration structure design
____ f. Pollutant generation and transport analysis
____ g. Monitoring and operations plan
____ i. Locations of storage points of potential contaminants
____ ii. Locations of observation wells and infiltration monitoring plan
____ iii. Groundwater quality monitoring plan
_X__ 5. Drainage easement declarations (to be provided)
_X__ F. Stormwater quality treatment plan peak discharge calculations
_X__ 1. Basic stabilization plan
_X__ a. Ditches, swales, and other open channel stabilization
_X__ b. Culvert and storm-drain outfall stabilization
_X__ c. Earthen slope and embankment stabilization
_X__ d. Disturbed area stabilization
_X__ e. Gravel roads and drives stabilization

_X__ 2. General Standard
_X__ a. Calculations for sizing BMP
_X__ b. Impervious area calculation
_X__ c. Developed area calculation
_X__ d. Summary spreadsheet of calculations

_NA_ 3. Phosphorus control plan
____ a. Calculations for the site's allowable phosphorus export
____ b. Calculations for determining the developed site's phosphorus export
____ c. Calculations for determining any phosphorus compensation fees
_NA_ 4. Offset Credits
____ a. Urban impaired stream
____ Offset credit calculation
____ b. Phosphorus credit determination
____ i. Location map
____ ii. Scaled plan
____ iii. Title and right
____ iv. Demolition plan
____ v. Vegetation plan
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_X__ 5. Runoff treatment measures
_X__ a. structural measures
_X__ i. Design drawings and specifications
_X__ ii. Design calculations
_X__ iii. Maintenance plan
_NA_ iv. TSS removal or phosphorus treatment factor determinations
_X_ v. Stabilization plan
_NA__ b. Vegetated buffers
____ i. Soil survey
____ ii. Buffer plan
____ iii. Turnout and level spreader designs
____ iv. Deed restrictions
_NA_ 6. Control plan for thermal impacts to coldwater fisheries
_NA_ 7. Control plan for other pollutants
_X_ 8. Engineering inspection of stormwater management facilities

__X__ G. Maintenance of common facilities or property
__X__ 1. Components of the maintenance plan
__X__ A. Maintenance of facilities by owner or operator
__X__ 1. Site owner or operator (name legally responsible party)
__X_ 2. Contact person responsible for maintenance
__NA__ 3. Tranfer mechanism
__X__ 4. List of facilities to be maintained

__X__ 5. List of inspection and maintenance tasks for each facility
__NA__ 6. Identifications of any deed covenants, easements, or restrictions
__X __ 7. Sample maintenance log
__NA__ 8. Copies of any third-party maintenance contracts
__NA__ B. Maintenance of facilities by homeowner's association
____ 1. Incorporation documents for the association
____ 2. Membership criteria
____ 3. Association officer responsible for maintenance
____ 4. Establishment of fee assessment for maintenance work
____ 5. Establishment of lien system
____ 6. Reference to department order(s) in association charter
____ 7. Tranfer mechanism from developer to association
____ 8. List of facilities to be maintained
____ 9. Identification of any deed covenants, easements, or restrictions
____ 10. Renewal of covenants and leases
____ 11. List of inspection and maintenance tasks for each facility
____ 12. Sample maintenance log
____ 13. Copies of any third-party maintenance contracts
__NA__ C. Maintenance of facilities by municipality or municipal district
____ 1. Identification of the municipal department or utility district
____ 2. Contact person responsible for maintenance
____ 3. Evidence of acceptance of maintenance responibility
____ 4. Tranfer mechanism from developer
____ 5. List of facilities to be maintained
____ 6. List of inspection and maintenance tasks for each facility
____ 7. Identifications of any deed covenants, easements, or restrictions
____ 8. Sample maintenance log
__X__ 2. General inspection and maintenance requirements
__X__ a. Drainage easements (to be provided)
__X_ c. Roadways and parking surfaces
__NA_ d. Stormwater detention and retention facilities
____ 1. Embankment inspection and maintenance
____ 2. Outlet inspection and clean-out
____ 3. Spillway maintenance
____ 4. Sediment removal and disposal
__NA__ e. Stormwater infiltration facilities
____ 1. Sediment protection plan
____ 2. Infiltration rehabilitation plan
____ 3. Sediment removal and disposal
__NA__ 4. Groundwater monitoring plan
__NA__ f. Proprietary treatment devices
__NA__ g. Buffers
__NA__ h. Other practices and measures

Section 13. Urban Impaired Stream Submissions

_NA__ 1. Off-site credits
_NA__ 2. Compensation fees (Urban Impaired Stream/Phosphorus)
_NA__ 3. Development impacts

Section 14. Basic Standards

_X__ A. Narrative
_X__ 1. Soil types
_X__ 2. Existing erosion problems
_X__ 3. Critical areas
_X__ 4. Protected natural resources
_X__ 5. Erosion control measures
_X__ 6. Site stabilization
_X__ B. Implementation schedule

_X__ C. Erosion and sediment control plan
_X__ 1. Pre-development and post-development contours
_X__ 2. Plan scale and elements
_X__ 3. Land cover types and boundaries
_X__ 4. Existing erosion problems
_X__ 5. Critical areas
_X__ 6. Protected natural resources
_X__ 7. Locations (general)
_X__ 8. Locations of controls
_X__ 9. Disturbed areas
10. Stabilized construction entrance
_X__ D. Details and specifications (for both temporary and permanent measures)
_X__ E. Design calculations
_X__ F. Stabilization plan
_X__ 1. Temporary seeding
_X__ 2. Permanent seeding
_NA__ 3. Sodding
_X__ 4. Temporary mulching
_X__ 5. Permanent mulching
_X__ G. Winter construction plan
_X__ 1. Dormant seeding
_X__ 2. Winter mulching
_NA__ H. Third-party inspections
____ 1. Inspector's name, address, and telephone number
____ 2. Inspector's qualifications
____ 3. Inspection schedule
____ 4. Contractor contact
____ 5. Reporting protocol

Section 15. Groundwater

_X__ A. Narrative
_X__ 1. Location and maps
_NA_ 2. Quantity
_NA_ 3. Sources
_X__ 4. Measures to prevent degradation
_X_ B. Groundwater protection plan
_NA_ C. Monitoring plan
____ 1. Monitoring points
____ 2. Monitoring frequency
____ 3. Background conditions
____ 4. Monitoring parameters
____ 5. Personnel qualifications
____ 6. Proof of training
____ 7. Equipment and methods
____ 8. Quality assurance/quality control
____ 9. Reporting requirements
____ 10. Remedial action plan
_NA_ D. Monitoring well installation report
____ 1. Well location map
____ 2. Elevation data
____ 3. Well installation data
____ 4. Well construction details
____ 5. Borehole logs
____ 6. Summary of depth measurements
____ 7. Characteristics of subsurface strata
____ 8. Well installation contract
____ 9. Schematic cross-sections
____ 10. Monitoring point summary table

____ 11. Protective casing
____ 12. On-site well identification

Section 16. Water supply

_X__ A. Water supply method
_NA_ 1. Individual wells (evidence of sufficient/healthful supply)
____ a. Support of findings by well drillers
____ b. Support of findings by geologist
_NA_ 2. Common well(s) (reports)
____ a. Hydrogeology report
____ b. Engineering report
____ c. Well installation report
____ d. Long-term safe yield and zone of influence determination
____ e. Public water supply
____ i. Proposed well or wells
____ ii. Existing well or wells
____ iii. Water quality analysis
_NA_ 3. Well construction in shallow-to-bedrock areas
_NA_ 4. Additional information
_X__ 5. Off-site utility company or public agency
_X_ 6. Other sources (to be determined)
_NA_ B. Subsurface wastewater disposal systems (locations of systems and wells)
_X__ C. Total usage (statement re: total anticipated water usage)

Section 17. Wastewater disposal

_NA_ A. On-site subsurface wastewater disposal systems (investigation results)
____ 1. Site plan
2. Soil conditions summary table
____ 3. Logs of subsurface explorations
4. Additional test pits, borings or probes
____ a. Soil conditions A
____ b. Soils with Profiles 8 and 9 parent material
____ c. Soil conditions D
____ d. Disposal field length 60 feet or greater
____ 5. 3-bedroom design
____ 6. Larger disposal systems
a. System design details
____ b. Plan view
____ c. Cross sections
____ d. Test pit data
____ e. Mounding analysis
_NA_ B. Nitrate-nitrogen impact assessment
____ 1. When required
____ a. Exempted____
i. Conventional systems meeting certain setbacks
____ ii. Denitrification systems
____ b. Special conditions and other exemptions
____ 2. Assumptions
____ a. Initial concentration
____ b. Background concentration
____ c. Contribution from development
____ d. Mixing and dilution
____ e. Severe-drought scenario
____ f. Wastewater flow to subsurface wastewater disposal fields
____ 3. Assessment report minimum requirements
____ a. Narrative and calculations
____ b. Site plan

____ i. Well locations
____ ii. 10 mg/l and 8 mg/l isocons
____ iii. Groundwater contours and groundwater flow divides
____ c. References
____ 4. Denitrification systems
____ a. Design plans and specifications
____ b. Installation information
____ c. Monitoring plan
____ d. Maintentance
____ e. Backup system
_ X_ D. Municipal facility or utility company letter
_NA_ E. Storage or treatment lagoons

__X_ **Section 18. Solid waste** (list: type, quantity, method of collection and location)
__X_ A. Commercial solid waste facility (final disposal location)
__X_ B. Off-site disposal of construction/demolition debris (final disposal location)
X C. On-site disposal of woodwaste/land clearing debris
__X_ 1. Applicability of rules (evidence re: applicability of rules)
2. Burning of wood wastes
_X__ a. Delineation on site plan
_X__ b. Plans for handling unburned woodwaste and woodash
_X__ c. Evidence of capacity to accept waste (approved facility)
_X__ d. Usage of materials
_X__ e. Data on mixing ratios and application rates
_X__ D. Special or Hazardous Waste

Section 19. Flooding
_X__ A. Explanation of flooding impact
_X__ B. Site plan showing 100-year flood elevation
_NA_ C. Hydrology analysis
_X__ D. FEMA flood zone map with site boundaries

Section 20. Blasting
_NA_ A. Site Plan or map
_NA__ B. Report
1. Assessment
2. Blasting plan

Section 21. Air emissions (narrative and summary)
_X__ A. Point and non-point sources identified
_X__ B. Emission components (point sources)

Section 22. Odors
_X__ A. Identification of nature/source
_X_ B. Estimate of areas affected
_X_ C. Methods of control)

_NA_ **Section 23. Water vapor** (narrative)

_NA_ **Section 24. Sunlight** (statement and drawing, if required)

Section 25. Notices
_X__ A. Evidence that notice sent
_X__ B. List of abutters for purposes of notice

Supplimental requirements for Wind Energy Developments only:

Section 26. Shadow flicker

_NA_ A. A copy of the Windpro Anaylsis and associated narrative

Section 27. Public Safety

_NA_ A. Design safety certifications or other documents attesting to the safety of the wind turbine equipment.
____ B. Evidence pertaining to overspeed controls
____ C. Site plan documenting safety setbacks zones for each wind turbine
____ B. Other documents as necessary to demonstrate safety considerations

Section 28. Tangible Benefits

_NA_ A. Narrative demonstration of tangible benefits

Section 29. Decommissioning

_NA_ A. Description of implementation trigger for decommissioning
____ B. Description of extent of decommissioning
____ C. Itemization of total cost to complete decommissioning
____ D. Demonstration of financial assurance for completeness of decommissioning plan

Section 30. Generating Facility-visual Quality and Scenic Character

_NA_ A. (narrative, description, visual impact analysis)

SECTION 1. DEVELOPMENT DESCRIPTION

This section provides a description and objectives of the proposed development, the site to be developed and affected land area, information regarding the construction timing and sequence, and detailed drawings that show both existing and proposed site conditions.

1.A Project Description and Purpose

DCP Partners is submitting this application for a Site Law Permit to authorize the construction and operation of an LPG terminal in Searsport, Maine. The DCP LPG Terminal (the DCP Terminal) would be owned and operated by DCP Searsport, LLC (DCP), a wholly-owned subsidiary of DCP Partners. The property to be developed is adjacent to two existing petroleum storage and distribution facilities operated by Sprague Energy Corporation (Sprague) and Irving Oil Corporation (Irving) and known as the Mack Point Intermodal Cargo Terminal (the Mack Point Terminal). The Mack Point Terminal has an existing Liquid Cargo Pier, an existing Dry Cargo Pier, numerous existing truck load out facilities for products other than LPG, and is serviced by a Montreal, Maine and Atlantic Railroad spur. DCP would receive LPG from ships docked at the existing Dry Cargo Pier (the pier) pumped through a new, approximately one-mile long, predominantly above ground pipeline to a new bulk storage tank at the DCP Terminal. DCP would then load trucks and rail cars at the DCP Terminal for distribution of LPG throughout Maine and potentially to other locations in northern New England. The location of the proposed LPG terminal is shown on the United States Geological Survey (USGS) Quad excerpt, provided as Figure 1-1.

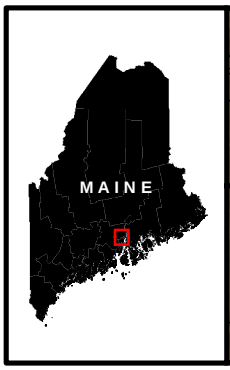
DCP Partners operates its wholesale propane business segment under the name Gas Supply Resources, the largest supplier of propane to the State of Maine. DCP Partners is owned by DCP Midstream, LLC, a private company headquartered in Denver, Colorado, and jointly owned by Spectra Energy Corp and ConocoPhillips Company.

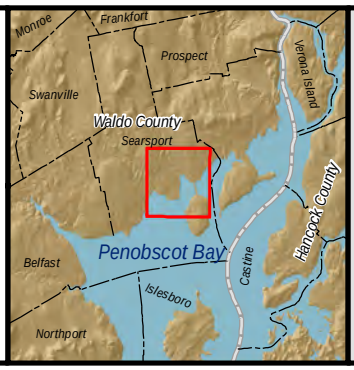
1.A.1 Proposed Facility Description

Construction of the DCP Terminal will entail the installation of one LPG bulk storage tank, ship unloading facilities on the existing pier, a truck loading station, and a rail car loading station. The facility will also include the installation of ancillary equipment such as methyl-mercaptan storage tanks, an LPG fuel tank, three propane-fired heaters, an emergency propane flare, an emergency diesel-fueled generator, and an emergency diesel-fueled fire water pump and fire water storage tank. Administration, compressor and motor control center buildings, five electric compressors, an electric air fin cooler, and four electric loading pumps will also be required. The facility will operate 24 hours per day, typically seven days per week. The level of facility operation will be highest during the peak heating season. A simplified process flow illustration is provided as Figure 1-2. Pre- and Post-Development Site Plans are provided in Appendix 1A.

<u>Ship Unloading</u>

The DCP Terminal will utilize the existing Dry Cargo Pier operated by Sprague Energy to receive shipments of liquid propane for offloading to its LPG storage tank. The maximum throughput of the DCP Terminal is based on receiving six ships per year, with each vessel carrying up to approximately 33,000 metric tons (MT) (approximately 410,000 barrels (bbl)) of liquid propane maintained at approximately -40 degrees Fahrenheit (°F). The actual number of ships per year could range from four to eight; however, the maximum amount of LPG received is not expected to exceed 200,000 MT (approximately 2,476,000 bbl) annually. A portable marine unloading arm manifold will be used to connect the LPG





LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

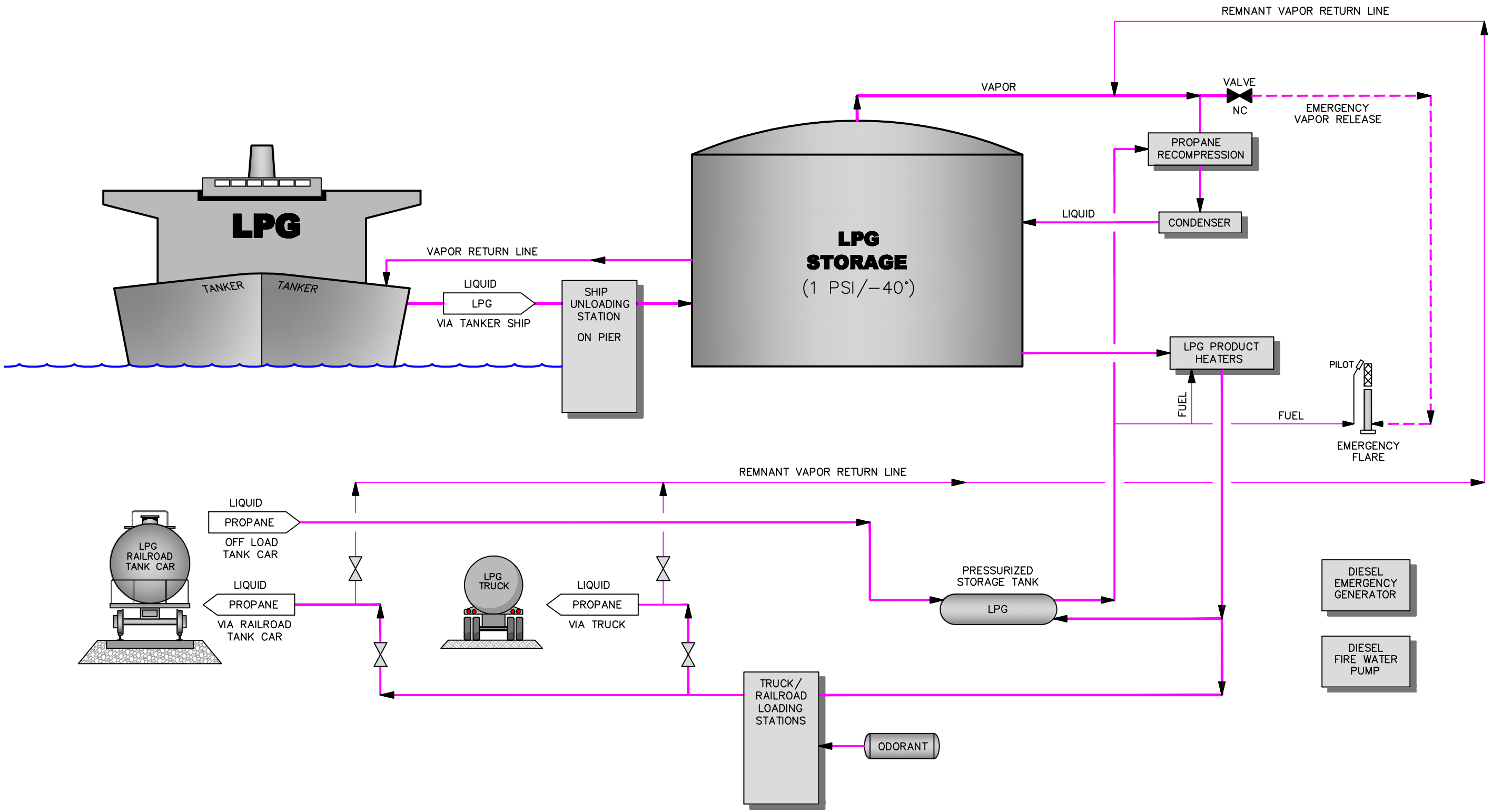
Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, Maine

Figure 1-1:
Site Location Map

Created by: TRC 5/4/2011



SIMPLIFIED PROCESS FLOW DIAGRAM

REV	DATE	REVISION	BY	CHK'D	ENGR.	ENGR. MGR.
0	11–11–10	PROPOSED FACILITY LAYOUT	J.R.E.	D.W.G.		
1	11–29–10	ADDED FIRE WATER PUMP	J.R.E.	D.W.G.		
2	12–6–10	REMOVED PROPANE BULLET TANKS	J.R.E.	D.W.G.		
3	2–28–11	ADDED VAPOR RETURN LINE & LPG BULLET TANKS	J.R.E.	D.W.G.		
4	4–1–11	ADDED RAILROAD TANK CAR OFF LOAD	J.R.E.	D.W.G.		
5	4–15–11	FUEL CONNECTION FROM BULLET TANK TO LPG HEATERS	J.R.E.	R.P.M.		

dcp Midstream Partners

SEARSPORT PROPANE DISTRIBUTION TERMINAL

Searsport, Maine

\data\EhsDrawings\Mapping\PropaneTerminals\Searsport_Flow

discharge piping on the ship with a new 16-inch, insulated unloading pipe located beneath or alongside the pier. The unloading pipe will extend approximately one mile, generally above ground, and transfer the LPG to the bulk storage tank at the new terminal. An insulated 10-inch vapor return line will transfer excess vapors displaced from the storage tank during the fill process back to the vessel for cooling and reintroduction into the liquid propane being offloaded. Each vessel will be at the dock for approximately 36 to 48 hours for offloading.

LPG Bulk Storage Tank

The outdoor LPG bulk storage tank will be a vertical, insulated domed tank with diameter of approximately 202 feet and height above ground of approximately 138 feet. The storage tank will have a capacity of 540,000 bbl (approximately 22.7 million gallons) and vertical walls approximately 102 feet high. The propane will be stored in a liquid state at essentially atmospheric pressure (0.5-1.5 pounds per square inch gauge (psig)) by maintaining the temperature between -44 and -42° F. Boil-off vapors will be collected and returned to the tank using refrigeration units. The refrigeration units will consist of three first stage and two second stage electric-powered compressors to pressurize the vapor followed by an electric-powered air fin cooler to condense the boil off vapors into liquid for reintroduction back into the bulk storage tank. The compressors will be located inside a metal sided, acoustically treated building that is approximately 60 feet long by 40 feet wide and 50 feet high at the peak of the roof.

The storage tank will have an emergency control valve to route vapors to an emergency flare to protect against an over-pressurization situation of the storage tank. The emergency control valve will be set to begin flaring if the tank pressure reaches 1.8 psig.

The tank will also be equipped with process safety valves (PSV) that vent to atmosphere to prevent a catastrophic tank failure if flaring is insufficient to maintain the tank pressure at a safe level. Three PSVs will be set to open if the tank pressure reaches 2.0 psig, and six more will open if the tank pressure reaches 2.2 psig. Other PSVs will also be located throughout the facility. These additional PSVs will not vent vapor to the atmosphere; instead, they will route vapors for re-liquefication and re-collection in the bulk storage tank.

Loading Stations

The proposed terminal will have truck and rail car loading capabilities, although the rail loading facilities are to be constructed at a later date. To prepare the LPG for loading into either trucks and/or rail cars, it will be heated to near ambient temperature by three outdoor propane-fired heaters which also pressurizes the propane. The warmed, pressurized LPG will be fed to the loading stations and into a truck or rail car. Methyl-mercaptan will be injected at the loading stations for odorization as a truck or rail car is filled.

The truck loading station will have three loading racks. One future rail car loading rack is also planned, which will be able to load up to four rail cars at a time. Each loading rack will be fed by a 500 gallon per minute (gpm) electric loading pump located near the bulk storage tank. The LPG that remains in the couplings connecting the fill pipes to the trucks and rail car will be allowed to vaporize in a vapor return line and be routed for re-liquefication and re-collection in the bulk storage tank. Table 1-1 provides the maximum possible loading schedule, based on the design and maximum throughput of the facility.

Table 1-1
Maximum Loading Schedule

Loading Station	Loadouts per hour	Loadouts per day	Loadouts per year
Truck	9	144	9,000
Rail Car	1	8	600

Table 1-2 provides a typical loading schedule during the peak heating season.

Table 1-2
Typical Loading Schedule

Loading Station	Loadouts per hour	Loadouts per day
Truck	4-6	50-60
Rail Car	1	8

Emergency Flare

The proposed terminal will include an emergency flare, expected to be approximately 75 feet tall, with a continuously operating propane pilot light. The flare will be sized to handle storage tank boil-off during process upsets, but is not expected to be used during ship unloading. In addition to infrequent process upsets such as the PSV venting described previously, emergency use of the flare will be required during any situation resulting in the loss of refrigeration for the LPG storage tank. Occurrences of insufficient refrigeration are expected to be limited to periods of commercial power loss since the proposed emergency generator will not be capable of powering the refrigeration units. While the facility will have redundant refrigeration capacity, there could be a limited number of occasions when multiple equipment failures could require the use of the flare as well. Typically, the flare is expected to operate less than a total of approximately 500 hours per year.

Other Equipment

Other significant equipment at the proposed facility would include:

- four pressurized outdoor 1,000-gallon methyl mercaptan storage tanks to odorize the propane as it enters a truck or rail car;
- a pressurized outdoor 90,000-gallon LPG storage tank that would provide the fuel for the heaters and flare pilot;
- a 150 kilowatt emergency generator with an associated 640-gallon diesel fuel storage tank located inside an approximately 60-foot long by 20-foot wide by 20-foot high motor control center building;
- a 175 horsepower emergency fire water pump with a separate 280-gallon diesel fuel storage tank located inside a small pump house;
- a 450,000-gallon fire water storage tank that will be approximately 40 feet in diameter by 50 feet tall; and
- an administration building approximately 120 feet long by 40 feet wide by 20 feet high to provide office, communications and bathroom facilities for terminal personnel; dispatcher facilities for truck and rail car loadout; house the terminal control and monitoring equipment; etc.

1.A.2 Existing Site Description and Facilities

The location of the proposed LPG terminal is shown on Figure 1-1. The terminal property is situated between U.S. Route 1 and the existing railroad spur terminating at Mack Point. A LPG storage tank and containment area, associated truck and rail car loading facilities, administration building, ancillary terminal equipment and a portion of the aboveground pipeline connecting the storage tank with the pier would be located on two abutting parcels of land totaling approximately 23.6 acres (the upper parcel), to be owned by DCP. An existing underground oil pipeline traverses the northwest corner of the upper parcel and will be unaffected by the proposed development.

This portion of the project area is currently almost entirely forested with early successional/hardwood sapling and more mature secondary growth components. The secondary growth areas are comprised of a mix of conifers and hardwoods. Several shallow to deep drainage swales, formed in silty textured glacio-marine surficial deposits and containing freshwater wetlands and stream components, run across the site in a general northwest to southeast orientation. Forested and scrub-shrub freshwater wetland pockets are also present. The topography slopes downward from U.S. Route 1 towards Long Cove to the southeast. Existing elevations range from approximately 80 to 12 feet above mean sea level. The site is bounded by commercial and residential development along U.S. Route 1 to the northwest; residential land, small forested patches, and the railroad to the north, northeast, and southeast; and small forested patches and residences along Station Avenue to the south and southwest. Of this, approximately 19.7 acres will be permanently developed and maintained as part of the LPG storage facility, truck and rail loading stations, and a portion of the LPG transfer pipeline. Approximately 19.8 acres of this land area is zoned for Industrial use by the Town of Searsport with the remaining approximately 3.8 acres zoned for Commercial use.

A fifty-foot wide, approximately 3,840-foot long easement corridor for the remainder of the pipeline would extend from the upper parcel through the Industrially-zoned Irving facility to the pier. This easement would consist of approximately 4.4 acres of land, parts of which are owned by Sprague and the rest by the Maine Port Authority. Approximately 300 linear feet (approximately 0.3 acre) of this easement is primarily undeveloped, wooded land. The remainder is predominantly developed as portions of the existing Irving and Sprague facilities, the railroad spur, roads, or appears to have been previously disturbed during the development of existing or previous land uses and now supports meadow and early successional growth. The topography along the easement corridor is generally flat, with silty textured glacio-marine sediments and fill materials.

The existing ship traffic at the two piers totals approximately 136 vessels per year on average with a maximum to date of 166 vessels per year. The number of trucks currently entering and exiting the Mack Point Terminal is approximately 20,000 per year on average with up to approximately 30,000 trucks per year as a maximum. The existing rail traffic is typically approximately 2,500 rail cars per year, averaging about 10 to 15 cars at a time.

An additional approximately 20.1-acre parcel of land, consisting of approximately six acres of forested upland between the railroad spur and Long Cove with the remainder consisting of tidal wetlands and mudflat, will be owned by DCP. The area above high tide contains similar drainages and associated bands of freshwater wetland, one of which originates on the upper parcel. No development is proposed for this area. This area is also zoned as Industrial.

Table 1-3 provides a summary of the land area requirements for the proposed facilities.

Table 1-3
Land Requirement Summary

Parcel	Total Area	Area Affected by Construction/Operation
Purchased for Terminal Development	23.6 acres	19.7 acres
Purchased - to Remain Undeveloped	20.1 acres	-0-
Pipeline Easement	4.4 acres	4.4 acres
TOTALS	48.1 acres	24.1 acres

1.B Topographic Map

Figure 1-1 is an 8½ by 11-inch excerpt from the Searsport and Castine Quadrangles that shows the proposed DCP Terminal site.

1.C Construction Plan

Construction of the DCP Terminal is expected to begin in the late fall of 2011 and take approximately 18 months of active construction to complete. The anticipated in-service date is August of 2013 for full operations using LPG distribution by truck. The schedule for construction and in-service of the rail car loading facility is unknown at this time.

The general construction procedures consist of clearing and grading the site, installation of foundations, installation of the structures, facility equipment and the transfer pipeline, testing, and final clean up and stabilization of the site.

Clearing and Grading

The first construction activity to occur on-site will be to clear the existing trees and woody vegetation on the upper parcel. Stumps will be removed and either ground on-site to create erosion control mix, burned or otherwise disposed of appropriately on-site, or hauled off-site grinding and reuse (by others) or to an approved off-site disposal facility.

Grading/excavation of cleared areas will then begin to "rough in" the bulk tank containment area and provide level surfaces for the building foundations and work areas. The permanent site access ways and parking areas will be graded at this time as well, along with installation of stabilized construction entrances. Although large rocks are not expected to be common, those dislodged during excavation will be reused as fill or properly disposed of on–site, or hauled off-site for reuse (by others) or disposal.

Installation of various erosion and sedimentation controls will following initial clearing and continue as conditions allow during stump removal, excavation and grading. These controls will be installed and maintained in accordance with the site-specific erosion and sedimentation control measures provided in Section 14: Basic Standards Submissions. Additional details regarding the handling and disposal of stumps and excess rock are provided in Section 18: Solid Waste. Culverting and relocating a portion of a stream that currently runs through the central portion of the site will be completed as part of the initial earthwork as well. This will effectively divert this flow of water to the perimeter of the construction area. Relocation of a portion of this stream is described in greater detail in the Natural Resources Protection Act (NRPA) permit application for the DCP Terminal.

It is expected that clearing and completion of the major excavation and rough grading of the site will occur from construction start-up in the late fall of 2011 and be completed by the end of February 2012 to take advantage of frozen ground conditions and prepare the site for the beginning of foundation work following spring thaw in 2012. Once the clearing, excavation and grading work is complete, the site will be stabilized for overwinter conditions, and no further ground disturbance will occur until after spring thaw as ground conditions allow.

Foundations

Once the upper site has been cleared and rough graded, excavation will begin for installation of the LPG bulk storage tank and building foundations. Work will likely focus initially on installation of the bulk storage tank, with other building and structure installation to follow. The foundation for the bulk storage tank, water tank and the compressor building will require a large mass of reinforced concrete to provide stable support. The foundation excavations must be below the site's prevalent frost line, and adequate forms and reinforcing bar will be installed. High strength concrete will then be poured to the appropriate level. Rigid controls on concrete quality and installation procedures will ensure suitable foundations are obtained. Blasting is not expected to be required to excavate for foundations, but is discussed further in Section 20.

Construction of the Bulk Storage Tank and Other Structures

As the various foundations are completed and cured sufficiently, construction of the above ground structures will begin, again with the earlier effort focused on the bulk storage tank. As structures are completed, piping and electrical wiring will be installed and connected, and plumbing will be installed in the administration building. Commercial power and telephone will be established at the site as soon as possible. Domestic water and sewer will be connected to the administration building as those hook-ups are completed.

Transfer Pipeline Construction

Installation of the transfer pipeline from the pier to the bulk storage tank will occur as a somewhat separate activity. Very little additional grading or clearing will be needed, and minimal ground disturbance will be required. Pipe rack foundations will be installed and sections of pipe will be strung out along the route. The pipe will then be welded, x-rayed, painted, insulated, and installed on the pipeline supports. The portions of the pipeline that must cross railroad tracks and existing roads will be installed underground.

Start-up and Testing

As the various systems and subsystems of the DCP Terminal are completed they will be tested and calibrated for proper operation. The transfer pipeline, storage tanks that are constructed on-site, and other facility components that will contain propane will be pressure tested to ensure their integrity. Typically the testing is accomplished by pressurizing the pipe with water (hydrostatic testing); however, pneumatic testing may also be used for smaller components. Additional information about hydrostatic testing is provided in Sections 16 and 17 of this application. Commissioning and start-up of the DCP Terminal will commence once the new facilities are tested, cleaned and prepared for use, and an initial LPG delivery by truck is made to the site.

Final Clean up and Stabilization

Clean up and stabilization of the DCP Terminal will be an ongoing process throughout construction. Sections of the site perimeter will be final graded, fertilized, seeded and mulched as work is completed and as provided in Section 14 of this application. Other areas more directly involved in daily facility operations will be stabilized with crushed stone and gravel or pavement. Permanent erosion controls will be installed on a similar basis. It is anticipated that most of final stabilization will be complete prior to final testing and start-up of the DCP Terminal.

1.C.1 Environmental Training for Construction

Environmental training will be given to both DCP and contractor personnel whose activities may impact the environment during construction. The level of training will be commensurate with the type of duties of the personnel. The training will be given prior to the start of construction and throughout the construction process, as needed. The training program will cover the Erosion and Sediment Control Plan; procedures for handling and storing petroleum products and hazardous materials; relevant conditions and requirements related to Site Law, Natural Resources Protection Act, and municipal permits; company policies; and any other pertinent information related to the Project. In addition to the chief inspector, all other construction personnel are expected to play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction.

1.D Drawings

Large scale project drawings are provided in Appendix 1A, as follows.

- Pre-Development Site Plans: 1”: 100’ scale plans showing existing conditions, ground cover, topography, tree lines, utilities, property lines, abutters, etc.
- Post-Development Site Plans: 1”: 100’ scale plans showing existing conditions, utilities and topography; proposed property lines; and a layout of the proposed facility with the limits of construction, post-development tree lines and ground cover.

APPENDIX 1A

Pre- and Post-Development Site Plans

(Bound Separately – Volume II)

SECTION 2. TITLE, RIGHT, AND INTEREST

Evidence of DCP's title, right, and interest in the property comprising the project area is provided in Appendix 2A. This includes the purchase and sale agreement between Sprague and DCP for the portion of the upper parcel to be purchased by DCP from Sprague, and use of Mack Point Terminal land up to and including the pier for the proposed pipeline. The purchase and sale agreement between DCP and the former owner of the property located at the corner of Station Avenue and Route 1 is also provided in Appendix 2A.

APPENDIX 2A

Evidence of Title, Right or Interest

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT (this "Agreement") is made and entered into by and between **SPRAGUE ENERGY CORP.**, a Delaware corporation with a mailing address of Two International Drive, Suite 200, Portsmouth, New Hampshire 03801-6809 ("Seller"), and **DCP MIDSTREAM PARTNERS LP**, a Delaware limited partnership with a mailing address of 370 17th Street, Suite 2775, Denver, Colorado 80202 ("Purchaser").

IN CONSIDERATION of the mutual covenants and provisions contained herein, together with other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Purchaser hereby agrees to purchase from Seller and Seller hereby agrees to sell to Purchaser, upon the terms and conditions set forth below, two (2) lots or parcels of land comprising approximately 39.87 acres located in the Town of Searsport, Waldo County, Maine, being a portion of those parcels described in the deed from Bangor Investment Company to Sprague Energy Corp., dated January 15, 1998, and recorded in the Waldo County Registry of Deeds in Book 1755, Page 189, said parcels being more particularly described on Exhibit A and depicted on Exhibit B as "PARCEL 06 –2 A PORTION OF PARCEL P–1 1755/189 (1998) TOTAL AREA 800,174 ± sq. ft. or 18.37 ± Ac." and "n/f SPRAGUE ENERGY CORPORATION PARCEL P–2 1755/189 (1998) TOTAL AREA 876,200 ± sq. ft. or 20.1 ± Ac.", but excluding therefrom the parcel of land described on Exhibit C, said exhibits being attached hereto and incorporated herein by reference (collectively, the "Property").

Terms and Conditions.

1. Effective Date. The Effective Date of this Agreement shall be the later date on which all parties hereto have duly executed this Agreement.

2. Purchase Price. The total purchase price for the Property (the "Purchase Price") shall be [redacted], with the total area of the Property being determined by the Survey pursuant to Section 11(c) below. For the purposes of this Section, the area of the Property used to determine the Purchase Price shall include any and all intertidal land lying between the normal high water mark and the normal low water mark, to the extent the same is owned by Seller. The Purchase Price, subject to adjustments and prorations as set forth in this Agreement, shall be paid by Purchaser or Purchaser's designee to Seller by wire transfer or by a certified check or an attorney-client escrow account check made payable to the order of Seller and delivered to Seller at the Closing (as that term is defined below).

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3. Purchase Consideration. Within two (2) business days after the Effective Date of this Agreement, the Purchaser shall pay to Seller the amount of [redacted] (the "Purchase Consideration"). The Purchase Consideration shall be non-refundable under any circumstances, except in the instance of a Seller misrepresentation pursuant to Section 6(c), or Seller deception or fraud as it relates to the sale of the Property and may be used by Seller immediately for any purposes, provided, however, that the Purchaser shall be given a credit for the amount of Purchase Consideration against the Purchase Price at the Closing.

4. Deed. At the Closing, Seller shall deliver to Purchaser a duly executed and acknowledged Quitclaim Deed with Covenant, in accordance with the Maine Short Form Deeds Act, 33 M.R.S. §§ 761 *et seq.*, (the "Deed"), conveying the Property free of all encumbrances except covenants, conditions, easements, and restrictions of record. The cost for preparation of the Deed and related documents, including documents evidencing Seller's authority to convey the Property and consummate the transaction contemplated herein, shall be the responsibility of Seller and the cost for preparation of any other Closing documents shall be the responsibility of Purchaser.

5. Title. Within ten (10) business days of this Agreement, Seller shall provide to Purchaser copies of all existing title abstracts, policies, surveys, or other title or survey information in its possession or control, which are directly relevant to the Property and the transaction contemplated herein. The cost for any additional title examination, including title insurance premiums, shall be the responsibility of Purchaser. If Purchaser finds title to the Property not to be good and marketable, or if Purchaser's title examination reveals an encumbrance on title that would have a reasonably adverse effect on Purchaser's intended use of the Property for the construction of a propane import terminal, then Purchaser shall notify Seller in writing of any such defect or defects on or before the Due Diligence Deadline (as that term is defined in Section 11(a) below), and Seller shall be given a reasonable period of time, not to exceed thirty (30) days unless otherwise agreed by the parties, to cure the defect or defects, in which case the Closing (as that term is defined in Section 8 below) shall be extended accordingly, if necessary. Seller shall use reasonable efforts to cure any such defect or defects, provided however, that reasonable efforts shall not include the payment of any sum in excess of Two Thousand Five Hundred Dollars ($2,500.00) (unless the defect consists of a mortgage or consensual lien on the Property, in which event Seller shall be required to pay up to the full amount of the Purchase Price to discharge or release the same), nor the acceptance of any material additional liability on the part of Seller, nor shall Seller be required to commence

litigation to cure any such defect or defects. In the event Seller is unable to cure such title defect or defects within the applicable time period, Purchaser, at Purchaser's option, may (1) accept such title as Seller can convey, or (2) terminate this Agreement, upon which termination event Seller shall return the Purchase Consideration and the Additional Purchase Consideration (as that term is defined in Section 9 below), if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement. In the event that, prior to Closing, Purchaser discovers a defect in title that was not of record as of the tenth (10th) day prior to the Due Diligence Deadline, Purchaser shall have the same rights with respect to such defect(s) as set forth above for defects discovered prior to the Due Diligence Deadline.

6. Representations and Warranties.

a. *By Purchaser*. Purchaser, for itself and on behalf of its respective successors and permitted assigns, represents and warrants to Seller that:

i. *Corporate Authority*. Purchaser has full power and authority to enter into this Agreement and to perform all of its obligations hereunder (and the persons signing this Agreement for Purchaser, have full power and authority to sign for Purchaser and to bind it to this Agreement). Prior to Closing, Purchaser shall provide to Seller evidence of Purchaser's authority to purchase and evidence of Purchaser's good standing.

ii. *Patriot Act; Terrorist Organizations*. Neither Purchaser nor any key personnel of Purchaser has engaged or will engage in any dealings or transactions, directly or indirectly, (i) in contravention of the Patriot Act, or any order issued with respect to anti-money laundering by the Office of Foreign Assets Control ("OFAC"), or (ii) in contravention of Executive Order No. 13224, or (iii) on behalf of terrorists or terrorist organizations, including those persons or entities that are included on any relevant lists maintained by the United Nations, North Atlantic Treaty Organization, Organization of Economic Cooperation and Development, OFAC, Financial Action Task Force, U.S. Securities & Exchange Commission, U.S. Federal Bureau of Investigation, U.S. Central Intelligence Agency, U.S. Internal Revenue Service, or any country or organization, all as may be amended from time to time.

iii. *Specially Designated Nationals and Blocked Persons.* Neither Purchaser, nor any key personnel of Purchaser, is or will be a person or entity (i) that is listed in the Annex to or is otherwise subject to the provisions of Executive Order 13224, (ii) whose name appears on OFAC's most current list of "Specially Designated Nationals and Blocked Persons," (which list may be published from time to time in various mediums including, but not limited to, the OFAC website), (iii) who commits, threatens to commit or supports "terrorism", as that term is defined in Executive Order 13224, or (iv) who has been associated with or is otherwise affiliated with any entity or person listed above.

iv. *No Breach of Law or Other Obligations.* The execution, delivery and performance of this Agreement by Purchaser will not constitute a breach or violation of any law, rule, regulation, judgment, order or other decree or contract by which Purchaser may be bound.

v. *Litigation.* There are no suits, legal proceedings or investigations of any nature pending or, to Purchaser's knowledge, threatened against Purchaser or affecting Purchaser that would impair Purchaser's ability to perform its obligations under this Agreement.

b. *By Seller.* Seller, for itself and on behalf of its respective successors and permitted assigns, represents and warrants to Purchaser that:

i. *Corporate Authority.* Seller has full power and authority to enter into this Agreement and to perform all of its obligations hereunder (and the persons signing this Agreement for Seller, have full power and authority to sign for Seller and to bind it to this Agreement). Prior to Closing, Seller shall provide to Purchaser and Purchaser's title insurer evidence of Seller's authority to sell and evidence of Seller's good standing.

ii. *Patriot Act; Terrorist Organizations.* Neither Seller nor any key personnel of Seller has engaged or will engage in any dealings or transactions, directly or indirectly, (i) in contravention of the Patriot Act, or any order issued with respect to anti-money laundering by the Office of Foreign Assets Control ("OFAC"), or (ii) in contravention of Executive Order No. 13224, or (iii) on behalf of terrorists or terrorist organizations, including those persons or entities that are included on any relevant lists

maintained by the United Nations, North Atlantic Treaty Organization, Organization of Economic Cooperation and Development, OFAC, Financial Action Task Force, U.S. Securities & Exchange Commission, U.S. Federal Bureau of Investigation, U.S. Central Intelligence Agency, U.S. Internal Revenue Service, or any country or organization, all as may be amended from time to time.

iii. *Specially Designated Nationals and Blocked Persons.* Neither Seller, nor any key personnel of Seller, is or will be a person or entity (i) that is listed in the Annex to or is otherwise subject to the provisions of Executive Order 13224, (ii) whose name appears on OFAC's most current list of "Specially Designated Nationals and Blocked Persons," (which list may be published from time to time in various mediums including, but not limited to, the OFAC website), (iii) who commits, threatens to commit or supports "terrorism", as that term is defined in Executive Order 13224, or (iv) who has been associated with or is otherwise affiliated with any entity or person listed above.

iv. *No Breach of Law or Other Obligations.* The execution, delivery and performance of this Agreement by Seller will not constitute a breach or violation of any law, rule, regulation, judgment, order or other decree or contract by which Seller may be bound.

v. *Litigation.* There are no suits, legal proceedings or investigations of any nature pending or, to Seller's knowledge, threatened against Seller or the Property, or affecting Seller or the Property that would impair Seller's ability to perform its obligations under this Agreement or to deliver title in the condition set forth herein.

vi. *Hazardous Substances.* Seller has not, and no third party acting for or on behalf of Seller has, released, discharged, stored, or emitted Hazardous Substances on, in, or under the Property in violation of any law, and to Seller's knowledge no such release, discharge, storage, or emission has occurred. Seller has received no notice from any governmental agency indicating that the Property is or is contemplated to be targeted for clean-up of any Hazardous Substances, and Seller has no knowledge of any such pending or threatened clean-up notice or activity. To Seller's

knowledge there are no underground storage tanks located on the Property. For purposes of this Section 6(b)(vi), the term "Hazardous Substances" means any substance or material defined or designated as a hazardous or toxic substance under any applicable law, rule, or regulation.

vii. *Unrecorded Documents.* Seller has no knowledge of any unrecorded easements, liens, agreements, permits, claims of adverse possession or prescriptive rights, or other documents affecting the Property.

viii. *Condemnation.* There is no pending, or, to Seller's knowledge, threatened, condemnation or similar proceeding affecting the Property or any party thereof.

c. *Effect of Representations and Warranties.* Each of the above representations and warranties is material and is relied upon by Seller and Purchaser respectively. Except insofar as one party has advised to the other in writing to the contrary, each of the above representations shall be deemed to have been made as of the Closing and shall survive the Closing. At the Closing, if either party so requests, Purchaser or Seller, as the case may be, shall deliver to the other a certificate in a form reasonably satisfactory to the requesting party's counsel stating that each of the above representations is true and correct as of the Closing. If, before the Closing, Purchaser or Seller discovers any information or facts that would materially change the foregoing warranties and representations, the discovering party shall immediately give notice to the other of those facts and information, and the party receiving such notice shall have the option to terminate this Agreement by delivering written notice of such termination to the other party within five (5) days of receiving such notice and in the case of a Seller misrepresentation hereunder, Seller shall immediately return to Purchaser the Purchase Consideration and any Additional Purchase Consideration, upon receipt of Purchaser's notice of termination.

7. Possession. Seller shall deliver exclusive possession of the Property to Purchaser at the time of the delivery of the Deed, free and clear of all occupants and in the same condition as on the Effective Date, reasonable wear and tear accepted.

8. Closing. The Closing shall take place within thirty (30) days of the Due Diligence Deadline or the date on which all of the Permits (as that term is defined in Section 17

below) are received by Purchaser, whichever is later, provided, however, that the Closing shall occur no later than **March 31, 2011** unless extended in accordance with the provisions of Section 5, Section 9, Section 11(b)(ii), or Section 11(c). The Closing shall be at a time and location mutually convenient to the parties, unless the parties agree to conduct the Closing by mail through a mutually acceptable Closing agent. Purchaser shall be responsible for all costs of closing (other than as expressly set forth in this Agreement), including Closing agent fees, if any, except that each party shall pay its own attorneys' and consultants' fees. At the Closing, Seller shall execute and deliver to Purchaser, against payment of the balance of the Purchase Price, the Deed to the Property.

9. Closing Extension; Additional Purchase Consideration.

a. In the event that the Permit and Approval Contingency set forth in Section 17 below is not satisfied before March 31, 2011, Purchaser may elect to extend the date for Closing by (i) giving written notice to Seller of such election, and (ii) paying to Seller, no later than April 5, 2011, the amount of [redacted] (together with any amounts paid in accordance with Section 9(b) below, the "Additional Purchase Consideration"). In the event that Purchaser elects to extend the date for closing, the Closing shall occur within thirty (30) days of the date on which all of the Permits are received by Purchaser, but not later than **September 30, 2011**, at a time and location mutually convenient to the parties, unless the parties agree to conduct the Closing by mail through a mutually acceptable Closing agent. The Additional Purchase Consideration shall be non-refundable under any circumstances, except in the instance of a Seller misrepresentation pursuant to Section 6(c) or deception or fraud as it relates to the sale of the Property, and may be used by Seller immediately for any purposes, provided, however, that the Purchaser shall be given a credit for the amount of Additional Purchase Consideration against the Purchase Price at the Closing. In the event that written notice of extension is not given, or if the Additional Purchase Consideration is not paid to Seller in accordance with the provisions of this Section 9(a), Seller may elect to terminate this Agreement, upon which event Seller shall retain the Purchase Consideration and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

b. In the event that Purchaser extends the date for Closing in accordance with Section 9(a) and the Permit and Approval Contingency set forth in Section 17 below is not satisfied before September 30, 2011, Purchaser may elect to extend further the date for Closing by (i) giving written notice to Seller of such election, and (ii) paying to Seller, no later than October 5, 2011, the amount of [redacted], which amount shall be included as part of the Additional Purchase Consideration. In the event that Purchaser elects to extend the date for Closing, the Closing shall occur within thirty (30) days of the date on which all of the Permits are received by Purchaser, but not later than **April 30, 2012,** at a time and location mutually convenient to the parties, unless the parties agree to conduct the Closing by mail through a mutually acceptable Closing agent. The Additional Purchase Consideration shall be non-refundable under any circumstances and may be used by Seller immediately for any purposes, provided, however, that the Purchaser shall be given a credit for the amount of Additional Purchase Consideration against the Purchase Price at the Closing. In the event that written notice of extension is not given, or if the Additional Purchase Consideration is not paid to Seller in accordance with the provisions of this Section 9(b), Seller may elect to terminate this Agreement, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration, to the extent paid, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

10. Closing Adjustments. The following pro-rations shall be made based on the date of Closing:

a. Assessments and utilities, if any, shall be prorated as of the Closing;
b. Real property taxes, if applicable, shall be prorated based on the fiscal year of the municipality of Searsport;
c. The Maine real estate transfer tax shall be paid by Seller and Purchaser in accordance with 36 M.R.S.A. § 4641-A, unless either is exempt from paying the same in accordance with 36 M.R.S.A. § 4641-C;
d. The recording fee for the Deed will be paid by Purchaser; and
e. A portion of the purchase price may be withheld at the Closing by Purchaser if required by 36 M.R.S.A. § 5250-A.

11. General Inspections, Environmental Assessment, and Survey.

a. *General Inspections.* Prior to December 31, 2010 (the "Due Diligence Deadline"), Purchaser may conduct reasonable tests and inspections of the Property, provided that Purchaser shall provide reasonable notice to Seller prior to entering upon the Property to conduct any such tests and inspections. Except for minor interruptions or disturbances to operations or customary, minor property damage resulting from the obtaining of environmental samples, Purchaser agrees to and does hereby indemnify and hold harmless Seller against any loss, cost, damage, claims or expense which may arise from its or its agents', employees' or contractors' activities at the Property pursuant to this Section, except to the extent any such loss, cost, damage, claim or expense is attributable to the acts or omissions of Seller, its agents, employees, contractors, guests or invitees, which indemnification shall survive the Closing or the termination of this Agreement. In the event the results of any such tests and inspections are reasonably unsatisfactory to Purchaser, Purchaser may terminate this Agreement upon written notice to Seller, which written notice must be delivered to Seller not more than twenty-one (21) days after the Due Diligence Deadline. Upon termination of this Agreement pursuant to this Section 11(a), the Purchase Consideration and the Additional Purchase Consideration, if applicable, shall be retained by Seller and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

b. *Environmental*

i. Prior to the Due Diligence Deadline, Purchaser may conduct a Phase I environmental site assessment of the Property (the "Phase I Assessment") that is consistent with, among other things, 40 CFR 312 and the State of Maine Department of Environmental Protection's ("MDEP") *Remediation and Waste Management SOP's, Guidance and Guidelines.* Purchaser shall provide reasonable notice to Seller prior to any tests and inspections conducted on the Property for the purposes of the Phase I Assessment. Purchaser shall provide to Seller copies of any reports and supporting materials that are prepared in connection with the Phase I Assessment, which must be provided within five (5) business days of Purchaser's receipt of the same. In the event the Phase I Assessment identifies any recognized environmental conditions ("RECs") that are reasonably unsatisfactory to Purchaser, Purchaser shall provide written

notice to Seller of the same, which written notice must be delivered to Seller not more than seven (7) days after the delivery of the Phase I Assessment report to Seller, or not more than seven (7) days after the Due Diligence Deadline, whichever is earlier. In the event that Seller has not elected, in accordance with the provisions of Section 11(b)(ii) below, to conduct a Phase II environmental site assessment ("Phase II Assessment") or to apply to the MDEP Voluntary Response Action Program pursuant to 38 M.R.S. §343-E (the "VRAP"), Purchaser may terminate this Agreement upon written notice to Seller, which written notice must be delivered to Seller not more than twenty-one (21) days after the completion of the Phase I Assessment report, or not more than twenty-one (21) days after the Due Diligence Deadline, whichever is earlier. Upon termination of this Agreement, the Purchase Consideration and the Additional Purchase Consideration, if applicable, shall immediately be returned by Seller and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

ii. Notwithstanding the provisions of Section 11(b)(i), in the event that the results of the Phase I Assessment identify any RECs that reasonably would require either a Phase II Assessment or application to the VRAP, or both a Phase II Assessment and application to the VRAP, then Seller, in Seller's sole discretion, may elect to conduct the Phase II Assessment and/or to apply to the VRAP at Seller's sole cost and expense. Seller shall provide to Purchaser written notice of such election, which notice must be delivered to Seller not more than fourteen (14) days after the completion of the Phase I Assessment report, or not more than fourteen (14) days after the Due Diligence Deadline, whichever is earlier. If Seller elects to conduct the Phase II Assessment and/or apply to the VRAP, Seller shall be given a reasonable period of time, not to exceed sixty (60) days unless otherwise agreed by the parties, to do so, in which case the Closing shall be extended to occur not more than thirty (30) days following the completion of the Phase II Assessment and/or the issuance of a no action assurance by MDEP, whichever occurs later. If undertaken, Purchaser shall be included as a beneficiary of the Phase II Assessment and/or as an applicant to the VRAP. In the event that either

(Y) the Phase II Assessment identifies any RECs that are reasonably unsatisfactory to Purchaser, or (Z) MDEP does not approve the voluntary action response plan or does not issue a no action assurance pursuant to 38 M.R.S. § 343-E(5) and § 343-E(9), Purchaser may terminate this Agreement upon written notice to Seller, which written notice must be delivered to Seller not more than fourteen (14) days following the completion of the Phase II Assessment. Upon termination of this Agreement in accordance with the provisions of this Section, the Purchase Consideration and the Additional Purchase Consideration, if applicable, shall immediately be returned by Seller and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

c. *Survey.* Purchaser shall have the option to obtain a recordable survey of the Property, prepared by a Maine Professional Land Surveyor reasonably acceptable to Seller, at Purchaser's sole expense (the "Survey"). If Purchaser obtains said survey, or if Seller is in possession or control of a recordable survey of the Property reasonably acceptable to Purchaser and Seller, the Deed shall incorporate a legal description of the Property based on such Survey, provided, however, that the said legal description must be reasonably acceptable to Seller and Purchaser and must be provided to Seller and Purchaser not less than five (5) business days prior to the Closing. If Purchaser elects to obtain a survey, Purchaser shall engage the services of an acceptable professional land surveyor no later than December 31, 2010. Purchaser agrees to engage the surveyor to complete the Survey such that the Survey will be performed for the benefit of Seller, as owner, and Purchaser, as contractual purchaser. Purchaser agrees to furnish a copy of the Survey to Seller within five (5) business days of Purchaser's receipt of the Survey. Within seven (7) days of Purchaser's receipt of the Survey, or within seven (7) days of the Due Diligence Deadline, whichever is earlier, Purchaser shall notify Seller in writing of any encroachments or other matters noted on the Survey which are reasonably unacceptable to Purchaser or which would constitute a title defect under Section 5, above (the "Survey Objection Notice") (collectively, any matters shown on the Survey which are not objected to by Purchaser shall constitute the "Permitted Survey Matters"), in which case the Seller shall be given a reasonable period of time, not to exceed thirty (30) days unless otherwise agreed by the parties, to remove such

objectionable encroachments or other matters, in which case the Closing shall be extended accordingly, if necessary. Seller shall use reasonable efforts to assure the removal and/or remedy of any such objectionable encroachments or other matters, provided however, that reasonable efforts shall not include the payment of any sum in excess of Two Thousand Five Hundred dollars ($2,500.00), nor the acceptance of any material additional liability on the part of Seller, nor shall the Seller be required to commence litigation to cure any such objectionable encroachments or other matters. In the event that Seller is unable to remove or to remedy such objectionable encroachments or other matters within the applicable time period, Purchaser, at Purchaser's option, may (1) accept such title as Seller can convey, subject to such objectionable encroachments or other matters, or (2) terminate this Agreement, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration, if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement.

Notwithstanding anything to the contrary contained in the preceding paragraph, if Seller elects not to remove and/or to remedy any encroachments or other matters to which Purchaser has objected, Seller shall so notify Purchaser in writing no later than fourteen (14) days after receiving the Survey Objection Notice, in which case Seller shall have no obligation to remove any such objectionable encroachments or other matters. No later than seven (7) days following Purchaser's receipt of such written response from Seller, Purchaser may elect either (i) to terminate this Agreement, upon written notice to Seller, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration, if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement, or (ii) to proceed with the purchase of the Property with no reduction in the Purchase Price, in which case the applicable encroachments or other matters objected to by Purchaser in the Survey Objection Notice shall become Permitted Survey Matters.

d. *Confidentiality of Reports.* Purchaser agrees to provide Seller and Seller's counsel with copies of the results of all tests, inspections, studies, reports, and similar information (expressly excluding any reports or analysis of Purchaser's counsel), and further agrees, to the best of its ability, to keep such material

confidential, except as required by applicable law, during the period of Seller's ownership of the Property.

12. Underground Storage Facility. Pursuant to 38 M.R.S. § 563(6), Seller shall execute and deliver to Purchaser at Closing an underground storage facility disclosure.

13. Default. In the event Purchaser fails to fulfill any of Purchaser's obligations hereunder for any reason other than a default by Seller, then Seller may pursue, at Seller's option, any remedies available to it at law or in equity. In the event Seller fails to fulfill any of Seller's obligations hereunder for any reason other than a default by Purchaser, then Purchaser may pursue, at Purchaser's option, any remedies at law or in equity, provided, however, that Purchaser shall not be entitled to seek specific performance.

14. Broker's Commission. Purchaser and Seller represent and warrant to each other that neither party has engaged the services of any real estate broker with respect to this transaction. Purchaser agrees to indemnify and hold harmless Seller from any claims made by any broker should Purchaser's representation in this paragraph be false. Seller agrees to indemnify and hold harmless Purchaser from any claims made by any broker should Seller's representation in this paragraph be false. The foregoing indemnities shall include all legal fees and costs incurred in defense against any such claim, and shall survive the Closing.

15. Risk of Loss. All risk of loss to the Property prior to the Closing shall be borne by Seller. In the event that, prior to the Closing, the Property is destroyed or substantially damaged, Purchaser may either (i) terminate this Agreement, upon written notice to Seller, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration, if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement, or (ii) accept the insurance proceeds payable by reason of such damage or destruction and close this transaction notwithstanding the same and without reduction in the Purchase Price.

16. Condemnation. In the event of the taking of all or any part of the Property by eminent domain proceedings, or the commencement of such proceedings prior to Closing, Seller shall promptly notify Purchaser in writing of such proceedings (each, a "Condemnation Notice"), and Purchaser may, at its option, either (i) terminate this Agreement, upon written notice to Seller, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration (unless such taking represents more than ten

percent (10%) of the total acreage in which case Seller will return the Purchase Consideration or the portion of the acreage being condemned adversely affects Purchaser's intended use of the Property as contemplated in this Agreement), if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement, or (ii) proceed to Closing with the Purchase Price adjusted to reflect the value of the portion of the Property remaining following such proceedings, which adjustment shall be based on a proration of value per acre. Seller shall notify Purchaser in writing of any eminent domain proceedings affecting the Property within five (5) days after Seller learns of such proceedings.

17. Purchaser's Permit and Approval Contingency. Purchaser's obligations hereunder are expressly contingent on Purchaser obtaining the permits, licenses, approvals, authorizations, and consents required by any governmental body of competent jurisdiction in order to construct a propane import terminal (the "Terminal Facility") on the Property (collectively, the "Permits"), as the same are set forth on Schedule 1 attached hereto and hereby incorporated by reference. Purchaser shall diligently apply for the Permits within fifteen (15) days of the Effective Date, or as soon thereafter as is reasonably practicable, shall diligently pursue all such applications, and shall notify Seller within five (5) business days of Purchaser's receipt of each of the Permits. Seller shall cooperate reasonably with Purchaser in connection with such application(s), , or, in accordance with the "Definitive Agreement" described in Section 18, below, with any modification of Seller's existing permits, approvals, facility response plans and environmental or security training and recordkeeping that is reasonably necessary, provided, however, that Seller shall not be required to incur any cost, expense, or additional liability therefore. In the event that Seller incurs any reasonably incurred cost or expense in connection with the foregoing, Purchaser shall reimburse Seller for such costs within thirty (30) days of written notice to Purchaser of the same. In the event that the required Permits are not issued on or before Closing, Purchaser may elect either (i) to terminate this Agreement, upon written notice to Seller, upon which event Seller shall retain the Purchase Consideration and the Additional Purchase Consideration, if applicable, and all parties shall be released from their obligations under this Agreement, except for those obligations which expressly survive the termination of the Agreement, or (ii) to proceed with the purchase of the Property with no reduction in the Purchase Price.

18. Product Handling Agreement. Seller's obligations hereunder are expressly contingent on Purchaser and Seller entering into a binding agreement relating to Purchaser's import of

propane, or substantially similar products, for storage at, and distribution from, the Terminal Facility, which activity will involve the use of (i) Seller's bulk cargo dock located in Searsport, Maine (the "Cargo Dock"), (ii) Seller's personnel to assist with securing those vessels delivering products to the Terminal Facility, and (iii) a pipeline from the Cargo Dock to the Terminal Facility, which pipeline is not yet constructed (the "Pipeline"). Seller and Purchaser agree to negotiate in good faith to set forth the full terms and conditions for such a transaction in a detailed, legally binding, written agreement to be entered into by Seller and Purchaser, or their respective nominees, (the "Definitive Agreement"), the form of which shall be negotiated and executed as soon as practicable after the execution of this Agreement and, in any event, not later than December 31, 2010, unless a later date is mutually agreed to by the parties in writing; and the obligations of each party to this Agreement are contingent upon negotiation and acceptance of the form of the Definitive Agreement. In addition to the foregoing, the Definitive Agreement will incorporate those terms and conditions as are usual and customary in the industry, and will also incorporate the following terms and conditions:

a. *Scheduling.* All scheduling for use of the Cargo Dock for deliveries to the Terminal Facility shall be coordinated with Seller's terminal operations personnel and shall be subject to Seller's standard practices, procedures, rules, and regulations to the extent that the same are provided to Purchaser within a reasonable time prior to deliveries, and further provided that such practices, procedures, rules, and/or regulations do not factually, constructively, or functionally prohibit or materially diminish Purchaser's ability to receive deliveries using standard industry protocols as of the time of each delivery. Purchaser understands and agrees that neither it nor any other party shall receive any preferential berthing.

b. *Personnel.* Seller's personnel shall be responsible for the docking and tying up or otherwise securing of all vessels delivering product to the Terminal Facility and Seller represents and warrants to Purchaser that Seller's personnel shall have sufficient experience, skill, qualifications and training to undertake such activities. Purchaser's personnel shall be responsible for all other activities relating to the delivery of product from the vessel to the Terminal Facility, including, but not limited to (1) ensuring the safety of the vessel, the Cargo Dock and related facilities, and all personnel attending to the vessel, (2) providing spill prevention equipment, (3) connecting discharge lines and hoses, and (4) monitoring product discharge.

c. *Throughput Fee; Minimum Volume.* Purchaser shall pay to Seller an initial throughput fee of [redacted] of product delivered to the Terminal Facility. Purchaser shall guarantee a minimum volume of Forty Million (40,000,000) gallons per calendar year.

d. *Term.* The Definitive Agreement shall be in effect for a term of Twenty-Five (25) years. Provided that Purchaser is not in default, Purchaser shall have an option to extend the term for one (1) additional period of Twenty-Five (25) years, which option may only be exercised by giving written notice to Seller not less than six (6) months prior to the expiration of the initial term.

e. *Non-Competition.* Purchaser acknowledges and agrees that, during the term of the Definitive Agreement, Purchaser shall only import liquid propane to the Terminal Facility, and shall not market, supply, or sell from the Terminal Facility any other petroleum products. In particular, Purchaser shall not market, supply, or sell: low sulfur diesel fuels, fuel oils, unleaded gasoline, kerosene, jet fuel, residual fuel oils, or bunker fuel.

f. *Pipeline Installation.* Purchaser shall be responsible for the construction of the Pipeline, at Purchaser's sole expense, and for obtaining any permits, licenses, approvals, authorizations, or consents required by any governmental body of competent jurisdiction in order to construct the Pipeline. Purchaser shall submit to the Seller the design plans for the Pipeline for Seller's review and approval, which approval shall be required before Purchaser commences the construction of the Pipeline; but which approval may not be unreasonably delayed, conditioned or withheld by Seller. Purchaser acknowledges and agrees that the Pipeline shall be installed below the deck of the Cargo Dock, and that it must be constructed underground as it runs from the Cargo Dock across Seller's property, except any portions required to be constructed above ground pursuant to applicable laws, rules, or regulations, provided, however, that such portions shall not interfere with or adversely affect Seller's use of the Cargo Dock or Seller's material and cargo handling operations on Seller's property. Purchaser further acknowledges and agrees that all stands and appurtenances relating to the hoses connecting the Pipeline to vessels delivering product to the Terminal Facility shall not be affixed permanently to the Cargo Dock, but shall be readily removable in order to accommodate Seller's use of the Cargo Dock for other purposes. Seller shall grant to Purchaser an easement for the construction,

maintaining and use of the Pipeline from the Cargo Dock across the Seller's property, the form of which shall be included in the Definitive Agreement. Seller makes no representations or warranties regarding the ability of Purchaser to construct the Pipeline from the Cargo Dock across land owned by third parties in order to deliver product to the Terminal Facility.

g. *Demurrage; Coast Guard Approval.* Purchaser shall be responsible for all demurrage and other costs associated with the delivery of product to the Terminal Facility. Purchaser acknowledges that approval from the United States Coast Guard is required in order for Seller to use the second dock located at Seller's facility (the "Second Dock") while vessels are delivering product to the Terminal Facility, and Purchaser agrees that it shall act in good faith to obtain such approval from the Coast Guard as soon as practicable. In the event that Purchaser is unable to obtain such approval, or if such approval is not reasonably acceptable to Seller, or if approval is given and then subsequently revoked, or if approval is given and then subsequently revised or amended and such revised or amended approval is not reasonably acceptable to Seller (1) Purchaser shall be responsible for all demurrage and other costs incurred by Seller as a result of Seller's inability to use the Second Dock while vessels are delivering product to the Terminal Facility; and, (2) Purchaser shall cooperate reasonably with Seller with respect to scheduling the use of the Cargo Dock and the Second Dock in order to ensure minimal material disruption to Seller's deliveries and daily operations

19. General Provisions.

a. *Binding Effect.* This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns.

b. *Assignment.* Purchaser may not assign its interest in this Agreement without Seller's prior written consent, which consent shall not be unreasonably conditioned, withheld or delayed. Notwithstanding the foregoing, Purchaser may assign or transfer its interest in this Agreement to an entity controlling, controlled by, or under common control with Purchaser without the prior consent of Seller.

c. *Entire Agreement.* This Agreement constitutes the entire agreement between the parties, supersedes all prior negotiations and understandings

between them, and shall not be altered or amended except by a written amendment signed by Seller and Purchaser.

d. *Counterparts.* This Agreement may be simultaneously executed in any number of counterparts, each of which when duly executed and delivered shall be an original; but such counterparts shall constitute but one and the same Agreement. This Agreement may be executed and delivered by facsimile or other electronic transmission, with the intention that such facsimile or other electronically-transmitted signature and delivery shall have the same effect as an original signature and actual delivery.

e. *Severability.* If any provision of this Agreement is found to be invalid or unenforceable, such finding shall not affect the validity or enforceability of any other provision hereof.

f. *Governing Law.* This Agreement shall be construed and enforced in accordance with, and governed by, the laws of the State of Maine, without application of its conflict of laws principles.

g. *Notices.* All notices, demands, and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service, if sent by reputable overnight carrier or served personally on the party to whom notice is to be given, or on the date of mailing. If mailed, all notices are to be sent by overnight carrier or first-class mail, postage prepaid, certified, return receipt requested, addressed as follows:

TO SELLER:
Sprague Energy Corp.
Attention: Paul A. Scoff, Esq.
Two International Drive, Suite 200
Portsmouth, New Hampshire 03801-6809

With a copy to:
John R. Canders, Esq.
EATON PEABODY
80 Exchange Street
P.O. Box 1210
Bangor, ME 04402-1210

TO PURCHASER:
DCP Midstream Partners LP
Attn: Richard M. Paul
- Vice President, NGL Marketing
- DCP NGL Services, LLC
- 5718 Westheimer, Suite 2000

- Houston, TX 77057

With a copy to: James T. Kilbreth, Esq.
Verrill Dana, LLP
One Portland Square
Portland, ME 04102

Either party may change its address for purposes of this section by giving the other party notice of the new address in the manner described herein.

20. Time for Acceptance. This Agreement may be executed first by either Purchaser or Seller, in which case it shall constitute an offer to the other party. Such offer shall remain open until December 13, 2010 at 5:00 P.M. and the other party may accept the offer only by delivering to the offering party, within said time limit, a duly executed counterpart of this Agreement.

[SIGNATURES BEGIN ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals on the day and year indicated below.

WITNESS:

SELLER:

Sprague Energy Corp.

By: _____

Name: James A Therriault

Its: VP, marketing & Materials Handling

Duly Authorized

Date: 12/15/10

[PURCHASER'S SIGNATURE APPEARS ON NEXT PAGE]

APPROVED Sprague Legal Dept.

{EP - 00778863 - v2 }

WITNESS:

PURCHASER:

DCP Midstream Partners LP
by DCP Midstream, LLC
its General Partner

By: _____
Name: Robert Dee Reed
Its: Vice President
Duly Authorized

Date: 12/13/10

{EP - 00778863 - v2 }

EXHIBIT A
TO
PURCHASE AND SALE AGREEMENT
SELLER: SPRAGUE ENERGY CORP.
PURCHASER: DCP MIDSTREAM PARTNERS, LP
PROPERTY: TWO (2) PARCELS OF LAND IN SEARSPORT, MAINE

LEGAL DESCRIPTIONS

FIRST PARCEL

A certain lot or parcel of land in Searsport, Waldo County, Maine, situated on the northerly side of Station Avenue and on the easterly side of U.S. Route One, more particularly bounded and described as follows:

Beginning at a T-bar found on the northerly sideline of Station Avenue, said point being the southwest corner of the land now or formerly of Nickerson, thence running N 76-14-23 E, said course being by the lands now or formerly of Nickerson and Curtis, 472.10 feet to a T-bar found and the TRUE POINT OF BEGINNING;

Thence running N 10-30-37 W, 369.00 feet to a rebar set;

Thence turning and running S 73-59-23 W, 383.29 feet to a rebar set, said last two (2) courses being by land now or formerly of Leland L. Martz;

Thence turning and running N 29-55-17 W, 858.96 feet to a rebar found on the southeast sideline of U.S. Route One, said course being by the lands now or formerly of Martz, William M. Berrio, and Excluded Assets Liquidated Trust;

Thence turning and running N 59-35-28 E, 98.00 feet to a rebar set;

Thence turning and running N 52-14-13 E, 100.74 feet to a railroad spike set, said last two (2) courses being by U.S. Route One;

Thence turning and running S 37-04-00 E, 73.00 feet to a rebar set;

Thence turning and running N 52-56-00 E, 110.21 feet to a rebar set, said last two (2) courses being by the lands now or formerly of James R. and Edith M. Light;

Thence turning and running N 84-41-01 E, 790.05 feet to a rebar set, said course being by lands now or formerly of Light, Merrill A. Smith and Bangor & Aroostook Railroad Company;

Thence turning and running S 01-58-49 W, 899.65 feet to a rebar set;

Thence southwesterly 259.25 feet by a curve to the right having a radius of 1383.50 feet to a rebar set;

Thence turning and running S 76-49-49 W, 112.19 feet to a rebar set, said last three (3) courses being by the land now or formerly of the Bangor & Aroostook Railroad Company;

Thence turning and running S 74-08-12 W, 46.91 feet to the point of beginning.

All rebars set are 5/8-inch iron rods with alloy caps stamped "J.W. Sewall Co., PLS 2272, Boundary."

Subject to and with the benefit of any and all existing easements.

PARCEL TWO

A certain lot or parcel of land in Searsport, Waldo County, Maine, situated northerly of Station Avenue and on Long Cove, more particularly bounded and described as follows:

Beginning at a rebar set on the easterly line of land now or formerly of Bangor & Aroostook Railroad Company, said point being the northwest corner of the herein described parcel and the southwest corner of the land now or formerly of Russell;

Thence running N 84-41-01 E, 404 feet, more or less, to a high water line, said course being by land now or formerly of Chester S. and Jean P. Russell;

Thence turning and running S 19 E, 1290 feet, more or less, to the low water line;

Thence turning and running southwesterly 624 feet, more or less, by the low water line to a point;

Thence turning and running N 51 W, 428 feet, more or less, to the high water line;

Thence turning and running N 77-08-39 W, 12 feet, more or less, to a rebar set;

Thence turning and running northerly 281.40 feet by a curve to the left having a radius of 1482.50 feet to a rebar set;

Thence N 01-58-49 E, 912.33 feet to the point of beginning, said last four (4) courses being by land now or formerly of Bangor and Aroostook Railroad Company.

All rebars set are 5/8-inch iron rods with alloy caps stamped "J.W. Sewall Co., PLS 2272, Boundary."

Subject to rights of the public under the Colonial Ordinance of 1641-1647 and under the Federal Navigational Servitude, if applicable.

Subject to and with the benefit of any and all existing easements.

EXHIBIT B

TO

PURCHASE AND SALE AGREEMENT

SELLER: SPRAGUE ENERGY CORP.

PURCHASER: DCP MIDSTREAM PARTNERS, LP

PROPERTY: TWO (2) PARCELS OF LAND IN SEARSPORT, MAINE

[ATTACH COPY OF SURVEY]

EXHIBIT C
TO
PURCHASE AND SALE AGREEMENT
SELLER: SPRAGUE ENERGY CORP.
PURCHASER: DCP MIDSTREAM PARTNERS, LP
PROPERTY: TWO (2) PARCELS OF LAND IN SEARSPORT, MAINE

LEGAL DESCRIPTION OF EXCLUDED PARCEL

A certain parcel of land situated in the Town of Searsport, County of Waldo, and State of Maine:

Beginning at a steel rod found at the most southerly corner of land of Albert Hall IV, described in a deed recorded in Book 1982, Page 155, being located S 37° 19' 41" E a distance of 73.13 feet from a railroad spike found on the southerly bound of East Main Street (A/K/A Route 1) at the most westerly corner of said Hall;

Thence N 52° 40' 19" E along land of said Hall a distance of 100.21 feet to a capped steel rod found;

Thence N 84° 25' 20" E along said land of said Hall a distance of 123.81 feet to a capped steel rod set, in the most easterly corner of land of said Hall and the southwesterly corner of land of Kelly Bowen (see Waldo County Registry of Deeds Book 1786, Page 252);

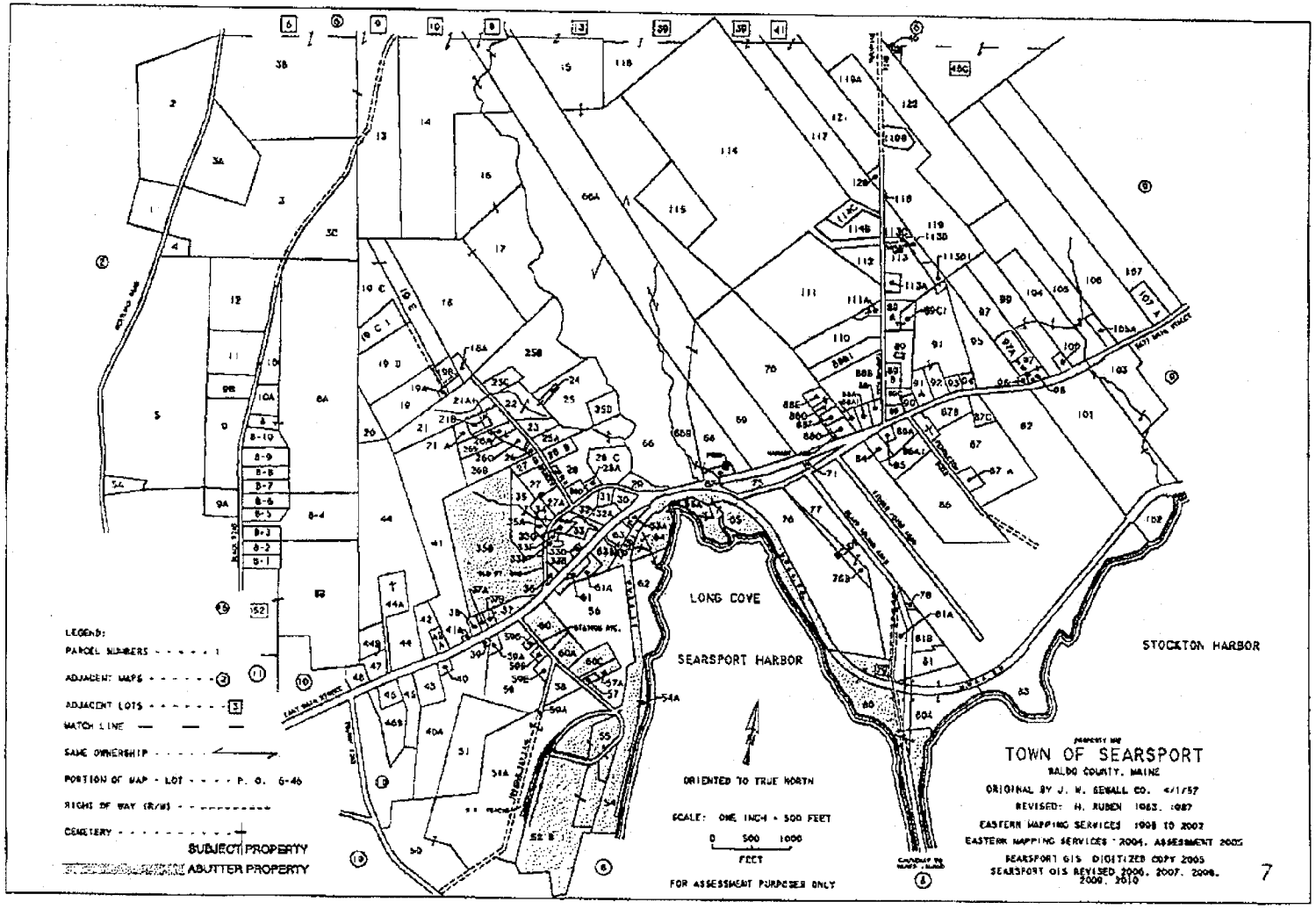
Thence S 33° 49' 46" E along land to be retained by Sprague Energy Corp., a distance of 181.22 feet to a capped steel rod set;

Thence S 52° 40' 19" W along land to be retained by Sprague Energy Corp., a distance of 193.91 feet to a capped steel rod set;

Thence N 37° 19' 41" W along land to be retained by Sprague Energy Corp., a distance of 246.00 feet to the point of beginning, containing 1.06 acres, more or less.

The above described premises are a portion of the property described in a deed from Bangor Investment Company to Sprague Energy Corp., dated January 15, 1998 and recorded in the Waldo County Registry of Deeds in Book 1755, Page 189.

The above description is based on a boundary survey of the Portion of the Sprague Energy Property for Albert Hall IV by Good Deeds, Inc. dated November 14, 2006, oriented to a Standard Boundary Survey by Good Deeds Inc. dated Feb. 8, 2000, revised March 6, 2000 by Good Deeds, Inc.


LEGEND:
PARCEL NUMBERS
ADJACENT MAPS
ADJACENT LOTS
MATCH LINE
SAME OWNERSHIP
PORTION OF MAP - LOT - - - - P. O. 6-46
RIGHT OF WAY (R/W)
CEMETERY
SUBJECT PROPERTY
ABUTTER PROPERTY
LONG COVE
SEARSPORT HARBOR
STOCKTON HARBOR
ORIENTED TO TRUE NORTH
SCALE: ONE INCH = 500 FEET
0 500 1000
FEET
FOR ASSESSMENT PURPOSES ONLY
TOWN OF SEARSPORT
WALDO COUNTY, MAINE
ORIGINAL BY J. W. SEWALL CO. 4/1/57
REVISED: H. RUBEN 1983, 1987
EASTERN MAPPING SERVICES 1998 TO 2002
EASTERN MAPPING SERVICES - 2004, ASSESSMENT 2005
SEARSPORT GIS DIGITIZED COPY 2005
SEARSPORT GIS REVISED 2006, 2007, 2008, 2009, 2010

SCHEDULE 1
TO
PURCHASE AND SALE AGREEMENT
SELLER: SPRAGUE ENERGY CORP.
PURCHASER: DCP MIDSTREAM PARTNERS, LP
PROPERTY: TWO (2) PARCELS OF LAND IN SEARSPORT, MAINE

1. State of Maine DEP:
   - National Resources Protection Act Permit
   - Site Location Permit
   - Construction Storm water Permit

2. US Army Corp of Engineers:
   - US Army Corp Permit

3. Town of Searsport:
   - Zoning change to allow for 140 foot tank
   - Site plan of development

4. State of Maine DOT:
   - Driveway access permit

5. US Coast Guard
   - Water Suitability Assessment

The parties agree that any additional permits required for building the facility may be added to this schedule by mutual consent of the parties. Such consent not to be unreasonably withheld.

QUITCLAIM DEED WITH COVENANT

SOUTHSTREET DEVELOPMENT COMPANY, LLC, a Maine limited liability company, of Blue Hill, Hancock County, State of Maine, for consideration paid, grants to **DCP MIDSTREAM PARTNERS LP**, a Delaware limited partnership, of Denver, State of Colorado, with Quitclaim Covenant, the land, together with any buildings or improvements thereon, in Searsport, Waldo County, State of Maine, described as follows:

A certain lot or parcel of land situated in Searsport, County of Waldo, State of Maine, bounded and described in 1978, as follows:

Beginning at a stake on the easterly bound of Station Street at the northwesterly corner of land now or formerly of Marlz; thence running in a generally easterly direction along the southerly bound of land now or formerly owned by Dorothea C. Tymeson a distance of three hundred feet (300'), more or less, to a point on the southerly bound of land now or formerly of Bangor Investment Company; thence running in a generally northerly direction along the easterly bound of land now or formerly owned by Dorothea C. Tymeson to a point on the southerly bound of U.S. Route #1; thence running in a generally westerly direction along the southerly bound of said U.S. Route #1 to a point at the intersection of U.S. Route #1 and Station Street; thence running in a generally southerly direction along the easterly bound of Station Street to a stake and the point of beginning.

"MAINE REAL ESTATE TRANSFER TAX PAID"

Excepting and reserving herefrom so much of the above-described premises as was conveyed by Harmon and Dorothea Tymeson to the United States of America in 1952.

Being the same premises as described in the Warranty Deed from Michael Laverdiere, Jeffrey R. Laverdiere and Stephen J. Laverdiere, as Trustees of the Excluded Assets Liquidating Trust u/t/a dated September 8, 1994 to Southstreet Development Company, LLC dated August 28, 2000 and recorded in Book 2029, Page 302 of the Waldo County Registry of Deeds.

The property is conveyed subject to a Department of Environmental Protection Order dated December 27, 2000 and recorded in Book 2061, Page 147 of the Waldo County Registry of Deeds.

Any and all other rights, easements, privileges and appurtenances belonging to the granted estate are hereby conveyed.

The Grantee's mailing address is 370 17th Street, Suite 2775, Denver, Colorado 80202.

WITNESS my hand and seal this 2nd day of May, 2011.

WITNESS:

SOUTHSTREET DEVELOPMENT COMPANY, LLC

By: Claustin L. Lawrence
Its: Manager
Hereunto duly authorized

STATE OF MAINE
PENOBSCOT COUNTY

May 2, 2011

Then personally appeared the above-named Claustin L. Lawrence and acknowledged the foregoing instrument to be his free act and deed, in his said capacity as Manager, and the free act and deed of said limited liability company.

Before me,

Name:
Notary Public
~~Maine Attorney-at-Law~~

LYNN E. BROCHU
Notary Public • State of Maine
My commission expires July 17 2016

SEAL

WALDO SS: RECEIVED

May 03,2011
at 10:32A
ATTEST: Deloris Pease
REGISTER OF DEEDS

{R0877940 } {6999-062838 }

SECTION 3. FINANCIAL CAPACITY

This section provides the estimated cost for the DCP Terminal and information regarding DCP's financial capacity to incur these costs.

3.A Estimated Costs

The estimated cost to design and build the Project is approximately $40 million. An approximate breakdown of major facility costs is provided below:

• Land and Easement Purchases	$2 million
• Clearing and Site Work	$5 million
• Capital Equipment (heaters/ compressors/ coolers/ pre-fabricated tanks and buildings)	$10 million
• Terminal Construction (materials/ onsite fabrication and installation)	$10 million
• Pipeline Construction (materials/ onsite fabrication and installation)	$6 million
• Environmental Costs (permitting, erosion and sedimentation control, noise control, wetland mitigation)	$2 million
• Other Construction and Development Costs (design engineering, etc.)	$5 million

3.B Financing

DCP Midstream Partners, LP is one of the nation's largest natural gas gatherers and processors as well as one of the largest producers and marketers of natural gas liquids. DCP Midstream Partners will fund the development of the DCP Terminal from cash on hand and by borrowing on its existing, committed $850 million revolving credit facility. A copy of DCP Partner's credit agreement is provided in Appendix 3A.

3.C Certificate of Good Standing

DCP's Certificate of Good Standing from the State of Maine is provided in Appendix 3B.

APPENDIX 3A

Credit Agreement

AMENDED AND RESTATED CREDIT AGREEMENT

Dated as of June 21, 2007

among

DCP MIDSTREAM OPERATING, LP
as the Borrower,

DCP MIDSTREAM PARTNERS, LP
and its subsidiaries
as Guarantors,

THE LENDERS PARTY HERETO

and

WACHOVIA BANK, NATIONAL ASSOCIATION,
as Administrative Agent

SUNTRUST BANK,

as Syndication Agent,

and

WACHOVIA CAPITAL MARKETS, LLC

and

SUNTRUST CAPITAL MARKETS, INC.,

as Co-Lead Arrangers and Joint Book Runners

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AMENDED AND RESTATED
CREDIT AGREEMENT

THIS AMENDED AND RESTATED CREDIT AGREEMENT (this "Credit Agreement"), dated as of June 21, 2007, is entered into among **DCP MIDSTREAM OPERATING, LP**, a Delaware limited partnership (the "Borrower"), **DCP MIDSTREAM PARTNERS, LP**, a Delaware limited partnership (the "Parent") and all Subsidiaries of the Parent (collectively, the "Guarantors"), the Lenders (as defined herein) and **WACHOVIA BANK, NATIONAL ASSOCIATION**, as administrative agent for the Lenders (in such capacity, the "Agent").

RECITALS

WHEREAS, the Borrower, the Guarantors, certain lenders and the Agent entered into that certain Credit Agreement dated as of December 7, 2005 (as amended or modified from time to time, the "Existing Credit Agreement") whereby the Lenders made available to the Borrower a credit facility in the aggregate initial amount of $400 million;

WHEREAS, the Borrower has requested that the Lenders increase the amount of credit facility and modify certain terms of the credit facility as more fully set forth herein; and

WHEREAS, the Lenders have agreed to provide the requested amended and restated credit facility to the Borrower on the terms, and subject to the conditions, set forth herein.

NOW, THEREFORE, IN CONSIDERATION of the premises and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION 1.

DEFINITIONS AND ACCOUNTING TERMS

1.1 Definitions.

As used herein, the following terms shall have the meanings herein specified unless the context otherwise requires. Defined terms herein shall include in the singular number the plural and in the plural the singular:

"Account Control Agreement" means Account Control Agreement-A2, Account Control Agreement-A3 and any other account control agreement entered into with respect to Cash Collateral.

"Account Control Agreement-A2" means an Account Control Agreement, in form and substance satisfactory to the Agent, to be dated no later than the Initial Draw Date with respect to the Term Loan A2, among the Borrower (as Debtor), Intermediary (as Intermediary) and the Agent (as Bank) with respect to Cash Collateral-A2.

"Account Control Agreement-A3" means an Account Control Agreement, in form and substance satisfactory to the Agent, to be dated no later than the Initial Draw Date with respect to the Term Loan A3, among the Borrower (as Debtor), Intermediary (as Intermediary) and the

Agent (as Bank) with respect to Cash Collateral-A3.

"Account Designation Letter" means the Notice of Account Designation Letter dated the Closing Date from the Borrower to the Agent in substantially the form attached hereto as Exhibit 5.1.

"Acquisition" by any Person, means the acquisition by such Person, in a single transaction or in a series of related transactions, of property or assets (other than capital expenditures or acquisitions of inventory or supplies in the ordinary course of business) of, or of a business unit or division of, another Person or at least a majority of the securities having ordinary voting power for the election of directors, managing general partners or the equivalent of another Person, in each case whether or not involving a merger or consolidation with such other Person and whether for cash, property, services, assumption of Indebtedness, securities or otherwise.

"Adjusted Base Rate" means the Base Rate plus the Applicable Margin for Base Rate Loans.

"Adjusted Eurodollar Rate" means the Eurodollar Rate plus the Applicable Margin for Eurodollar Loans.

"Adjusted LIBOR Market Index Rate" means the LIBOR Market Index Rate plus the Applicable Margin for Eurodollar Loans.

"Affiliate" means, with respect to any Person, any other Person directly or indirectly controlling, controlled by or under direct or indirect common control with such Person. A Person shall be deemed to control a corporation if such Person possesses, directly or indirectly, the power to direct or cause direction of the management and policies of such corporation, whether through the ownership of voting securities, by contract or otherwise.

"Agency Services Address" means Wachovia Bank, National Association, as Administrative Agent, 201 South College Street, CP-8, Charlotte, North Carolina 28288-0680, or such other address as may be identified by written notice from the Agent to the Borrower and the Lenders.

"Agent" means Wachovia Bank, National Association and any successors and assigns in such capacity.

"Applicable Margin" means, at any time:

(a) with respect to Term Loans, (i) for Eurodollar Loans, .10% and (ii) for Base Rate Loans, 0%.

(b) with respect to Loans (other than Term Loans) and applicable fees, if neither the Parent nor the Borrower has a Debt Rating from S&P, Moody's or Fitch, the rate per annum set forth below based on the Consolidated Leverage Ratio:

Pricing Level	Consolidated Leverage Ratio	Applicable Margin for Facility Fees	Applicable Margin for Utilization Fees	Applicable Margin for Margin for Eurodollar Loans	Applicable Base Rate Loans

I	< 3.00 to 1.0	.100%	.100%	.350%	0%
II	≥ 3.00 to 1.0 but < 3.75 to 1.0	.125%	.100%	.425%	0%
III	≥3.75 to 1.0 but < 4.50 to 1.0	.150%	.100%	.500%	0%
IV	≥4.50 to 1.0	.175%	.100%	.575%	0%

Any increase or decrease in the Applicable Margin resulting from a change in the Consolidated Leverage Ratio shall become effective as of the first Business Day immediately following the date that the officer's certificate is required to be delivered pursuant to Section 7.1(d) evidencing calculation of the Consolidated Leverage Ratio; provided, however, that if such certificate is not delivered when due in accordance with such Section 7.1(d), then Pricing Level IV shall apply as of the first Business Day after the date on which such certificate was required to have been delivered and shall continue to apply until the first Business Day immediately following the date a certificate is delivered in accordance with Section 7.1(d), whereupon the Applicable Margin shall be adjusted based upon the calculation of the Consolidated Leverage Ratio contained in such certificate. The Applicable Margin in effect from the Effective Date through the first Business Day immediately following the date a certificate is required to be delivered pursuant to Section 7.1(d) for the fiscal quarter ending June 30, 2007 shall be determined based upon Pricing Tier II.

(c) with respect to Loans (other than Term Loans) and applicable fees, if the Parent or the Borrower has at least one Debt Rating from S&P, Moody's or Fitch, the rate per annum set forth in the table below opposite the Debt Rating of the Parent or the Borrower (as applicable):

Parent's or Borrower's Debt Rating*	Applicable Margin for Facility Fees	Applicable Margin for Utilization Fees	Applicable Margin for Eurodollar Loans	Applicable Margin for Base Rate Loans
≥BBB+/Baal/BBB+	.070%	.050%	.230%	0%
BBB/Baa2/BBB	.090%	.050%	.310%	0%
BBB-/Baa3/BBB-	.110%	.100%	.440%	0%
≤BB+/Ba1/BB+	.125%	.100%	.575%	0%

* If any Designated Rating Agency is other than S&P, Moody's and Fitch, then the equivalent Debt Rating given by such rating agency shall be used. If there is only one Designated Rating Agency it must be either S&P, Moody's or Fitch.

The Applicable Margin shall, in each case, be determined and adjusted on the date on which there is a change in the Parent's or Borrower's (as applicable) Debt Rating and shall be effective until a future change in such Debt Rating.

Notwithstanding the above, if at any time neither the Parent nor the Borrower is rated by S&P, Moody's or Fitch, the pricing grid above based on the Consolidated Leverage Ratio shall apply.

In the event that there are two Debt Ratings by the Designated Rating Agencies and there is a split in Debt Ratings, the higher Debt Rating (i.e. the lower pricing) will apply unless there is more than one level between the Debt Ratings and then one level below the higher rating will apply. In the event there are three ratings by the Designated Rating Agencies and there is a split in Debt Ratings,

(i) if two of the three Debt Ratings are the same, then such Debt Rating will apply and (ii) if none of the Debt Ratings are the same, the middle Debt Rating will apply.

(d) Any adjustment in the Applicable Margin shall be applicable to all existing Eurodollar Loans and Letters of Credit as well as any new Eurodollar Loans made or Letters of Credit issued.

(e) The Borrower shall promptly deliver to the Agent, at the address set forth on Schedule 11.1 and at the Agency Services Address, information regarding any change in the Consolidated Leverage Ratio or the Parent's or Borrower's Debt Rating that would change the existing Pricing Level pursuant to clause (a) or (b) above.

(f) In the event that any financial statement or certification delivered pursuant to Section 7.1 is shown to be inaccurate (regardless of whether this Credit Agreement or the commitments hereunder are in effect when such inaccuracy is discovered), and such inaccuracy, if corrected, would have led to the application of a higher Applicable Margin for any period (an "Applicable Period") than the Applicable Margin applied for such Applicable Period, then the Borrower shall immediately (i) deliver to the Agent a corrected compliance certificate for such Applicable Period, (ii) determine the Applicable Margin for such Applicable Period based upon the corrected compliance certificate, and (iii) immediately pay to the Agent the accrued additional interest owing as a result of such increased Applicable Margin for such Applicable Period, which payment shall be promptly applied by the Agent in accordance with Section 9.3. In the event any such inaccuracy, if corrected, would have led to the application of a lower Applicable Margin for any period than the Applicable Margin applied for such period, then (1) Borrower may deliver to the Agent a correct certificate for such period, (2) the Applicable Margin shall be redetermined for such period based on the appropriate pricing level for such period and (3) Borrower shall receive a credit for any interest actually paid for such period in excess of the amount so redetermined to be applied against future interest payments as and when they become due, but in no event shall any Lender be required to refund any such amount to Borrower. It is acknowledged and agreed that nothing contained herein shall limit the rights of the Agent and the Lenders under the Credit Documents, including their rights under Sections 3.1(b), 9.1 and 9.2 and other of their respective rights under this Credit Agreement.

"Approved Officer" means the president, a vice president, the treasurer or the assistant treasurer of the applicable Credit Party or such other authorized representative of such Credit Party as may be designated by any one of the foregoing.

"Assignment Agreement" means an Assignment Agreement executed and delivered pursuant to Section 11.3(b).

"Available Cash" has the meaning ascribed to such term in the First Amended and Restated Agreement of Limited Partnership of the Parent as in effect on the Effective Date, with such amendments thereto as agreed to by the Required Lenders.

"Bankruptcy Code" means the Bankruptcy Code in Title 11 of the United States Code, as amended, modified, succeeded or replaced from time to time.

"Base Rate" means, for any day, the rate per annum equal to the greater of (a) the Federal Funds Rate in effect on such day plus ½ of 1% or (b) the Prime Rate in effect on such day. Any change in the Base Rate due to a change in the Prime Rate or the Federal Funds Rate shall be

effective on the effective date of such change in the Prime Rate or the Federal Funds Rate, respectively.

"Base Rate Loan" means a Loan (other than a Swingline Loan) which bears interest based on the Base Rate.

"Borrower" means DCP Midstream Operating, LP a Delaware limited partnership.

"Bridge Facility" means that certain Bridge Credit Agreement, dated as of May 9, 2007, by and among the Borrower, the Parent, certain subsidiaries of the Parent party thereto, the lenders party thereto and Wachovia Bank, National Association as administrative agent.

"Business Day" means any day other than a Saturday, a Sunday, a legal holiday or a day on which banking institutions are authorized or required by law or other governmental action to close in New York, New York or Charlotte, North Carolina; provided, that in the case of Eurodollar Loans, such day is also a day on which dealings between banks are carried on in U.S. dollar deposits in the London interbank market.

"Businesses" has the meaning set forth in Section 6.12.

"Capital Lease" means, as applied to any Person, any lease of any Property (whether real, personal or mixed) by that Person as lessee that, in accordance with GAAP, is required to be accounted for as a capital lease on the balance sheet of that Person.

"Capital Stock" means (a) in the case of a corporation, all classes of capital stock of such corporation, (b) in the case of a partnership, partnership interests (whether general or limited), (c) in the case of a limited liability company, membership interests and (d) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person.

"Cash Collateral" means collectively, all assets and property maintained in Cash Collateral-A2 Account, Cash Collateral-A3 Account and all other Cash Collateral Accounts.

"Cash Collateral-A2" means all assets and property maintained in the Cash Collateral-A2 Account.

"Cash Collateral-A3" means all assets and property maintained in the Cash Collateral-A3 Account.

"Cash Collateral-A2 Account" means the account of the Borrower numbered 291155400 with the Intermediary.

"Cash Collateral-A3 Account" means the account of the Borrower numbered 001050970640 with the Intermediary.

"Cash Collateral Accounts" means Cash Collateral-A2 Account, Cash Collateral-A3 Account and any other cash collateral account formed in connection with the securing of Loans made hereunder.

"Cash Equivalents" means, as at any date, (a) securities guaranteed or insured by the United States or any agency or instrumentality thereof (provided that the full faith and credit of the United States is pledged in support thereof) having maturities of not more than twelve months from the date of acquisition, (b) Dollar denominated time deposits and certificates of deposit of (i) any Lender, (ii) any domestic commercial bank of recognized standing having capital and surplus in excess of $500,000,000 or (iii) any bank whose short-term commercial paper rating from S&P is at least A-1 or the equivalent thereof or from Moody's is at least P-1 or the equivalent thereof (any such bank being an "Approved Bank"), in each case with maturities of not more than 270 days from the date of acquisition, (c) commercial paper and variable or fixed rate notes issued by any Approved Bank (or by the parent company thereof) or any variable rate notes issued by, or guaranteed by, any domestic corporation rated A-1 (or the equivalent thereof) or better by S&P or P-1 (or the equivalent thereof) or better by Moody's and maturing within six months of the date of acquisition, (d) repurchase agreements entered into by any Person with a bank or trust company (including any of the Lenders) or recognized securities dealer having capital and surplus in excess of $500,000,000 for direct obligations issued by or fully guaranteed by the United States in which such Person shall have a perfected first priority security interest (subject to no other Liens) and having, on the date of purchase thereof, a fair market value of at least 100% of the amount of the repurchase obligations and (e) Investments, classified in accordance with GAAP as current assets, in money market investment programs registered under the Investment Company Act of 1940 which are administered by reputable financial institutions having capital of at least $500,000,000 or having portfolio assets of at least $5,000,000,000 and the portfolios of which are limited to Investments of the character described in the foregoing subdivisions (a) through (d).

"Change of Control" means as of any date, the failure of (a) the Parent to own, directly or indirectly, 100% of the equity of the Borrower or (b) DCP Midstream LLC to own, directly or indirectly, a majority of the voting equity of the general partner of the Parent.

"Closing Date" means the date hereof.

"Code" means the Internal Revenue Code of 1986, as amended from time to time.

"Co-lead Arrangers" means Wachovia Capital Markets, LLC and SunTrust Capital Markets, Inc.

"Collateral Documents" means (i) the Account Control Agreement-A2, the Account Control Agreement-A3, each other Account Control Agreement and (ii) each other document executed and delivered in connection with the granting, attachment and perfection of the Agent's security interest in the Cash Collateral, including, without limitation, Uniform Commercial Code financing statements.

"Commercial Operation Date" means the date on which a Qualified Project is substantially complete and commercially operable.

"Commitment" means, as to each Lender, the commitment of such Lender with respect to the Revolving Committed Amount and the commitment of such Lender with respect to the Term Loans and "Commitments" means, collectively, all such commitments of the Lenders.

"Commitment Percentage" means, for each Lender, the percentage identified as its Commitment Percentage with respect to Revolving Loans or different types of Term Loans opposite

such Lender's name on Schedule 1.1, as such percentage may be modified by assignment or by an increase in Commitments in accordance with Section 2.10.

"Conflicts Committee" has the meaning ascribed thereto in the Second Amended and Restated Agreement of Limited Partnership of the Parent, as amended or restated from time to time.

"Consolidated EBITDA" means, for any period, an amount equal to (a) Consolidated Net Income for such period plus (b) to the extent deducted in determining Consolidated Net Income for such period, the aggregate amount of (i) taxes based on or measured by income, (ii) Consolidated Interest Expense and (iii) depreciation and amortization expense plus (c) the amount of cash dividends actually received during such period by the Parent and its Subsidiaries on a consolidated basis from unconsolidated subsidiaries of the Parent or other Persons minus (d) to the extent included in determining Consolidated Net Income for such period, equity in earnings from unconsolidated subsidiaries of the Parent. Furthermore, for purposes of the foregoing clauses (a) and (b), Consolidated Net Income and consolidated expenses shall be adjusted with respect to net income and expenses of non-wholly-owned consolidated subsidiaries to reflect only the Credit Parties' pro rata ownership interest therein.

"Consolidated Indebtedness" means, without duplication, (a) all Indebtedness of the Parent and its Subsidiaries on a consolidated basis (excluding the face amount of Hybrid Securities outstanding at such date) minus (b) the principal amount of Cash Collateral then held by the Intermediary. For purposes of the foregoing, Indebtedness of a non-wholly owned Subsidiary shall be included in the calculation of Consolidated Indebtedness only to the extent of the Credit Parties' proportional interest therein, unless such Indebtedness is recourse to the Credit Parties (in which case, the full amount of such Indebtedness that is recourse to the Credit Parties shall be included in the calculation of Consolidated Indebtedness).

"Consolidated Interest Coverage Ratio" means, as of the last day of each fiscal quarter of the Parent, the ratio of (a) Consolidated EBITDA for the period of four consecutive fiscal quarters ending on such day to (b) Consolidated Interest Expense for the period of four consecutive fiscal quarters ending on such day.

"Consolidated Interest Expense" means interest expense as would appear on a consolidated statement of income of the Parent and its Subsidiaries prepared in accordance with GAAP; provided, that Consolidated Interest Expense associated with the Term Loans for any period shall be reduced by any interest income earned on the Cash Collateral during such period. For purposes of the foregoing, interest expense of a non-wholly owned Subsidiary shall be included in the calculation of Consolidated Interest Expense only to the extent of the Credit Parties' proportional interest therein, unless the Indebtedness giving rise to such interest expense is recourse to the Credit Parties.

"Consolidated Leverage Ratio" means, as of the last day of each fiscal quarter of the Parent, the ratio of (a) Consolidated Indebtedness (excluding letters of credit that do not support Indebtedness) on such day to (b) Consolidated EBITDA for the period of four consecutive fiscal quarters ending on such day.

"Consolidated Net Income" means, for any period, the net income of the Parent and its Subsidiaries for such period determined on a consolidated basis in accordance with GAAP; provided, that Consolidated Net Income shall not include (i) extraordinary gains or extraordinary losses, (ii) net

gains and losses in respect of disposition of assets other than in the ordinary course of business, (iii) gains or losses attributable to write-ups or write-downs of assets including hedging and derivative activities in the ordinary course of business and (iv) the cumulative effect of a change in accounting principles, all as reported in the Parent's consolidated statement(s) of income for the relevant period(s) prepared in accordance with GAAP.

"Consolidated Net Tangible Assets" means, at any date of determination, the total amount of consolidated assets of the Parent and its Subsidiaries after deducting therefrom the value (net of any applicable reserves) of all goodwill, trade names, trademarks, patents and other like intangible assets, all as set forth, or on a pro forma basis would be set forth, on the consolidated balance sheet of the Parent and its Subsidiaries for the most recently completed fiscal quarter, in accordance with GAAP.

"Credit Documents" means this Credit Agreement, the Notes, the LOC Documents, the Collateral Documents, any Notice of Borrowing, any Notice of Continuation/Conversion and all other related agreements and documents issued or delivered hereunder or thereunder or pursuant hereto or thereto.

"Credit Exposure" means, as applied to each Lender (a) at any time prior to the termination of the Commitments, the sum of (i) the Commitment Percentage of such Lender with respect to Revolving Loans multiplied by the Revolving Committed Amount plus (ii) the principal balance of outstanding Term Loans of such Lender plus (iii) the aggregate available amount of undrawn Commitments of such Lender with respect to the Term Loans and (b) at any time after the termination of the Commitments, the sum of (i) the principal balance of the outstanding Loans of such Lender plus (ii) such Lender's Participation Interest in the face amount of outstanding Letters of Credit and Swingline Loans.

"Credit Facility Swap Contract" means any interest rate Swap Contract entered into by a Credit Party with a Lender or an Affiliate of a Lender with respect to the Obligations.

"Credit Parties" means the Borrower and the Guarantors.

"Debt Rating" means, the long-term senior unsecured, non-credit enhanced debt rating of the Parent or the Borrower, as applicable, by the Designated Rating Agencies. For all purposes of this Agreement, in the event that both the Parent and the Borrower are rated by one or more Designated Rating Agencies, the term "Debt Rating" shall mean the Debt Rating of the Parent.

"Default" means any event, act or condition which with notice or lapse of time, or both, would constitute an Event of Default.

"Defaulting Lender" means, at any time, any Lender that, at such time (a) has failed to make a Loan required pursuant to the term of this Credit Agreement, (b) has failed to pay to the Agent or any Lender an amount owed by such Lender pursuant to the terms of this Credit Agreement or (c) has been deemed insolvent by a court of competent jurisdiction or has become subject to a bankruptcy or insolvency proceeding or to a receiver, trustee or similar official.

"Designated Rating Agencies" shall mean up to any three of S&P, Moody's, Fitch or any other rating agency selected by the Parent which is recognized by the Securities and Exchange Commission and identified by the Parent from time to time in a Rating Agency Designation and "Designated Rating Agency" shall mean any one of the foregoing. Until such time as the Parent shall have delivered a Rating Agency Designation to the Agent, the Designated Rating Agencies

shall be S&P, Moody's and Fitch.

"Disposition" or "Dispose" means the sale, transfer, license, lease or other disposition (including any Sale and Leaseback Transaction) of any Property by a Credit Party (including the Equity Interests of any Subsidiary), including any sale, assignment, transfer or other disposal, with or without recourse, of any notes or accounts receivable or any rights and claims associated therewith.

"Dollars" and "$" means dollars in lawful currency of the United States of America.

"Effective Date" means the date on which the conditions set forth in Section 5.1 shall have been fulfilled (or waived in the sole discretion of the Lenders).

"Eligible Assignee" means (a) any Lender approved by the Borrower, the Agent and the Issuing Lenders, (b) any existing Lender or an Affiliate of an existing Lender and (c) any other Person approved by the Borrower, the Issuing Lenders and the Agent (in each case, which approval by the Borrower, the Issuing Lenders and the Agent shall not be unreasonably withheld or delayed); provided, that (A) the Borrower's consent is not required during the existence and continuation of an Event of Default and (B) neither the Borrower nor an Affiliate of the Borrower shall qualify as an Eligible Assignee.

"Environmental Laws" means any legal requirement of any Governmental Authority pertaining to (a) the protection of health, safety, and the indoor or outdoor environment, (b) the conservation, management, or use of natural resources and wildlife, (c) the protection or use of surface water and groundwater or (d) the management, manufacture, possession, presence, use, generation, transportation, treatment, storage, disposal, release, threatened release, abatement, removal, remediation or handling of, or exposure to, any hazardous or toxic substance or material or (e) pollution (including any release to land surface water and groundwater) and includes, without limitation, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 USC 9601 et seq., Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 and Hazardous and Solid Waste Amendment of 1984, 42 USC 6901 et seq., Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, 33 USC 1251 et seq., Clean Air Act, as amended, 42 USC 7401 et seq., Toxic Substances Control Act of 1976, 15 USC 2601 et seq., Hazardous Materials Transportation Act, 49 USC App. 1801 et seq., Occupational Safety and Health Act of 1970, as amended, 29 USC 651 et seq., Oil Pollution Act of 1990, 33 USC 2701 et seq., Emergency Planning and Community Right-to-Know Act of 1986, 42 USC 11001 et seq., National Environmental Policy Act of 1969, 42 USC 4321 et seq., Safe Drinking Water Act of 1974, as amended, 42 USC 300(f) et seq., any analogous implementing or successor law, and any amendment, rule, regulation, order, or directive issued thereunder.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended, and any successor statute thereto, as interpreted by the rules and regulations thereunder, all as the same may be in effect from time to time. References to sections of ERISA shall be construed also to refer to any successor sections.

"ERISA Affiliate" means an entity, whether or not incorporated, which is under common control with the Parent or any of its Subsidiaries within the meaning of Section 4001(a)(14) of ERISA, or is a member of a group which includes the Parent or any of its Subsidiaries and which is treated as a single employer under Sections 414(b), (c), (m), or (o) of the Code.

"Eurodollar Loan" means a Loan bearing interest at the Adjusted Eurodollar Rate.

"Eurodollar Rate" means with respect to any Eurodollar Loan, for the Interest Period applicable thereto, a rate per annum equal to the London Interbank Offered Rate.

"Eurodollar Reserve Percentage" means, for any day, that percentage (expressed as a decimal) which is in effect from time to time under Regulation D as the maximum reserve requirement (including, without limitation, any basic, supplemental, emergency, special, or marginal reserves) applicable with respect to Eurocurrency liabilities, as that term is defined in Regulation D (or against any other category of liabilities that includes deposits by reference to which the interest rate of Eurodollar Loans is determined).

"Event of Default" has the meaning specified in Section 9.1.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder, as amended, modified, succeeded or replaced from time to time.

"Existing Credit Agreement" has the meaning set forth in the Recitals hereto.

"Existing Letters of Credit" shall mean each of the letters of credit described by date of issuance, amount, LC # and the date of expiry on Schedule 2.2 hereto.

"Extension of Credit" means, as to any Lender, the making of a Loan by such Lender (or a participation therein by a Lender) or the issuance of, or participation in, a Letter of Credit by such Lender.

"Facility Fee" has the meaning specified in Section 3.4(a).

"Fee Letter" means that certain letter agreement, dated as of May 29, 2007, among the Agent, Wachovia Capital Markets, LLC and the Borrower, as amended, modified, supplemented or replaced from time to time.

"Federal Funds Rate" means for any day the rate per annum (rounded upward to the nearest 1/100th of 1%) equal to the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System arranged by Federal funds brokers on such day, as published by the Federal Reserve Bank of New York on the Business Day next succeeding such day; provided, that (a) if such day is not a Business Day, the Federal Funds Rate for such day shall be such rate on such transactions on the next preceding Business Day and (b) if no such rate is so published on such next succeeding Business Day, the Federal Funds Rate for such day shall be the average rate quoted to the Agent on such day on such transactions as determined by the Agent.

"Fitch" means Fitch, Inc., or any successor or assignee of the business of such company in the business of rating securities.

"GAAP" means generally accepted accounting principles in the United States applied on a consistent basis and subject to Section 1.3.

"Government Acts" has the meaning specified in Section 2.2(k).

"Governmental Authority" means any Federal, state, local or foreign court, monetary authority or governmental agency, authority, instrumentality or regulatory body.

"Guarantor" means (a) the Parent, (b) each Subsidiary of the Parent in existence as of the Effective Date (other than the Borrower) and (c) any Person which becomes a "Guarantor" pursuant to Section 7.12 hereof, in each case, together with their successors and permitted assigns.

"Hybrid Securities" means any trust preferred securities, or deferrable interest subordinated debt with a maturity of at least 20 years, which provides for the optional or mandatory deferral of interest or distributions, issued by the Parent or the Borrower.

"Indebtedness" of any Person means, without duplication, (a) all obligations of such Person for borrowed money, (b) all obligations of such Person for the deferred purchase price of property or services purchased, (c) all obligations of such Person created or arising under any conditional sale or other title retention agreement with respect to the property acquired, (d) all obligations of such Person under lease obligations which shall have been, or should be, in accordance with GAAP, recorded as capital leases in respect of which such Person is liable as lessee, (e) the face amount of all letter of credit indebtedness available to be drawn (other than letter of credit obligations relating to indebtedness included in Indebtedness pursuant to another clause of this definition) and, without duplication, the unreimbursed amount of all drafts drawn thereunder, (f) obligations of others secured by a Lien on property or assets of such Person, whether or not assumed (but in any event not exceeding the fair market value of the property or asset), (g) all guarantees of Indebtedness referred to in clauses (a) through (f) above, (h) all amounts payable by such Person in connection with mandatory redemptions or repurchases of preferred stock, (i) any obligations of such Person (in the nature of principal or interest) in respect of acceptances or similar obligations issued or created for the account of such Person, (j) all Off Balance Sheet Indebtedness of such Person and (k) obligations (contingent or otherwise) existing or arising under any interest rate Swap Contract, to the extent such obligations are classified as "indebtedness" for purposes of GAAP.

"Initial Draw Date" means, with respect to any Term Loan, the date of the initial drawing under such Term Loan.

"Interest Payment Date" means (a) as to Base Rate Loans and Swingline Loans, the first day of each calendar quarter of the Borrower and the Maturity Date, (b) as to Eurodollar Loans, the last day of each applicable Interest Period and the Maturity Date and, in addition, where the applicable Interest Period for a Eurodollar Loan is greater than three months, then also on the last day of each three-month period during such Interest Period and (c) as to LIBOR Market Index Rate Loans, the first day of each calendar quarter of the Borrower, the maturity date for such LIBOR Market Index Rate Loan and the Maturity Date. If an Interest Payment Date falls on a date which is not a Business Day, such Interest Payment Date shall be deemed to be the next succeeding Business Day, except that in the case of Eurodollar Loans where the next succeeding Business Day falls in the next succeeding calendar month, then on the next preceding Business Day.

"Interest Period" means, with respect to Eurodollar Loans, a period of one, two, three or six months' duration, as the Borrower may elect, commencing, in each case, on the date of the borrowing (including continuations and conversions of Eurodollar Loans); provided, however, (a) if any Interest Period would end on a day which is not a Business Day, such Interest Period shall be extended to the next succeeding Business Day (except that where the next succeeding Business Day falls in the next succeeding calendar month, then on the next preceding Business

Day), (b) no Interest Period shall extend beyond the Maturity Date and (c) where an Interest Period begins on a day for which there is no numerically corresponding day in the calendar month in which the Interest Period is to end, such Interest Period shall end on the last Business Day of such calendar month.

"Intermediary" means US Bank, National Association, as Intermediary under the Account Control Agreements or such other financial institution reasonably acceptable to the Agent.

"Investment" means, as to any Person, any direct or indirect acquisition or investment by such Person, whether by means of (a) the purchase or other acquisition of the Capital Stock of another Person, (b) an Acquisition or (c) a loan, advance or capital contribution to, guarantee or assumption of debt of, or purchase or other acquisition of any other debt or equity participation or interest in, another Person, including any partnership or joint venture interest in such other Person and any arrangement pursuant to which the investor guarantees Indebtedness of such other Person.

"Investment Grade Rating" means BBB- or better from S&P, Baa3 or better from Moody's or BBB- or better from Fitch.

"Investment Grade Rating Date" means the date on which the Parent or Borrower first achieves an Investment Grade Rating.

"Issuing Lender" means, with respect to (i) Existing Letters of Credit, Wachovia Bank, National Association and (ii) Letters of Credit issued after the Closing Date, Wachovia Bank, National Association or any other Lender as requested by the Borrower and agreed to by such Lender.

"Issuing Lender Fees" has the meaning set forth in Section 3.4(b)(ii).

"Letter of Credit" means (a) a Letter of Credit issued for the account of the Borrower or one of its Subsidiaries by an Issuing Lender pursuant to Section 2.2 or (b) any Existing Letter of Credit, in each case as such Letter of Credit may be amended, modified, extended, renewed or replaced.

"Letter of Credit Fees" shall have the meaning assigned to such term in Section 3.4(b)(i).

"Lender" means any Person identified as a Lender on the signature pages hereto and any Eligible Assignee which may become a Lender by way of assignment in accordance with the terms hereof, together with their successors or permitted assigns.

"LIBOR Market Index Rate" means, for any day, the 30-day rate of interest per annum appearing on Reuters Screen LIBOR01 Page (or any successor page) as the London interbank offered rate for deposits in Dollars at approximately 11:00 A.M. (London time) on such day, or if such day is not a London business day, then the immediately preceding London business day (or if not so reported, then as determined by the Agent from another recognized source or interbank quotation), or another rate as agreed to by the Agent and the Borrower.

"LIBOR Market Index Rate Loan" means a Loan bearing interest at the Adjusted LIBOR Market Index Rate.

"Lien" means any mortgage, pledge, hypothecation, assignment, deposit arrangement, security interest, encumbrance, lien (statutory or otherwise), preference, priority or charge of any kind (including any agreement to give any of the foregoing, any conditional sale or other title retention agreement, any financing or similar statement or notice filed under the Uniform Commercial Code as adopted and in effect in the relevant jurisdiction or other similar recording or notice statute, and any lease in the nature thereof).

"Loans" means the Revolving Loans, the Swingline Loans and the Term Loans.

"LOC Documents" means, with respect to any Letter of Credit, such Letter of Credit, any amendments thereto, any documents delivered in connection therewith, any application therefor, and any agreements, instruments, guarantees or other documents (whether general in application or applicable only to such Letter of Credit) governing or providing for (a) the rights and obligations of the parties concerned or at risk or (b) any collateral security for such obligations.

"LOC Obligations" means, at any time, the sum of (a) the maximum amount which is then available to be drawn under Letters of Credit then outstanding, assuming compliance with all requirements for drawings referred to in such Letters of Credit plus (b) the aggregate amount of all drawings under Letters of Credit honored by an Issuing Lender but not theretofore reimbursed.

"London Interbank Offered Rate" means, with respect to any Eurodollar Loan for the Interest Period applicable thereto, the rate of interest per annum appearing on Reuters Screen LIBOR01 Page (or any successor page) as the London interbank offered rate for deposits in Dollars at approximately 11:00 A.M. (London time) two Business Days prior to the first day of such Interest Period for a term comparable to such Interest Period. If, for any reason, such rate is not available, the term "London Interbank Offered Rate" shall mean, with respect to any Eurodollar Loan for the Interest Period applicable thereto, the rate of interest per annum appearing on such other service as may be nominated by the British Bankers' Association as the London interbank offered rate for deposits in Dollars at approximately 11:00 A.M. (London time) two Business Days prior to the first day of such Interest Period for a term comparable to such Interest Period; provided, however, if more than one rate is specified, the applicable rate shall be the arithmetic mean of all such rates.

"Mandatory Borrowing" has the meaning specified in Section 2.2(e).

"Material Adverse Effect" means a material adverse effect on the business, financial positions or results of operations of the Parent and its Subsidiaries taken as a whole.

"Maturity Date" shall mean the Revolver Maturity Date and/or the Term Loan Maturity Date, as applicable.

"Moody's" means Moody's Investors Service, Inc., or any successor or assignee of the business of such company in the business of rating securities.

"Multiemployer Plan" means a Plan covered by Title IV of ERISA which is a multiemployer plan as defined in Section 3(37) or 4001(a)(3) of ERISA.

"Multiple Employer Plan" means a Plan covered by Title IV of ERISA, other than a Multiemployer Plan, which the Parent or any ERISA Affiliate and at least one employer other than the Parent or any ERISA Affiliate are contributing sponsors.

"Non-Excluded Taxes" has the meaning specified in Section 4.4(a).

"Non-Extending Lender" has the meaning specified in Section 2.11.

"Notes" means the Revolving Notes, the Term Loan Notes and the Swingline Loan Notes, if any.

"Notice of Borrowing" means a request by the Borrower for a Loan in the form of Exhibit 2.3.

"Notice of Continuation/Conversion" means a request by the Borrower for the continuation or conversion of a Loan in the form of Exhibit 2.5.

"Obligations" means, without duplication, all of the obligations of the Credit Parties to the Lenders and the Agent, whenever arising, under this Credit Agreement, the Notes, the LOC Documents, the Collateral Documents, Credit Facility Swap Contracts, Treasury Management Agreements or any of the other Credit Documents.

"Off Balance Sheet Indebtedness" means any obligation of a Person that would be considered indebtedness for tax purposes but is not set forth on the balance sheet of such Person, including, but not limited to, (a) any synthetic lease, tax retention operating lease, off balance sheet loan or similar off-balance sheet financing product of such Person, (b) the aggregate amount of uncollected accounts receivables of such Person subject at such time to a sale of receivables (or similar transaction) and (c) obligations of any partnership or joint venture that is recourse to such Person.

"Parent" means DCP Midstream Partners, LP, a Delaware limited partnership.

"Participation Interest" means the Extension of Credit by a Lender by way of a purchase or deemed purchase of a participation in Letters of Credit or LOC Obligations as provided in Section 2.2 or in any Swingline Loans as provided in Section 2.8 or in any Loans as provided in Section 3.8.

"Payment Date" has the meaning set forth in Section 2.2(d).

"PBGC" means the Pension Benefit Guaranty Corporation established pursuant to Subtitle A of Title IV of ERISA and any successor thereto.

"Permitted Acquisitions" means any Acquisition by any Credit Party, so long as (a) no Default or Event of Default is in existence or would be created thereby, (b) the Person or assets being acquired by such Credit Party are in the midstream energy business, (c) such Acquisition has been approved by the Board of Directors or similar governing body of the target of such Acquisition (if required or applicable) and (d) immediately after giving effect to such acquisition, the Borrower is in compliance with Section 7.10 on a pro forma basis.

"Permitted Cash Collateral" means each of the following instruments and securities to the extent having maturities (for purposes of this definition, "maturities" shall mean (i) weighted average life for asset-backed securities, mortgage-backed securities, commercial mortgage-backed securities and collateralized mortgage obligations, and the next reset date for auction rate securities and (ii) with respect to mutual funds, the weighted average maturity of the investments it owns) not greater than six months from the date of acquisition thereof:

(a) cash,

(b) investments in money market mutual funds that are registered with the SEC and subject to Rule 2a-7 of the Investment Company Act of 1940 and have a net asset value of 1.0,

(c) U.S. Treasury Notes,

(d) direct obligations of the United States (including obligations of agencies and sponsored enterprises of the United States) and other obligations whose principal and interest is fully guaranteed by the United States,

(e) money market instruments (including, but not limited to, commercial paper, banker's acceptances, time deposits and certificates of deposits) rated A-1 by S&P or P-1 by Moody's at the time of purchase,

(f) obligations of corporations or other business entities (including, bonds, notes and other structured obligations) rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase,

(g) asset-backed securities rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase,

(h) mortgage-backed securities, commercial mortgage-backed securities and collateralized mortgage obligations rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase,

(i) repurchase obligations that are collateralized no less than 102% of market value (including accrued interest) by obligations of the U.S. government or one of its sponsored enterprises or agencies,

(j) municipal obligations issued by any state of the United States of America or any municipality or other political subdivision of any such state rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase,

(k) 7, 28 or 35 day auction rate securities rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase and

(l) shares in bond mutual funds that are registered under the Investment Company Act of 1940 that invest solely in the items set forth in (a)-(k) above and rated AAA by S&P, Aaa by Moody's or AAA by Fitch at the time of purchase,

in each case above which is held in the applicable Cash Collateral Account and is subject to the Account Control Agreement and in which the Agent has, on behalf of the Lenders, a first priority perfected security interest (such security interest to be supported by a legal opinion from counsel to the Borrower in form and substance satisfactory to the Agent).

Notwithstanding the above, at the time of purchase, no one issuer will be more than 5% of the value of the Permitted Cash Collateral with respect to any Term Loan. This rule excludes direct obligations of the United States, United States sponsored agencies and

enterprises, money market funds, repurchase agreements and securities that have an effective maturity no longer than the next business day. United States sponsored agencies and enterprises are limited to 40% of the value of the Permitted Cash Collateral with respect to any Term Loan at time of purchase, per issuer. For purposes of calculating the amount of Permitted Cash Collateral on deposit in the Cash Collateral Accounts hereunder, Permitted Cash Collateral of an issuer that exceeds the 5% or 40% thresholds set forth above shall be excluded from such calculation.

"Permitted Cash Collateral-A2" means Permitted Cash Collateral securing the Term Loan A2.

"Permitted Cash Collateral-A3" means Permitted Cash Collateral securing the Term Loan A3.

"Person" means any individual, partnership, joint venture, firm, corporation, association, trust, limited liability company or other enterprise (whether or not incorporated), or any government or political subdivision or any agency, department or instrumentality thereof.

"Plan" means any employee pension benefit plan (as defined in Section 3(2) of ERISA) which is covered by ERISA and with respect to which the Parent or any ERISA Affiliate is (or, if such plan were terminated at such time, would under Section 4069 of ERISA be deemed to be) an "employer" within the meaning of Section 3(5) of ERISA.

"Prime Rate" means the per annum rate of interest established from time to time by the Agent at its principal office in Charlotte, North Carolina as its Prime Rate. Any change in the interest rate resulting from a change in the Prime Rate shall become effective as of 12:01 a.m. of the Business Day on which each change in the Prime Rate is announced by the Agent. The Prime Rate is a reference rate used by the Agent in determining interest rates on certain loans and is not intended to be the lowest rate of interest charged on any extension of credit to any debtor.

"Properties" has the meaning set forth in Section 6.12.

"Qualified Acquisition" means a Permitted Acquisition, the aggregate purchase price for which, when combined with the aggregate purchase price for all other Permitted Acquisitions in any rolling 12-month period, is greater than or equal to $25,000,000.

"Qualified Project" means the construction or expansion of any capital project of the Parent or any of its Subsidiaries, the aggregate capital cost of which exceeds $10,000,000.

"Qualified Project EBITDA Adjustments" shall mean, with respect to each Qualified Project:

(a) prior to the Commercial Operation Date of a Qualified Project (but including the fiscal quarter in which such Commercial Operation Date occurs), a percentage (based on the then-current completion percentage of such Qualified Project) of an amount to be approved by the Agent as the projected Consolidated EBITDA of the Parent and its Subsidiaries attributable to such Qualified Project for the first 12-month period following the scheduled Commercial Operation Date of such Qualified Project (such amount to be determined based on customer contracts relating to such Qualified Project, the creditworthiness of the other parties to such contracts, and projected revenues

from such contracts, capital costs and expenses, scheduled Commercial Operation Date, oil and gas reserve and production estimates, commodity price assumptions and other reasonable factors deemed appropriate by Agent), which may, at the Parent's option, be added to actual Consolidated EBITDA for the Parent and its Subsidiaries for the fiscal quarter in which construction of such Qualified Project commences and for each fiscal quarter thereafter until the Commercial Operation Date of such Qualified Project (including the fiscal quarter in which such Commercial Operation Date occurs, but net of any actual Consolidated EBITDA of the Parent and its Subsidiaries attributable to such Qualified Project following such Commercial Operation Date); provided that if the actual Commercial Operation Date does not occur by the scheduled Commercial Operation Date, then the foregoing amount shall be reduced, for quarters ending after the scheduled Commercial Operation Date to (but excluding) the first full quarter after its actual Commercial Operation Date, by the following percentage amounts depending on the period of delay (based on the period of actual delay or then-estimated delay, whichever is longer): (i) 90 days or less, 0%, (ii) longer than 90 days, but not more than 180 days, 25%, (iii) longer than 180 days but not more than 270 days, 50%, and (iv) longer than 270 days, 100%; and

(b) thereafter, actual Consolidated EBITDA of the Parent and its Subsidiaries attributable to such Qualified Project for each full fiscal quarter after the Commercial Operation Date, plus the amount approved by Agent pursuant to Part (a) above as the projected Consolidated EBITDA of Parent and its Subsidiaries attributable to such Qualified Project for the fiscal quarters constituting the balance of the four full fiscal quarter period following such Commercial Operation Date; provided, in the event the actual Consolidated EBITDA of the Parent and its Subsidiaries attributable to such Qualified Project for any full fiscal quarter after the Commercial Operation Date shall materially differ from the projected Consolidated EBITDA approved by Agent pursuant to Part (a) above for such fiscal quarter, the projected Consolidated EBITDA of Parent and its Subsidiaries attributable to such Qualified Project for any remaining fiscal quarters included in the foregoing calculation shall be redetermined in the same manner as set forth in clause (a) above, such amount to be approved by the Agent, which may, at the Parent's option, be added to actual Consolidated EBITDA for the Parent and its Subsidiaries for such fiscal quarters.

Notwithstanding the foregoing:

(A) no such additions shall be allowed with respect to any Qualified Project unless:

(1) not later than 30 days prior to the delivery of any certificate required by the terms and provisions of Section 7.1(d) to the extent Qualified Project EBITDA Adjustments will be made to Consolidated EBITDA in determining compliance with Section 7.10, the Borrower shall have delivered to the Agent written pro forma projections of Consolidated EBITDA of the Parent and its Subsidiaries attributable to such Qualified Project; and

(2) prior to the date such certificate is required to be delivered, the Agent shall have approved (such approval not to be unreasonably withheld) such projections and shall have received such other information and documentation as the Agent may reasonably request, all in form and substance satisfactory to the Agent, and

(B) the aggregate amount of all Qualified Project EBITDA Adjustments during any period shall be limited to 20% of the total actual Consolidated EBITDA of the Parent and its Subsidiaries for such period (which total actual Consolidated EBITDA shall be determined without including any Qualified Project EBITDA Adjustments).

"Rating Agency Designation" means a written notice in the form of Exhibit 1.1 provided from time to time by the Parent to the Agent setting forth up to three current Designated Rating Agencies.

"Register" has the meaning set forth in Section 11.3(c).

"Regulation A, D, T, U, or X" means Regulation A, D, T, U or X, respectively, of the Board of Governors of the Federal Reserve System as from time to time in effect and any successor to all or a portion thereof.

"Reportable Event" means a "reportable event" as defined in Section 4043 of ERISA with respect to which the notice requirements to the PBGC have not been waived.

"Required Collateral-A2 Amount" has the meaning specified in Section 7.13(b)(I).

"Required Collateral-A3 Amount" has the meaning specified in Section 7.13(b)(II).

"Required Lenders" means Lenders whose aggregate Credit Exposure constitutes more than 50% of the aggregate Credit Exposure of all Lenders at such time; provided, however, that if any Lender shall be a Defaulting Lender at such time then there shall be excluded from the determination of Required Lenders the aggregate principal amount of Credit Exposure of such Lender at such time.

"Responsible Officer" means the president, chief financial officer, treasurer or assistant treasurer of the applicable Credit Party.

"Restricted Payment" means any dividend or other distribution (whether in cash, securities or other property) with respect to Capital Stock of a Credit Party or any Subsidiary, or any payment (whether in cash, securities or other property), including any sinking fund or similar deposit, on account of the purchase, redemption, retirement, acquisition, cancellation or termination of any such Capital Stock or on account of any return of capital to a Credit Party's stockholders, partners or members (or the equivalent Person thereof), or any setting apart of funds or assets for any of the foregoing.

"Revolver Maturity Date" shall mean the later of (a) the date that is five (5) years following the Closing Date and (b) if the Revolver Maturity Date is extended pursuant to Section 2.11, such extended Revolver Maturity Date as determined pursuant to such Section 2.11.

"Revolving Committed Amount" means SIX HUNDRED MILLION DOLLARS ($600,000,000) as such amount may be reduced in accordance with Section 2.7 or increased pursuant to Section 2.10.

"Revolving Lender" means a Lender who has a Commitment Percentage with respect to Revolving Loans greater than zero.

"Revolving Loans" has the meaning set forth in Section 2.1(a).

"Revolving Notes" means the promissory notes of the Borrower in favor of each of the Lenders evidencing the Loans provided pursuant to Section 2.1(a), individually or collectively, as appropriate, as such notes may be amended or modified from time to time and substantially in the form of Exhibit 2.9(a).

"S&P" means Standard & Poor's Ratings Group, a division of McGraw Hill, Inc., or any successor or assignee of the business of such division in the business of rating securities.

"Sale and Leaseback Transaction" means, with respect to a Credit Party or any Subsidiary, any arrangement, directly or indirectly, with any Person whereby a Credit Party or such Subsidiary shall sell or transfer any assets used or useful in its business, whether now owned or hereafter acquired, and thereafter rent or lease such assets or other assets that it intends to use for substantially the same purpose or purposes as the assets being sold or transferred.

"Sanctioned Country" means a country subject to a sanctions program identified on the list maintained by OFAC and available at http://www.treas.gov/offices/enforcement /ofac/sanctions/index.html, or as otherwise published from time to time.

"Sanctioned Person" means (a) a Person named on the list of "Specially Designated Nationals and Blocked Persons" maintained by OFAC available at http://www.treas.gov/offices/enforcement/ofac/sdn/index.html, or as otherwise published from time to time or (b) (i) an agency of the government of a Sanctioned Country, (ii) an organization controlled by a Sanctioned Country or (iii) a person resident in a Sanctioned Country, to the extent subject to a sanctions program administered by OFAC.

"Single Employer Plan" means any Plan which is covered by Title IV of ERISA, but which is not a Multiemployer Plan or a Multiple Employer Plan.

"Solvent" means, with respect to any Person as of a particular date, that on such date (a) such Person is able to pay its debts and other liabilities, contingent obligations and other commitments as they mature in the normal course of business, (b) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person's ability to pay as such debts and liabilities mature in their ordinary course, (c) such Person is not engaged in a business or a transaction, and is not about to engage in a business or a transaction, for which such Person's assets would constitute unreasonably small capital after giving due consideration to the prevailing practice in the industry in which such Person is engaged or is to engage, (d) the fair value of the assets of such Person is greater than the total amount of liabilities, including, without limitation, contingent liabilities, of such Person and (e) the present fair saleable value of the assets of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured. In computing the amount of contingent liabilities at any time, it is intended that such liabilities will be computed as the amount which, in light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability.

"Subsidiary" means, as to any Person, (a) any corporation more than 50% of whose stock of any class or classes having by the terms thereof ordinary voting power to elect a majority of the directors of such corporation (irrespective of whether or not at the time, any class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time owned by such Person directly or indirectly through Subsidiaries, (b) any partnership, association, joint venture, limited liability company or other entity in which such person directly or

indirectly through Subsidiaries has more than 50% equity interest at any time and (c) any other Person that is controlled by such Person and who for GAAP purposes is required to be consolidated into such Person's consolidated financial statements. Unless otherwise provided, as used herein, "Subsidiary" shall refer to a Subsidiary of the Parent.

"Swap Contract" means, to the extent entered into on a fair market value basis at the time of entry, (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps or options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar transactions, currency swap transactions, cross-currency rate swap transactions, currency options, spot contracts, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, which are subject to the terms and conditions of, or governed by, any form of master agreement published by the International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a "Master Agreement"), including any such obligations or liabilities under any Master Agreement.

"Swingline Committed Amount" means SIXTY MILLION DOLLARS ($60,000,000).

"Swingline Lender" means Wachovia Bank, National Association or any successor Swingline Lender.

"Swingline Loan" or "Swingline Loans" has the meaning set forth in Section 2.8(a).

"Swingline Note" means the promissory note of the Borrower in favor of the Swingline Lender evidencing the Swingline Loans provided pursuant to Section 2.8, as such promissory note may be amended or modified, from time to time and substantially in the form of Exhibit 2.9(c).

"Termination Event" means (a) with respect to any Single Employer Plan, the occurrence of a Reportable Event or the substantial cessation of operations (within the meaning of Section 4062(e) of ERISA), (b) the withdrawal of the Parent or any ERISA Affiliate from a Multiple Employer Plan during a plan year in which it was a substantial employer (as such term is defined in Section 4001(a)(2) of ERISA), or the termination of a Multiple Employer Plan, (c) the distribution of a notice of intent to terminate or the actual termination of a Plan pursuant to Section 4041(a)(2) or 4041A of ERISA, (d) the institution of proceedings to terminate or the actual termination of a Plan by the PBGC under Section 4042 of ERISA, (e) any event or condition which might reasonably constitute grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any Plan, or (f) the complete or partial withdrawal of the Borrower or any ERISA Affiliate from a Multiemployer Plan.

"Term Loan" has the meaning specified in Section 2.1(b).

"Term Loan Maturity Date" means, with respect to the Term Loan A2 and the Term Loan A3, the date that is five (5) years following the Closing Date.

"Term Loan Note" means the promissory notes of the Borrower in favor of each of the Lenders evidencing the Loans provided pursuant to Section 2.1(b), individually or collectively, as appropriate, as such notes may be amended or modified from time to time and substantially in the form of Exhibit 2.9(b).

"Term Loan A2" has the meaning specified in Section 2.1(b)(i).

"Term Loan A2 Commitment Fee" has the meaning set forth in Section 3.4(e)(i).

"Term Loan A2 Commitment Period" shall mean the period from and including the Closing Date to and including the Term Loan A2 Commitment Termination Date.

"Term Loan A2 Commitment Termination Date" shall mean November 15, 2007.

"Term Loan A2 Funding Date" shall mean, with respect to the Term Loan A2, any Business Day occurring during the Term Loan A2 Commitment Period in which the Borrower delivers a Notice of Borrowing in accordance with Section 2.3(b); provided, that there shall be no more than two (2) Term Loan A2 Funding Dates during the Term Loan A2 Commitment Period.

"Term Loan A3" has the meaning specified in Section 2.1(b)(ii).

"Term Loan A3 Commitment Fee" has the meaning set forth in Section 3.4(e)(ii).

"Term Loan A3 Commitment Period" shall mean the period from and including the Closing Date to and including the Term Loan A3 Commitment Termination Date.

"Term Loan A3 Commitment Termination Date" shall mean December 31, 2007.

"Term Loan A3 Funding Date" shall mean, with respect to the Term Loan A3, any Business Day occurring during the Term Loan A3 Commitment Period in which the Borrower delivers a Notice of Borrowing in accordance with Section 2.3(b); provided, that there shall be no more than two (2) Term Loan A3 Funding Dates during the Term Loan A3 Commitment Period.

"Tier 1 Permitted Cash Collateral" means Permitted Cash Collateral with maturities of not more than 30 days from the date of acquisition with the exception of auction rate securities which may have a re-set date of 35 days or less.

"Tier 2 Permitted Cash Collateral" means Permitted Cash Collateral with maturities more than 30 days from the date of acquisition but not more than 90 days from the date of acquisition.

"Tier 3 Permitted Cash Collateral" means Permitted Cash Collateral with maturities more than 90 days from the date of acquisition but not more than 180 days from the date of acquisition.

"Treasury Management Agreement" means any agreement governing the provision of treasury or cash management services, including deposit accounts, funds transfer, automated clearinghouse, zero balance accounts, returned check concentration, controlled disbursement, lockbox, account reconciliation and reporting and trade finance services provided by a Lender or an Affiliate of a Lender.

"Utilization Fees" has the meaning set forth in Section 3.4(c).

"Utilized Revolving Loan Commitment" means, for any period from the Effective Date to the Revolver Maturity Date, the amount equal to the daily average sum for such period of the aggregate principal amount of all Revolving Loans plus Swingline Loans plus LOC Obligations.

"Voting Stock" means all classes of the Capital Stock (or other voting interests) of such Person then outstanding and normally entitled to vote in the election of directors or other governing body of such Person.

1.2 Computation of Time Periods.

For purposes of computation of periods of time hereunder, the word "from" means "from and including" and the words "to" and "until" each mean "to but excluding." References in this Credit Agreement to "Articles", "Sections", "Schedules" or "Exhibits" shall be to Articles, Sections, Schedules or Exhibits of or to this Credit Agreement unless otherwise specifically provided.

1.3 Accounting Terms.

(a) Generally. Except as otherwise expressly provided herein, all accounting terms used herein shall be interpreted, and all financial statements and certificates and reports as to financial matters required to be delivered to the Lenders hereunder shall be prepared, in accordance with GAAP applied on a consistent basis.

(b) Calculations. Notwithstanding anything in this Credit Agreement to the contrary:

(i) For purposes of calculating compliance with the financial covenants set forth in Section 7.10 hereof and for purposes of determining the Applicable Margin, with respect to all Permitted Acquisitions subsequent to the Effective Date, Consolidated EBITDA, Consolidated Interest Expense and Consolidated Indebtedness with respect to such newly acquired assets shall be calculated on a pro forma basis as if such acquisition had occurred at the beginning of the applicable twelve month period of determination.

(ii) For purposes of calculating compliance with the financial covenants set forth in Section 7.10 hereof and for purposes of determining the Applicable Margin, Consolidated EBITDA may include, at Parent's option, any Qualified Project EBITDA Adjustments as provided in the definition thereof.

1.4 Time.

All references to time herein shall be references to Eastern Standard Time or Eastern Daylight time, as the case may be, unless specified otherwise.

SECTION 2.

LOANS

2.1 Revolving and Term Loans.

(a) Revolving Loans. Subject to the terms and conditions set forth herein, each Revolving Lender severally agrees to make revolving loans to the Borrower in Dollars, at any time and from time to time, during the period from the Effective Date to the Revolver Maturity Date (each a "Revolving Loan" and collectively the "Revolving Loans"); provided, however, that (a) the sum of the aggregate amount of Revolving Loans outstanding plus the aggregate amount of Swingline Loans outstanding plus the aggregate amount of LOC Obligations outstanding shall not exceed the Revolving Committed Amount and (b) with respect to each individual Revolving Lender, such Revolving Lender's pro rata share of outstanding Revolving Loans plus such Revolving Lender's pro rata share of outstanding LOC Obligations plus its pro rata share of Swingline Loans shall not exceed such Revolving Lender's Commitment Percentage of the Revolving Committed Amount. Subject to the terms of this Credit Agreement, the Borrower may borrow, repay and reborrow Revolving Loans. Revolving Loans may consist of Base Rate Loans or Eurodollar Loans as further provided herein; provided that any Revolving Loans made on the Closing Date shall be Base Rate Loans unless the Borrower delivers to the Agent a funding indemnity letter acceptable to the Agent. Unless earlier terminated pursuant to other provisions of this Credit Agreement, the Commitments hereunder with respect to Revolving Loans shall terminate on the Revolver Maturity Date.

(b) Term Loans.

(i) Term Loan A2. Subject to the terms and conditions set forth herein, each applicable Lender severally agrees to make available to the Borrower on each Term Loan A2 Funding Date, in accordance with Section 2.3(b), such Lender's applicable Commitment Percentage of a term loan in Dollars (the " Term Loan A2") in the aggregate principal amount after giving effect to all Term Loan A2 borrowings of up to **ONE HUNDRED MILLION DOLLARS ($100,000,000)** (the "Term Loan A2 Committed Amount") for the purposes hereinafter set forth. Amounts repaid on the Term Loan A2 may not be reborrowed. The Term Loan A2 may consist of Base Rate Loans or Eurodollar Loans as further provided herein; provided that any borrowings of the Term Loan A2 on the Closing Date shall be Base Rate Loans. The unused commitments of the Lenders with respect to the Term Loan A2 shall expire on the Term Loan A2 Commitment Termination Date.

(ii) Term Loan A3. Subject to the terms and conditions set forth herein, each applicable Lender severally agrees to make available to the Borrower on each Term Loan A3 Funding Date, in accordance with Section 2.3(b), such Lender's applicable Commitment Percentage of a term loan in Dollars (the " Term Loan A3") in the aggregate principal amount after giving effect to all Term Loan A3 borrowings of up to **ONE HUNDRED FIFTY MILLION DOLLARS ($150,000,000)** (the "Term Loan A3 Committed Amount") for the purposes hereinafter set forth. Amounts repaid on the Term Loan A3 may not be reborrowed. The Term Loan A3 may consist of Base Rate Loans or Eurodollar Loans as further provided herein; provided that any borrowings of the Term Loan A3 on the Closing Date shall be Base Rate Loans. The unused commitments of the Lenders with respect to the Term Loan A3 shall expire on the Term Loan A3 Commitment Termination Date.

(iii) Other Term Loans. Prior to the Term Loan Maturity Date and with the consent of the Agent (such consent not to be unreasonably withheld), the Borrower shall have the right to

request, from time to time, additional term loans to be evidenced under this Credit Agreement; provided that (A) no Default or Event of Default shall exist at the time of such new term loan or after giving effect thereto, (B) no individual Lender shall be required to participate in any such term loan without its written consent, (C) the Credit Parties and the Lenders providing any such term loan shall enter into an amendment to this Credit Agreement as is necessary to evidence (x) the making of such term loan and (y) the creation of any Cash Collateral Account and Account Control Agreement and the establishment of any required collateral amounts associated therewith (it being understood and agreed that, as set forth in Section 11.6, such amendment shall not require the consent of any Lender not providing such term loan), (D) Schedule 1.1 shall be amended to reflect the addition of the new term loan and the Lenders participating therein, (E) the Borrower shall execute and deliver such Term Note(s) as are requested by the Lenders providing commitments for such additional term loan, (F) the Borrower shall demonstrate to the satisfaction of the Agent that immediately after giving effect to such additional term loan, the Borrower is in compliance with Section 7.10 on a pro forma basis, (G) unless specifically set forth herein, the terms of such additional term loan shall be determined at the time such additional term loan is incurred and (H) after giving effect to such additional term loan, the total amount of Term Loans outstanding plus the Revolving Committed Amount at such time shall not exceed $1,000,000,000.

Any such additional term loan, at the option of the Borrower, shall be provided by (x) one or more existing Lenders; provided that any existing Lender who provides a commitment for such term loan must consent in writing thereto and/or (y) one or more institutions that is not an existing Lender; provided that any such institution (1) must conform to the definition of Eligible Assignee, (2) must provide a commitment of at least $5,000,000 unless otherwise agreed to by the Agent and the Borrower and (3) must become a Lender under this Credit Agreement by execution and delivery of an appropriate joinder agreement or of counterparts to this Credit Agreement in a manner acceptable to the Borrower and the Agent.

The Agent is authorized to enter into, on behalf of the Lenders, any amendment to this Credit Agreement or any other Credit Document as may be necessary to solely incorporate the terms of each such additional term loan therein.

(iv) Term Loans. As used herein, "Term Loans" shall mean a collective reference to the Term Loan A2, the Term Loan A3 and any additional term loans incurred pursuant to Section 2.1(b)(iii) above.

2.2 Letters of Credit.

(a) Issuance; Terms. Subject to the terms and conditions hereof and of the LOC Documents, if any, and any other terms and conditions which an Issuing Lender may reasonably require (so long as such terms and conditions do not impose any financial obligation on or require any Lien (not otherwise contemplated by this Credit Agreement) to be given by the Borrower or conflict with any obligation of, or detract from any action which may be taken by the Borrower or its Subsidiaries under this Credit Agreement), the applicable Issuing Lender shall from time to time, upon request, issue in Dollars, and the Revolving Lenders shall participate in, letters of credit (the "Letters of Credit") for the account of the Borrower (or, subject to Section 2.2(f), the Parent or any of its Subsidiaries) from the Effective Date until the Revolver Maturity Date, in a form reasonably acceptable to such Issuing Lender; provided, however, that (i) the sum of the aggregate amount of LOC Obligations outstanding plus Revolving Loans outstanding plus Swingline Loans outstanding shall not exceed the Revolving Committed Amount and (ii) with respect to each individual Lender, such Lender's pro rata share of outstanding Revolving Loans plus its pro rata share of outstanding LOC Obligations plus its pro rata share of Swingline Loans shall not

exceed such Lender's Commitment Percentage of the Revolving Committed Amount. The issuance and expiry date of each Letter of Credit shall be a Business Day. No Letter of Credit shall have an expiry date extending beyond the date that is five (5) Business Days before the Revolver Maturity Date. Each Letter of Credit shall be either (x) a standby letter of credit issued to support the obligations (including pension or insurance obligations), contingent or otherwise, of the Borrower, the Parent or any of its Subsidiaries or (y) a commercial letter of credit in respect of the purchase of goods or services by the Borrower, the Parent or any of its Subsidiaries in the ordinary course of business. Each Letter of Credit shall comply with the related LOC Documents. The Borrower's reimbursement obligations in respect of each Existing Letter of Credit, and each Lender's participation obligations in connection therewith, shall be governed by the terms of this Credit Agreement.

(b) Notice and Reports. The request for the issuance of a Letter of Credit shall be submitted in writing to the applicable Issuing Lender at least three Business Days prior to the requested date of issuance. Such request shall specify the date such Letter of Credit is to be issued and describe the terms of such Letter of Credit and shall be accompanied by a completed application in form and substance satisfactory to such Issuing Lender. Each Issuing Lender will notify the Agent when a Letter of Credit is issued and the details with respect thereto and shall provide to the Agent and, upon written request, to the Lenders a detailed report specifying the Letters of Credit which are then issued and outstanding and any activity with respect thereto which may have occurred since the date of any prior report, and including therein, among other things, the account party, the beneficiary, the face amount, and the expiry date as well as any payments or expirations which may have occurred. Each Issuing Lender will further provide to the Agent, promptly upon request, copies of the Letters of Credit.

(c) Participations. Each Lender, (i) on the Closing Date with respect to each Existing Letter of Credit and (ii) upon issuance of any other Letter of Credit, shall be deemed to have purchased without recourse a risk participation from the applicable Issuing Lender in such Letter of Credit and the obligations arising thereunder and any collateral relating thereto, in each case in an amount equal to its Commitment Percentage of the obligations under such Letter of Credit, and shall absolutely, unconditionally and irrevocably assume, as primary obligor and not as surety, and be obligated to pay to the applicable Issuing Lender therefor and discharge when due, its Commitment Percentage of the obligations arising under such Letter of Credit. Without limiting the scope and nature of each Lender's participation in any Letter of Credit, to the extent that the applicable Issuing Lender has not been reimbursed as required hereunder or under any such Letter of Credit, each such Lender shall pay to the applicable Issuing Lender its Commitment Percentage of such unreimbursed drawing in same day funds on the day of notification by the applicable Issuing Lender of an unreimbursed drawing pursuant to the provisions of subsection (d) hereof. The obligation of each Lender to so reimburse the applicable Issuing Lender shall be absolute and unconditional and shall not be affected by the occurrence of a Default, an Event of Default, the Revolver Maturity Date or any other occurrence or event. Any such reimbursement shall not relieve or otherwise impair the obligation of the Borrower to reimburse the applicable Issuing Lender under any Letter of Credit, together with interest as hereinafter provided.

(d) Reimbursement. In the event of any request for a drawing or any drawing under any Letter of Credit, the applicable Issuing Lender will promptly notify the Borrower as to the amount to be paid as a result of such drawing and the date such payment is to be made by the applicable Issuing Lender (the "Payment Date"). If the Commitments with respect to Revolving Loans remain in effect on the Payment Date, the Borrower shall, unless the Borrower otherwise instructs the Agent by not less than one Business Day's prior notice, be deemed to have requested a Revolving Loan at the Base Rate in the amount of the drawing as provided in subsection (e) hereof, the proceeds of which will be used to satisfy the reimbursement obligations. The Borrower shall reimburse the applicable Issuing Lender on the Payment Date either with the

proceeds of a Revolving Loan obtained hereunder or otherwise in same day funds as provided herein or in the LOC Documents. If the Borrower shall fail to reimburse the applicable Issuing Lender as provided hereinabove, the unreimbursed amount of such drawing shall bear interest at a per annum rate equal to the Base Rate plus two percent (2%). The Borrower's reimbursement obligations hereunder shall be absolute and unconditional under all circumstances irrespective of (but without waiver of) any rights of set-off, counterclaim or defense to payment that the applicable account party or the Borrower may claim or have against the Issuing Lenders, the Agent, the Lenders, the beneficiary of the Letter of Credit drawn upon or any other Person, including without limitation, any defense based on any failure of the applicable account party or the Borrower to receive consideration or the legality, validity, regularity or unenforceability of the Letter of Credit. The applicable Issuing Lender will promptly notify the Lenders of the amount of any unreimbursed drawing and each Lender shall promptly pay to the Agent for the account of the applicable Issuing Lender, in Dollars and in immediately available funds, the amount of such Lender's Commitment Percentage of such unreimbursed drawing. Such payment shall be made on the day such notice is received by such Lender from the applicable Issuing Lender if such notice is received at or before 2:00 p.m., otherwise such payment shall be made at or before 12:00 Noon on the Business Day next succeeding the day such notice is received. If such Lender does not pay such amount to the applicable Issuing Lender in full upon such request, such Lender shall, on demand, pay to the Agent for the account of the applicable Issuing Lender interest on the unpaid amount during the period from the date the Lender received the notice regarding the unreimbursed drawing until such Lender pays such amount to the applicable Issuing Lender in full at a rate per annum equal to, if paid within two Business Days of the date of drawing, the Federal Funds Rate and thereafter at a rate equal to the Base Rate. Each Lender's obligation to make such payment to the applicable Issuing Lender, and the right of the applicable Issuing Lender to receive the same, shall be absolute and unconditional, shall not be affected by any circumstance whatsoever and without regard to the termination of this Credit Agreement or the Commitments with respect to Revolving Loans hereunder, the existence of a Default or Event of Default or the acceleration of the obligations hereunder and shall be made without any offset, abatement, withholding or reduction whatsoever. Simultaneously with the making of each such payment by a Lender to the applicable Issuing Lender, such Lender shall, automatically and without any further action on the part of the applicable Issuing Lender or such Lender, acquire a participation in an amount equal to such payment (excluding the portion of such payment constituting interest owing to the applicable Issuing Lender) in the related unreimbursed drawing portion of the LOC Obligation and in the interest thereon and in the related LOC Documents, and shall have a claim against the Borrower with respect thereto.

(e) Repayment with Revolving Loans. On any day on which the Borrower shall have requested, or been deemed to have requested, a Revolving Loan borrowing to reimburse a drawing under a Letter of Credit, the Agent shall give notice to the Lenders that a Revolving Loan has been requested or deemed requested in connection with a drawing under a Letter of Credit, in which case a Revolving Loan borrowing comprised solely of Base Rate Loans (each such borrowing, a "Mandatory Borrowing") shall be immediately made from all Lenders (without giving effect to any termination of the Commitments pursuant to Section 9.2 or otherwise) pro rata based on each Lender's respective Commitment Percentage and the proceeds thereof shall be paid directly to the applicable Issuing Lender for application to the respective LOC Obligations. Each such Lender hereby irrevocably agrees to make such Revolving Loans immediately upon any such request or deemed request on account of each such Mandatory Borrowing in the amount and in the manner specified in the preceding sentence and on the same such date notwithstanding (i) the amount of Mandatory Borrowing may not comply with the minimum amount for borrowings of Revolving Loans otherwise required hereunder, (ii) whether any conditions specified in Section 5.2 are then satisfied, (iii) whether a Default or Event of Default then exists, (iv) failure of any such request or deemed request for Revolving Loans to be made by the time otherwise required hereunder or (v) any reduction in the Revolving Committed Amount. In the event that any Mandatory Borrowing cannot be made on the date otherwise required above, whether because the Commitments have terminated or for any other reason (including, without limitation, as a result of the commencement of a proceeding under the Bankruptcy Code with respect to the Borrower),

then each such Lender hereby agrees that it shall forthwith fund (as of the date the Mandatory Borrowing would otherwise have occurred, but adjusted for any payments received from the Borrower on or after such date and prior to such purchase) its Participation Interest in the outstanding LOC Obligations; provided, that in the event any Lender shall fail to fund its Participation Interest on the day it is required to do so, then the amount of such Lender's unfunded Participation Interest therein shall bear interest payable to the applicable Issuing Lender upon demand, at the rate equal to, if paid within two Business Days of such date, the Federal Funds Rate, and thereafter at a rate equal to the Base Rate.

(f) Designation of Subsidiaries as Account Parties. Notwithstanding anything to the contrary set forth in this Credit Agreement, a Letter of Credit issued hereunder may contain a statement to the effect that such Letter of Credit is issued for the account of the Parent or any of its Subsidiaries; provided, that notwithstanding such statement, the Borrower shall be the actual account party for all purposes of this Credit Agreement for such Letter of Credit and such statement shall not affect the Borrower's reimbursement obligations hereunder with respect to such Letter of Credit.

(g) Modification and Extension. Except for non-substantive amendments to any Letter of Credit for the purpose of correcting errors or ambiguities or to allow for administrative convenience (which amendments each Issuing Bank may make in its discretion with the consent of the Borrower), the amendment, modification, supplement, extension or renewal of any Letter of Credit shall be deemed to be an issuance of such Letter of Credit. If any Letter of Credit contains a provision pursuant to which it is deemed to be automatically renewed unless notice of termination is given by the applicable Issuing Lender, such Issuing Lender shall timely give notice of termination if (i) as of close of business on the seventeenth day prior to the last day upon which such Issuing Lender's notice of termination may be given to the beneficiaries of such Letter of Credit, such Issuing Lender has received a notice of termination from the Borrower or a notice from the Agent that the conditions to issuance of such Letter of Credit have not been satisfied or (ii) the renewed Letter of Credit would have a term not permitted by subsection (a) above.

(h) Uniform Customs and Practices. An Issuing Lender may have the Letters of Credit be subject to The Uniform Customs and Practice for Documentary Credits (the "UCP") or the International Standby Practices 1998 (the "ISP98"), in either case as published as of the date of issue by the International Chamber of Commerce, in which case the UCP or ISP98, as applicable, may be incorporated therein and deemed in all respects to be a part thereof.

(i) Responsibility of Issuing Lenders. It is expressly understood and agreed that the obligations of each Issuing Lender hereunder to the Lenders are only those expressly set forth in this Credit Agreement and that each Issuing Lender shall be entitled to assume that the conditions precedent set forth in Section 5.2 have been satisfied unless it shall have acquired actual knowledge that any such condition precedent has not been satisfied; provided, however, that nothing set forth in this Section 2.2 shall be deemed to prejudice the right of any Lender to recover from an Issuing Lender any amounts made available by such Lender to such Issuing Lender pursuant to this Section 2.2 in the event that it is determined by a court of competent jurisdiction that the payment with respect to a Letter of Credit constituted gross negligence or willful misconduct on the part of such Issuing Lender.

(j) Conflict with LOC Documents. In the event of any conflict between this Credit Agreement and any LOC Document (including any letter of credit application and any LOC Documents relating to the Existing Letters of Credit), this Credit Agreement shall govern.

(k) Indemnification of Issuing Lenders.

(i) In addition to its other obligations under this Credit Agreement, the Borrower hereby agrees to protect, indemnify, pay and save the Issuing Lenders harmless from and against any and all claims, demands, liabilities, damages, losses, costs, charges and expenses (including reasonable attorneys' fees) that the Issuing Lenders may incur or be subject to as a consequence, direct or indirect, of (A) the issuance of any Letter of Credit or (B) the failure of an Issuing Lender to honor a drawing under a Letter of Credit as a result of any act or omission, whether rightful or wrongful, of any present or future de jure or de facto government or Governmental Authority (all such acts or omissions, herein called "Government Acts").

(ii) As between the Borrower and the Issuing Lenders, the Borrower shall assume all risks of the acts, omissions or misuse of any Letter of Credit by the beneficiary thereof. The Issuing Lenders shall not be responsible for: (A) the form, validity, sufficiency, accuracy, genuineness or legal effect of any document submitted by any party in connection with the application for and issuance of any Letter of Credit, even if it should in fact prove to be in any or all respects invalid, insufficient, inaccurate, fraudulent or forged; (B) the validity or sufficiency of any instrument transferring or assigning or purporting to transfer or assign any Letter of Credit or the rights or benefits thereunder or proceeds thereof, in whole or in part, that may prove to be invalid or ineffective for any reason; (C) failure of the beneficiary of a Letter of Credit to comply fully with conditions required in order to draw upon a Letter of Credit; (D) errors, omissions, interruptions or delays in transmission or delivery of any messages, by mail, cable, telegraph, telex or otherwise, whether or not they be in cipher; (E) errors in interpretation of technical terms; (F) any loss or delay in the transmission or otherwise of any document required in order to make a drawing under a Letter of Credit or of the proceeds thereof; and (G) any consequences arising from causes beyond the control of an Issuing Lender, including, without limitation, any Government Acts. None of the above shall affect, impair, or prevent the vesting of an Issuing Lender's rights or powers hereunder.

(iii) In furtherance and extension and not in limitation of the specific provisions hereinabove set forth, any action taken or omitted by an Issuing Lender, under or in connection with any Letter of Credit or the related certificates, if taken or omitted in good faith, shall not put such Issuing Lender under any resulting liability to the Borrower. It is the intention of the parties that this Credit Agreement shall be construed and applied to protect and indemnify the Issuing Lenders against any and all risks involved in the issuance of the Letters of Credit, all of which risks are hereby assumed by the Borrower, including, without limitation, any and all risks of the acts or omissions, whether rightful or wrongful, of any present or future Government Acts. An Issuing Lender shall not, in any way, be liable for any failure by such Issuing Lender or anyone else to pay any drawing under any Letter of Credit as a result of any Government Acts or any other cause beyond the control of such Issuing Lender.

(iv) Nothing in this subsection (k) is intended to limit the reimbursement obligation of the Borrower contained in this Section 2.2. The obligations of the Borrower under this subsection (k) shall survive the termination of this Credit Agreement. No act or omission of any current or prior beneficiary of a Letter of Credit shall in any way affect or impair the rights of an Issuing Lender to enforce any right, power or benefit under this Credit Agreement.

(v) Notwithstanding anything to the contrary contained in this subsection (k) or any of the Credit Documents, the Borrower shall have no obligation to indemnify an Issuing Lender in respect of any liability incurred by such Issuing Lender arising solely out of the gross negligence or willful misconduct of such Issuing Lender, as determined by a court of competent jurisdiction. Nothing in this Credit Agreement shall relieve an Issuing Lender of any liability to

the Borrower in respect of any action taken by such Issuing Lender which action constitutes gross negligence or willful misconduct of such Issuing Lender or a violation of the UCP, the ISP98 or Uniform Commercial Code (as applicable), as determined by a court of competent jurisdiction.

2.3 Method of Borrowing for Revolving Loans and Term Loans.

(a) Revolving Loans. By no later than 11:00 a.m. (a) on the date of the requested borrowing of Revolving Loans (other than Swingline Loans) that will be Base Rate Loans or (b) three Business Days prior to the date of the requested borrowing of Loans that will be Eurodollar Loans, the Borrower shall submit a written Notice of Borrowing in the form of Exhibit 2.3 to the Agent setting forth (i) the amount requested, (ii) whether such Revolving Loans shall accrue interest at the Adjusted Base Rate or the Adjusted Eurodollar Rate, (iii) with respect to Revolving Loans that will be Eurodollar Loans, the Interest Period applicable thereto and (iv) certification that the Borrower has complied in all respects with Section 5.2.

(b) Term Loans. By no later than 11:00 a.m. (a) on the date of the requested borrowing of the applicable Term Loans that will be Base Rate Loans or (b) three Business Days prior to the date of the requested borrowing of the applicable Term Loans that will be Eurodollar Loans, the Borrower shall submit a written Notice of Borrowing in the form of Exhibit 2.3 to the Agent setting forth (i) the amount requested, (ii) whether such Term Loans shall accrue interest at the Adjusted Base Rate or the Adjusted Eurodollar Rate, (iii) with respect to Term Loans that will be Eurodollar Loans, the Interest Period applicable thereto and (iv) certification that the Borrower has complied in all respects with Section 5.2.

2.4 Funding of Revolving Loans and Term Loans.

Upon receipt of a Notice of Borrowing, the Agent shall promptly inform the applicable Lenders as to the terms thereof. Each such Lender shall make its Commitment Percentage of the requested Revolving Loans or Term Loans, as applicable, available to the Agent by 2:00 p.m. on the date specified in the Notice of Borrowing by deposit, in Dollars, of immediately available funds at the Agency Services Address. The amount of the requested Loans will then be made available to the Borrower by the Agent by crediting the account of the Borrower on the books of such office of the Agent, to the extent the amount of such Loans are made available to the Agent.

No Lender shall be responsible for the failure or delay by any other Lender in its obligation to make Loans under this Section 2.4; provided, however, that the failure of any Lender to fulfill its obligations hereunder shall not relieve any other Lender of its obligations hereunder. Unless the Agent shall have been notified by any Lender prior to the time of any such Loan that such Lender does not intend to make available to the Agent its portion of the Loans to be made on such date, the Agent may assume that such Lender has made such amount available to the Agent on the date of such Loans, and the Agent in reliance upon such assumption, may (in its sole discretion but without any obligation to do so) make available to the Borrower a corresponding amount. If such corresponding amount is not in fact made available to the Agent, the Agent shall be able to recover such corresponding amount from such Lender. If such Lender does not pay such corresponding amount forthwith upon the Agent's demand therefor, the Agent will promptly notify the Borrower and the Borrower shall immediately pay such corresponding amount within two Business Days to the Agent. The Agent shall also be entitled to recover from the Lender or the Borrower, as the case may be, interest on such corresponding amount in respect of each day from the date such corresponding amount was made available by the Agent to the Borrower to the date such corresponding amount is recovered by the Agent at a per annum rate equal to (a) from the Borrower at the applicable rate for such Loan pursuant to the Notice of Borrowing and (b) from a Lender at the Federal Funds Rate.

2.5 Continuations and Conversions.

The Borrower shall have the option (subject to the limitations set forth below), on any Business Day, to continue existing Eurodollar Loans for a subsequent Interest Period, to convert Base Rate Loans into Eurodollar Loans or to convert Eurodollar Loans into Base Rate Loans; provided, however, that (a) each such continuation or conversion must be requested by the Borrower pursuant to a written Notice of Continuation/Conversion, in the form of Exhibit 2.5, in compliance with the terms set forth below, (b) if a Eurodollar Loan is continued or converted into a Base Rate Loan on any day other than the last day of the Interest Period applicable thereto, then the Borrower shall be subject to the provisions set forth in Section 4.3, (c) Eurodollar Loans may not be continued nor may Base Rate Loans be converted into Eurodollar Loans during the existence and continuation of a Default or Event of Default and (d) any request to extend a Eurodollar Loan that fails to comply with the terms hereof or any failure to request an extension of a Eurodollar Loan at the end of an Interest Period shall constitute a conversion to a Base Rate Loan on the last day of the applicable Interest Period. Each continuation or conversion must be requested by the Borrower no later than 11:00 a.m. (i) on the date for a requested conversion of a Eurodollar Loan to a Base Rate Loan or (ii) three Business Days prior to the date for a requested continuation of a Eurodollar Loan or conversion of a Base Rate Loan to a Eurodollar Loan, in each case pursuant to a written Notice of Continuation/Conversion submitted to the Agent which shall set forth (A) whether the Borrower wishes to continue or convert such Loans and (B) if the request is to continue a Eurodollar Loan or convert a Base Rate Loan to a Eurodollar Loan, the Interest Period applicable thereto.

2.6 Minimum Amounts.

Each request for a Revolving Loan or a Term Loan or a conversion or continuation of a Loan hereunder shall be subject to the following requirements: (a) each Eurodollar Loan that is a Revolving Loan shall be in a minimum amount of $10,000,000 (and in integral multiples of $1,000,000 in excess thereof), (b) each Base Rate Loan that is a Revolving Loan shall be in a minimum amount of the lesser of $10,000,000 (and in integral multiples of $1,000,000 in excess thereof) or the remaining amount available to be borrowed, (c) any Term Loan shall be in a minimum amount of the lesser of $10,000,000 or the remaining amount available to be borrowed, and (d) no more than ten Eurodollar Loans shall be outstanding hereunder at any one time. For the purposes of this Section, all Eurodollar Loans with the same Interest Periods that begin and end on the same date shall be considered as one Eurodollar Loan, but Eurodollar Loans with different Interest Periods, even if they begin on the same date, shall be considered separate Eurodollar Loans.

2.7 Reductions of Revolving Committed Amount.

Upon at least five (5) Business Days' notice, the Borrower shall have the right to permanently terminate or reduce the aggregate unused amount of the Revolving Committed Amount at any time or from time to time; provided, that (a) each partial reduction shall be in an aggregate amount at least equal to $10,000,000 and in integral multiples of $1,000,000 above such amount, (b) no reduction shall be made which would reduce the Revolving Committed Amount to an amount less than the aggregate amount of the then outstanding Revolving Loans plus the aggregate amount of the then outstanding LOC Obligations plus the aggregate amount of then outstanding Swingline Loans. Any reduction in (or termination of) the Revolving Committed Amount shall be permanent and may not be reinstated.

2.8 Swingline Loans.

(a) Swingline Commitment. Subject to the terms and conditions herein, the Swingline Lender, in its individual capacity, agrees to make loans to the Borrower in Dollars, at any time and from time to time, during the period from the Effective Date to the Revolver

Maturity Date (each a "Swingline Loan" and collectively, the "Swingline Loans"); provided, however, that (a) the sum of the aggregate amount of Swingline Loans outstanding plus Revolving Loans outstanding plus LOC Obligations outstanding shall not exceed the Revolving Committed Amount and (b) the aggregate amount of Swingline Loans outstanding at any one time shall not exceed the Swingline Committed Amount. Subject to the terms and conditions of the Credit Agreement, the Borrower may borrow, repay and reborrow Swingline Loans.

(b) Notice of Borrowing and Funding. By no later than 1:00 p.m. on the date of the requested borrowing of Swingline Loans, the Borrower shall submit a written Notice of Borrowing in the form of Exhibit 2.3 to the Agent setting forth (i) the amount requested, (ii) certification that the Borrower has complied in all respects with Section 5.2 and (iii) whether such Swingline Loans shall be Base Rate Loans or LIBOR Market Index Rate Loans. Swingline Loan borrowings shall be made in minimum amounts of $500,000 and in integral amounts of $100,000 in excess thereof. The amount of the requested Swingline Loans will then be made available to the Borrower by the Swingline Lender by crediting the account of the Borrower on the books of such office of the Agent.

(c) Repayment of Swingline Loans. Each Swingline Loan borrowing that is a Base Rate Loan shall be due and payable on the Revolver Maturity Date. Each Swingline Loan borrowing that is a LIBOR Market Index Rate Loan shall be due and payable on the earlier of (A) the Revolver Maturity Date and (B) fourteen days after the date such Swingline Loan is made. Swingline Loans that are LIBOR Market Index Rate Loans may not be refinanced with the proceeds of Swingline Loans that are LIBOR Market Index Rate Loans. The Swingline Lender may, at any time, in its sole discretion, by written notice to the Borrower, demand repayment of its Swingline Loans by way of a Revolving Loan borrowing, in which case the Borrower shall be deemed to have requested a Revolving Loan borrowing comprised entirely of Base Rate Loans in the amount of such Swingline Loans; provided, however, that, in the following circumstances, any such demand shall also be deemed to have been given one (1) Business Day prior to each of (i) the Revolver Maturity Date, (ii) the occurrence of any Event of Default described in Section 9.1(e), (iii) upon acceleration of the Obligations hereunder, whether on account of an Event of Default described in Section 9.1(e) or any other Event of Default, (iv) the exercise of remedies in accordance with the provisions of Section 9.2 hereof and (v) with respect to any LIBOR Market Index Rate Loan, the fourteenth day after the making of such Loan to the extent such Loan is not repaid sooner (each such Revolving Loan borrowing made on account of any such deemed request therefor as provided herein being hereinafter referred to as a "Mandatory Swingline Borrowing"). Each Lender hereby irrevocably agrees to make such Revolving Loans on the day such notice is received by the Lenders from the Agent if such notice is received at or before 2:00 p.m., otherwise such payment shall be made at or before 12:00 noon on the Business Day next succeeding the day such notice is received, in the amount and in the manner specified in the preceding sentence notwithstanding (A) the amount of the Mandatory Swingline Borrowing may not comply with the minimum amount for borrowings of Revolving Loans otherwise required hereunder, (B) whether any conditions specified in Section 5.2 are then satisfied, (C) whether a Default or an Event of Default then exists, (D) failure of any such request or deemed request for Revolving Loans to be made by the time otherwise required in Section 2.3, (E) the date of such Mandatory Swingline Borrowing, or (F) any reduction in the Revolving Committed Amount or termination of the Commitments with respect to Revolving Loans immediately prior to such Mandatory Swingline Borrowing or contemporaneously therewith. In the event that any Mandatory Swingline Borrowing cannot for any reason be made on the date otherwise required above (including, without limitation, as a result of the commencement of a proceeding under the Bankruptcy Code), then each Lender hereby agrees that it shall forthwith purchase (as of the date

the Mandatory Swingline Borrowing would otherwise have occurred, but adjusted for any payments received from the Borrower on or after such date and prior to such purchase) from the Swingline Lender such Participation Interests in the outstanding Swingline Loans as shall be necessary to cause each such Lender to share in such Swingline Loans ratably based upon its respective Commitment Percentage (determined before giving effect to any termination of the Commitments pursuant to Section 9.2); provided that (x) all interest payable on the Swingline Loans shall be for the account of the Swingline Lender until the date as of which the respective Participation Interests is purchased, and (y) at the time any purchase of Participation Interests pursuant to this sentence is actually made, the purchasing Revolving Lender shall be required to pay to the Swingline Lender interest on the principal amount of such Participation Interests purchased for each day from and including the day upon which the Mandatory Swingline Borrowing would otherwise have occurred to but excluding the date of payment for such participation, at the rate equal to, if paid within two (2) Business Days of the date of the Mandatory Swingline Borrowing, the Federal Funds Effective Rate, and thereafter at a rate equal to the Base Rate.

2.9 Notes.

(a) The Revolving Loans made by a Lender, upon request of such Lender, shall be evidenced by a duly executed promissory note of the Borrower payable to such Lender in substantially the form of Exhibit 2.9(a) (the "Revolving Notes").

(b) The Term Loans made by a Lender, upon request of such Lender, shall be evidenced by a duly executed promissory note of the Borrower payable to such Lender in substantially the form of Exhibit 2.9(b) (the "Term Loan Notes").

(c) The Swingline Loans made by the Swingline Lender, upon request of the Swingline Lender, shall be evidenced by a promissory note of the Borrower payable to the Swingline Lender in substantially the form of Exhibit 2.9(c) (the "Swingline Loan Note").

2.10 Increases in Revolving Committed Amount.

(a) Requested Increases. The Borrower shall have the right, prior to the Revolver Maturity Date and with the consent of the Agent and the Issuing Lenders (such consent not to be unreasonably withheld), from time to time during the term of this Credit Agreement, and subject to the terms and conditions set forth below, to increase the aggregate amount of the Revolving Committed Amount; provided that (i) no Default or Event of Default shall exist at the time of the request or the proposed increase in the Revolving Committed Amount; (ii) such increase must be in a minimum amount of $10,000,000 and in integral multiples of $1,000,000 above such amount, (iii) the Revolving Committed Amount shall not be increased pursuant to this Section 2.10(a) to an amount that, when added to the total amount of Term Loans outstanding on the effective date of such increase, would be greater than ONE BILLION DOLLARS ($1,000,000,000), (iv) no individual Lender's Commitment may be increased without such Lender's written consent, (v) the Borrower shall execute and deliver such Revolving Note(s) as are necessary to reflect the increase in the Revolving Committed Amount, (vi) Schedule 1.1 shall be amended to reflect the revised Revolving Committed Amount and revised Commitments and Commitment Percentages of the Lenders and (vii) if any Revolving Loans are outstanding at the time of an increase in the Revolving Committed Amount, the Borrower will prepay (provided that any such prepayment shall be subject to Section 4.3) one or more existing Revolving Loans in an amount necessary such that after giving effect to the

increase in the Revolving Committed Amount each Lender will hold its Commitment Percentage (based on its share of the revised Revolving Committed Amount) of outstanding Revolving Loans.

Any such increase in the Revolving Committed Amount shall apply, at the option of the Borrower, to (x) the Commitment with respect to Revolving Loans of one or more existing Lenders; provided that any Lender whose Commitment is being increased must consent in writing thereto and/or (y) the creation of a new Commitment with respect to Revolving Loans to one or more institutions that is not an existing Lender; provided that any such institution (A) must conform to the definition of Eligible Assignee, (B) must have a Commitment with respect to Revolving Loans of at least $10,000,000 unless otherwise agreed to by the Agent and the Borrower and (C) must become a Lender under this Credit Agreement by execution and delivery of an appropriate joinder agreement or of counterparts to this Credit Agreement in a manner acceptable to the Borrower and the Agent.

(b) Automatic Increases. The Revolving Committed Amount shall be automatically increased from time to time in accordance with Section 3.2(a)(iii). The Commitments for any such increase shall be provided pro rata by the Lenders under the applicable Term Loan, the prepayment of which gave rise to such increase pursuant to Section 3.2(a)(iii). Upon any such increase, (i) Schedule 1.1 shall be amended to reflect the revised Revolving Committed Amount and the revised Commitments of the Lenders providing the additional Commitments for such increase and (ii) the Borrower will prepay (provided that any such prepayment shall be subject to Section 4.3) one or more existing Revolving Loans in an amount necessary such that after giving effect to the increase in the Revolving Committed Amount each Lender will hold its Commitment Percentage (as revised due to the increase in the Revolving Committed Amount) of outstanding Revolving Loans.

2.11 Extension of Revolver Maturity Date.

(a) Requests for Extension. The Borrower may from time to time, during the term of this Credit Agreement, by notice to the Agent (who shall promptly notify the Lenders) not earlier than 60 days and not later than 30 days prior to any anniversary of the Closing Date that occurs prior to the Revolver Maturity Date, request on more than one occasion that each Revolving Lender consent to extend the Revolver Maturity Date for an additional one year from the Revolver Maturity Date then in effect hereunder (the "Existing Maturity Date").

(b) Lender Elections to Extend. Each Revolving Lender, acting in its sole and individual discretion, shall, by notice to the Agent given not later than the date (the "Notice Date") that is 15 days prior to the applicable anniversary of the Closing Date, advise the Agent whether or not such Revolving Lender agrees to such extension (and each Revolving Lender that determines not to so extend its Revolver Maturity Date (a "Non-Extending Lender") shall notify the Agent of such fact promptly after such determination (but in any event no later than the Notice Date) and any Revolving Lender that does not so advise the Agent on or before the Notice Date shall be deemed to be a Non-Extending Lender. The election of any Revolving Lender to agree to such extension shall not obligate any other Revolving Lender to so agree.

(c) Notification by Agent. The Agent shall notify the Borrower of each Revolving Lender's determination under this Section no later than the date 15 days prior to the applicable anniversary of the Closing Date (or, if such date is not a Business Day, on the next preceding Business Day).

(d) Additional Commitment Lenders. The Borrower shall have the right on or before the applicable anniversary of the Closing Date to replace each Non-Extending Lender with one or

more institutions (each, an "Additional Commitment Lender") (i) that are existing Lenders (and, if any such Additional Commitment Lender is already a Lender, its Commitment with respect to Revolving Loans shall be in addition to such Lender's Commitment hereunder on such date) or (ii) that are not existing Lenders; provided that any such institution (A) must conform to the definition of Eligible Assignee, (B) must be acceptable to the Agent (which approval shall not be unreasonably withheld or delayed) and (C) must become a Lender under this Credit Agreement by execution and delivery of an appropriate joinder agreement or of counterparts to this Credit Agreement in a manner acceptable to the Borrower and the Agent.

(e) Minimum Extension Requirement. If (and only if) the total of the Commitments with respect to Revolving Loans of the Revolving Lenders that have agreed so to extend the Revolver Maturity Date and the additional Commitments with respect to Revolving Loans of the Additional Commitment Lenders shall be at least 51% of the aggregate amount of the Revolving Committed Amount in effect immediately prior to the applicable anniversary of the Closing Date, then, effective as of the applicable anniversary of the Closing Date, the Revolver Maturity Date shall be extended to the date falling one year after the Existing Maturity Date (except that, if such date is not a Business Day, such Revolver Maturity Date as so extended shall be the next preceding Business Day) and each Additional Commitment Lender shall thereupon become a "Lender" for all purposes of this Agreement.

(f) Conditions to Effectiveness of Extensions. Notwithstanding the foregoing, the extension of the Revolver Maturity Date pursuant to this Section shall not be effective unless:

(i) no Default or Event of Default shall have occurred and be continuing on the date of such extension and after giving effect thereto;

(ii) the representations and warranties contained in this Credit Agreement are true and correct on and as of the date of such extension and after giving effect thereto, as though made on and as of such date (or, if any such representation or warranty is expressly stated to have been made as of a specific date, as of such specific date);

(iii) with respect to each Non-Extending Lender, on the Revolver Maturity Date (as in effect prior to such extension), the Borrower shall prepay (provided that any such prepayment shall be subject to Section 4.3) all Obligations owing to such Non-Extending Lender and the Revolving Committed Amount shall be reduced by an amount equal to such Non-Extending Lender's Commitment with respect to Revolving Loans;

(iv) on the Revolver Maturity Date (as in effect prior to such extension), the Borrower shall prepay (provided that any such prepayment shall be subject to Section 4.3) one or more existing Revolving Loans in an amount necessary such that, after giving effect to the extension of the Revolver Maturity Date, each Lender will hold its pro rata share (based on its share of the revised Revolving Committed Amount) of outstanding Revolving Loans;

(v) on the Revolver Maturity Date (as in effect prior to such extension), the Borrower shall prepay (provided that any such prepayment shall be subject to Section 4.3) one or more existing Revolving Loans or cash collateralize Letters of Credit in an amount necessary such that, after giving effect to the extension of the Revolver Maturity Date, the aggregate amount of LOC Obligations outstanding plus Revolving Loans outstanding shall not exceed the Revolving Committed Amount; and

(vi) since the date of the most recent annual audited financial statements delivered pursuant to Section 7.1(a), no event or condition shall have occurred on or before the date of such extension that would have or would be reasonably expected to have a Material Adverse Effect.

(g) Conflicting Provisions. This Section shall supersede any provisions in Section 3.3 to the contrary.

SECTION 3.

PAYMENTS

3.1 Interest.

(a) Interest Rate.

(i) All Base Rate Loans and all Swingline Loans shall accrue interest at the Adjusted Base Rate.

(ii) All Eurodollar Loans shall accrue interest at the Adjusted Eurodollar Rate applicable to such Eurodollar Loan.

(iii) All LIBOR Market Index Rate Loans shall accrue interest at the Adjusted LIBOR Market Index Rate.

(b) Default Rate of Interest. Upon the occurrence, and during the continuation, of an Event of Default, all past due principal of and, to the extent permitted by law, past due interest on, the Loans and any other past due amounts owing hereunder or under the other Credit Documents shall bear interest, payable on demand, at a per annum rate equal to one percent (1%) plus the rate which would otherwise be applicable (or if no rate is applicable, then the rate for Loans that are Base Rate Loans plus one percent (1%) per annum).

(c) Interest Payments. Interest on Loans shall be due and payable in arrears on each Interest Payment Date.

3.2 Prepayments.

(a) Voluntary Prepayments. The Borrower shall have the right to prepay Loans in whole or in part from time to time without premium or penalty; provided, however, that (i) Eurodollar Loans may only be prepaid on three Business Days' prior written notice to the Agent and any prepayment of Eurodollar Loans will be subject to Section 4.3; (ii) each such partial prepayment of Revolving Loans shall be in the minimum principal amount of $10,000,000 and each such partial prepayment of Term Loans shall be in the minimum principal amount of $1,000,000; (iii) any voluntary prepayment of a Term Loan in connection with a Permitted Acquisition or capital expenditure shall cause the Revolving Committed Amount to be increased in the same dollar amount of such prepayment and shall be subject to Section 2.10(b); and (iv) any prepayment of the Term Loans shall be applied first to the Term Loan A2, second to the Term Loan A3 and thereafter to any additional term loans incurred pursuant to Section 2.1(b)(iii) hereof in the direct order in which such

term loans were incurred. Any prepayments made under this Section 3.2(a) shall be applied first to LIBOR Market Index Rate Loans in the direct order such Loans were incurred, next to Base Rate Loans and then to Eurodollar Loans in direct order of Interest Period maturities and shall be subject to Section 4.3. The increase in the Revolving Committed Amount pursuant to this clause (a) may, upon request of the Borrower, occur concurrently with the prepayment of the Term Loans.

(b) Mandatory Prepayments. If at any time the amount of Revolving Loans outstanding plus Swingline Loans outstanding plus the aggregate amount of LOC Obligations outstanding exceeds the Revolving Committed Amount, the Borrower shall immediately make a principal payment to the Agent in a manner and in an amount necessary to be in compliance with Sections 2.1(a), 2.2 and 2.8 and as directed by the Agent. All amounts required to be paid pursuant to this Section 3.2(b) shall be (A) applied first to Swingline Loans (first to LIBOR Market Index Rate Loans in the direct order such Loans were incurred and then to Base Rate Loans), then to Revolving Loans (first to Base Rate Loans and then to Eurodollar Loans in the direct order of Interest Period maturities) and then to a cash collateral account in respect of LOC Obligations and (B) subject to Section 4.3.

3.3 Payment of Loans in full at Maturity.

On the applicable Maturity Date, the entire outstanding principal balance of all applicable Loans, together with accrued but unpaid interest and all other sums owing under this Credit Agreement, shall be due and payable in full, unless accelerated sooner pursuant to Section 9.2.

3.4 Fees.

(a) Facility Fees. The Borrower shall pay to the Agent, for the pro rata benefit of the Lenders, a facility fee (the "Facility Fee") equal to the Applicable Margin for Facility Fees times the actual daily amount of Revolving Committed Amount (or, if the Commitments with respect to Revolving Loans have terminated, on the outstanding amount of all Revolving Loans, Swingline Loans and LOC Obligations), regardless of usage. The Facility Fee shall accrue at all times during the period beginning on the Effective Date and ending on the Revolver Maturity Date (and thereafter so long as any Revolving Loans, Swingline Loans or LOC Obligations remain outstanding), including at any time during which one or more of the conditions in Section 5.2 is not met, and shall be due and payable quarterly in arrears on the15th day following the last day of each calendar quarter for the prior calendar quarter, commencing with the first such date to occur after the Closing Date, and on the Revolver Maturity Date (and, if applicable, thereafter on demand). The Facility Fee shall be calculated quarterly in arrears, and if there is any change in the Applicable Margin for Facility Fees during any quarter, the actual daily amount shall be computed and multiplied by the Applicable Margin for Facility Fees separately for each period during such quarter that such Applicable Margin for Facility Fees was in effect.

(b) Letter of Credit Fees.

(i) Letter of Credit Fees. In consideration of the issuance of Letters of Credit hereunder, the Borrower agrees to pay to the Agent, for the pro rata benefit of each Revolving Lender, a per annum fee equal to the Applicable Margin for Eurodollar Loans in effect from time to time on the aggregate stated amount for each Letter of Credit from the date of issuance to the date of expiration (the "Letter of Credit Fees"). The accrued Letter of Credit Fees shall be due and payable in arrears on the 15th day after the end of each calendar quarter of the Borrower (as well as on the Revolver Maturity Date) for the

immediately preceding calendar quarter (or portion thereof), beginning with the first of such dates to occur after the Closing Date.

(ii) Issuing Lender Fees. In addition to the Letter of Credit Fees payable pursuant to subsection (i) above, the Borrower shall pay to the applicable Issuing Lender for its own account, without sharing by the other Lenders, (A) if the applicable Issuing Lender is Wachovia Bank, National Association, a fee equal to one-eighth of one percent (.125%) per annum or (B) if the applicable Issuing Lender is any other Lender, such other rate as agreed to between such Issuing Lender and the Borrower, in each case on the total sum of all Letters of Credit issued by the applicable Issuing Lender and outstanding during the applicable period and (C) the customary charges from time to time to the applicable Issuing Lender for its services in connection with the issuance, amendment, payment, transfer, administration, cancellation and conversion of, and drawings under, such Letters of Credit (collectively, the "Issuing Lender Fees"). The accrued Issuing Lender Fees shall be due and payable in arrears on the 15th day following the last day of each calendar quarter of the Borrower (as well as on the Revolver Maturity Date) for the immediately preceding calendar quarter (or portion thereof), beginning with the first of such dates to occur after the Closing Date.

(c) Utilization Fees.

(i) If on any day the aggregate outstanding principal amount of all Revolving Loans, Swingline Loans and LOC Obligations exceeds the product of (A) fifty percent (50%) times (B) (1) the Revolving Committed Amount plus (2) the aggregate amount of Commitments and Loans outstanding under the Term Loans, the Borrower agrees to pay to the Agent, for the pro rata benefit of each Revolving Lender, a per annum fee equal to Applicable Margin for Utilization Fees multiplied by the Utilized Revolving Loan Commitment (the "Utilization Fees").

(ii) The accrued Utilization Fees shall be due and payable in arrears on the 15th day following the last day of each calendar quarter of the Borrower for the immediately preceding calendar quarter (or portion thereof), beginning with the first of such dates to occur after the Closing Date.

(d) Administrative Fee. The Borrower agrees to pay to the Agent the annual administrative fee as described in the Fee Letter.

(e) Commitment Fees.

(i) The Borrower shall pay to the Agent, for the pro rata benefit of the applicable Lenders, a commitment fee (the "Term Loan A2 Commitment Fee") in an amount equal to 0.05% per annum on (A) the Term Loan A2 Committed Amount minus (B) the aggregate amount of the outstanding borrowings under the Term Loan A2 (computed on the basis of the actual number of days elapsed over a 360-day year). The Term Loan A2 Commitment Fee shall accrue from September 30, 2007 to, and shall be payable in full to the Agent on, the earliest to occur of (1) the Term Loan A2 Commitment Termination Date, (2) the second Term Loan A2 Funding Date, (3) the date upon which the full amount of the Term Loan A2 has been drawn or (4) any other date upon which the commitments of the Lenders to make loans under the Term Loan A2 expire or terminate, regardless of whether any drawing has occurred thereunder.

(ii) The Borrower shall pay to the Agent, for the pro rata benefit of the applicable Lenders, a commitment fee (the "Term Loan A3 Commitment Fee") in an amount equal to 0.05% per annum on (A) the Term Loan A3 Committed Amount minus (B) the aggregate amount of the outstanding borrowings under the Term Loan A3 (computed on the basis of the actual number of days elapsed over a 360-day year). The Term Loan A3 Commitment Fee shall accrue from September 30, 2007 to, and shall be payable in full to the Agent on, the earliest to occur of (1) the Term Loan A3 Commitment Termination Date, (2) the second Term Loan A3 Funding Date, (3) the date upon which the full amount of the Term Loan A3 has been drawn or (4) any other date upon which the commitments of the Lenders to make the loans under the Term Loan A3 expire or terminate, regardless of whether any drawing has occurred thereunder.

3.5 Place and Manner of Payments.

All payments of principal, interest, fees, expenses and other amounts to be made by the Borrower under this Credit Agreement shall be made without setoff, deduction or counterclaim and received not later than 2:00 p.m. on the date when due in Dollars and in immediately available funds by the Agent at the Agency Services Address. The Borrower shall, at the time it makes any payment under this Credit Agreement, specify to the Agent the Loans, Letters of Credit, fees or other amounts payable by the Borrower hereunder to which such payment is to be applied (and in the event that it fails to specify, or if such application would be inconsistent with the terms hereof, the Agent shall distribute such payment to the Lenders in such manner as it reasonably determines in its sole discretion). The Agent will distribute such payments to the applicable Lenders on the same Business Day if any such payment is received prior to 2:00 p.m.; otherwise the Agent will distribute each payment to the applicable Lenders prior to 12:00 noon on the next succeeding Business Day. Whenever any payment hereunder shall be stated to be due on a day which is not a Business Day, the due date thereof shall be extended to the next succeeding Business Day (subject to accrual of interest and fees for the period of such extension), except that in the case of Eurodollar Loans, if the extension would cause the payment to be made in the next following calendar month, then such payment shall be made on the next preceding Business Day.

3.6 Pro Rata Treatment.

(a) Loans/Fees. Except to the extent otherwise provided herein, all borrowing of Revolving Loans (including each Mandatory Borrowing) and Term Loans, each payment or prepayment of principal of any Revolving Loan or Term Loan, each payment of interest on the Revolving Loans or Term Loans, each payment of Facility Fees and Utilization Fees, each payment of Letter of Credit Fees, each reduction of the Revolving Committed Amount and each conversion or continuation of any Revolving Loan or Term Loan, shall be allocated pro rata among the Lenders in accordance with their respective Commitment Percentages; provided, that, if any Lender shall have failed to pay its applicable pro rata share of any Loan, then any amount to which such Lender would otherwise be entitled pursuant to this Section 3.6 shall instead be payable to the Agent until the share of such Loan not funded by such Lender has been repaid and any interest owed by such Lender as result of such failure to fund has been paid; and provided, further, that in the event any amount paid to any Lender pursuant to this Section 3.6 is rescinded or must otherwise be returned by the Agent, each Lender shall, upon the written request of the Agent, repay to the Agent the amount so paid to such Lender, with interest for the period commencing on the date such payment is returned by the Agent until the date the Agent receives such repayment at a rate per annum equal to, during the period to but excluding the date two Business Days after such request, the Federal Funds Rate, and thereafter, the Base Rate plus one percent (1%) per annum.

(b) Letters of Credit. Each payment of unreimbursed drawings in respect of LOC Obligations shall be allocated to each Lender pro rata in accordance with its Commitment Percentage; provided, that, if any Lender shall have failed to pay its applicable pro rata share of any drawing under any Letter of Credit, then any amount to which such Lender would otherwise be entitled pursuant to this subsection (b) shall instead be payable to the applicable Issuing Lender; provided, further, that in the event any amount paid to any Lender pursuant to this subsection (b) is rescinded or must otherwise be returned by the applicable Issuing Lender, each Lender shall, upon the written request of the applicable Issuing Lender, repay to the Agent for the account of the applicable Issuing Lender the amount so paid to such Lender, with interest for the period commencing on the date such payment is returned by the applicable Issuing Lender until the date the applicable Issuing Lender receives such repayment at a rate per annum equal to, during the period to but excluding the date two Business Days after such request, the Federal Funds Rate, and thereafter, the Base Rate plus one percent (1%) per annum.

3.7 Computations of Interest and Fees.

(a) Except for Base Rate Loans that are based upon the Prime Rate, on which interest shall be computed on the basis of a 365 or 366 day year as the case may be, all computations of interest and fees hereunder shall be made on the basis of the actual number of days elapsed over a year of 360 days.

(b) It is the intent of the Lenders and the Credit Parties to conform to and contract in strict compliance with applicable usury law from time to time in effect. All agreements between the Lenders and the Credit Parties are hereby limited by the provisions of this paragraph which shall override and control all such agreements, whether now existing or hereafter arising and whether written or oral. In no way, nor in any event or contingency (including but not limited to prepayment or acceleration of the maturity of any obligation), shall the interest taken, reserved, contracted for, charged, or received under this Credit Agreement, under the Notes or otherwise, exceed the maximum nonusurious amount permissible under applicable law. If, from any possible construction of any of the Credit Documents or any other document, interest would otherwise be payable in excess of the maximum nonusurious amount, any such construction shall be subject to the provisions of this paragraph and interest owing pursuant to such documents shall be automatically reduced to the maximum nonusurious amount permitted under applicable law, without the necessity of execution of any amendment or new document. If any Lender shall ever receive anything of value which is characterized as interest on the Loans under applicable law and which would, apart from this provision, be in excess of the maximum lawful amount, an amount equal to the amount which would have been excessive interest shall, without penalty, be applied to the reduction of the principal amount owing on the Loans and not to the payment of interest, or refunded to a Credit Party or the other payor thereof if and to the extent such amount which would have been excessive exceeds such unpaid principal amount of the Loans. The right to demand payment of the Loans or any other indebtedness evidenced by any of the Credit Documents does not include the right to receive any interest which has not otherwise accrued on the date of such demand, and the Lenders do not intend to charge or receive any unearned interest in the event of such demand. All interest paid or agreed to be paid to the Lenders with respect to the Loans shall, to the extent permitted by applicable law, be amortized, prorated, allocated, and spread throughout the full stated term (including any renewal or extension) of the Loans so that the amount of interest on account of such indebtedness does not exceed the maximum nonusurious amount permitted by applicable law.

3.8 Sharing of Payments.

Each Lender agrees that, in the event that any Lender shall obtain payment in respect of any Loan, any unreimbursed drawing with respect to any LOC Obligations or any other obligation owing to such Lender under this Credit Agreement through the exercise of a right of set-off, banker's lien, counterclaim or otherwise (including, but not limited to, pursuant to the Bankruptcy Code) in excess of its pro rata share as provided for in this Credit Agreement, such Lender shall promptly purchase from the other Lenders a participation in such Loans, LOC Obligations and other obligations, in such amounts and with such other adjustments from time to time, as shall be equitable in order that all Lenders share such payment in accordance with their respective ratable shares as provided for in this Credit Agreement. Each Lender further agrees that if a payment to a Lender (which is obtained by such Lender through the exercise of a right of set-off, banker's lien, counterclaim or otherwise) shall be rescinded or must otherwise be restored, each Lender which shall have shared the benefit of such payment shall, by repurchase of a participation theretofore sold, return its share of that benefit to each Lender whose payment shall have been rescinded or otherwise restored. The Borrower agrees that any Lender so purchasing such a participation may, to the fullest extent permitted by law, exercise all rights of payment, including set-off, banker's lien or counterclaim, with respect to such participation as fully as if such Lender were a holder of such Loan or other obligation in the amount of such participation. Except as otherwise expressly provided in this Credit Agreement, if any Lender shall fail to remit to the Agent or any other Lender an amount payable by such Lender to the Agent or such other Lender pursuant to this Credit Agreement on the date when such amount is due, such payments shall accrue interest thereon, for each day from the date such amount is due until the day such amount is paid to the Agent or such other Lender, at a rate per annum equal to the Federal Funds Rate. If under any applicable bankruptcy, insolvency or other similar law, any Lender receives a secured claim in lieu of a setoff to which this Section 3.8 applies, such Lender shall, to the extent practicable, exercise its rights in respect of such secured claim in a manner consistent with the rights of the Lenders under this Section 3.8 to share in the benefits of any recovery on such secured claim.

3.9 Evidence of Debt.

(a) Each Lender shall maintain an account or accounts evidencing each Loan made by such Lender to the Borrower from time to time, including the amounts of principal and interest payable and paid to such Lender from time to time under this Credit Agreement. Each Lender will make reasonable efforts to maintain the accuracy of its account or accounts and to promptly update its account or accounts from time to time, as necessary.

(b) The Agent shall maintain the Register pursuant to Section 11.3(c), and a subaccount for each Lender, in which Register and subaccounts (taken together) shall be recorded (i) the amount, type and Interest Period of each such Loan hereunder, (ii) the amount of any principal or interest due and payable or to become due and payable to each Lender hereunder and (iii) the amount of any sum received by the Agent hereunder from or for the account of the Borrower and each Lender's share thereof. The Agent will make reasonable efforts to maintain the accuracy of the subaccounts referred to in the preceding sentence and to promptly update such subaccounts from time to time, as necessary.

(c) The entries made in the Register and subaccounts maintained pursuant to subsection (b) of this Section 3.9, and the entries made in the accounts maintained pursuant to subsection (a) of this Section 3.9, if consistent with the entries of the Agent, shall be prima facie evidence of the existence and amounts of the obligations of the Borrower therein recorded; provided, however, that the failure of any Lender or the Agent to maintain any such account, such Register or

such subaccount, as applicable, or any error therein, shall not in any manner affect the obligation of the Borrower to repay the Loans made by such Lender in accordance with the terms hereof.

SECTION 4.

ADDITIONAL PROVISIONS

4.1 Eurodollar Loan Provisions.

(a) Unavailability. If, on or prior to the first day of any Interest Period, (i) the Agent shall have determined in good faith (which determination shall be conclusive and binding upon the Borrower) that (A) Dollar deposits are not generally available in the London interbank Eurodollar market in the applicable principal amounts and Interest Period of a requested Eurodollar Loan or (B) by reason of circumstances affecting the relevant market, adequate and reasonable means do not exist for ascertaining the Eurodollar Rate for such Interest Period, or (ii) the Agent shall have received notice from the Required Lenders that the Eurodollar Rate determined or to be determined for such Interest Period will not adequately and fairly reflect the cost to the Lenders of making or maintaining Eurodollar Loans for such Interest Period (as conclusively certified by such Lenders), the Agent shall give notice thereof to the Borrower and the Lenders as soon as practicable thereafter. Upon delivery of such notice, (A) any Eurodollar Loans requested to be made on the first day of such Interest Period shall be made as Base Rate Loans, (B) any Loans that were to have been converted to or continued as Eurodollar Loans shall be prepaid by the Borrower or converted to or continued as Base Rate Loans and (C) any outstanding Eurodollar Loans shall be converted, on the first day of such Interest Period, to Base Rate Loans. Until the Agent has withdrawn such notice, no further Eurodollar Loans shall be made or continued as such, nor shall the Borrower have the right to convert Base Rate Loans to Eurodollar Loans.

(b) Change in Legality. Notwithstanding any other provision herein, if any change, after the date hereof, in any law, governmental rule, regulation, guideline or order (including the introduction of any new law or governmental rule, regulation, guideline or order) or in the interpretation or administration thereof by any Governmental Authority charged with the interpretation or administration thereof shall make it unlawful for any Lender to make or maintain any Eurodollar Loan then, by written notice to the Borrower and to the Agent, such Lender may:

(i) declare that Eurodollar Loans and conversions to or continuations of Eurodollar Loans, will not thereafter be made by such Lender hereunder, whereupon any request by the Borrower for, or for conversion into or continuation of, Eurodollar Loans shall, as to such Lender only, be deemed a request for, or for conversion into or continuation of, Base Rate Loans, unless such declaration shall be subsequently withdrawn; and

(ii) require that all outstanding Eurodollar Loans made by it be converted to Base Rate Loans in which event all such Eurodollar Loans shall be converted to Base Rate Loans either (A) on the last day of the then current Interest Period applicable to such Eurodollar Loan if such Lender can lawfully continue to maintain and fund such Eurodollar Loan or (B) immediately if such Lender shall determine that it may not lawfully continue to maintain and fund such Eurodollar Loan to such day.

(c) Requirements of Law. If at any time a Lender shall incur increased costs or reductions in the amounts received or receivable hereunder with respect to the making, the

commitment to make or the maintaining of any Eurodollar Loan or of agreeing to issue or participate in any Letters of Credit because of (i) any change after the date hereof in any law, governmental rule, regulation, guideline or order (including the introduction of any new law or governmental rule, regulation, guideline or order) or in the interpretation or administration thereof by any Governmental Authority charged with the interpretation or administration thereof, including, without limitation, the imposition, modification or deemed applicability of any reserves, deposits or similar requirements (such as, for example, but not limited to, a change in official reserve requirements) or (ii) other circumstances affecting the London interbank Eurodollar market; then the Borrower shall pay to such Lender promptly upon written demand therefor, such additional amounts (in the form of an increased rate of, or a different method of calculating, interest or otherwise as such Lender may determine in its sole discretion) as may be required to compensate such Lender for such increased costs or reductions in amounts receivable hereunder. If any Lender becomes entitled to claim any additional amounts pursuant to this Section 4.1(c), it shall provide prompt notice thereof to the Borrower, through the Agent, certifying (A) that one of the events described in this Section 4.1(c) has occurred and describing in reasonable detail the nature of such event, (B) as to the increased cost or reduced amount resulting from such event and (C) as to the additional amount demanded by such Lender and a reasonably detailed explanation of the calculation thereof; provided, that no such amount shall be payable with respect to any period commencing more than 90 days prior to the date such Lender first notifies the Borrower of its intention to demand compensation therefor under this Section.

(d) Regulation D Compensation. In the event that a Lender is required to maintain reserves of the type contemplated by the definition of "Eurodollar Reserve Percentage", such Lender may require the Borrower to pay, contemporaneously with each payment of interest on the Eurodollar Loans, additional interest on the related Eurodollar Loan of such Lender at a rate per annum determined by such Lender up to but not exceeding the excess of (i)(A) the applicable London Interbank Offered Rate divided by (B) one minus the Eurodollar Reserve Percentage over (ii) the applicable London Interbank Offered Rate. Any Lender wishing to require payment of such additional interest (x) shall so notify the Borrower and the Agent, in which case such additional interest on the Eurodollar Loans of such Lender shall be payable to such Lender at the place indicated in such notice with respect to each Interest Period commencing at least three Business Days after the giving of such notice and (y) shall notify the Borrower at least three Business Days prior to each date on which interest is payable on the Eurodollar Loans of the amount then due it under this Section. Each such notification shall be accompanied by such information as the Borrower may reasonably request.

Each determination and calculation made by a Lender under this Section 4.1 shall, absent manifest error, be binding and conclusive on the parties hereto. Any conversions of Eurodollar Loans made pursuant to this Section 4.1 shall subject the Borrower to the payments required by Section 4.3 to the extent applicable. This Section shall survive termination of this Credit Agreement and the other Credit Documents and payment of the Loans and all other amounts payable hereunder.

4.2 Capital Adequacy.

If any Lender has determined that the adoption or becoming effective, after the date hereof, of any applicable law, rule or regulation regarding capital adequacy, or any change therein (after the date hereof), or any change in the interpretation or administration thereof by any Governmental Authority, central bank or comparable agency charged with the interpretation or administration thereof, or compliance by such Lender (or its parent corporation) with any request or directive regarding capital adequacy (whether or not having the force of law) of any such Governmental Authority, central bank or comparable agency, has or would have the

effect of reducing the rate of return on such Lender's (or parent corporation's) capital or assets as a consequence of its commitments or obligations hereunder to a level below that which such Lender (or its parent corporation) could have achieved but for such adoption, effectiveness, change or compliance (taking into consideration such Lender's (or parent corporation's) policies with respect to capital adequacy), then, upon notice from such Lender (which shall include the basis and calculations in reasonable detail supporting the compensation requested in such notice), and receipt by the Borrower of such written notice from such Lender (with a copy to the Agent) the Borrower shall be obligated to pay to such Lender such additional amount or amounts as will compensate such Lender on an after tax basis (after taking into account applicable deductions and credits in respect of the amount so indemnified) for such reduction; provided, that no such amount shall be payable with respect to any period commencing more than 90 days prior to the date such Lender first notifies the Borrower of its intention to demand compensation therefor under this Section. Each determination by any Lender of amounts owing under this Section 4.2 shall, absent manifest error, be conclusive and binding on the parties hereto. The covenants of this Section 4.2 shall survive termination of this Credit Agreement and the other Credit Documents and the payment of the Loans and all other amounts payable hereunder.

4.3 Compensation.

The Borrower promises to indemnify each Lender and to hold each Lender harmless from any loss or expense which such Lender may sustain or incur as a consequence of (a) default by the Borrower in making a borrowing of, conversion into or continuation of Eurodollar Loans after the Borrower has given a notice requesting the same in accordance with the provisions of this Credit Agreement, (b) default by the Borrower in making any prepayment of a Eurodollar Loan after the Borrower has given a notice thereof in accordance with the provisions of this Credit Agreement, (c) the making of a prepayment of Eurodollar Loans on a day which is not the last day of an Interest Period with respect thereto and (d) the payment, continuation or conversion of a Eurodollar Loan on a day which is not the last day of the Interest Period applicable thereto or the failure to repay a Eurodollar Loan when required by the terms of this Credit Agreement. Such indemnification may include an amount equal to (i) an amount of interest calculated at the Eurodollar Rate which would have accrued on the amount in question, for the period from the date of such prepayment or of such failure to borrow, convert, continue or repay to the last day of the applicable Interest Period (or, in the case of a failure to borrow, convert or continue, the Interest Period that would have commenced on the date of such failure) in each case at the applicable rate of interest for such Eurodollar Loans provided for herein minus (ii) the amount of interest (as reasonably determined by such Lender) which would have accrued to such Lender on such amount by placing such amount on deposit for a comparable period with leading banks in the interbank Eurocurrency market. If any Lender becomes entitled to claim any additional amounts pursuant to this Section 4.3, it shall provide prompt notice thereof to the Borrower, through the Agent, as to the additional amount demanded by such Lender and a reasonably detailed explanation of the calculation thereof. The covenants in this Section 4.3 shall survive the termination of this Credit Agreement and the payment of the Loans and all other amounts payable hereunder.

4.4 Taxes.

(a) Except as provided below in this Section 4.4, all payments made by the Borrower under this Credit Agreement and any Notes shall be made free and clear of, and without deduction or withholding for or on account of, any present or future income, stamp or other taxes, levies, imposts, duties, charges, fees, deductions or withholdings, now or hereafter imposed, levied, collected, withheld or assessed by any court, or governmental body, agency or other official, excluding taxes measured by or imposed upon the net income of any Lender or its applicable lending office, or any branch or affiliate thereof, and all franchise taxes, branch taxes, taxes on doing business or taxes on the capital or net worth of any Lender or its applicable lending office, or any branch or affiliate

thereof, in each case imposed in lieu of net income taxes: (i) by the jurisdiction under the laws of which such Lender, applicable lending office, branch or affiliate is organized or is located, or in which its principal executive office is located, or any nation within which such jurisdiction is located or any political subdivision thereof; or (ii) by reason of any connection between the jurisdiction imposing such tax and such Lender, applicable lending office, branch or affiliate other than a connection arising solely from such Lender having executed, delivered or performed its obligations, or received payment under or enforced, this Credit Agreement or any Notes. If any such non-excluded taxes, levies, imposts, duties, charges, fees, deductions or withholdings ("Non-Excluded Taxes") are required to be withheld from any amounts payable to an Agent or any Lender hereunder or under any Notes, (A) the amounts so payable to the Agent or such Lender shall be increased to the extent necessary to yield to the Agent or such Lender (after payment of all Non-Excluded Taxes) interest or any such other amounts payable hereunder at the rates or in the amounts specified in this Credit Agreement and any Notes; provided, however, that the Borrower shall be entitled to deduct and withhold any Non- Excluded Taxes and shall not be required to increase any such amounts payable to any Lender that is not organized under the laws of the United States of America or a state thereof if such Lender fails to comply with the requirements of paragraph (b) of this Section 4.4 whenever any Non-Excluded Taxes are payable by the Borrower, and (B) as promptly as possible after requested, the Borrower shall send to the Agent for its own account or for the account of such Lender, as the case may be, a certified copy of an original official receipt received by the Borrower showing payment thereof. If the Borrower fails to pay any Non-Excluded Taxes when due to the appropriate taxing authority or fails to remit to the Agent the required receipts or other required documentary evidence, the Borrower shall indemnify the Agent and any Lender for any incremental Non-Excluded Taxes, interest or penalties that may become payable by the Agent or any Lender as a result of any such failure. The agreements in this Section 4.4 shall survive the termination of this Credit Agreement and the payment of the Loans and all other amounts payable hereunder.

(b) Each Lender that is not incorporated under the laws of the United States of America or a state thereof shall:

(i) (A) on or before the date of any payment by the Borrower under this Credit Agreement or the Notes to such Lender, deliver to the Borrower and the Agent (x) two duly completed copies of United States Internal Revenue Service Form W-8BEN or W-8ECI, or any successor applicable form, as the case may be, certifying that it is entitled to receive payments under this Credit Agreement and any Notes without deduction or withholding of any United States federal income taxes and (y) an Internal Revenue Service Form W-8 or W-9, or successor applicable form, as the case may be, certifying that it is entitled to an exemption from United States backup withholding tax;

(B) deliver to the Borrower and the Agent two further copies of any such form or certification on or before the date that any such form or certification expires or becomes obsolete and after the occurrence of any event requiring a change in the most recent form previously delivered by it to the Borrower; and

(C) obtain such extensions of time for filing and complete such forms or certifications as may reasonably be requested by the Borrower or the Agent; or

(ii) in the case of any such Lender that is not a "bank" within the meaning of Section 881(c)(3)(A) of the Internal Revenue Code, (A) represent to the Borrower (for the benefit of the Borrower and the Agent) that it is not a bank within the meaning of Section 881 (c)(3)(A) of the Internal Revenue Code, (B) agree to furnish to the Borrower, on or before the date of any payment by the Borrower, with a copy to the Agent, two accurate and complete original signed copies of Internal Revenue Service Form W-8, or successor applicable form, certifying to such Lender's legal entitlement at the date of such certificate to an exemption from U.S. withholding tax under the provisions of Section 881(c) of the Internal Revenue Code with respect to payments to be made under this Credit Agreement and any Notes (and to deliver to the Borrower and the Agent two further copies of such form on or before the date it expires or becomes obsolete and after the occurrence of any event requiring a change in the most recently provided form and, if necessary, obtain any extensions of time reasonably requested by the Borrower or the Agent for filing and completing such forms), and (C) agree, to the extent legally entitled to do so, upon reasonable request by the Borrower, to provide to the Borrower (for the benefit of the Borrower and the Agent) such other forms as may be reasonably required in order to establish the legal entitlement of such Lender to an exemption from withholding with respect to payments under this Credit Agreement and any Notes.

Notwithstanding the above, if any change in treaty, law or regulation has occurred after the date such Person becomes a Lender hereunder which renders all such forms inapplicable or which would prevent such Lender from duly completing and delivering any such form with respect to it and such Lender so advises the Borrower and the Agent, then such Lender shall be exempt from such requirements. Each Person that shall become a Lender or a participant of a Lender pursuant to Section 11.3 shall, upon the effectiveness of the related transfer, be required to provide all of the forms, certifications and statements required pursuant to this subsection (b); provided, that in the case of a participant of a Lender, the obligations of such participant of a Lender pursuant to this subsection (b) shall be determined as if the participant of a Lender were a Lender except that such participant of a Lender shall furnish all such required forms, certifications and statements to the Lender from which the related participation shall have been purchased.

4.5 Replacement of Lenders.

The Agent and each Lender shall use reasonable efforts to avoid or mitigate any increased cost or suspension of the availability of an interest rate under Sections 4.1 through 4.4 above to the greatest extent practicable (including transferring the Loans to another lending office or Affiliate of a Lender) unless, in the opinion of the Agent or such Lender, such efforts would be likely to have an adverse effect upon it. In the event a Lender makes a request to the Borrower for additional payments in accordance with Section 4.1, 4.2 or 4.4, or suspends Eurodollar Loans under Section 4.1, or does not consent to a request to extent the Revolver Maturity Date pursuant to Section 2.11, or does not consent to any amendment hereto consented to by Required Lenders, then, provided that no Default or Event of Default has occurred and is continuing at such time, the Borrower may, at its own expense (such expense to include any transfer fee payable to the Agent under Section 11.3(b) and any expense pursuant to Section 4) and in its sole discretion, require such Lender to transfer and assign in whole (but not in part), without recourse (in accordance with and subject to the terms and conditions of Section 11.3(b)), all of its interests, rights and obligations under this Credit Agreement to an Eligible Assignee which shall assume such assigned obligations (which assignee may be another Lender, if a Lender accepts such assignment); provided, that (a) such assignment shall not conflict with any law, rule or regulation or order of any court or other Governmental Authority and (b) the Borrower or such assignee shall have paid to the assigning Lender in immediately available funds the principal of and

interest accrued to the date of such payment on the portion of the Loans hereunder held by such assigning Lender and all other amounts owed to such assigning Lender hereunder, including amounts owed pursuant to Sections 4.1 through 4.4.

SECTION 5.

CONDITIONS PRECEDENT

5.1 Closing Conditions.

The obligation of the Lenders to enter into this Credit Agreement is subject to satisfaction (or waiver) of the following conditions:

(a) Executed Credit Documents. Receipt by the Agent of duly executed copies of (i) this Credit Agreement, (ii) the Notes, (iii) the Collateral Documents and (iv) all other Credit Documents, each in form and substance acceptable to the Lenders.

(b) Organizational Documents. Receipt by the Agent of the following:

(i) Partnership Documents. With respect to each Credit Party that is a partnership, a copy of the partnership agreement of such Credit Party, together with all amendments thereto certified to be true and complete by the appropriate Governmental Authority of the State of organization of such Credit Party and certified by an Authorized Officer of such Credit Party to be true and correct as of the Effective Date.

(ii) Limited Liability Company Documents. With respect to each Credit Party that is a limited liability company, the following:

(A) Certificate of Formation. A copy of the certificate of formation of such Credit Party certified to be true and complete by the appropriate Governmental Authorities of the State of organization of such Credit Party and certified by an Authorized Officer of such Credit Party to be true and correct as of the Effective Date.

(B) LLC Agreement. A copy of the LLC Agreement of such Credit Party certified by an Authorized Officer of such Credit Party to be true and correct as of the Effective Date.

(iii) Corporate Documents. With respect to each Credit Party that is a corporation, the following:

(A) Charter Documents. Copies of the articles or certificates of incorporation or other charter documents of such Credit Party certified to be true and complete as of a recent date by the appropriate Governmental Authorities of the state of its incorporation and certified by an Authorized Officer of such Credit Party to be true and correct as of the Effective Date.

(B) Bylaws. A copy of the bylaws of such Credit Party certified an Authorized Officer of such Credit Party to be true and correct as of the Effective Date.

(iv) Resolutions. Copies of resolutions, as appropriate, approving and adopting the Credit Documents to which each Credit Party is a party, the transactions contemplated therein and authorizing execution and delivery thereof and certified by an Authorized Officer of the Borrower to be in full force and effect as of the Effective Date.

(v) Good Standing. Copies of certificates of good standing, existence or their equivalent with respect to each Credit Party certified as of a recent date by the appropriate Governmental Authorities of the State of organization of such Credit Party.

(vi) Incumbency. An incumbency certificate certified by an Authorized Officer of the applicable Credit Parties to be true and correct as of the Effective Date.

(c) Opinion of Counsel. Receipt by the Agent of an opinion from legal counsel to the Credit Parties, addressed to the Agent on behalf of the Lenders and dated as of the Effective Date, in form and substance satisfactory to the Agent.

(d) Financial Statements/Ownership Structure. Receipt and review, with results satisfactory to the Agent and the Lenders, of information regarding the Credit Parties, their assets and their ownership structure, including, but not limited to, (A) copies of satisfactory audited consolidated financial statements for the Parent and its Subsidiaries for the fiscal year ended December 31, 2006 and interim unaudited financial statements for each quarterly period ended since the last audited financial statements for which financial statements are available, (B) selected projected annual financial information related to the Borrower and certain acquisitions (which will not be inconsistent with information previously provided to the Agent) and (C) such other historical financial information regarding their business and assets as reasonably requested.

(e) Fees and Expenses. Payment by the Borrower of all fees and expenses owed by it to the Lenders, the Agent and the Co-Lead Arrangers, including, without limitation, payment to the Agent of the fees set forth in the Fee Letter.

(f) Litigation. As of the Closing Date, there shall be no material actions, suits, investigations or legal, equitable, arbitration or administrative proceedings pending or threatened against a Credit Party which are likely to be decided adversely to such Credit Party and if so decided would have a Material Adverse Effect.

(g) Material Adverse Effect. As of the Closing Date, no event or condition shall have occurred since December 31, 2006 that would have or would be reasonably expected to have a Material Adverse Effect.

(h) Certificate. The Agent shall have received a certificate or certificates executed by an Approved Officer of the Parent, on behalf of the Credit Parties, as of the Closing Date stating that (i) each Credit Party is in compliance with all existing financial obligations, unless such non-compliance would not have a Material Adverse Effect, (ii) no action, suit, investigation or proceeding is pending or, to such officer's knowledge, threatened in any court or before any arbitrator or governmental instrumentality that purports to affect a Credit Party or any transaction contemplated by the Credit Documents, if such action, suit, investigation or proceeding is likely to be adversely determined and if adversely determined would have a Material Adverse Effect, (iii) the financial statements delivered to the Administrative Agent on or before the Closing Date were prepared in good faith and in accordance with GAAP, and all other information delivered to the Administrative

Agent on or before the Closing Date was prepared in good faith, (iv) all consents and approvals of board of directors, equity holders, general partners, Governmental Authorities and third parties necessary in connection with the Credit Documents have been obtained, and (v) immediately after giving effect to this Credit Agreement, the other Credit Documents and all the transactions contemplated herein and therein to occur on such date, (A) no Default or Event of Default exists, (B) all representations and warranties contained herein and in the other Credit Documents are true and correct in all material respects on and as of the date made and (C) the Credit Parties are in pro forma compliance with the initial financial covenant set forth in Section 7.10(a) (as evidenced through detailed calculations of such financial covenant on a schedule to such certificate).

(i) Patriot Act. Receipt by the Agent on behalf of each Lender at least five (5) Business Days prior to the Closing Date of all documentation and other information requested by any Lender in order to comply with the requirements of regulatory authorities under applicable "know your customer" and anti-money laundering rules and regulations.

(j) Account Designation Letter. Receipt by the Agent of an executed counterpart of the Account Designation Letter.

(k) Minimum Commitments. The aggregate amount of Commitments of all Lenders on the Closing Date shall be not less than $850,000,000.

(l) Existing Credit Agreement. All Indebtedness and other obligations under the Existing Credit Agreement shall have been repaid in full and all commitments thereunder terminated.

(m) Other. Receipt by the Lenders of such other documents, instruments, agreements or information as reasonably requested by any Lender.

5.2 Conditions to Loans and Issuances of Letters of Credit.

(a) In addition to the conditions precedent stated elsewhere herein, the Lenders shall not be obligated to make new Loans nor shall an Issuing Lender be required to issue, renew or extend a Letter of Credit (and the Lenders shall not be obligated to participate in any Letter of Credit) unless:

(i) Request. The Borrower shall have timely delivered (i) in the case of any new Revolving Loan or Term Loan borrowing, to the Agent, an appropriate Notice of Borrowing, duly executed and completed, by the time specified in Section 2.1, (ii) in the case of any Letter of Credit, to the applicable Issuing Lender, an appropriate request for issuance of a Letter of Credit in accordance with the provisions of Section 2.2 and (iii) in the case of any Swingline Loan, to the Swingline Lender, an appropriate Notice of Borrowing, duly executed and completed, by the time specified in Section 2.8.

(ii) Representations and Warranties. The representations and warranties made by the Credit Parties in this Credit Agreement are true and correct in all material respects at and as if made as of the date of the funding of the Loans or the issuance, renewal or extension of the Letters of Credit, as applicable (except to the extent such representations and warranties expressly and exclusively relate to an earlier date in which case they shall be true and correct in all material respects as of such earlier date).

(iii) No Default. No Default or Event of Default shall exist or be continuing either prior to or after giving effect thereto.

(iv) Availability. Immediately after giving effect to the making of a Loan (and the application of the proceeds thereof) or to the issuance of a Letter of Credit, as the case may be, the amount of Loans and LOC Obligations outstanding shall not exceed the maximum permitted by Sections 2.1, 2.2 and 2.8.

The delivery of each Notice of Borrowing and each request for a Letter of Credit shall constitute a representation and warranty by the Borrower of the correctness of the matters specified in subsections (ii), (iii) and (iv) above.

(b) In addition to the conditions precedent stated elsewhere herein, (i) the Lenders shall not be obligated to fund Term Loan A2 borrowings unless the Agent shall have received Permitted Cash Collateral-A2 with a value of not less than the Required Collateral-A2 Amount after giving effect to such borrowing and (ii) the Lenders shall not be obligated to fund Term Loan A3 borrowings unless the Agent shall have received Permitted Cash Collateral-A3 with a value of not less than the Required Collateral-A3 Amount after giving effect to such borrowing.

SECTION 6.

REPRESENTATIONS AND WARRANTIES

Each Credit Party hereby represents and warrants to each Lender that:

6.1 Organization and Good Standing.

Each Credit Party (a) is a limited partnership, limited liability company or a corporation duly formed, validly existing and in good standing under the laws of the state of its formation, (b) is duly qualified and in good standing and authorized to do business in every jurisdiction where the failure to so qualify would have a Material Adverse Effect and (c) has the requisite power and authority to own its properties and to carry on its business as now conducted and as proposed to be conducted.

6.2 Due Authorization.

Each Credit Party (a) has the requisite power and authority to execute, deliver and perform this Credit Agreement and the other Credit Documents and to incur the obligations herein and therein provided for and (b) has been authorized by all necessary corporate, partnership or limited liability company action to execute, deliver and perform this Credit Agreement and the other Credit Documents.

6.3 No Conflicts.

Neither the execution and delivery of the Credit Documents, nor the consummation of the transactions contemplated herein and therein, nor performance of and compliance with the terms and provisions hereof and thereof by any Credit Party will (a) violate or conflict with any provision of its organizational documents or bylaws, (b) materially violate, contravene or conflict with any law, regulation (including without limitation, Regulation U or Regulation X), order, writ, judgment, injunction, decree or permit applicable to it, (c) materially violate, contravene or conflict with contractual provisions of, or cause an event of default under, any indenture, loan agreement, mortgage, deed of trust, contract or other agreement or instrument to which it is a party or by which it may be bound or (d) result in or require the creation of any Lien upon or with respect to its properties other than the Liens hereunder and under the Collateral Documents.

6.4 Consents.

No consent, approval, authorization or order of, or filing, registration or qualification with, any court or Governmental Authority or third party is required in connection with the execution, delivery or performance of this Credit Agreement or any of the other Credit Documents that has not been obtained.

6.5 Enforceable Obligations.

This Credit Agreement and the other Credit Documents have been duly executed and delivered and constitute legal, valid and binding obligations of each Credit Party which is a party thereto enforceable against such Credit Party in accordance with their respective terms, except as may be limited by bankruptcy or insolvency laws or similar laws affecting creditors' rights generally or by general equitable principles.

6.6 Financial Condition/Material Adverse Effect.

The financial statements delivered to the Lenders pursuant to Section 7.1(a) and (b): (i) have been prepared in accordance with GAAP (subject to the provisions of Section 1.3) and (ii) present fairly the financial condition, results of operations and cash flows of the Parent and its Subsidiaries as of such date and for such periods (subject, in the case of interim statements, to normal year-end adjustments and the absence of footnotes). Since the Effective Date, there has been no event or circumstance that, either individually or collectively, has had or would reasonably be expected to have a Material Adverse Effect; provided that, on and after the Investment Grade Rating Date, Credit Parties make no further representation or warranty with respect to the foregoing.

6.7 Taxes.

Each Credit Party and each of its Subsidiaries has filed, or caused to be filed, all material tax returns (federal, state, local and foreign) required to be filed and paid all amounts of taxes shown thereon to be due (including interest and penalties) and has paid all other taxes, fees, assessments and other governmental charges (including mortgage recording taxes, documentary stamp taxes and intangibles taxes) owing by it, except (a) for such taxes which are not yet delinquent or that are being contested in good faith and by proper proceedings, and against which adequate reserves are being maintained in accordance with GAAP or (b) where such nonfiling or nonpayment would not have a Material Adverse Effect.

6.8 Compliance with Law.

Each Credit Party and each of its Subsidiaries is in compliance with all laws, rules, regulations, orders, decrees and requirements of Governmental Authorities applicable to it or to its properties (including, without limitation, ERISA, the Code and Environmental Laws), except where the necessity of compliance therewith is being contested in good faith by appropriate proceedings or such failure to comply would not have or would not be reasonably expected to have a Material Adverse Effect.

6.9 Use of Proceeds; Margin Stock.

The proceeds of the Loans hereunder will be used solely for the purposes specified in Section 7.7. None of such proceeds will be used for the purpose of (a) purchasing or carrying any "margin stock" as defined in Regulation U or Regulation X, (b) for the purpose of reducing or retiring any Indebtedness which was originally incurred to purchase or carry "margin stock", (c) for any other purpose which might constitute this transaction a "purpose credit" within the meaning of Regulation U or Regulation X or (d) for the

acquisition of another Person unless the board of directors (or other comparable governing body) or stockholders, as appropriate, of such Person has approved such acquisition.

6.10 Government Regulation.

No Credit Party is an "investment company" registered or required to be registered under the Investment Company Act of 1940, as amended, or controlled by such a company.

6.11 Solvency.

Each Credit Party is and, after the consummation of the transactions contemplated by this Credit Agreement, will be Solvent.

6.12 Environmental Matters.

Except as would not result or be reasonably expected to result in a Material Adverse Effect: (a) each of the properties of the Credit Parties (the "Properties") and all operations at the Properties are in compliance with all applicable Environmental Laws, (b) there is no violation of any Environmental Law with respect to the Properties or the businesses operated by the Credit Parties (the "Businesses"), and (c) there are no conditions relating to the Businesses or Properties that would reasonably be expected to give rise to a liability under any applicable Environmental Laws.

6.13 Subsidiaries.

Set forth on Schedule 6.13 is a complete and accurate list of all Credit Parties and their Subsidiaries, and the ownership of same, as such Schedule 6.13 may be updated from time to time.

6.14 Litigation.

There are no actions, suits or legal, equitable, arbitration or administrative proceedings, pending or, to the knowledge of a Credit Party, threatened against such Credit Party which (a) are likely to be decided adversely against such Credit Party and (b) if so decided would have or would reasonably be expected to have a Material Adverse Effect.

6.15 Collateral.

This Credit Agreement and the Collateral Documents create valid security interests in, and Liens on, the Cash Collateral, which security interests and Liens are perfected first priority Liens prior to all other Liens. The value of the Permitted Cash Collateral is greater than or equal to the Required Collateral Amount.

6.16 Material Contracts.

Each Credit Party and each of its Subsidiaries is in compliance with all contracts necessary for the ongoing operation and business of such Credit Party or Subsidiary in the ordinary course except where the failure to comply would not have or would not reasonably be expected to have a Material Adverse Effect.

6.17 Anti-Terrorism Laws.

Neither any Credit Party nor any of its Subsidiaries is an "enemy" or an "ally of the enemy" within the meaning of Section 2 of the Trading with the Enemy Act of the United States of America (50 U.S.C. App. §§ 1 et seq.), as amended. Neither any Credit Party nor any or its Subsidiaries is in violation of (a) the Trading with the Enemy Act, as amended, (b) any of the foreign assets control regulations of the United States Treasury Department (31 CFR, Subtitle B, Chapter V, as amended) or any enabling legislation or executive order relating thereto or (c) the Patriot Act (as defined in Section 11.17(b)). None of the Credit Parties (i) is a blocked person described in section 1 of the Anti-Terrorism Order or (ii) to the best of its knowledge, engages in any dealings or transactions, or is otherwise associated, with any such blocked person.

6.18 Compliance with OFAC Rules and Regulations.

None of the Credit Parties or their Subsidiaries or their respective Affiliates (a) is a Sanctioned Person, (b) has more than 15% of its assets in Sanctioned Countries, or (c) derives more than 15% of its operating income from investments in, or transactions with Sanctioned Persons or Sanctioned Countries. No part of the proceeds of any Extension of Credit hereunder will be used directly or indirectly to fund any operations in, finance any investments or activities in or make any payments to, a Sanctioned Person or a Sanctioned Country.

6.19 Compliance with FCPA.

Each of the Credit Parties and their Subsidiaries is in compliance with the Foreign Corrupt Practices Act, 15 U.S.C. §§ 78dd-1, *et seq.*, and any foreign counterpart thereto. None of the Credit Parties and their Subsidiaries has made a payment, offering, or promise to pay, or authorized the payment of, money or anything of value (a) in order to assist in obtaining or retaining business for or with, or directing business to, any foreign official, foreign political party, party official or candidate for foreign political office, (b) to a foreign official, foreign political party or party official or any candidate for foreign political office, and (c) with the intent to induce the recipient to misuse his or her official position to direct business wrongfully to such Credit Party or its Subsidiary or to any other Person, in violation of the Foreign Corrupt Practices Act, 15 U.S.C. §§ 78dd-1, *et seq.*

SECTION 7.

AFFIRMATIVE COVENANTS

Each Credit Party hereby covenants and agrees that so long as this Credit Agreement is in effect and until the Loans and LOC Obligations, together with interest, fees and other obligations hereunder, have been paid in full and the Commitments and Letters of Credit shall have terminated:

7.1 Information Covenants.

The Borrower will furnish, or cause to be furnished, to the Agent for further distribution to each Lender:

(a) Annual Financial Statements. As soon as available, and in any event within 95 days after the close of each fiscal year of the Parent, a consolidated balance sheet of the Parent as of the end of such fiscal year, together with a related consolidated income statement and related statements of cash flows, capitalization and retained earnings for such fiscal year, setting forth in comparative form figures for the preceding fiscal year, all such financial information described above to be audited by independent certified public accountants of recognized national standing and whose opinion, which shall be furnished to the Agent, shall be to the effect that such financial statements have been prepared in accordance with GAAP (except for changes with which such accountants concur); provided, that the Parent's Form 10-K Annual Report as filed with the Securities and Exchange Commission, without exhibits, will satisfy the requirements of this Section 7.1(a).

(b) Quarterly Financial Statements. As soon as available, and in any event within 50 days after the close of each fiscal quarter of the Parent (other than the fourth fiscal quarter) a consolidated balance sheet of the Parent as of the end of such fiscal quarter, together with a related consolidated income statement and related statement of cash flows for such fiscal quarter in each case setting forth in comparative form figures for the corresponding period of the preceding fiscal year, and accompanied by a certificate of an Approved Officer of the Parent to the effect that such quarterly financial statements fairly present in all material respects the financial condition of the Parent and its Subsidiaries and have been prepared in accordance with GAAP, subject to changes resulting from audit and normal year-end audit adjustments to same; provided, that the Parent's Form 10-Q Quarterly Report as filed with the Securities and Exchange Commission, without exhibits, will satisfy the requirements of this Section 7.1(b).

(c) Operating Budget and Cash Flow Projections. As soon as available, and in any event no later than the last day of February of each fiscal year of the Parent, operating budget and cash flow projections of the Parent and its Subsidiaries prepared on a monthly or quarterly basis and otherwise in such form as the Agent may reasonably request; provided, however, that such operating budget and cash flow projections shall not be required if as of the last day of December of the previous fiscal year the Parent or the Borrower has an Investment Grade Rating.

(d) Officer's Certificate. At the time of delivery of the financial statements provided for in Sections 7.1(a) and 7.1(b) above, a certificate of an Approved Officer of the Parent, substantially in the Form of Exhibit 7.1(d), (i) demonstrating compliance with the financial covenants contained in Section 7.10 by calculation thereof as of the end of each such fiscal period, beginning with the fiscal quarter ending June 30, 2007 (ii) stating that no Default or Event of Default exists, or if any Default or Event of Default does exist, specifying the nature and extent thereof and what action the Parent or the Borrower proposes to take with respect thereto, (iii) setting forth the amount of Off Balance Sheet Indebtedness of the Parent and its Subsidiaries as of the end of each such fiscal period, (iv) updating Schedule 6.13 with respect to Subsidiaries, if appropriate, (v) providing information to evidence compliance with Sections 7.12, 8.2(m), 8.2(n), 8.2(o), 8.4(i), 8.6(h) and 8.7(g) and (vi) providing such other information to evidence compliance with this Credit Agreement as reasonably requested by the Agent.

(e) Reports. Promptly upon transmission or receipt thereof, copies of any material filings and registrations with, and reports to or from, the Securities and Exchange Commission, or any successor agency.

(f) Notices. Within five Business Days after any officer of a Credit Party with responsibility relating thereto obtaining knowledge thereof, such Credit Party will give written notice to the Agent immediately of (i) the occurrence of a Default or Event of Default, specifying the nature

and existence thereof and what action such Credit Party proposes to take with respect thereto, and (ii) the occurrence of any of the following with respect to a Credit Party: (A) the pendency or commencement of any litigation, arbitral or governmental proceeding against such Credit Party the claim of which is likely to be decided adversely to such Credit Party and, if adversely determined, would have or would be reasonably expected to have a Material Adverse Effect or (B) the institution of any proceedings against such Credit Party with respect to, or the receipt of notice by such Person of potential liability or responsibility for violation or alleged violation of, any federal, state or local law, rule or regulation (including, without limitation, any Environmental Law) that is likely to be decided adversely to such Credit Party and, if adversely decided, would have a Material Adverse Effect.

(g) ERISA. Upon a Credit Party or any ERISA Affiliate obtaining knowledge thereof, such Credit Party will give written notice to the Agent promptly (and in any event within five Business Days) of: (i) any event or condition, including, but not limited to, any Reportable Event, that constitutes, or would be reasonably expected to lead to, a Termination Event if such Termination Event would have a Material Adverse Effect; (ii) with respect to any Multiemployer Plan, the receipt of notice as prescribed in ERISA or otherwise of any withdrawal liability assessed against a Credit Party or any ERISA Affiliate, or of a determination that any Multiemployer Plan is in reorganization or insolvent (both within the meaning of Title IV of ERISA); (iii) the failure to make full payment on or before the due date (including extensions) thereof of all amounts which a Credit Party or any of its Subsidiaries or ERISA Affiliates is required to contribute to each Plan pursuant to its terms and as required to meet the minimum funding standard set forth in ERISA and the Code with respect thereto; or (iv) any change in the funding status of any Plan that would have or would be reasonably expected to have a Material Adverse Effect; together, with a description of any such event or condition or a copy of any such notice and a statement by an officer of a Credit Party briefly setting forth the details regarding such event, condition, or notice, and the action, if any, which has been or is being taken or is proposed to be taken with respect thereto. Promptly upon request, a Credit Party shall furnish the Agent and each of the Lenders with such additional information concerning any Plan as may be reasonably requested, including, but not limited to, copies of each annual report/return (Form 5500 series), as well as all schedules and attachments thereto required to be filed with the Department of Labor and/or the Internal Revenue Service pursuant to ERISA and the Code, respectively, for each "plan year" (within the meaning of Section 3(39) of ERISA).

(h) Debt Rating Changes. Upon any change in its Debt Rating, the Parent shall promptly deliver such information to the Agent.

(i) Other Information. With reasonable promptness upon any such request, such other information regarding the business, properties or financial condition of the Credit Parties and their Subsidiaries as the Agent or any Lender may reasonably request.

Information required to be delivered pursuant to Sections 7.1(a), 7.1(b) and 7.1(e) shall be deemed to have been delivered on the earlier of (A) the date on which such information is posted by the Agent on behalf of the Credit Parties on IntraLinks, Syndtrak or other electronic medium chosen by the Agent or (B) the date on which a Credit Party provides notice to the Agent for further delivery to each Lender by the Borrower that such information has been posted on the Securities and Exchange Commission website on the Internet at ww.sec.gov/edgar/searchedgar/webusers.htm or at another website identified in such notice and accessible by the Lenders without charge; provided, that (i) any such notice may be included in a certificate delivered pursuant to Section 7.1(d) and (ii) the Credit Parties shall deliver paper copies of the information referred to in Sections 7.1(a), 7.1(b) and 7.1(e), to any Lender that requests such delivery.

7.2 Preservation of Existence and Franchises.

Each Credit Party will, and will cause each Subsidiary to, do all things necessary to preserve and keep in full force and effect its existence and rights, franchises and authority; provided, however, that, subject to Section 8.3, a Credit Party shall not be required to preserve any such existence, right or franchise if it in good faith determines that preservation thereof is no longer necessary or desirable in the conduct of its business and that the loss thereof is not disadvantageous in any material respect to the Lenders.

7.3 Books and Records.

Each Credit Party will keep, and will cause each of its Subsidiaries to keep, complete and accurate books and records of its transactions in accordance with good accounting practices on the basis of GAAP (including the establishment and maintenance of appropriate reserves).

7.4 Compliance with Law.

Each Credit Party will comply, and will cause each of its Subsidiaries to comply, with all laws (including, without limitation, all Environmental Laws and ERISA laws), rules, regulations and orders, and all applicable restrictions imposed by all Governmental Authorities, applicable to it and its property, unless (a) the failure to comply would not have or would not reasonably be expected to have a Material Adverse Effect or (b) the necessity of compliance therewith is being contested in good faith by appropriate proceedings.

7.5 Payment of Taxes and Other Indebtedness.

Each Credit Party will, and will cause each of its Subsidiaries to, pay, settle or discharge (a) all taxes, assessments and governmental charges or levies imposed upon it, or upon its income or profits, or upon any of its properties, before they shall become delinquent, (b) all lawful claims (including claims for labor, materials and supplies) which, if unpaid, might give rise to a Lien upon any of its properties, and (c) all of its other Indebtedness as it shall become due; provided, however, that a Credit Party shall not be required to pay any such tax, assessment, charge, levy, claim or Indebtedness which (i) is being contested in good faith by appropriate proceedings and as to which adequate reserves therefor have been established in accordance with GAAP or (ii) the nonpayment of which would not have a Material Adverse Effect.

7.6 Maintenance of Property; Insurance.

(a) Each Credit Party will keep, and will cause each of its Subsidiaries to keep, all property useful and necessary in its business in good working order and condition, ordinary wear and tear excepted.

(b) Each Credit Party will, and will cause each of its Subsidiaries to, maintain (either in the name of such Credit Party or in such Subsidiary's own name) with financially sound and responsible insurance companies, insurance on all their respective properties in at least such amounts and against at least such risks (and with such risk retention) as are usually insured against by companies of established repute engaged in the same or a similar business; provided, that self-insurance by a Credit Party or any such Subsidiary shall not be deemed a violation of this covenant to the extent that companies engaged in similar businesses and owning similar properties in the same general areas in which such Credit Party or such Subsidiary operates self-insure.

7.7 Use of Proceeds.

The proceeds of the Revolving Loans may be used solely (a) to refinance certain existing Indebtedness of the Borrower and (b) for working capital and other general partnership purposes of the Credit Parties, including certain Permitted Acquisitions. The proceeds of the Term Loans shall be used (i) to make cash distributions to the Parent who will then make cash distributions to the general partner of the Parent and (ii) to make cash distributions to the Parent to the extent permitted by Section 8.8(c) who will then make cash distributions to or repurchase limited partnership interests from an affiliate of the general partner of the Parent that is also a partner of the Parent. The proceeds of the Swingline Loans may be used solely for working capital and other general partnership purposes of the Credit Parties. The Borrower will use the Letters of Credit solely for the purposes set forth in Section 2.2(a).

7.8 Audits/Inspections.

Upon reasonable notice and during normal business hours, each Credit Party will, and will cause its Subsidiaries to, permit representatives appointed by the Agent (or upon the occurrence and during the continuance of an Event of Default, any Lender), including, without limitation, independent accountants, agents, attorneys, and appraisers to visit and inspect the Credit Parties' and their Subsidiaries' property, including their books and records, their accounts receivable and inventory, the Credit Parties' and their Subsidiaries' facilities and their other business assets, and to make photocopies or photographs thereof and to write down and record any information such representatives obtain and shall permit the Agent (or upon the occurrence and during the continuance of an Event of Default, any Lender) or its representatives to investigate and verify the accuracy of information provided to the Lenders and to discuss all such matters with the officers, employees and representatives of each Credit Party and its Subsidiaries.

7.9 Maintenance of Ownership.

Each Credit Party will maintain ownership of all Capital Stock of each Subsidiary that is a Credit Party, directly or indirectly, free and clear of all Liens except as permitted by Section 8.3 and Section 8.4.

7.10 Financial Covenants.

(a) Consolidated Leverage Ratio. The Consolidated Leverage Ratio, as at the end of each fiscal quarter of the Parent, shall be less than or equal to (i) with respect to each fiscal quarter end from the Closing Date through and including the fiscal quarter ending June 30, 2007, 5.75 to 1.0 and (ii) with respect to each fiscal quarter end thereafter, 5.00 to 1.0; provided that subsequent to the consummation of a Qualified Acquisition, the Consolidated Leverage Ratio, as at the end of the three consecutive fiscal quarters following such Qualified Acquisition (including the fiscal quarter in which such acquisition is consummated), shall be less than or equal to 5.50 to 1.0.

(b) Consolidated Interest Coverage Ratio. If neither the Parent or the Borrower has an Investment Grade Rating, the Consolidated Interest Coverage Ratio, as at the end of each fiscal quarter of the Parent (beginning with the fiscal quarter ending June 30, 2007) shall be greater than or equal to 2.50 to 1.0.

7.11 Material Contracts.

Each Credit Party will comply, and will cause its Subsidiaries to comply, with all contracts necessary for the ongoing operation and business of such Credit Party or Subsidiary in the ordinary course, except where the failure to comply would not have or would not reasonably be expected

to have a Material Adverse Effect.

7.12 Additional Guarantors.

If (a) as of the end of any fiscal quarter of the Parent or (b) at the time any Qualified Acquisition is consummated, the wholly-owned Subsidiaries of the Parent that are not Credit Parties hereunder (the "Non-Guarantor Subsidiaries") constitute more than either (collectively, the "Threshold Requirements"):

(i) twenty percent (20%), in the aggregate, of Consolidated Net Tangible Assets, or

(ii) twenty percent (20%), in the aggregate, of Consolidated Net Income,

the Borrower shall promptly notify the Agent and shall, within ten Business Days thereof (A) cause one or more of such Subsidiaries to become a "Guarantor" pursuant to a Joinder Agreement in the form of Exhibit 7.12 and to execute and deliver such other documents as requested by the Agent and (B) deliver to the Agent documents of the types referred to Section 5.1(b) as well as opinions of counsel to such Subsidiary (which shall cover, among other things, legality, validity, binding effect and enforceability), all in form, content and scope satisfactory to the Agent, such that immediately after the joinder of such Subsidiary or Subsidiaries as Guarantors hereunder, the remaining Non-Guarantor Subsidiaries shall not exceed, in the aggregate, either of the Threshold Requirements.

After the Investment Grade Rating Date, the Agent will release such Guarantors (other than the Parent) as requested from time to time by the Borrower.

7.13 Cash Collateral.

(a) The Borrower shall maintain the Cash Collateral-A2 Account at all times that any portion of the Term Loan A2 shall remain outstanding. The Borrower shall maintain the Cash Collateral-A3 Account at all times that any portion of the Term Loan A3 shall remain outstanding. The Borrower shall maintain such other Cash Collateral Accounts established in connection with new term loans pursuant to Section 2.1(b)(iii).

(b) (I) The Borrower shall, at all times, maintain Permitted Cash Collateral-A2 in the Cash Collateral-A2 Account with a value greater than or equal to the following (the "Required Collateral-A2 Amount"): (A) during the period commencing with the Initial Draw Date for the Term Loan A2 and ending on the date that is three months after such Initial Draw Date, 100% of the outstanding principal amount of the Term Loan A2 and (B) after such time period, (i) if all Permitted Cash Collateral-A2 is comprised entirely of Tier 1 Permitted Cash Collateral, 100.25% of the outstanding principal amount of the Term Loan A2, (ii) if Permitted Cash Collateral-A2 is not comprised entirely of Tier 1 Permitted Cash Collateral but is not comprised of any Tier 3 Permitted Cash Collateral, 100.5% of the outstanding principal of the Term Loan A2 or (iii) if any Permitted Cash Collateral-A2 is comprised of any Tier 3 Permitted Cash Collateral, 101% of the outstanding principal of the Term Loan A2. If, at any time, the Required Collateral-A2 Amount exceeds the value of the Permitted Cash Collateral-A2, the Borrower shall immediately deposit additional Permitted Cash Collateral-A2 into the Cash Collateral-A2 Account to eliminate such excess. In accordance with the terms of the Account Control Agreement-A2, the Borrower shall direct the investment of items deposited into the Cash Collateral-A2 Account; provided, that

all Cash Collateral shall consist of Permitted Cash Collateral-A2 at all times. The Borrower shall treat all income, gains or losses from the investment of items in the Cash Collateral-A2 Account as its own income or loss, and the Agent and the Lenders shall have no liability for any such gain or loss.

(II) The Borrower shall, at all times, maintain Permitted Cash Collateral-A3 in the Cash Collateral-A3 Account with a value greater than or equal to the following (the "Required Collateral-A3 Amount"): (A) during the period commencing with the Initial Draw Date for the Term Loan A3 and ending on the date that is three months after such Initial Draw Date, 100% of the outstanding principal amount of the Term Loan A3 and (B) after such time period, (i) if all Permitted Cash Collateral-A3 is comprised entirely of Tier 1 Permitted Cash Collateral, 100.25% of the outstanding principal amount of the Term Loan A3, (ii) if Permitted Cash Collateral-A3 is not comprised entirely of Tier 1 Permitted Cash Collateral but is not comprised of any Tier 3 Permitted Cash Collateral, 100.5% of the outstanding principal amount of the Term Loan A3 or (iii) if any Permitted Cash Collateral-A3 is comprised of any Tier 3 Permitted Cash Collateral, 101% of the outstanding principal amount of the Term Loan A3. If, at any time, the Required Collateral-A3 Amount exceeds the value of the Permitted Cash Collateral-A3, the Borrower shall immediately deposit additional Permitted Cash Collateral-A3 into the Cash Collateral-A3 Account to eliminate such excess. In accordance with the terms of the Account Control Agreement-A3, the Borrower shall direct the investment of items deposited into the Cash Collateral-A3 Account; provided, that (1) all Cash Collateral shall consist of Permitted Cash Collateral-A3 at all times and (2) the Borrower shall not be permitted to sell any Permitted Cash Collateral-A3 prior to its stated maturity (if any) during the first two months following the Closing Date except pursuant to Section 7.13(c). The Borrower shall treat all income, gains or losses from the investment of items in the Cash Collateral-A3 Account as its own income or loss, and the Agent and the Lenders shall have no liability for any such gain or loss.

(c) (i) The Borrower shall be permitted to liquidate and/or withdraw Cash Collateral-A2 from the Cash Collateral-A2 Account to fund a Permitted Acquisition or capital expenditure; provided, that concurrently with such liquidation or withdrawal (A) the Revolving Committed Amount shall be automatically increased (without the consent of the Lenders) in accordance with Section 2.10(b) and Section 3.2(a)(iii), (B) a Revolving Loan shall be made to the Borrower, (C) the proceeds of such Revolving Loan shall be applied to prepay the principal amount of the Term Loan-A2 in an amount equal to the amount of Cash Collateral-A2 liquidated or withdrawn, and (D) after such liquidation or withdrawal, the value of the Permitted Cash Collateral-A2 shall be greater than or equal to the Required Collateral-A2 Amount, as calculated after giving effect of such prepayment of the Term Loan A2. In the event that the Borrower shall elect to make such a withdrawal, the Agent shall direct the Intermediary to liquidate the applicable Cash Collateral-A2 and remit the proceeds to the Borrower.

(ii) The Borrower shall be permitted to liquidate and/or withdraw Cash Collateral-A3 from the Cash Collateral-A3 Account to fund a Permitted Acquisition or capital expenditure; provided, that concurrently with such liquidation or withdrawal (A) the Revolving Committed Amount shall be automatically increased (without the consent of the Lenders) in accordance with Section 2.10(b) and Section 3.2(a)(iii), (B) a Revolving Loan shall be made to the Borrower, (C) the proceeds of such Revolving Loan shall be applied to prepay the principal amount of the Term Loan-A3 in an amount equal to the amount of Cash Collateral-A3 liquidated or withdrawn, and (D) after such liquidation or withdrawal, the value of the Permitted Cash Collateral-A3 shall be greater than or equal to the Required Collateral-A3 Amount, as calculated after giving effect of such prepayment of the Term Loan A3. In the event that the Borrower shall elect to make such a

withdrawal, the Agent shall direct the Intermediary to liquidate the applicable Cash Collateral-A3 and remit the proceeds to the Borrower.

(d) (i) If, at the end of any fiscal quarter of the Parent, the value of the Permitted Cash Collateral-A2 exceeds the Required Collateral-A2 Amount at such time, then, upon the request of the Borrower, provided no Default or Event of Default has occurred and is continuing, the Agent shall direct the Intermediary to pay and transfer to the Borrower cash, to the extent available, in the Cash Collateral-A2 Account in an amount equal to such excess.

(ii) If, at the end of any fiscal quarter of the Parent, the value of the Permitted Cash Collateral-A3 exceeds the Required Collateral-A3 Amount at such time, then, upon the request of the Borrower, provided no Default or Event of Default has occurred and is continuing, the Agent shall direct the Intermediary to pay and transfer to the Borrower cash, to the extent available, in the Cash Collateral-A3 Account in an amount equal to such excess.

(e) (i) To secure the prompt payment in full when due, whether by lapse of time, acceleration, mandatory prepayment or otherwise, of the Term Loan A2, the Borrower hereby grants to the Agent, for the ratable benefit of the Lenders, a continuing security interest in, and a right to set off against, any and all right, title and interest of the Borrower in and to the Cash Collateral-A2 Account and the Cash Collateral-A2 and all other amounts maintained in the Cash Collateral-A2 Account.

(ii) To secure the prompt payment in full when due, whether by lapse of time, acceleration, mandatory prepayment or otherwise, of the Term Loan A3, the Borrower hereby grants to the Agent, for the ratable benefit of the Lenders, a continuing security interest in, and a right to set off against, any and all right, title and interest of the Borrower in and to the Cash Collateral-A3 Account and the Cash Collateral-A3 and all other amounts maintained in the Cash Collateral-A3 Account.

7.14 Equity Proceeds.

After the Closing Date but no later than September 30, 2007, the Parent shall receive at least $110,000,000 in proceeds from the issuance of equity on terms and conditions satisfactory to the Agent.

SECTION 8.

NEGATIVE COVENANTS

Each Credit Party hereby covenants and agrees that so long as this Credit Agreement is in effect and until the Loans and LOC Obligations, together with interest, fees and other obligations hereunder, have been paid in full and the Commitments and Letters of Credit shall have terminated:

8.1 Nature of Business.

No Credit Party will, nor will it permit any of its Subsidiaries to (whether now owned or acquired or formed subsequent to the Closing Date), materially alter the character of their business on a consolidated basis from the midstream energy business.

8.2. Liens.

No Credit Party will create, assume or suffer to exist any Lien on any asset now owned or hereafter acquired by it or any of its Subsidiaries, except for the following:

(a) Liens in favor of the Lenders securing Indebtedness under this Credit Agreement.

(b) any Lien arising out of the refinancing, extension, renewal or refunding of any Indebtedness secured by any Lien permitted by this Section 8.2; provided, that the principal amount of such Indebtedness is not increased (other than to provide for the payment of any underwriting discounts and fees related to any refinancing Indebtedness as well as any premiums owed on and accrued and unpaid interest related to the original Indebtedness) and is not secured by any additional assets.

(c) Liens for taxes, assessments or other governmental charges or levies not yet due or which are being contested in good faith by appropriate proceedings and with respect to which adequate reserves or other appropriate provisions are being maintained in accordance with GAAP.

(d) statutory Liens of landlords and Liens of carriers, warehousemen, mechanics, materialmen and interest owners of oil and gas production and other Liens imposed by law, created in the ordinary course of business and for amounts not past due for more than 60 days or which are being contested in good faith by appropriate proceedings which are sufficient to prevent imminent foreclosure of such Liens, are promptly instituted and diligently conducted and with respect to which adequate reserves or other appropriate provisions are being maintained in accordance with GAAP.

(e) Liens incurred or deposits made in the ordinary course of business (including, without limitation, surety bonds and appeal bonds) in connection with workers' compensation, unemployment insurance and other types of social security benefits or to secure the performance of tenders, bids, leases, contracts (other than for the repayment of Indebtedness), statutory obligations and other similar obligations or arising as a result of progress payments under government contracts.

(f) easements (including, without limitation, reciprocal easement agreements and utility agreements), rights-of-way, covenants, consents, reservations, encroachments, variations and other restrictions, charges or encumbrances (whether or not recorded) affecting the use of real property.

(g) Liens with respect to judgments and attachments which do not result in an Event of Default.

(h) Liens, deposits or pledges to secure the performance of bids, tenders, contracts (other than contracts for the payment of money), leases (permitted under the terms of this Agreement), public or statutory obligations, surety, stay, appeal, indemnity, performance or other obligations arising in the ordinary course of business.

(i) rights of first refusal entered into in the ordinary course of business.

(j) Liens consisting of any (i) rights reserved to or vested in any municipality or governmental, statutory or public authority to control or regulate any property of a Credit Party or any Subsidiary or to use such property in any manner which does not materially impair the use of such property for the purpose for which it is held by a Credit Party or any such Subsidiary, (ii) obligations or duties to any municipality or public authority with respect to any franchise, grant,

license, lease or permit and the rights reserved or vested in any Governmental Authority or public utility to terminate any such franchise, grant, license, lease or permit or to condemn or expropriate any property, or (iii) zoning laws, ordinances or municipal regulations.

(k) Liens on deposits required by any Person with whom a Credit Party or any Subsidiary enters into forward contracts, futures contracts, swap agreements or other commodities contracts in the ordinary course of business.

(l) other Liens, including Liens imposed by Environmental Laws, arising in the ordinary course of its business which (i) do not secure Indebtedness (other than Liens on cash and cash equivalents that secure letters of credit), (ii) do not secure any obligation in an amount exceeding $10,000,000 at any time and (iii) do not in the aggregate materially detract from the value of its assets or materially impair the use thereof in the operation of its business.

(m) after the Investment Grade Rating Date, any Lien on any asset of any Person existing at the time such Person is merged or consolidated with or into the Borrower, the Parent or any Subsidiary and not created in contemplation of such event; provided, that the aggregate Indebtedness secured by such Liens, when aggregated with the aggregate Indebtedness secured by Liens permitted pursuant to Section 8.2(n), shall not at any time exceed 50% of Consolidated EBITDA for the four consecutive fiscal quarter period most recently ended.

(n) after the Investment Grade Rating Date, any Lien existing on any asset prior to the acquisition thereof by the Borrower, the Parent or any Subsidiary and not created in contemplation of such acquisition; provided, that the aggregate Indebtedness secured by such Liens, when aggregated with the aggregate Indebtedness secured by Liens permitted pursuant to Section 8.2(m), shall not at any time exceed 50% of Consolidated EBITDA for the four consecutive fiscal quarter period most recently ended.

(o) other Liens securing Indebtedness or obligations in an amount not to exceed, in the aggregate, at any one time 10% of Consolidated Net Tangible Assets; provided, for purposes of this Section 8.2(o), with respect to any such secured Indebtedness of a non-wholly-owned Subsidiary of the Parent or Borrower with no recourse to any Credit Party or any wholly-owned Subsidiary thereof, only that portion of such Indebtedness reflecting Parent's pro rata ownership interest therein shall be included in calculating compliance herewith.

8.3 Consolidation and Merger.

A Credit Party will not, and will not permit any of its Subsidiaries to, (a) enter into any transaction of merger or (b) consolidate, liquidate, wind up or dissolve itself (or suffer any liquidation or dissolution); provided, that: (i) a Person (including a Subsidiary of the Borrower) may be merged or consolidated with or into the Borrower or the Parent so long as (A) the Borrower or the Parent, as the case may be, shall be the continuing or surviving entity, (B) no Default or Event of Default shall exist or be caused thereby, (C) if the Parent or the Borrower has a Debt Rating at the time of such merger or consolidation, the Parent or the Borrower, as applicable, is not downgraded by a Designated Rating Agency as a result of such transaction to a rating below an Investment Grade Rating (or equivalent rating if the Parent or the Borrower, as applicable, has selected a Designated Rating Agency other than S&P, Moody's or Fitch), as applicable and (D) the Borrower or the Parent, as applicable, remains liable for its obligations under this Credit Agreement and all the rights and remedies hereunder remain in full force and effect, (ii) a Subsidiary of the Parent may merge with or into another Subsidiary of the Parent; provided that if one of such Subsidiaries is a Guarantor, the surviving entity must be a Guarantor and (iii) any such merger, consolidation, liquidation, winding up or

dissolution in connection with any Disposition permitted under Section 8.4 hereof shall be permitted hereunder.

8.4 Dispositions.

A Credit Party will not make, nor permit its Subsidiaries to make any Disposition except:

(a) Dispositions of inventory in the ordinary course of business;

(b) Dispositions of machinery and equipment no longer used or useful in the conduct of business of a Credit Party and its Subsidiaries that are Disposed of in the ordinary course of business;

(c) Dispositions of assets to a Credit Party;

(d) Dispositions of Investments permitted under Section 8.7;

(e) Dispositions of accounts receivable in connection with the collection or compromise thereof;

(f) Dispositions of licenses, sublicenses, leases or subleases granted to others not interfering in any material respect with the business of a Credit Party and its Subsidiaries;

(g) Dispositions of Cash Equivalents for fair market value;

(h) Dispositions in which: (i) the assets being disposed are used simultaneously in exchange for replacement assets or (ii) the net proceeds thereof are either (A) reinvested within 365 days from such Disposition in assets to be used in the ordinary course of the business of the Parent and its Subsidiaries and/or (B) used to permanently reduce the Revolving Committed Amount on a dollar for dollar basis.

(i) other Dispositions not exceeding in the aggregate for all Credit Parties and their Subsidiaries (i) 10% of Consolidated Net Tangible Assets in any fiscal year measured as of the date of determination and (ii) 25% of Consolidated Net Tangible Assets during the term of this Credit Agreement.

8.5 Transactions with Affiliates.

A Credit Party will not, and will not permit any Subsidiary to, directly or indirectly, pay any funds to or for the account of, make any investment in, lease, sell, transfer or otherwise dispose of any assets, tangible or intangible, to, or participate in, or effect, any transaction with, any officer, director, employee or Affiliate (other than another Credit Party) unless any and all such transactions between a Credit Party and its Subsidiaries on the one hand and any officer, director, employee or Affiliate (other than another Credit Party) on the other hand, shall be on an arms-length basis and on terms no less favorable to such Credit Party or such Subsidiary than could have been obtained from a third party who was not an officer, director, employee or Affiliate (other than another Credit Party); provided, that the foregoing provisions of this Section shall not (a) prohibit a Credit Party and each Subsidiary from declaring or paying any lawful dividend or distribution otherwise permitted hereunder, (b) prohibit a Credit Party or a Subsidiary from providing credit support for its Subsidiaries as it deems appropriate in the ordinary course of business, (c) prohibit a Credit Party or a Subsidiary from engaging in a transaction or transactions that are not on an arms-length basis or are not on

terms as favorable as could have been obtained from a third party, provided that such transaction or transactions occurs within a related series of transactions, which, in the aggregate, are on an arms-length basis and are on terms as favorable as could have been obtained from a third party, (d) prohibit a Credit Party or a Subsidiary from engaging in non-material transactions with any Credit Party that are not on an arms-length basis or are not on terms as favorable as could have been obtained from a third party but are in the ordinary course of such Credit Party's or such Subsidiary's business, so long as, in each case, after giving effect thereto, no Default or Event of Default shall have occurred and be continuing, (e) prohibit a Credit Party or a Subsidiary from engaging in a transaction with an Affiliate if such transaction has been approved by the Conflicts Committee, (f) prohibit a Credit Party or a Subsidiary from entering into any of the agreements listed on Schedule 8.5 or (g) prohibit a Credit Party or a Subsidiary from compensating its employees and officers in the ordinary course of business.

8.6 Indebtedness.

Prior to the Investment Grade Rating Date, no Credit Party will, nor will it permit its Subsidiaries to, create, incur, assume or suffer to exist any Indebtedness, except:

(a) Indebtedness under the Credit Documents;

(b) Investments permitted under Section 8.7 that would constitute Indebtedness;

(c) obligations (contingent or otherwise) of a Credit Party or any Subsidiary existing or arising under (i) any Credit Facility Swap Contract or (ii) any other Swap Contract; provided that with respect to clauses (i) and (ii) above (A) such obligations are (or were) entered into by such Person in the ordinary course of business for the purpose of directly mitigating risks associated with liabilities, commitments, investments, assets, or property held or reasonably anticipated by such Person, or changes in the value of securities issued by such Person, and not for purposes of speculation or taking a "market view" and (B) such Credit Facility Swap Contract or Swap Contract does not contain any provision exonerating the non-defaulting party from its obligation to make payments on outstanding transactions to the defaulting party;

(d) current liabilities of the Credit Parties or their respective Subsidiaries incurred in the ordinary course of business but not incurred through (i) the borrowing of money or (ii) the obtaining of credit except for credit on an open account basis customarily extended and in fact extended in connection with normal purchases of goods and services;

(e) Indebtedness in respect of taxes, assessments, governmental charges or levies and claims for labor, materials and supplies to the extent that payment therefor shall not at the time be required to be made in accordance with the provisions of this Credit Agreement;

(f) Indebtedness in respect of judgments or awards only to the extent, for the period and for an amount not resulting in a Default or Event of Default;

(g) Indebtedness outstanding under the Bridge Facility in an amount not to exceed $88,000,000; and

(h) other unsecured Indebtedness in an aggregate amount not to exceed, at any one time outstanding, the greater of (i) $50,000,000 and (ii) 10% of Consolidated Net Tangible Assets.

On and after the Investment Grade Rating Date, no Credit Party will, nor will it permit its Subsidiaries to, create, incur, assume or suffer to exist any Indebtedness (other than Loans hereunder) unless at the time of the incurrence thereof, after giving thereto: (x) the Credit Parties are in pro forma compliance with the initial financial covenant set forth in Section 7.10(a), determined as of the last day of the most recently ended fiscal quarter for which financial statements have been delivered pursuant to Section 7.1(a) or (b), as applicable, and (y) no Default or Event of Default shall have occurred and be continuing.

Notwithstanding anything in this Section 8.6 to the contrary, no Subsidiary of the Parent that is not a Credit Party shall be permitted to create, incur, assume or suffer to exist any Indebtedness. The foregoing sentence shall not restrict any Indebtedness of a Person existing at the time such Person became a Subsidiary of the Parent, to the extent such Indebtedness was not incurred in connection with or in contemplation of, such Person becoming a Subsidiary; provided, that the principal amount of such Indebtedness is not increased at the time of any refinancing, refunding, renewal or extension thereof.

8.7 Investments.

Prior to the Investment Grade Rating Date, no Credit Party will, nor will it permit its Subsidiaries to, make any Investments, except:

(a) Investments held by a Credit Party or a Subsidiary in the form of cash or Cash Equivalents;

(b) Investments in any wholly-owned Subsidiary;

(c) Investments consisting of extensions of credit in the nature of accounts receivable or notes receivable arising from the grant of trade credit in the ordinary course of business, and Investments received in satisfaction or partial satisfaction thereof from financially troubled account debtors to the extent reasonably necessary in order to prevent or limit loss;

(d) Investments in Permitted Acquisitions and capital expenditures in the ordinary course;

(e) Investments in Credit Facility Swap Contracts and other Swap Contracts permitted by Section 8.6;

(f) Loans and advances to the general partner of the Borrower or the Parent to enable such general partner of the to pay general and administrative costs and expenses pursuant to the partnership agreement of the Borrower or Parent, as applicable; and

(g) other Investments in an aggregate amount not to exceed, at any one time outstanding, 25% of Consolidated Net Tangible Assets.

8.8 Restricted Payments.

Prior to the Investment Grade Rating Date, no Credit Party will, nor will it permit its Subsidiaries to, declare or make, directly or indirectly, any Restricted Payment, or incur any obligation (contingent or otherwise) to do so, except that:

(a) (i) the Borrower may make Restricted Payments to the Parent, (ii) any Subsidiary

may make Restricted Payments to any Credit Party or any wholly-owned Subsidiary of Parent or Borrower, and (iii) any non-wholly-owned Subsidiary may make Restricted Payments to its owners on a pro rata basis in accordance with such owners' pro rata ownership interest therein;

(b) a Credit Party or Subsidiary may declare and make dividend payments or other distributions payable solely in the Capital Stock of such Person;

(c) the Credit Parties may make cash distributions to their Affiliates and redeem limited partnership units with the proceeds of the Term Loans; provided, that (i) each such distribution or redemption shall be made in connection with a contribution of assets to the Credit Parties from their Affiliates and (ii) the amount of such distribution or redemption shall be less than or equal to the fair market value of the assets (net of any consideration given by the Credit Parties with respect to such assets) contributed to the Credit Parties in connection therewith, as determined by the Credit Parties in good faith;

(d) as long as no Default or Event of Default exists and is continuing, the Credit Parties may make quarterly cash distributions in an amount not to exceed Available Cash for such period; and

(e) the Parent or Borrower may repurchase their respective limited partnership units in an aggregate amount not exceeding $5,000,000 in any fiscal year.

SECTION 9.

EVENTS OF DEFAULT

9.1 Events of Default.

An Event of Default shall exist upon the occurrence of any of the following specified events (each an "Event of Default"):

(a) Payment. A Credit Party shall: (i) default in the payment when due of any principal amount of any of the Loans or of any reimbursement obligation arising from drawings under any Letters of Credit; or (ii) default, and such default shall continue for five or more Business Days, in the payment when due of any interest on the Loans or of any fees or other amounts owing hereunder, under any of the other Credit Documents or in connection herewith.

(b) Representations. Any representation, warranty or statement made or deemed to be made by a Credit Party herein, in any of the other Credit Documents, or in any statement or certificate delivered or required to be delivered pursuant hereto or thereto shall prove to have been untrue in any material respect on the date as of which it was deemed to have been made.

(c) Covenants. A Credit Party shall:

(i) default in the due performance or observance of any term, covenant or agreement contained in Section 7.1(f), 7.8, 7.10, 7.11, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7 or 8.8;

(ii) default in the due performance or observance by it of any term, covenant or agreement contained in Section 7.13 of this Credit Agreement and such default shall

continue unremedied for a period of at least 5 Business Days after notice of such default is given by the Agent or a Lender to the Borrower; or

(iii) default in the due performance or observance by it of any term, covenant or agreement (other than those referred to in subsections (a), (b), (c)(i) or (c)(ii) of this Section 9.1) contained in this Credit Agreement or any other Credit Document and such default shall continue unremedied for a period of at least 30 days after the earlier of (A) a Responsible Officer of a Credit Party becoming aware of such default or (B) notice of such default is given by the Agent or a Lender to the Borrower.

(d) Credit Documents.

(i) Any Credit Document shall fail to be in full force and effect or a Credit Party shall so assert or any Credit Document shall fail to give the Agent and/or the Lenders the rights, powers and privileges purported to be created thereby; or

(ii) The Agent shall cease to have a valid, perfected, first priority Lien on any Cash Collateral in any Cash Collateral Account for any reason.

(e) Bankruptcy, etc. The occurrence of any of the following with respect to a Credit Party or a Subsidiary (i) a court or governmental agency having jurisdiction in the premises shall enter a decree or order for relief in respect of such Credit Party or Subsidiary in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or appoint a receiver, liquidator, assignee, custodian, trustee, sequestrator or similar official of such Credit Party or Subsidiary or for any substantial part of its property or ordering the winding up or liquidation of its affairs; or (ii) an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect is commenced against such Credit Party or Subsidiary and such petition remains unstayed and in effect for a period of 90 consecutive days; or (iii) such Credit Party or Subsidiary shall commence a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, liquidator, assignee, custodian, trustee, sequestrator or similar official of such Person or any substantial part of its property or make any general assignment for the benefit of creditors; or (iv) such Credit Party or Subsidiary shall admit in writing its inability to pay its debts generally as they become due or any action shall be taken by such Person in furtherance of any of the aforesaid purposes.

(f) Defaults under Other Agreements. With respect to any Indebtedness, including any Off Balance Sheet Indebtedness, in excess of the greater of (i) $10,000,000 or (ii) the lesser of (x) three percent (3%) of Consolidated Net Tangible Assets and (y) $100,000,000 (other than Indebtedness outstanding under this Credit Agreement) of a Credit Party or any Subsidiary such Credit Party or such Subsidiary shall (A) default in any payment (beyond the applicable grace period with respect thereto, if any) with respect to any such Indebtedness or fail to timely pay such Indebtedness when due, or (B) default (after giving effect to any applicable grace period) in the observance or performance of any covenant or agreement relating to such Indebtedness or contained in any instrument or agreement evidencing, securing or relating thereto, or any other event or condition shall occur or condition exist, the effect of which default or other event or condition in this clause (B) is to cause any such Indebtedness to become due prior to its stated maturity.

(g) Judgments. One or more judgments, orders, or decrees shall be entered against a Credit Party or a Subsidiary involving a liability, in the aggregate, in excess of the greater of (i) $10,000,000 or (ii) the lesser of (x) three percent (3%) of Consolidated Net Tangible Assets and (y) $50,000,000 (to the extent not paid or covered by insurance provided by a carrier who has acknowledged coverage) and such judgments, orders or decrees shall continue unsatisfied, undischarged and unstayed for a period ending on the first to occur of (i) the last day on which such judgment, order or decree becomes final and unappealable and, where applicable, with the status of a judicial lien or (ii) 45 days.

(h) ERISA. The occurrence of:

(i) any of the following events or conditions which could result in a liability of a Credit Party or an ERISA Affiliate, in the aggregate, in excess of the greater of (i) $10,000,000 or (ii) the lesser of (x) three percent (3%) of Consolidated Net Tangible Assets and (y) $25,000,000: (A) any "accumulated funding deficiency," as such term is defined in Section 302 of ERISA and Section 412 of the Code, whether or not waived, shall exist with respect to any Plan, or any lien shall arise on the assets of the Borrower or any ERISA Affiliate in favor of the PBGC or a Plan; or (B) any prohibited transaction (within the meaning of Section 406 of ERISA or Section 4975 of the Code) or breach of fiduciary responsibility shall occur which would be reasonably expected to subject the Borrower or any ERISA Affiliate to any liability under Sections 406, 409, 502(i), or 502(l) of ERISA or Section 4975 of the Code, or under any agreement or other instrument pursuant to which the Borrower or any ERISA Affiliate has agreed or is required to indemnify any person against any such liability; or

(ii) any of the following events or conditions which could result in a liability of a Credit Party or an ERISA Affiliate, in the aggregate, in excess of the greater of (i) $10,000,000 or (ii) the lesser of (x) three percent (3%) of Consolidated Net Tangible Assets and (y) $50,000,000: (A) a Termination Event shall occur with respect to a Single Employer Plan which is, in the reasonable opinion of the Agent, likely to result in the termination of such Plan for purposes of Title IV of ERISA; or (B) a Termination Event shall occur with respect to a Multiemployer Plan or Multiple Employer Plan which is, in the reasonable opinion of the Agent, likely to result in (x) the termination of such Plan for purposes of Title IV of ERISA, or (y) the Borrower or any ERISA Affiliate incurring any liability in connection with a withdrawal from, reorganization of (within the meaning of Section 4241 of ERISA), or insolvency (within the meaning of Section 4245 of ERISA) of such Plan.

(i) Change of Control. The occurrence of any Change of Control.

9.2 Acceleration; Remedies.

Upon the occurrence of an Event of Default, and at any time thereafter unless and until such Event of Default has been waived by the Required Lenders (or the Lenders as may be required hereunder), the Agent may, with the consent of the Required Lenders, and shall, upon the request and direction of the Required Lenders, by written notice to the Borrower take any of the following actions without prejudice to the rights of the Agent or any Lender to enforce its claims against the Borrower, except as otherwise specifically provided for herein:

(i) Termination of Commitments. Declare the Commitments and the obligation of the Issuing Bank to issue any Letter of Credit to be terminated whereupon the Commitments and such obligation of the Issuing Bank to issue any Letter of Credit shall be immediately terminated.

(ii) Acceleration of Loans and Letters of Credit. Declare the unpaid principal of and any accrued interest in respect of all Loans, any reimbursement obligations arising from drawings under Letters of Credit and any and all other indebtedness or obligations of any and every kind owing by the Credit Parties to any of the Lenders hereunder to be due whereupon the same shall be immediately due and payable without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Borrower.

(iii) Cash Collateralize Letters of Credit. Direct the Borrower to pay (and the Borrower agrees that upon receipt of such notice, or upon the occurrence of an Event of Default under Section 9.1(e), it will immediately pay) to the Issuing Lender additional cash, to be held by the Issuing Lender, for the benefit of the Lenders, in a cash collateral account as security for the LOC Obligations in respect of subsequent drawings under all then outstanding Letters of Credit in an amount equal to the maximum aggregate amount which may be drawn under all Letters of Credits then outstanding.

(iv) Enforcement of Rights. Enforce any and all rights and interests created and existing under the Credit Documents, including, without limitation, all rights of set-off.

(v) Cash Collateral. Liquidate the Cash Collateral and apply the proceeds thereof to repay the Term Loans then outstanding.

Notwithstanding the foregoing, if an Event of Default specified in Section 9.1(e) shall occur, then the Commitments and the obligation of the Issuing Bank to issue any Letter of Credit shall automatically terminate and all Loans, all reimbursement obligations under Letters of Credit, all accrued interest in respect thereof, all accrued and unpaid fees and other indebtedness or obligations owing to the Lenders and the Agent hereunder shall immediately become due and payable without the giving of any notice or other action by the Agent or the Lenders.

Notwithstanding the fact that enforcement powers reside primarily with the Agent, each Lender has, to the extent permitted by law, a separate right of payment and shall be considered a separate "creditor" holding a separate "claim" within the meaning of Section 101(5) of the Bankruptcy Code or any other insolvency statute.

9.3 Allocation of Payments After Event of Default.

Notwithstanding any other provision of this Credit Agreement, after the occurrence of an Event of Default, all amounts collected or received by the Agent or any Lender on account of amounts outstanding under any of the Credit Documents shall be paid over or delivered as follows:

FIRST, to the payment of all reasonable out-of-pocket costs and expenses (including without limitation reasonable attorneys' fees) of the Agent and the Lenders in connection with enforcing the rights of the Lenders under the Credit Documents, pro rata as set forth below;

SECOND, to payment of any fees owed to the Agent, or any Lender, pro rata as set forth below;

THIRD, to the payment of all accrued interest payable to the Lenders hereunder, pro rata as set forth below;

FOURTH, to the payment of the outstanding principal amount of the Loans and to the payment or cash collateralization of the outstanding LOC Obligations, pro rata, as set forth below;

FIFTH, to all other obligations which shall have become due and payable under the Credit Documents and not repaid pursuant to clauses "FIRST" through "FOURTH" above; and

SIXTH, to the payment of the surplus, if any, to whomever may be lawfully entitled to receive such surplus;

provided, that all amounts collected from the proceeds of Cash Collateral shall be used to repay the Term Loans.

In carrying out the foregoing, (a) amounts received shall be applied in the numerical order provided until exhausted prior to application to the next succeeding category; (b) each of the Lenders shall receive an amount equal to its pro rata share (based on the proportion that the then outstanding Loans and LOC Obligations held by such Lender bears to the aggregate then outstanding Loans and LOC Obligations), of amounts available to be applied; and (c) to the extent that any amounts available for distribution pursuant to clause "FOURTH" above are attributable to the issued but undrawn amount of outstanding Letters of Credit, such amounts shall be held by the Agent in a cash collateral account and applied (i) first, to reimburse the Issuing Lender from time to time for any drawings under such Letters of Credit and (ii) then, following the expiration of all Letters of Credit, to all other obligations of the types described in clauses "FOURTH", "FIFTH" and "SIXTH" above in the manner provided in this Section 9.3.

SECTION 10.

AGENCY PROVISIONS

10.1 Appointment.

Each Lender hereby designates and appoints Wachovia Bank, National Association, as agent of such Lender to act as specified herein and the other Credit Documents, and each such Lender hereby authorizes the Agent, as the agent for such Lender, to take such action on its behalf under the provisions of this Credit Agreement and the other Credit Documents and to exercise such powers and perform such duties as are expressly delegated by the terms hereof and of the other Credit Documents, together with such other powers as are reasonably incidental thereto. Notwithstanding any provision to the contrary elsewhere herein and in the other Credit Documents, the Agent shall not have any duties or responsibilities, except those expressly set forth herein and therein, or any fiduciary relationship with any Lender, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into this Credit Agreement or any of the other Credit Documents, or shall otherwise exist against the Agent. The provisions of this Section are solely for the benefit of the Agent and the Lenders and no Credit Party shall have any rights as a third party beneficiary of the provisions hereof. In performing its functions and duties under this Credit Agreement and the other Credit Documents, the Agent shall act solely as agent of the Lenders and does not assume and shall not be deemed to have assumed any obligation or relationship of agency or trust with or for any Credit Party. All institutions acting as a Co-Syndication Agent or Co-Documentation Agent hereunder shall have no obligations in such capacity under the Credit Documents.

10.2 Delegation of Duties.

The Agent may execute any of its duties hereunder or under the other Credit Documents by or through agents or attorneys-in-fact and shall be entitled to advice of counsel concerning all matters pertaining to such duties. The Agent shall not be responsible to the Lenders for the negligence or misconduct of any agents or attorneys-in-fact selected by it with reasonable care.

10.3 Exculpatory Provisions.

Neither the Agent nor any of its officers, directors, employees, agents, attorneys-in-fact or Affiliates shall be liable for any action lawfully taken or omitted to be taken by it or such Person under or in connection herewith or in connection with any of the other Credit Documents (except for its or such Person's own gross negligence or willful misconduct), or responsible in any manner to any of the Lenders for any recitals, statements, representations or warranties made by any Credit Party contained herein or in any of the other Credit Documents or in any certificate, report, statement or other document referred to or provided for in, or received by the Agent under or in connection herewith or in connection with the other Credit Documents, or enforceability or sufficiency therefor of any of the other Credit Documents, or for any failure of any Credit Party to perform its obligations hereunder or thereunder. The Agent shall not be responsible to any Lender for the effectiveness, genuineness, validity, enforceability, collectibility or sufficiency of this Credit Agreement, or any of the other Credit Documents or for any representations, warranties, recitals or statements made herein or therein or made by any Credit Party in any written or oral statement or in any financial or other statements, instruments, reports, certificates or any other documents in connection herewith or therewith furnished or made by the Agent to the Lenders or by or on behalf of any Credit Party to the Agent or any Lender or be required to ascertain or inquire as to the performance or observance of any of the terms, conditions, provisions, covenants or agreements contained herein or therein or as to the use of the proceeds of the Loans or of the existence or possible existence of any Default or Event of Default or to inspect the properties, books or records of any Credit Party. The Agent is not a trustee for the Lenders and owes no fiduciary duty to the Lenders.

10.4 Reliance on Communications.

The Agent shall be entitled to rely, and shall be fully protected in relying, upon any note, writing, resolution, notice, consent, certificate, affidavit, letter, cablegram, telegram, telecopy, telex or teletype message, statement, order or other document or conversation believed by it to be genuine and correct and to have been signed, sent or made by the proper Person or Persons and upon advice and statements of legal counsel (including, without limitation, counsel to the Credit Parties, independent accountants and other experts selected by the Agent with reasonable care). The Agent may deem and treat the Lenders as the owner of its interests hereunder for all purposes unless a written notice of assignment, negotiation or transfer thereof shall have been filed with the Agent in accordance with Section 11.3(b). The Agent shall be fully justified in failing or refusing to take any action under this Credit Agreement or under any of the other Credit Documents unless it shall first receive such advice or concurrence of the Required Lenders as it deems appropriate or it shall first be indemnified to its satisfaction by the Lenders against any and all liability and expense which may be incurred by it by reason of taking or continuing to take any such action. The Agent shall in all cases be fully protected in acting, or in refraining from acting, hereunder or under any of the other Credit Documents in accordance with a request of the Required Lenders (or to the extent specifically provided in Section 11.6, all the Lenders) and such request and any action taken or failure to act pursuant thereto shall be binding upon all the Lenders (including their successors and assigns).

10.5 Notice of Default.

The Agent shall not be deemed to have knowledge or notice of the occurrence of any Default or Event of Default hereunder (other than an Event of Default specified in Section 9.1(a)) unless the Agent has received notice from a Lender or the Borrower referring to the Credit Document, describing such Default or Event of Default and stating that such notice is a "notice of default." In the event that the Agent receives such a notice, the Agent shall give prompt notice thereof to the Lenders. The Agent shall take such action with respect to such Default or Event of Default as shall be reasonably directed by the Required Lenders.

10.6 Non-Reliance on Agent and Other Lenders.

Each Lender expressly acknowledges that neither the Agent nor any of its officers, directors, employees, agents, attorneys-in-fact or Affiliates has made any representations or warranties to it and that no act by the Agent or any Affiliate thereof hereinafter taken, including any review of the affairs of the Credit Parties, shall be deemed to constitute any representation or warranty by the Agent to any Lender. Each Lender represents to the Agent that it has, independently and without reliance upon the Agent or any other Lender, and based on such documents and information as it has deemed appropriate, made its own appraisal of and investigation into the business, assets, operations, property, financial and other conditions, prospects and creditworthiness of the Credit Parties and made its own decision to make its Extensions of Credit hereunder and enter into this Credit Agreement. Each Lender also represents that it will, independently and without reliance upon the Agent or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit analysis, appraisals and decisions in taking or not taking action under this Credit Agreement, and to make such investigation as it deems necessary to inform itself as to the business, assets, operations, property, financial and other conditions, prospects and creditworthiness of the Credit Parties. Except for notices, reports and other documents expressly required to be furnished to the Lenders by the Agent hereunder, the Agent shall not have any duty or responsibility to provide any Lender with any credit or other information concerning the business, operations, assets, property, financial or other conditions, prospects or creditworthiness of the Credit Parties which may come into the possession of the Agent or any of its officers, directors, employees, agents, attorneys-in-fact or Affiliates.

10.7 Indemnification.

Each Lender agrees to indemnify the Agent (including for purposes of this Section 10.7 the Agent in its capacity as Issuing Lender) in its capacity as such (to the extent not reimbursed by the Credit Parties and without limiting the obligation of the Credit Parties to do so), ratably according to its Commitment Percentage, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind whatsoever which may at any time (including without limitation at any time following the payment in full of the Credit Parties Obligations) be imposed on, incurred by or asserted against the Agent in its capacity as such in any way relating to or arising out of this Credit Agreement or the other Credit Documents or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or any action taken or omitted by the Agent under or in connection with any of the foregoing; provided, that no Lender shall be liable for the payment of any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the gross negligence or willful misconduct of the Agent. If any indemnity furnished to the Agent for any purpose shall, in the opinion of the Agent, be insufficient or become impaired, the Agent may call for additional indemnity and cease, or not commence, to do the acts indemnified against until such additional indemnity is furnished. The agreements in this Section 10.7 shall survive the payment of the Obligations and all other amounts payable hereunder and under the other Credit Documents and the termination of the Commitments.

10.8 Agent in Its Individual Capacity.

The Agent and its Affiliates may make loans to, accept deposits from and generally engage in any kind of business with a Credit Party as though the Agent were not Agent hereunder. With respect to the Loans made, Letters of Credit issued and all Obligations owing to it, the Agent shall have the same rights and powers under this Credit Agreement as any Lender and may exercise the same as though it were not the Agent, and the terms "Lender" and "Lenders" shall include the Agent in its individual capacity.

10.9 Successor Agent.

The Agent may, at any time, resign upon 30 days written notice to the Lenders and the Borrower. Upon any such resignation, the Borrower with the consent of the Required Lenders (such consent of the Required Lenders not to be unreasonably withheld or delayed) shall have the right to appoint a successor Agent. If no successor Agent shall have been so appointed and shall have accepted such appointment within 30 days after the notice of resignation, then the retiring Agent shall in consultation with the Borrower, select a successor Agent provided such successor is a Lender hereunder or qualifies as an Eligible Assignee (or if no Eligible Assignee shall have been so appointed by the retiring Agent and shall have accepted such appointment, then the Lenders shall perform all obligations of the retiring Agent hereunder until such time, if any, as a successor Agent shall have been appointed and shall have accepted such appointment as provided for above). Upon the acceptance of any appointment as Agent hereunder by a successor, such successor Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Agent, and the retiring Agent shall be discharged from its duties and obligations as Agent, as appropriate, under this Credit Agreement and the other Credit Documents and the provisions of this Section 10.9 shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Agent under this Credit Agreement; provided, if such successor Agent shall have been appointed without the consent of the Borrower, such successor Agent may be replaced by the Borrower with the consent of the Required Lenders so long as no Event of Default has occurred and is continuing.

SECTION 11.

MISCELLANEOUS

11.1 Notices.

(a) Except as otherwise expressly provided herein, all notices and other communications shall have been duly given and shall be effective (i) when delivered, (ii) when transmitted via telecopy (or other facsimile device), (iii) the Business Day following the day on which the same has been delivered prepaid (or pursuant to an invoice arrangement) to a reputable national overnight air courier service, or (iv) the third Business Day following the day on which the same is sent by certified or registered mail, postage prepaid, in each case to the respective parties at the address or telecopy numbers set forth on Schedule 11.1, or at such other address as such party may specify by written notice to the other parties hereto.

(b) Notwithstanding anything herein to the contrary, notices and other communications to the Agent, the Lenders and the Credit Parties, may be delivered or furnished by electronic communication (including email, Internet or intranet website) pursuant to procedures approved by the Agent; provided that the certificate required to be delivered by Section 7.1(d) must be delivered in original form.

11.2 Right of Set-Off.

In addition to any rights now or hereafter granted under applicable law or otherwise, and not by way of limitation of any such rights, upon the occurrence of an Event of Default and the commencement of remedies described in Section 9.2, each Lender is authorized at any time and from time to time, without presentment, demand, protest or other notice of any kind (all of which rights being hereby expressly waived), to set-off and to appropriate and apply any and all deposits (general or special) and any other indebtedness at any time held or owing by such Lender (including, without limitation branches, agencies or Affiliates of such Lender wherever located) to or for the credit or the account of the Borrower against obligations and liabilities of the Borrower to the Lenders hereunder, under the Notes, the other Credit Documents or otherwise, irrespective of whether the Agent or the Lenders shall have made any demand hereunder and although such obligations, liabilities or claims, or any of them, may be contingent or unmatured, and any such set-off shall be deemed to have been made immediately upon the occurrence of an Event of Default even though such charge is made or entered on the books of such Lender subsequent thereto.

11.3 Benefit of Agreement.

(a) Generally. This Credit Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto; provided, that the Borrower may not assign and transfer any of its interests without the prior written consent of the Lenders; and provided, further, that the rights of each Lender to transfer, assign or grant participations in its rights and/or obligations hereunder shall be limited as set forth below in this Section 11.3.

(b) Assignments. Each Lender may assign to one or more Eligible Assignees all or a portion of its rights and obligations under this Credit Agreement (including, without limitation, all or a portion of its Loans, its Notes, its LOC Obligations and its Commitment); provided, however, that:

(i) each such assignment shall be to an Eligible Assignee;

(ii) except in the case of an assignment to another Lender or an assignment of all of a Lender's rights and obligations under this Credit Agreement, any such partial assignment shall be in an amount at least equal to $10,000,000 (or, if less, the remaining amount of the Commitment (which for this purpose includes Loans and LOC Obligations) being assigned by such Lender) and an integral multiple of $1,000,000 in excess thereof; and

(iii) the parties to such assignment shall execute and deliver to the Agent for its acceptance an Assignment Agreement in substantially the form of Exhibit 11.3(b), together with a processing fee from the assignor of $3,500.

Upon execution, delivery, and acceptance of such Assignment Agreement, the assignee thereunder shall be a party hereto and, to the extent of such assignment, have the obligations, rights, and benefits of a Lender hereunder and the assigning Lender shall, to the extent of such assignment, relinquish its rights (except those rights hereunder which by their terms expressly survive) and be released from its obligations under this Credit Agreement. Upon the consummation of any assignment pursuant to this Section 11.3(b), the assignor, the Agent and the Borrower shall make appropriate arrangements so that, if required, new Notes are issued to the assignor and the assignee. If the assignee is not incorporated under the laws of the United States of America or a state thereof, it shall deliver to the Borrower and the Agent certification as to exemption from deduction or withholding of taxes in accordance with Section 4.4.

By executing and delivering an assignment agreement in accordance with this Section 11.3(b), the assigning Lender thereunder and the assignee thereunder shall be deemed to confirm to and agree with each other and the other parties hereto as follows: (A) such assigning Lender warrants that it is the legal and beneficial owner of the interest being assigned thereby free and clear of any adverse claim created by such assigning Lender and the assignee warrants that it is an Eligible Assignee; (B) except as set forth in clause (A) above, such assigning Lender makes no representation or warranty and assumes no responsibility with respect to any statements, warranties or representations made in or in connection with this Credit Agreement, any of the other Credit Documents or any other instrument or document furnished pursuant hereto or thereto, or the execution, legality, validity, enforceability, genuineness, sufficiency or value of this Credit Agreement, any of the other Credit Documents or any other instrument or document furnished pursuant hereto or thereto or the financial condition of the Borrower or the performance or observance by the Borrower of any of its obligations under this Credit Agreement, any of the other Credit Documents or any other instrument or document furnished pursuant hereto or thereto; (C) such assigning Lender and such assignee represents and warrants that it is legally authorized to enter into such assignment agreement; (D) such assignee confirms that it has received a copy of this Credit Agreement, the other Credit Documents and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into such assignment agreement; (E) such assignee will independently and without reliance upon the Agent, such assigning Lender or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under this Credit Agreement and the other Credit Documents; (F) such assignee appoints and authorizes the Agent to take such action on its behalf and to exercise such powers under this Credit Agreement or any other Credit Document as are delegated to the Agent by the terms hereof or thereof, together with such powers as are reasonably incidental thereto; and (G) such assignee agrees that it will perform in accordance with their terms all the obligations which by the terms of this Credit Agreement and the other Credit Documents are required to be performed by it as a Lender.

(c) Register. The Agent shall maintain a copy of each Assignment Agreement delivered to and accepted by it and a register for the recordation of the names and addresses of the Lenders and the Commitment of, and principal amount of the Loans owing to, each Lender from time to time (the "Register"). The entries in the Register shall be conclusive and binding for all purposes, absent manifest error, and the Borrower, the Agent and the Lenders may treat each Person whose name is recorded in the Register as a Lender hereunder for all purposes of this Credit Agreement. The Register shall be available for inspection by the Borrower or any Lender (with respect to any entry relating to such Lender's Loans, Notes, LOC Obligations or Commitment) at any reasonable time and from time to time upon reasonable prior notice.

(d) Acceptance. Upon its receipt of an Assignment Agreement executed by the parties thereto, together with any Note subject to such assignment and payment of the processing fee, the Agent shall, if such Assignment Agreement has been completed and is in substantially the form of Exhibit 11.3(b) hereto, (i) accept such Assignment Agreement, (ii) record the information contained therein in the Register and (iii) give prompt notice thereof to the parties thereto.

(e) Participations. Each Lender may sell participations to one or more Persons in all or a portion of its rights, obligations or rights and obligations under this Credit Agreement (including all or a portion of its Commitment, its Notes, its LOC Obligations and its Loans); provided, however, that (i) such Lender's obligations under this Credit Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations, (iii) the participant shall be entitled to the benefit of the yield protection provisions contained in Sections 4.1 through 4.4, inclusive, but shall not be entitled to receive any amount greater than such Lender would have been able to receive, and (iv) the Borrower shall continue to

deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Credit Agreement, and such Lender shall retain the sole right to enforce the obligations of the Borrower relating to its Loans, its Notes and its LOC Obligations and to approve any amendment, modification, or waiver of any provision of this Credit Agreement (other than amendments, modifications, or waivers decreasing the amount of principal of or the rate at which interest is payable on such Loans or Notes, extending any scheduled principal payment date or date fixed for the payment of interest on such Loans or Notes, or extending its Commitment).

(f) Nonrestricted Assignments. Notwithstanding any other provision set forth in this Credit Agreement, any Lender may at any time assign and pledge all or any portion of its Loans and its Notes to any Federal Reserve Bank as collateral security pursuant to Regulation A and any Operating Circular issued by such Federal Reserve Bank. No such assignment shall release the assigning Lender from its obligations hereunder.

(g) Information. Subject to Section 11.17, any Lender may furnish any information concerning the Borrower in the possession of such Lender from time to time to assignees and participants (including prospective assignees and participants).

11.4 No Waiver; Remedies Cumulative.

No failure or delay on the part of the Agent or any Lender in exercising any right, power or privilege hereunder or under any other Credit Document and no course of dealing between the Borrower and the Agent or any Lender shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder or under any other Credit Document preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder or thereunder. The rights and remedies provided herein are cumulative and not exclusive of any rights or remedies which the Agent or any Lender would otherwise have. No notice to or demand on the Borrower in any case shall entitle the Borrower to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of the Agent or the Lenders to any other or further action in any circumstances without notice or demand.

11.5 Payment of Expenses, etc.

The Borrower agrees to: (i) pay all reasonable out-of-pocket costs and expenses of the Agent in connection with (A) the negotiation, preparation, execution and delivery, syndication and administration of this Credit Agreement and the other Credit Documents and the documents and instruments referred to therein (including, without limitation, the reasonable fees and expenses of counsel to the Agent) and (B) any amendment, waiver or consent relating hereto and thereto including, but not limited to, any such amendments, waivers or consents resulting from or related to any work-out, renegotiation or restructure relating to the performance by the Borrower under this Credit Agreement, (ii) pay all reasonable out-of-pocket costs and expenses of the Agent and each Lender in connection with (A) enforcement of the Credit Documents and the documents and instruments referred to therein (including, without limitation, in connection with any such enforcement, the reasonable fees and disbursements of counsel for the Agent and each of the Lenders (including the allocated cost of internal counsel)) and (B) any bankruptcy or insolvency proceeding of any Credit Party and (iii) indemnify the Agent and each Lender, their respective Affiliates and the respective officers, directors, employees, representatives and agents of the foregoing from and hold each of them harmless against any and all losses, liabilities, claims, damages or expenses incurred by any of them as a result of, or arising out of, or in any way related to, or by reason of, any investigation, litigation or other proceeding (whether or not the Agent or any Lender is a party thereto) related to the entering into and/or performance of any Credit Document or the use of proceeds of any Loans (including other extensions of credit) hereunder or the consummation of any other transactions contemplated in any Credit Document,

including, without limitation, the reasonable fees and disbursements of counsel and settlement costs incurred in connection with any such investigation, litigation or other proceeding (but excluding any such losses, liabilities, claims, damages or expenses to the extent incurred by reason of gross negligence or willful misconduct on the part of the Person to be indemnified as determined by a court of competent jurisdiction by final and non-appealable judgment).

11.6 Amendments, Waivers and Consents.

Neither this Credit Agreement, nor any other Credit Document nor any of the terms hereof or thereof may be amended, changed, waived, discharged or terminated unless such amendment, change, waiver, discharge or termination is in writing and signed by the Required Lenders and the Borrower (and if the rights or duties of the Issuing Bank are affected thereby, by it); provided, that no such amendment, change, waiver, discharge or termination shall without the consent of each Lender affected thereby:

(a) extend the Maturity Date (except pursuant to Section 2.11), or postpone or extend the time for any payment or prepayment of principal (except pursuant to Section 3.3(b)) or the time of payment of any reimbursement obligation, or any portion thereof, arising from drawings under Letters of Credit;

(b) reduce the rate or extend the time of payment of interest thereon or fees or other amounts payable hereunder;

(c) reduce or waive the principal amount of any Loan or of any reimbursement obligation, or any portion thereof, arising from drawings under Letters of Credit;

(d) increase (other than an increase to its Revolving Commitment resulting from an increase in the Revolving Committed Amount pursuant to the sale of Cash Collateral as set forth in Section 3.2(a)(iii)) or extend the Commitment of a Lender (it being understood and agreed that a waiver of any Default or Event of Default or a waiver of any mandatory reduction in the Commitments shall not constitute a change in the terms of any Commitment of any Lender);

(e) consent to the assignment or transfer by the Borrower of any of its rights and obligations under (or in respect of) the Credit Documents or release the Borrower from its obligations under the Credit Documents;

(f) amend, modify or waive any provision of this Section 11.6 or Section 2.10, 3.6, 3.8, 5.2, 9.1(a), 11.2, 11.3 or 11.5;

(g) reduce any percentage specified in, or otherwise modify, the definition of Required Lenders;

(h) release the Cash Collateral except as specifically permitted hereunder and by the Collateral Documents; or

(i) release the Parent from its obligations under the Credit Documents or release all or substantially all of the other Guarantors from their obligations.

No provision of Section 10 may be amended or modified without the consent of the Agent.

No provision of Section 2.2 may be amended or modified without the consent of each Issuing Lender

affected thereby.

No provision of Section 2.8 may be amended or modified without the consent of the Swingline Lender.

Notwithstanding the fact that the consent of all the Lenders is required in certain circumstances as set forth above, (x) each Lender is entitled to vote as such Lender sees fit on any reorganization plan that affects the Loans or the Letters of Credit, and each Lender acknowledges that the provisions of Section 1126(c) of the Bankruptcy Code supersede the unanimous consent provisions set forth herein and (y) the Required Lenders may consent to allow the Borrower to use cash collateral in the context of a bankruptcy or insolvency proceeding.

Notwithstanding anything above to the contrary, no consent of any Lender shall be required in connection with any amendment solely to evidence a new term loan pursuant to Section 2.1(b)(iii) and the creation of any Cash Collateral Account and Account Control Agreement and the establishment of required collateral amounts associated therewith other than a Lender providing a portion of such term loan.

11.7 Counterparts/Telecopy.

This Credit Agreement may be executed in any number of counterparts, each of which where so executed and delivered shall be an original, but all of which shall constitute one and the same instrument. Delivery of executed counterparts by telecopy or other electronic means shall be as effective as an original and shall constitute a representation that an original will be delivered.

11.8 Headings.

The headings of the sections and subsections hereof are provided for convenience only and shall not in any way affect the meaning or construction of any provision of this Credit Agreement.

11.9 Defaulting Lender.

Each Lender understands and agrees that if such Lender is a Defaulting Lender then it shall not be entitled to vote on any matter requiring the consent of the Required Lenders or to object to any matter requiring the consent of all the Lenders; provided, however, that (a) a Lender's Commitment may not be increased without its consent whether or not it is a Defaulting Lender and (b) all other benefits and obligations under the Credit Documents shall apply to such Defaulting Lender.

11.10 Survival of Indemnification and Representations and Warranties.

All indemnities set forth herein and all representations and warranties made herein shall survive the execution and delivery of this Credit Agreement, the making of the Loans, the issuance of the Letters of Credit and the repayment of the Loans, LOC Obligations and other obligations and the termination of the Commitments hereunder.

11.11 Governing Law; Venue.

(a) THIS CREDIT AGREEMENT AND THE OTHER CREDIT DOCUMENTS AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND THEREUNDER SHALL BE GOVERNED BY AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK. Any legal action or proceeding with respect to this Credit Agreement or any other Credit Document may be brought in the courts of the State of

New York, or of the United States for the Southern District of New York, and, by execution and delivery of this Credit Agreement, the Borrower hereby irrevocably accepts for itself and in respect of its property, generally and unconditionally, the jurisdiction of such courts. The Borrower further irrevocably consents to the service of process out of any of the aforementioned courts in any such action or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, to it at the address for notices pursuant to Section 11.1, such service to become effective 30 days after such mailing. Nothing herein shall affect the right of a Lender to serve process in any other manner permitted by law or to commence legal proceedings or to otherwise proceed against the Borrower in any other jurisdiction.

(b) The Borrower hereby irrevocably waives any objection which it may now or hereafter have to the laying of venue of any of the aforesaid actions or proceedings arising out of or in connection with this Credit Agreement or any other Credit Document brought in the courts referred to in subsection (a) hereof and hereby further irrevocably waives and agrees not to plead or claim in any such court that any such action or proceeding brought in any such court has been brought in an inconvenient forum.

11.12 Waiver of Jury Trial; Waiver of Consequential Damages.

EACH OF THE PARTIES TO THIS CREDIT AGREEMENT HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS CREDIT AGREEMENT, ANY OF THE OTHER CREDIT DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY. The Borrower agrees not to assert any claim against the Agent, any Lender, any of their Affiliates, or any of their respective directors, officers, employees, attorneys or agents, on any theory of liability, for special, indirect, consequential or punitive damages arising out of or otherwise relating to any of the transactions contemplated hereby or by the other Credit Documents.

11.13 Severability.

If any provision of any of the Credit Documents is determined to be illegal, invalid or unenforceable, such provision shall be fully severable and the remaining provisions shall remain in full force and effect and shall be construed without giving effect to the illegal, invalid or unenforceable provisions.

11.14 Further Assurances.

The Borrower agrees, upon the request of the Agent, to promptly take such actions, as reasonably requested, as are necessary to carry out the intent of this Credit Agreement and the other Credit Documents.

11.15 Entirety.

This Credit Agreement together with the other Credit Documents represent the entire agreement of the parties hereto and thereto, and supersede all prior agreements and understandings, oral or written, if any, including any commitment letters or correspondence relating to the Credit Documents or the transactions contemplated herein and therein.

11.16 Binding Effect; Continuing Agreement.

(a) This Credit Agreement shall become effective at such time when all of the conditions set forth in Section 5.1 have been satisfied or waived by the Lenders and it shall have

been executed by the Borrower, the Agent and the Lenders, and thereafter this Credit Agreement shall be binding upon and inure to the benefit of the Borrower, the Agent and each Lender and their respective successors and permitted assigns. Upon this Credit Agreement becoming effective, the Existing Credit Agreement shall be deemed terminated and the Credit Parties and the lenders party to the Existing Credit Agreement shall no longer have any obligations thereunder (other than those obligations in the Existing Credit Agreement that expressly survive termination thereof).

(b) This Credit Agreement shall be a continuing agreement and shall remain in full force and effect until all Loans, LOC Obligations, interest, fees and other Obligations have been paid in full and all Commitments and Letters of Credit have been terminated. Upon such termination, the Borrower shall have no further obligations (other than those provisions that expressly survive the termination thereof) under the Credit Documents; provided, that should any payment, in whole or in part, of the Obligations be rescinded or otherwise required to be restored or returned by the Agent or any Lender, whether as a result of any proceedings in bankruptcy or reorganization or otherwise, then the Credit Documents shall automatically be reinstated and all amounts required to be restored or returned and all costs and expenses incurred by the Agent or any Lender in connection therewith shall be deemed included as part of the Obligations.

11.17 Confidentiality; USA PATRIOT Act.

(a) The Agent and each Lender will keep any information delivered or made available by the Borrower pursuant to this Credit Agreement confidential from anyone other than persons employed or retained by the Agent or such Lender and its Affiliates who are engaged in evaluating, approving, structuring or administering this Credit Agreement; provided, that the Agent and the Lenders shall be entitled to disclose such information (a) to any other Lender or to the Agent, (b) upon the order of any court or administrative agency, (c) upon the request or demand of any regulatory agency or authority, (d) which had been publicly disclosed other than as a result of a disclosure by the Agent or any Lender prohibited by this Agreement, (e) in connection with any litigation to which the Agent, any Lender or its subsidiaries or parent may be a party, (f) to the extent necessary in connection with the exercise of any remedy under this Agreement, (g) to such Lender's or Agent's legal counsel and independent auditors and (h) subject to provisions substantially similar to this Section 11.17, to any actual or proposed participant or assignee.

(b) Each Lender hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) (the "Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow such Lender to identify the Borrower in accordance with the Patriot Act.

11.18 Acknowledgments.

The Borrower and the other Credit Parties each hereby acknowledges that:

(a) it has been advised by counsel in the negotiation, execution and delivery of each Credit Document;

(b) neither the Agent nor any Lender has any fiduciary relationship with or duty to the Borrower or any other Credit Party arising out of or in connection with this Credit Agreement and the relationship between the Agent and the Lenders, on one hand, and the Borrower and the other Credit Parties, on the other hand, in connection herewith is solely that of debtor and

creditor; and

(c) no joint venture exists among the Lenders or among the Borrower or the other Credit Parties and the Lenders.

SECTION 12.

GUARANTY

12.1 The Guaranty.

Each of the Guarantors hereby jointly and severally guarantees to each Lender, each Affiliate of a Lender that enters into a Credit Facility Swap Contract or a Treasury Management Agreement with a Credit Party, and the Agent as hereinafter provided, as primary obligor and not as surety, the prompt payment of the Obligations in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) strictly in accordance with the terms thereof. The Guarantors hereby further agree that if any of the Obligations are not paid in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise), the Guarantors will, jointly and severally, promptly pay the same, without any demand or notice whatsoever, and that in the case of any extension of time of payment or renewal of any of the Obligations, the same will be promptly paid in full when due (whether at extended maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) in accordance with the terms of such extension or renewal.

Notwithstanding any provision to the contrary contained herein or in any other of the Credit Documents, Credit Facility Swap Contracts or Treasury Management Agreements, the obligations of each Guarantor under this Agreement and the other Credit Documents shall be limited to an aggregate amount equal to the largest amount that would not render such obligations subject to avoidance under the Bankruptcy Code or any comparable provisions of any applicable state law.

12.2 Obligations Unconditional.

The obligations of the Guarantors under Section 12.1 are joint and several, absolute and unconditional, irrespective of the value, genuineness, validity, regularity or enforceability of any of the Credit Documents, Credit Facility Swap Contracts or Treasury Management Agreements, or any other agreement or instrument referred to therein, or any substitution, release, impairment or exchange of any other guarantee of or security for any of the Obligations, and, to the fullest extent permitted by applicable law, irrespective of any other circumstance whatsoever which might otherwise constitute a legal or equitable discharge or defense of a surety or guarantor, it being the intent of this Section 12.2 that the obligations of the Guarantors hereunder shall be absolute and unconditional under any and all circumstances. Each Guarantor agrees that such Guarantor shall have no right of subrogation, indemnity, reimbursement or contribution against either the Borrower or any other Guarantor for amounts paid under this Section 12 until such time as the Obligations have been paid in full and the Commitments have expired or terminated. Without limiting the generality of the foregoing, it is agreed that, to the fullest extent permitted by law, the occurrence of any one or more of the following shall not alter or impair the liability of any Guarantor hereunder, which shall remain absolute and unconditional as described above:

(a) at any time or from time to time, without notice to any Guarantor, the time for any performance of or compliance with any of the Obligations shall be extended, or such performance or

compliance shall be waived;

(b) any of the acts mentioned in any of the provisions of any of the Credit Documents, any Credit Facility Swap Contract or Treasury Management Agreement between Credit Party and any Lender, or any Affiliate of a Lender, or any other agreement or instrument referred to in the Credit Documents, such Credit Facility Swap Contracts or such Treasury Management Agreements shall be done or omitted;

(c) the maturity of any of the Obligations shall be accelerated, or any of the Obligations shall be modified, supplemented or amended in any respect, or any right under any of the Credit Documents, any Credit Facility Swap Contract or Treasury Management Agreement between any Credit Party and any Lender, or any Affiliate of a Lender, or any other agreement or instrument referred to in the Credit Documents, such Credit Facility Swap Contracts or such Treasury Management Agreements shall be waived or any other guarantee of any of the Obligations or any security therefor shall be released, impaired or exchanged in whole or in part or otherwise dealt with;

(d) any Lien granted to, or in favor of, the Agent or any Lender or Lenders as security for any of the Obligations shall fail to attach or be perfected; or

(e) any of the Obligations shall be determined to be void or voidable (including, without limitation, for the benefit of any creditor of any Guarantor) or shall be subordinated to the claims of any Person (including, without limitation, any creditor of any Guarantor).

With respect to its obligations hereunder, each Guarantor hereby expressly waives diligence, presentment, demand of payment, protest and all notices whatsoever, and any requirement that the Agent or any Lender exhaust any right, power or remedy or proceed against any Person under any of the Credit Documents, any Credit Facility Swap Contract or any Treasury Management Agreement between any Credit Party and any Lender, or any Affiliate of a Lender, or any other agreement or instrument referred to in the Credit Documents, such Credit Facility Swap Contracts or such Treasury Management Agreements, or against any other Person under any other guarantee of, or security for, any of the Obligations.

12.3 Reinstatement.

The obligations of the Guarantors under this Section 12 shall be automatically reinstated if and to the extent that for any reason any payment by or on behalf of any Person in respect of the Obligations is rescinded or must be otherwise restored by any holder of any of the Obligations, whether as a result of any proceedings in bankruptcy or reorganization or otherwise, and each Guarantor agrees that it will indemnify the Agent and each Lender on demand for all reasonable costs and expenses (including, without limitation, the reasonable fees, charges and disbursements of counsel) incurred by the Agent or such Lender in connection with such rescission or restoration, including any such costs and expenses incurred in defending against any claim alleging that such payment constituted a preference, fraudulent transfer or similar payment under any bankruptcy, insolvency or similar law.

12.4 Certain Additional Waivers.

Each Guarantor further agrees that such Guarantor shall have no right of recourse to security for the Obligations, except through the exercise of rights of subrogation pursuant to Section 12.2 and through the exercise of rights of contribution pursuant to Section 12.6.

12.5 Remedies.

The Guarantors agree that, to the fullest extent permitted by law, as between the Guarantors, on the one hand, and the Agent and the Lenders, on the other hand, the Obligations may be declared to be forthwith due and payable as provided in Section 9.2 (and shall be deemed to have become automatically due and payable in the circumstances provided in said Section 9.2) for purposes of Section 12.1 notwithstanding any stay, injunction or other prohibition preventing such declaration (or preventing the Obligations from becoming automatically due and payable) as against any other Person and that, in the event of such declaration (or the Obligations being deemed to have become automatically due and payable), the Obligations (whether or not due and payable by any other Person) shall forthwith become due and payable by the Guarantors for purposes of Section 12.1. The Guarantors acknowledge and agree that their obligations hereunder are secured in accordance with the terms hereof and of the Collateral Documents and that the Lenders may exercise their remedies thereunder in accordance with the terms thereof.

12.6 Rights of Contribution.

The Guarantors agree among themselves that, in connection with payments made hereunder, each Guarantor shall have contribution rights against the other Guarantors as permitted under applicable law. Such contribution rights shall be subordinate and subject in right of payment to the obligations of such Guarantors under the Credit Documents and no Guarantor shall exercise such rights of contribution until all Obligations have been paid in full and the Commitments have terminated.

12.7 Guarantee of Payment; Continuing Guarantee.

The guarantee in this Section 12 is a guaranty of payment and not of collection, is a continuing guarantee, and shall apply to all Obligations whenever arising.

Each of the parties hereto has caused a counterpart of this Credit Agreement to be duly executed and delivered as of the date first above written.

BORROWER: **DCP MIDSTREAM OPERATING, LP**

By: _____
Thomas E. Long
Vice President and Chief Financial Officer

MSR

GUARANTORS:

DCP MIDSTREAM PARTNERS, LP

By: DCP Midstream GP, LP *its General Partner*

By: DCP Midstream GP, LLC *its General Partner*

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP MIDSTREAM OPERATING, LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP ASSETS HOLDING GP, LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP ASSETS HOLDING, LP

By: DCP Assets Holding GP, LLC *its General Partner*

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP BLACK LAKE HOLDING, LP

By: DCP Assets Holding GP, LLC *its General Partner*

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

ASSOCIATED LOUISIANA INTRASTATE PIPE LINE, LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP INTRASTATE PIPELINE, LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

PELICO PIPELINE, LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

GAS SUPPLY RESOURCES LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

GSRI TRANSPORTATION LLC

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

WILBREEZE PIPELINE, LP

By: _____ MSR
Thomas E. Long
Vice President and Chief Financial Officer

DCP LINDSAY, LLC

By: _____ TEL
Thomas E. Long
Vice President and Chief Financial Officer

DCP MIDSTREAM PARTNERS FINANCE CORP.

By: _____ TEL
Thomas E. Long
Vice President and Chief Financial Officer

LENDERS:

WACHOVIA BANK, NATIONAL ASSOCIATION,
as Agent and as a Lender

By: _____
Name: Lawrence P. Sullivan
Title: Managing Director

SUNTRUST BANK, as a Lender

By: _____
Name: CARMEN J. MALIZIA
Title: VICE PRESIDENT

06/20/2007 17:55 FAX 4048276270 SUNTRUST 002

CITIBANK, N.A., as a Lender

By: _____
Name: Amy Pineu
Title: Attorney-in-Fact

THE ROYAL BANK OF SCOTLAND PLC, as a Lender

By: P.J. Dundee
Name: Patricia Dundee
Title: Managing Director

JPMORGAN CHASE BANK, N.A., as a Lender

By: Tara Narasiman
Name: Tara Narasiman
Title: Associate

BANK OF TOKYO-MITSUBISHI UFJ TRUST COMPANY, as a Lender

By: _____

Name: A. Reiter

Title: Authorized Signatory

KEY BANK, NATIONAL ASSOCIATION, as a Lender

By: _____
Name: Keven D. Smith
Title: Senior Vice President

LEHMAN BROTHERS BANK, FSB, as a Lender

By: _____
Name: Janine M. Shugan
Title: Authorized Signatory

UBS LOAN FINANCE LLC, as a Lender

By: _____
Name: Richard L. Tavrow
Title: Director

By: _____
Name: David B. Julie
Title: Associate Director

WELLS FARGO BANK, N.A., as a Lender

By: _____
Name: Guy Evangelista
Title: Vice President

BANK OF AMERICA, N.A., as a Lender

By: _____
Name: Gabe Gomez
Title: Vice President

BARCLAYS BANK PLC, as a Lender

By: _____
Name: Esther Carr
Title: Manager

CREDIT SUISSE, Cayman Islands Branch
as a Lender

By: _____
Name: Thomas Cantello
Title: Director

By: _____
Name: Shaheen Malik
Title: Associate

MERRILL LYNCH BANK USA, as a Lender

By: _____
Name: Louis Alder
Title: Director

BANK HAPOALIM B.M., as a Lender

By: _____
Name: HELEN H. GATESON
Title: VICE PRESIDENT

CHARLES McLAUGHLIN
SENIOR VICE PRESIDENT

Schedule 1.1

Commitment Percentages

Name of Lender	Revolving Loans Commitment	Revolving Loans Commitment Percentage	Term Loan A2 Commitment	Term Loan A2 Commitment Percentage	Term Loan A3 Commitment	Term Loan A3 Commitment Percentage
Wachovia Bank, National Association	$52,235,294.13	8.705882353%	$8,705,882.34	8.705882353%	$13,058,823.53	8.705882353%
SunTrust Bank	$52,235,294.13	8.705882353%	$8,705,882.34	8.705882353%	$13,058,823.53	8.705882353%
Citibank, N.A.	$47,823,529.41	7.970588235%	$7,970,588.24	7.970588235%	$11,955,882.35	7.970588235%
The Royal Bank of Scotland PLC	$47,823,529.41	7.970588235%	$7,970,588. 24	7.970588235%	$11,955,882.35	7.970588235%
JPMorgan Chase Bank, N.A.	$47,823,529.41	7.970588235%	$7,970,588. 24	7.970588235%	$11,955,882.35	7.970588235%
Bank of Tokyo-Mitsubishi UFJ Trust Company	$47,823,529.41	7.970588235%	$7,970,588. 24	7.970588235%	$11,955,882.35	7.970588235%
Key Bank, National Association	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Lehman Commercial Paper Inc.	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
UBS Loan Finance LLC	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Wells Fargo Bank, N.A.	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Bank of America, National Association	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Barclays Bank PLC	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%

Credit Suisse	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Merrill Lynch Bank USA	$36,705,882.35	6.117647059%	$6,117,647.06	6.117647059%	$9,176,470.59	6.117647059%
Bank Hapoalim	$10,588,235.30	1.764705882%	$1,764,705.88	1.764705882%	$2,647,058.82	1.764705882%
Total	$600,000,000	100%	$100,000,000	100%	$150,000,000	100%

SCHEDULE 2.2

Existing Letters of Credit

Credit Party	LC#	Beneficiary	LC Amount global	Issue Date	Expiry Date
DCP Midstream Operating	SM223440	Ace American Insurance Co.	$190,500	12/15/2006	12/15/2007

SCHEDULE 6.13

Subsidiaries

Subsidiary	Owner(s)	Interest(s)
DCP Midstream Partners, LP	DCP LP Holdings, LP DCP Midstream GP, LP Public	Limited Partner General Partner Common units
DCP Midstream Operating, LLC	DCP Midstream Partners, LP	100%
DCP Midstream Operating, LP	DCP Midstream Partners, LP DCP Midstream Operating, LLC	99.999% (LP) .001% (GP)
DCP Assets Holding GP, LLC	DCP Midstream Operating, LP	100%
DCP Assets Holding, LP	DCP Midstream Operating, LP DCP Assets Holding GP, LLC	99.5% (LP) .5% (GP)
DCP Black Lake Holdings, LP	DCP Assets Holding, LP DCP Assets Holding GP, LLC	99.999% (LP) .001% (GP)
Associated Louisiana Interstate Pipe Line, LLC	DCP Assets Holding, LP	100%
DCP Intrastate Pipeline, LLC	DCP Assets Holding, LP	100%
Pelico Pipeline, LLC	DCP Assets Holding, LP	100%
Wilbreeze Pipeline, LP	DCP Assets Holding, LP DCP Assets Holding GP, LLC	99.999% (LP) .001% (GP)
Gas Supply Resources LLC	DCP Assets Holding, LP	100%
GSRI Transportation LLC	Gas Supply Resources LLC	100%
DCP Lindsay, LLC	DCP Assets Holding, LP	100%
DCP Midstream Partners Finance Corp.	DCP Midstream Partners, LP	100%

Schedule 8.5

Affiliate Transactions

None.

Schedule 11.1

Notices

Borrower

DCP Midstream Operating, LP
370 17th Street
Suite 2775
Denver, Colorado 80202
Attn: Tom Long
Vice President and Chief Financial Officer
Telephone: (303) 633 2910
Facsimile: (303) 633 2921

with a copy to:

DCP Midstream Operating, LP
370 17th Street
Suite 2775
Denver, Colorado 80202
Attn: Greg Lawhorn
Telephone: 303-633-2915
Facsimile: 303-633-2921

Agent

Wachovia Bank, National Association
301 South College Street
NC-0760, DC-06
Charlotte, North Carolina 28288-0760
Attn: Larry Sullivan
Telephone: 704-715-1794
Facsimile: 704-383-6647
E-mail: Larry.Sullivan@Wachovia.com

Operations contact and copies to:

Wachovia Bank, National Association
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680
Attention: Syndication Agency Services
Telephone: 704-383-1366
Facsimile: 704-383-0288

Lenders

SunTrust Bank

SunTrust Bank
303 Peachtree Street, 10th Floor
Atlanta, GA 30308
Attn: Linda Stanley
Telephone: 404-532-0989
Facsimile: 404-827-6270
E-mail: Linda.Stanley@suntrust.com

Operations contact:

SunTrust Bank
303 Peachtree Street, 10th Floor
Atlanta, GA 30308
Attn: Tina Marie Edwards
Telephone: 404-588-8660
Facsimile: 404-230-1940
E-mail: tinamarie.edwards@suntrust.com

Citibank, N.A.

Citibank, N.A.
333 Clay Street, Suite 3700
Houston, TX 77002
Attn: Todd Mogil
Telephone: 713-654-3559
Facsimile: 713-481-0247
E-mail: todd.j.mogil@citi.com

Operations contact:

Citibank, N.A.
One Penn's Way
New Castle, DE 19720
Attn: Maryellen Winkler
Telephone: 302-894-6071
Facsimile: 302-994-0847
E-mail: maryellen.winkler@citi.com

UBS Loan Finance LLC

UBS Loan Finance LLC
677 Washington Boulevard
Stamford, CT 06901
Attn: Richard Tavrow
Telephone: 203-719-3562
Facsimile: 203-719-3092
E-mail: richard.tavrow@ubs.com

Operations contact:

UBS Loan Finance LLC
677 Washington Boulevard
Stamford, CT 06901
Attn: Marie Haddad
Telephone: 203-719-5609
Facsimile: 203-719-3888
E-mail: marie.haddad@ubs.com

Key Bank, National Association

Key Bank, National Association
601 108th Avenue NE, 5th Floor
Bellevue, Washington 98004
Attn: Keven D. Smith
Telephone: 425-709-4579
Facsimile: 425-709-4987
E-mail: Keven_D_Smith@keybank.com

Operations contact:

Key Bank, National Association
127 Public Square, 8th Floor
Cleveland, OH 44114
Attn: Yvette M. Dyson-Owens
Telephone: 216-689-4358
Facsimile: 216-689-5962
E-mail: Yvette_M_Dyson-Owens@keybank.com

Lehman Commercial Paper Inc.

Lehman Commercial Paper Inc.
745 7th Avenue, 5th Floor
New York, NY 10019
Attn: Frank Turner
Telephone: 212-526-1463
Facsimile: 646-758-1986
E-mail: Fturner@lehman.com

Operations contact:

Lehman Commercial Paper Inc.
745 7th Avenue, 16th Floor
New York, NY 10019
Attn: Wendy Lau
Telephone: 212-526-6560
Facsimile: 212-520-0450
E-mail: Wlau@lehman.com

The Royal Bank of Scotland PLC

The Royal Bank of Scotland plc
600 Travis Street, Suite 6500
Houston, TX 77002
Attn: Patricia Dundee
Telephone: 713-221-2423
Facsimile: 713-221-2430
E-mail: patricia.dundee@rbos.com

Operations contact:

The Royal Bank of Scotland plc
101 Park Avenue – 12th Floor
New York, NY 10178
Attn: Julie Strelchenko
Telephone: 212-401-1404
Facsimile: 212-401-1494
E-mail: julie.strelchenko@rbos.com

JPMorgan Chase Bank, N.A.

JPMorgan Chase Bank, N.A.
712 Main Street, Floor 12
Houston, TX 77002
Attn: Tara Narasiman
Telephone: 713-216-7738
Facsimile: 713-216-7794
E-mail: tara.t.narasiman@jpmorgan.com

Operations contact:

JPMorgan Chase Bank, N.A.
10 South Dearborn, Floor 07
Chicago, IL 60603-2003
Attn: Nanette Wilson
Telephone: 312-385-7084
Facsimile: 312-385-7096
E-mail: nanette.wilson@jpmchase.com

Bank of Tokyo-Mitsubishi UFJ Trust Company

Bank of Tokyo-Mitsubishi UFJ Trust Company
1251 Avenue of the Americas, 12th Floor
New York, NY 10020-1104
Attn: Alan Reiter, Vice President
Telephone: 212-782-5649
Facsimile: 212-782-6440
E-mail: areiter@us.mufg.jp

Operations contact:

Bank of Tokyo-Mitsubishi UFJ Trust Company
C/O The Bank of Tokyo-Mitsubishi UFJ, Ltd., NY Branch
1251 Avenue of the Americas, 12th Floor
New York, NY 10020-1104
Attn: Mr. Rolando Uy
Telephone: 201-413-8570
Facsimile: 201-521-2304 or 201-521-2305

Wells Fargo Bank, N.A.

Wells Fargo Bank, N.A.
1700 Lincoln, 6th Floor
Denver, CO 80203
Attn: Guy Evangelista
Telephone: 303-863-5793
Facsimile: 303-863-5196
E-mail: guy.c.evangelista@wellsfargo.com

Operations contact:

Wells Fargo Bank, N.A.
1740 Broadway
Denver, CO 80274
Attn: Patricia DelReal
Telephone: 303-863-5183
Facsimile: 303-863-2729
E-mail: Patricia.D.DelReal-Flores@wellsfargo.com

Barclays Bank PLC

Barclays Bank PLC
200 Park Avenue, 4th Floor
New York, NY 10166
Attn: Nicholas Bell
Telephone: 212-412-4029
Facsimile: 212-412-7600
E-mail: nicholas.bell@barcap.com

Operations contact:

Barclays Bank PLC
200 Cedar Knolls Road
Whippany, NJ 07981
Attn: Robert Coleman
Telephone: 973-576-3919
Facsimile: 973-576-3014
E-mail: robert.coleman@barcap.com

Merrill Lynch Bank USA

Merrill Lynch Bank USA
15 W. South Temple, Suite 300
Salt Lake City, UT 84101
Attn: Rhett Anderson
Telephone: 801-526-8316
Facsimile: 801-531-7470
E-mail: Rhett Anderson@ml.com

Operations contact:

Merrill Lynch Bank USA
15 W. South Temple, Suite 300
Salt Lake City, UT 84101
Attn: Mark Cannon
Telephone: 801-526-8631
Facsimile: 801-350-4667
E-mail: Mark Cannon@ml.com

Bank of America, National Association

Bank of America
700 Louisiana St., 8th Floor
Houton, TX 77002-2700
Attn: Gabe Gomez
Telephone: 713-247-7269
Facsimile: 713-247-7288
E-mail: gabe.b.gomez@bankofamerica.com

Operations contact:

Bank of America, National Association
901 Main St., 14th Floor
Dallas, TX 75202-3714
Attn: Ramon Gomez, Jr.
Telephone: 214-209-2627
Facsimile: 214-290-8367
E-mail: ramon.gomez lr@bankofamerica.com

Credit Suisse

Credit Suisse
Eleven Madison Avenue
New York, NY 10010
Attn: Tom Cantello
Telephone: 212-325-6865
Facsimile: 212-325-8321
E-mail: thomas.cantello@credit-suisse.com

Operations contact:

Credit Suisse
Eleven Madison Avenue
New York, NY 10010
Attn: Hazel Leslie
Telephone: 212-325-9041
Facsimile: 212-538-9120
E-mail: hazel.leslie@credit-suisse.com

Bank Hapoalim

Bank Hapoalim
[address]
Attn:
Telephone:
Facsimile:
E-mail:

Operations contact:

Bank Hapoalim
[address]
Attn:
Telephone:
Facsimile:
E-mail:

EXHIBIT 1.1

FORM OF RATING AGENCY DESIGNATION

TO: Wachovia Bank, National Association, as Administrative Agent
under the Credit Agreement referred to below
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680

RE: Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the Lenders identified therein and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement")

DATE: _____, _____

---

1. This Rating Agency Designation is made pursuant to the terms of the Credit Agreement. All capitalized terms used herein unless otherwise defined shall have the meanings set forth in the Credit Agreement.

2. Please be advised that, as of the date hereof, the Borrower hereby notifies you that the current Designated Rating Agencies are:

   1. _____;

   2. _____; and

   3. _____.

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 2.3

FORM OF NOTICE OF BORROWING

TO: Wachovia Bank, National Association, as Administrative Agent
under the Credit Agreement referred to below
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680

RE: Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the Lenders identified therein and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement")

DATE: _____, _____

---

1. This Notice of Borrowing is made pursuant to the terms of the Credit Agreement. All capitalized terms used herein unless otherwise defined shall have the meanings set forth in the Credit Agreement.

2. Please be advised that the Borrower is requesting **[Revolving Loans][Swingline Loans][Term Loan A2 borrowings][Term Loan A3 borrowings]** in the amount of $_____ to be funded on _____, _____ (must be a Business Day) at the interest rate option set forth in paragraph below.

3. **[Subsequent to the funding of the requested Loans, the aggregate amount of Revolving Loans outstanding plus the aggregate amount of LOC Obligations and Swingline Loans outstanding will be $_____, which is less than or equal to the Revolving Committed Amount.]**

   [Subsequent to the funding of the requested Loans, the aggregate amount of the Term Loan A2 outstanding will be $_____, which is less than or equal to the Term Loan A2 Committed Amount.]

   [Subsequent to the funding of the requested Loans, the aggregate amount of the Term Loan A3 outstanding will be $_____, which is less than or equal to the Term Loan A3 Committed Amount.]

4. The interest rate option applicable to the requested Loans shall be:

   a. _____ the Base Rate

   b. _____ the Adjusted Eurodollar Rate for an Interest Period of:

      _____ one month
      _____ two months

_____ three months
_____ six months

c. _____ the Adjusted LIBOR Market Index Rate

5. As of the date on which funds are to be advanced, all representations and warranties contained in the Credit Agreement and in the other Credit Documents will be true and correct in all material respects (except to the extent such representations and warranties expressly and exclusively relate to an earlier date).

6. As of the date on which funds are to be advanced, no Default or Event of Default will have occurred and be continuing or will be caused by the funding of Loans pursuant to this Notice of Borrowing.

7. **[The Borrower has complied with the requirements of Section 5.2(b) of the Credit Agreement with respect to the making of the [Term Loan A2][Term Loan A3].]**

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 2.5

FORM OF NOTICE OF CONTINUATION/CONVERSION

TO: Wachovia Bank, National Association, as Administrative Agent
under the Credit Agreement referred to below
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680

RE: Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the Lenders identified therein and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement")

DATE: _____, _____

---

1. This Notice of Continuation/Conversion is made pursuant to the terms of the Credit Agreement. All capitalized terms used herein unless otherwise defined shall have the meanings set forth in the Credit Agreement.

2. Please be advised that the Borrower is requesting that a portion of the current outstanding **[Revolving Loans][Term Loan A2][Term Loan A3]**, in the amount of $_____, currently accruing interest at _____, be **[continued][converted]** at the interest rate option set forth in paragraph 3 below.

3. The requested effective date of the **[continuation][conversion]** is: _____ (must be a Business Day).

4. The interest rate option applicable to the continuation or conversion of all or part of the existing Loans shall be:

   a. _____ the Base Rate

   b. _____ the Adjusted Eurodollar Rate for an Interest Period of:

      _____ one month
      _____ two months
      _____ three months
      _____ six months

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

Very truly yours,

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 2.9(a)

FORM OF REVOLVING NOTE

June __, 2007

FOR VALUE RECEIVED, DCP MIDSTREAM OPERATING, LP, a Delaware limited partnership (the "Borrower"), hereby promises to pay to the order of _____ (the "Lender"), at the office of Wachovia Bank, National Association (the "Agent") as set forth in that certain Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party hereto (the "Guarantors"), the Lenders identified therein (including the Lender) and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement"), the aggregate unpaid principal amount of the Revolving Loans made by the Lender to the Borrower under the Credit Agreement, in lawful money of the United States of America and in immediately available funds, on the dates and in the principal amounts provided in the Credit Agreement, and to pay interest on the unpaid principal amount of each such Revolving Loan, at such office, in like money and funds, for the period commencing on the date of such Revolving Loans until such Revolving Loans shall be paid in full, at the rates per annum and on the dates provided in the Credit Agreement.

This Note is one of the Notes referred to in the Credit Agreement and evidences the Revolving Loans made by the Lender thereunder. The Lender shall be entitled to the benefits of the Credit Agreement. Capitalized terms used in this Note have the respective meanings assigned to them in the Credit Agreement and the terms and conditions of the Credit Agreement are expressly incorporated herein and made a part hereof.

The Credit Agreement provides for the acceleration of the maturity of the Revolving Loans evidenced by this Note upon the occurrence of certain events (and for payment of collection costs in connection therewith) and for prepayments of the Revolving Loans upon the terms and conditions specified therein. In the event this Note is not paid when due at any stated or accelerated maturity, the Borrower agrees to pay, in addition to the principal and interest, all costs of collection, including reasonable attorney fees.

Except as permitted by Section 11.3(b) of the Credit Agreement, this Note may not be assigned by the Lender to any other Person.

THIS NOTE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

IN WITNESS WHEREOF, the Borrower has caused this Note to be executed as of the date first above written.

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 2.9(b)

FORM OF TERM LOAN NOTE

June __, 2007

FOR VALUE RECEIVED, DCP MIDSTREAM OPERATING, LP, a Delaware limited partnership (the "Borrower"), hereby promises to pay to the order of _____ (the "Lender"), at the office of Wachovia Bank, National Association (the "Agent") as set forth in that certain Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party hereto (the "Guarantors"), the Lenders identified therein (including the Lender) and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement"), the aggregate unpaid principal amount of the Term Loans made by the Lender to the Borrower under the Credit Agreement, in lawful money of the United States of America and in immediately available funds, on the dates and in the principal amounts provided in the Credit Agreement, and to pay interest on the unpaid principal amount of each such Term Loan, at such office, in like money and funds, for the period commencing on the date of such Term Loans until such Term Loans shall be paid in full, at the rates per annum and on the dates provided in the Credit Agreement.

This Note is one of the Notes referred to in the Credit Agreement and evidences the Term Loans made by the Lender thereunder. The Lender shall be entitled to the benefits of the Credit Agreement. Capitalized terms used in this Note have the respective meanings assigned to them in the Credit Agreement and the terms and conditions of the Credit Agreement are expressly incorporated herein and made a part hereof.

The Credit Agreement provides for the acceleration of the maturity of the Term Loans evidenced by this Note upon the occurrence of certain events (and for payment of collection costs in connection therewith) and for prepayments of the Term Loans upon the terms and conditions specified therein. In the event this Note is not paid when due at any stated or accelerated maturity, the Borrower agrees to pay, in addition to the principal and interest, all costs of collection, including reasonable attorney fees.

Except as permitted by Section 11.3(b) of the Credit Agreement, this Note may not be assigned by the Lender to any other Person.

THIS NOTE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

IN WITNESS WHEREOF, the Borrower has caused this Note to be executed as of the date first above written.

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 2.9(c)

FORM OF SWINGLINE NOTE

June __, 2007

FOR VALUE RECEIVED, DCP MIDSTREAM OPERATING, LP, a Delaware limited partnership (the "Borrower"), hereby promises to pay to the order of Wachovia Bank, National Association (the "Lender"), at the office of Wachovia Bank, National Association (the "Agent") as set forth in that certain Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party hereto (the "Guarantors"), the Lenders identified therein (including the Lender) and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement"), the aggregate unpaid principal amount of the Swingline Loans made by the Lender to the Borrower under the Credit Agreement, in lawful money of the United States of America and in immediately available funds, on the dates and in the principal amounts provided in the Credit Agreement, and to pay interest on the unpaid principal amount of each such Swingline Loan, at such office, in like money and funds, for the period commencing on the date of such Swingline Loans until such Swingline Loans shall be paid in full, at the rates per annum and on the dates provided in the Credit Agreement.

This Note is one of the Notes referred to in the Credit Agreement and evidences the Swingline Loans made by the Lender thereunder. The Lender shall be entitled to the benefits of the Credit Agreement. Capitalized terms used in this Note have the respective meanings assigned to them in the Credit Agreement and the terms and conditions of the Credit Agreement are expressly incorporated herein and made a part hereof.

The Credit Agreement provides for the acceleration of the maturity of the Swingline Loans evidenced by this Note upon the occurrence of certain events (and for payment of collection costs in connection therewith) and for prepayments of the Swingline Loans upon the terms and conditions specified therein. In the event this Note is not paid when due at any stated or accelerated maturity, the Borrower agrees to pay, in addition to the principal and interest, all costs of collection, including reasonable attorney fees.

Except as permitted by Section 11.3(b) of the Credit Agreement, this Note may not be assigned by the Lender to any other Person.

THIS NOTE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

IN WITNESS WHEREOF, the Borrower has caused this Note to be executed as of the date first above written.

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

EXHIBIT 5.1

FORM OF ACCOUNT DESIGNATION LETTER

June __, 2007

Wachovia Bank, National Association, as Administrative Agent
under the Credit Agreement
referred to below
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680

Attn: Syndication Agency Services

Ladies and Gentlemen:

This Account Designation Letter is delivered to you by DCP Midstream Operating, LP, a Delaware limited partnership (the "Borrower"), pursuant to Section 5.1(j) of the Amended and Restated Credit Agreement dated as of June __, 2007 (as amended, restated or otherwise modified, the "Credit Agreement") by and among the Borrower, the Guarantors, the Lenders from time to time party thereto and Wachovia Bank, National Association, as Administrative Agent (the "Administrative Agent").

The Administrative Agent is hereby authorized to disburse all Loan proceeds into the following account, unless the Borrower shall designate, in writing to the Administrative Agent, one or more other accounts:

[INSERT Name of Bank/
ABA Routing Number/
and Account Number]

IN WITNESS WHEREOF, the undersigned has executed this Account Designation Letter this June __, 2007.

DCP MIDSTREAM OPERATING, LP

By:_____
Name:_____
Title:_____

EXHIBIT 7.1(d)

FORM OF OFFICER'S CERTIFICATE

TO: Wachovia Bank, National Association, as Administrative Agent
under the Credit Agreement referred to below
Charlotte Plaza
201 South College Street, CP-8
Charlotte, North Carolina 28288-0680

RE: Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the Lenders identified therein and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement")

DATE :

Pursuant to the terms of the Credit Agreement, I, _____, an Approved Officer of the Parent, hereby certify that, as of the fiscal year/quarter ending _____, _____ the statements below are accurate and complete in all respects (all capitalized terms used below shall have the meanings set forth in the Credit Agreement):

a. Attached hereto as Schedule 1 are calculations (calculated as of the date of the financial statements/reports referred to in paragraph d. below) demonstrating compliance by the Parent and its Subsidiaries with the financial covenants contained in Section 7.10 of the Credit Agreement.

b. No Default or Event of Default exists under the Credit Agreement, except as indicated on a separate page attached hereto, together with an explanation of the action taken or proposed to be taken by the Parent or Borrower with respect thereto.

c. **[If the existing Schedule 6.13 to the Credit Agreement is no longer accurate,]** Attached hereto is a revised Schedule 6.13 to the Credit Agreement which is an accurate and complete list, as of the date hereof, of the Credit Parties and all Subsidiaries and which shall replace the existing Schedule 6.13 to the Credit Agreement.

d. The quarterly/annual financial statements for the fiscal period cited above, as filed with the Securities and Exchange Commission, fairly present in all material respects the financial condition of the Parent and its Subsidiaries and have been prepared in accordance with GAAP (in the case of any quarterly financial statements, subject to changes resulting from normal year-end audit adjustments).

e. Schedule 2 attached hereto sets forth the true and correct amount of Off Balance Sheet Indebtedness of the Parent and all Subsidiaries as of the end of fiscal period cited above.

f. The Credit Parties are in compliance with each of the covenants contained in Sections 7.12, 8.2(m), 8.2(n), 8.2(o), 8.4(i), 8.6(h) and 8.7(g). In connection therewith, the Borrower hereby represents and warrants the following:

1. Non-Guarantor Subsidiaries (as defined in Section 7.12) constitute [____]% of Consolidated Net Tangible Assets and [____]% of Consolidated Net Income.

2. Liens permitted pursuant to Section 8.2(m) and Section 8.2(n) amount to [____]% of Consolidated EBITDA.

3. Liens permitted pursuant to Section 8.2(o) [____]% of Consolidated Net Tangible Assets.

4. Dispositions consummated during the current fiscal year pursuant to Section 8.4(i) constitute [____]% of Consolidated Net Tangible Assets.

5. Dispositions consummated since the Closing Date permitted pursuant to 8.4(i) constitute [____]% of Consolidated Net Tangible Assets.

6. Unsecured Indebtedness permitted pursuant to Section 8.6(h) constitutes $[_____], or [____]% of Consolidated Net Tangible Assets.

7. Investments permitted pursuant to Section 8.7(g) amount to $[_____].

DCP MIDSTREAM OPERATING, LP

By: _____
Name:
Title:

SCHEDULE 1 TO OFFICER'S CERTIFICATE

Calculation of Financial Covenant

A. Compliance with Section 7.10(a): Consolidated Leverage Ratio

1.	Consolidated Indebtedness (excluding letters of credit that do not support Indebtedness)	$_____
2.	Consolidated EBITDA for the prior four-quarter period	$_____
3.	Consolidated Leverage Ratio (Line 1 ÷ Line 2)	_____

Minimum Required: Line 3 shall be less than or equal to (i) with respect to each fiscal quarter end from the Closing Date until June 30, 2007, 5.75 to 1.0 and (ii) with respect to each fiscal quarter end thereafter, 5.00 to 1.0; provided that subsequent to the consummation of a Qualified Acquisition, the Consolidated Leverage Ratio, as at the end of the three consecutive fiscal quarters following such Qualified Acquisition (including the fiscal quarter in which such acquisition is consummated), shall be less than or equal to 5.50 to 1.0.

B. Compliance with Section 7.10(b): Consolidated Interest Coverage Ratio

(1)	Consolidated EBITDA	$_____
(2)	Consolidated Interest Expense for the prior four-quarter period	$_____
(3)	Consolidated Interest Coverage Ratio (Line 1:Line 2)	_____

Minimum Required:
If neither the Parent or the Borrower has an Investment Grade Rating, Line 3 shall, at the end of any fiscal quarter (beginning with the fiscal quarter ending June 30, 2007), be equal to or greater than 2.50 to 1.0.

SCHEDULE 2 TO OFFICER'S CERTIFICATE

Off Balance Sheet Indebtedness

EXHIBIT 7.12

FORM OF JOINDER AGREEMENT

THIS JOINDER AGREEMENT (this "Agreement"), dated as of _____, ____, is by and between _____, a _____ (the "Subsidiary Guarantor"), DCP Midstream Operating, LP, a Delaware limited partnership (the "Company") and Wachovia Bank, National Association, in its capacity as administrative agent (the "Administrative Agent") under that certain Amended and Restated Credit Agreement dated as of June __, 2007 (as amended, restated, supplemented or otherwise modified, the "Credit Agreement") by and among the Company, DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the lenders from time to time party thereto (the "Lenders") and Wachovia Bank, National Association, as administrative agent for the Lenders (the "Administrative Agent"). Capitalized terms used herein but not otherwise defined shall have the meanings provided in the Credit Agreement.

The Subsidiary Guarantor is required by Section 7.12 of the Credit Agreement to become a "Guarantor" thereunder.

Accordingly, the Subsidiary Guarantor and the Borrower hereby agree as follows with the Administrative Agent, for the benefit of the Lenders:

1. The Subsidiary Guarantor hereby acknowledges, agrees and confirms that, by its execution of this Agreement, the Subsidiary Guarantor will be deemed to be a party to and a "Guarantor" under the Credit Agreement and shall have all of the obligations of a Guarantor thereunder as if it had executed the Credit Agreement. The Subsidiary Guarantor hereby ratifies, as of the date hereof, and agrees to be bound by, all of the terms, provisions and conditions contained in the applicable Credit Documents, including without limitation (a) all of the representations and warranties set forth in Section 6 of the Credit Agreement and (b) all of the affirmative and negative covenants set forth in Sections 7 and 8 of the Credit Agreement. Without limiting the generality of the foregoing terms of this Paragraph 1, the Subsidiary Guarantor hereby guarantees, jointly and severally together with the other Guarantors, the prompt payment of the Obligations in accordance with Section 12 of the Credit Agreement.

2. The Subsidiary Guarantor acknowledges and confirms that it has received a copy of the Credit Agreement and the schedules and exhibits thereto.

3. The Borrower confirms that the Credit Agreement is, and upon the Subsidiary Guarantor becoming a Guarantor, shall continue to be, in full force and effect. The parties hereto confirm and agree that immediately upon the Subsidiary Guarantor becoming a Guarantor the term "Obligations," as used in the Credit Agreement, shall include all obligations of the Subsidiary Guarantor under the Credit Agreement and under each other Credit Document.

4. Each of the Borrower and the Subsidiary Guarantor agrees that at any time and from time to time, upon the written request of the Administrative Agent, it will execute and deliver such further documents and do such further acts as the Administrative Agent may reasonably request in accordance with the terms and conditions of the Credit Agreement in order to effect the purposes of this Agreement.

5. This Agreement may be executed in two or more counterparts, each of which shall constitute an original but all of which when taken together shall constitute one contract.

6. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York without regard to conflict of laws principles thereof (other than Sections 5-

1401 and 5-1402 of The New York General Obligations Law). The terms of Sections 11.11 and 11.12 of the Credit Agreement are incorporated herein by reference, *mutatis mutandis*, and the parties hereto agree to such terms.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, each of the Borrower and the Subsidiary Guarantor has caused this Agreement to be duly executed by its authorized officer, and the Administrative Agent, for the benefit of the Lenders, has caused the same to be accepted by its authorized officer, as of the day and year first above written.

SUBSIDIARY GUARANTOR: [SUBSIDIARY GUARANTOR]

By:_____
Name:_____
Title:_____

BORROWER: DCP MIDSTREAM OPERATING, LP,
a Delaware limited partnership

By:_____
Name:_____
Title:_____

Acknowledged, accepted and agreed:

WACHOVIA BANK, NATIONAL ASSOCIATION,
as Administrative Agent

By:_____
Name:_____
Title:_____

EXHIBIT 11.3(b)

FORM OF ASSIGNMENT AGREEMENT

Reference is made to Amended and Restated Credit Agreement dated as of June __, 2007 among DCP Midstream Operating, LP (the "Borrower"), DCP Midstream Partners, LP and certain of its subsidiaries from time to time party thereto (the "Guarantors"), the Lenders identified therein and Wachovia Bank, National Association, as Agent (the "Agent") for the Lenders (as amended or otherwise modified from time to time, the "Credit Agreement"). Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings provided in the Credit Agreement.

_____ (the "Transferor Lender") and _____ (the "Purchasing Lender") agree as follows:

1. For an agreed consideration, the Transferor Lender hereby irrevocably sells and assigns to the Purchasing Lender, and the Purchasing Lender hereby irrevocably purchases and assumes from the Transferor Lender, as of the Transfer Funding Date (as defined below), (a) all of the Transferor Lender's rights and obligations under the Credit Agreement with respect to those credit facilities contained in the Credit Agreement as set forth on Schedule 1, and all instruments delivered pursuant thereto to the extent related to the principal amount and Commitment Percentage set forth on Schedule 1 attached hereto of all of such outstanding rights and obligations of the Transferor Lender under the respective facilities set forth on Schedule 1 (including any letters of credit, guarantees, and swingline loans included in such facilities) and (b) to the extent permitted to be assigned under applicable law, all claims, suits, causes of action and any other right of the Transferor Lender (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (a) above (the rights and obligations sold and assigned pursuant to clauses (a) and (b) above being referred to herein collectively as, the "Assigned Interest"). Such sale and assignment is without recourse to the Transferor Lender and, except as expressly provided in this Assignment Agreement, without representation or warranty by the Transferor Lender.

2. The Transferor Lender (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim and (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment Agreement and to consummate the transactions contemplated hereby; (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement or any other Credit Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Credit Documents or any collateral thereunder, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Credit Document or (iv) the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under the Credit Documents; and (c) in the case of an assignment of the entire remaining amount of the Transferor Lender's Commitments, attaches any Note(s) held by it evidencing the Assigned Interest and requests that the Administrative Agent exchange the attached Note(s) for a new Note(s) payable to the Purchasing Lender.

3. The Purchasing Lender (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment Agreement and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) from and after

the Effective Date (as defined below), it shall be bound by the provisions of the Credit Documents as a Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of a Lender thereunder and (iii) it has received a copy of the Credit Agreement, together with copies of the financial statements referred to in Sections 7.1(a) and (b) thereof, the financial statements delivered pursuant to Section 5.1 thereof, if any, and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into this Assignment Agreement and to purchase the Assigned Interest on the basis of which it has made such analysis and decision independently and without reliance on the Administrative Agent or any other Lender; (b) agrees that it will (i) independently and without reliance upon the Transferor Lender, the Administrative Agent or any other Lender and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Credit Agreement, the other Credit Documents or any other instrument or document furnished pursuant hereto or thereto and (ii) perform in accordance with its terms all the obligations which by the terms of the Credit Documents are required to be performed by it as a Lender including, if it is organized under the laws of a jurisdiction outside the United States, its obligations pursuant to Section 4.4 of the Credit Agreement; and (c) appoints and authorizes the Administrative Agent to take such action as agent on its behalf and to exercise such powers and discretion under the Credit Agreement, the other Credit Documents or any other instrument or document furnished pursuant hereto or thereto as are delegated to the Administrative Agent by the terms thereof, together with such powers as are incidental thereto.

4. The effective date of this Assignment Agreement shall be _____ ___, ____ (the "Effective Date"). Following the execution of this Assignment Agreement, it will be delivered to the Administrative Agent for acceptance by it and recording by the Administrative Agent pursuant to the Credit Agreement, effective as of the Effective Date.

5. The funding date for this Assignment Agreement shall be _____ ___, ____ (the "Transfer Funding Date"). On the Transfer Funding Date, any registration and processing fee shall be due and payable to the Administrative Agent pursuant to Section 11.3 of the Credit Agreement.

6. Upon such acceptance, recording and payment of applicable registration and processing fees, from and after the Transfer Funding Date, the Administrative Agent shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Purchasing Lender whether such amounts have accrued prior to the Transfer Funding Date or accrue subsequent to the Transfer Funding Date. The Transferor Lender and the Purchasing Lender shall make all appropriate adjustments in payments by the Administrative Agent for periods prior to the Transfer Funding Date or, with respect to the making of this assignment, directly between themselves.

7. From and after the Transfer Funding Date, (a) the Purchasing Lender shall be a party to the Credit Agreement and, to the extent provided in this Assignment Agreement, have the rights and obligations of a Lender thereunder and under the other Credit Documents and shall be bound by the provisions thereof and (b) the Transferor Lender shall, to the extent provided in this Assignment Agreement, relinquish its rights and be released from its obligations under the Credit Agreement.

8. This Assignment Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of New York without regard to conflict of laws principles thereof (other than Sections 5-1401 and 5-1402 of The New York General Obligations Law).

IN WITNESS WHEREOF, the parties hereto have caused this Assignment Agreement to be executed as of the date first above written by their respective duly authorized officers on Schedule 1 hereto.

SCHEDULE 1
TO ASSIGNMENT AGREEMENT

EFFECTIVE DATE: _____, ____

Name of Transferor Lender: _____

Name of Purchasing Lender: _____

Transfer Funding Date of Assignment: _____

Credit Facility CUSIP Number: _____
Assigned Interest:

Facility Assigned	Principal Amount of Commitment/Loans Assigned	Commitment Percentage Assigned[1]	CUSIP Number
	$	%	

[NAME OF PURCHASING LENDER]

By_____
Name:
Title:

[NAME OR TRANSFEROR LENDER]

By_____
Name:
Title:

Accepted (if required):

WACHOVIA BANK, NATIONAL ASSOCIATION,
as the Administrative Agent, Swingline Lender and
Issuing Lender

By:_____
Name:
Title:

Consented to (if required):

DCP MIDSTREAM OPERATING, LP,
a Delaware limited partnership,
as the Borrower

By:_____
Name:
Title:

---

[1] Calculate the Commitment Percentage that is assigned to at least 9 decimal places and show as a percentage of the aggregate commitments of all Lenders.

APPENDIX 3B

Certificate of Good Standing

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify *that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and of the reports of qualification of foreign limited liability companies in this State and annual reports filed by the same.*

I further certify *that GAS SUPPLY RESOURCES LLC, formerly GAS SUPPLY RESOURCES INC., a TEXAS limited liability company, is a duly qualified foreign limited liability company under the laws of the State of Maine and that the application for authority to transact business in this State was filed on April 17, 1997.*

I further certify *that said foreign limited liability company has filed annual reports due to this Department, and that no action is now pending by or on behalf of the State of Maine to forfeit the authority to transact business in this State and that according to the records in the Department of the Secretary of State, said foreign limited liability company is a legally existing limited liability company in good standing under the laws of the State of Maine at the present time.*

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this eleventh day of April 2011.

Charles E. Summers, Jr.

Secretary of State

SECTION 4. TECHNICAL ABILITY

This section describes the applicant's experience and expertise in the construction and operation of propane storage terminals and similar facilities, as well as DCP's primary facility design and environmental permitting contractors.

4.A Prior Experience

4.A.1 The Applicant

DCP Midstream is a private company that is jointly owned by Conoco Phillips and Spectra Energy, and is headquartered in Denver, CO. The Company has approximately 2,800 employees across the United States.

DCP Midstream, LLC is a leader in the midstream segment of the energy industry as one of the nation's top three natural gas gatherers and processors in the U.S. DCP Midstream is the largest natural gas liquids (NGLs) producer in the nation, and one of the largest marketers in the nation. The Company operates in 18 states and owns or operates 61 processing plants, 10 fractionaters, and approximately 60,000 miles of gathering and transmission pipeline connecting to approximately 38,000 active receipt points. On a daily basis, DCP Midstream gathers and/or transports an average of approximately 7.1 trillion British thermal units (BTU) per day of natural gas; produces an average of 360,000 barrels per day of NGLs; and markets and trades an average of 480,000 barrels per day of NGLs. The Company has received numerous safety awards including the Canadian National Railway Safety Award and the DCP President's Safety Leadership Award.

With regard to propane, the Company operates an underground propane storage facility and pipeline terminal in Marysville, MI; LPG marine terminals in Providence, RI and Chesapeake, VA; and eight existing rail or truck wholesale LPG terminals across the Northeast. DCP Midstream is the premier wholesale marketer of propane in the Northeast, operating under the name Gas Supply Resources.

Third Party Contractors

All contractors bidding on DCP projects must first complete extensive questionnaires on both safety and environmental programs and practices. In addition, DCP routinely audits contractors including their records and activities in the field. The contractor is required to provide the number of qualified personnel necessary to perform the functions specified in bid packages. The contractor cannot replace the project manager or any key project personnel without written approval from DCP. Work may be subcontracted; however, the contractor is responsible for ensuring that all subcontractors meet DCP safety, environmental and engineering standards.

DCP Employees

All DCP employees go through extensive training. In addition to safety and security, operations personnel receive training in the proper operation of equipment and environmental management. All operators participate in an Operator Qualification program which includes training in normal operating procedures, emergency procedures, and emergency response. DCP also maintains a drug and alcohol testing program.

Environmental training includes training in spill prevention, waste management, and stormwater management. Operators are required to understand each of these subjects, how their activities may

impact the environment, and how and when to install pollution control devices. DCP also maintains environmental specialists on staff to ensure routine operations and maintenance activities are in compliance with all federal, state and local regulations.

4.A.2 The Project Engineer

Matrix Service ("Matrix") is the project's design engineer. Matrix is a full service industrial contractor headquartered in Tulsa, Oklahoma, with regional offices in 9 U.S. States and 3 Canadian Provinces. Matrix Service provides engineering, fabrication, construction, repair, and maintenance services to energy and industrial markets throughout the U.S. and Canada.

Matrix Service is a leader in the engineering, fabrication, and construction of aboveground storage tanks (AST) and specialty vessels. Since 1984 Matrix has provided tank and vessel construction and tank repair and maintenance services to the downstream petroleum and industrial gas industries. Matrix's professionals are well versed in every aspect of the American Petroleum Institute (API) standards and American Society of Mechanical Engineers (ASME) code work in both atmospheric and pressure storage vessels. All tanks, specialty vessels, and tank appurtenances meet API 650, API 620, ASME, or American Water Works Association (AWWA) specifications. Additional information on Matrix Services is available at: http://www.matrixservice.com/index.asp.

4.A.3 The Environmental and Permitting Consultant

The environmental studies, analysis, and permitting for the DCP Terminal are being conducted by TRC Environmental Corporation ("TRC"). The Project is being managed and staffed primarily from TRC's South Portland, Maine office, with additional staff assistance from TRC's Augusta and Ellsworth, Maine, Lowell, Massachusetts, and Lindhurst, New Jersey offices.

TRC is a multi-disciplinary, full service environmental consulting firm with over 35 years of experience in environmental management and energy development project assessment and permitting. TRC is one of the largest full service environmental consulting firms nationally. With over 1,800 environmental engineers, scientists, and planners, TRC is a public corporation with over 40 offices located throughout the nation. TRC is a national leader in providing siting, licensing, and compliance services for energy transmission, distribution, and generation facilities, including extensive experience in the northeast and Maine. TRC staff have been involved with FERC filings and federal, state, and local permitting for thousands of miles of natural gas pipelines with associated above ground facilities, providing an intimate familiarity with the specialized issues and requirements associated with permitting pipeline projects, as well as environmental inspection during construction and ongoing compliance during operation.

TRC staff members have extensive experience with environmental field surveys and regulatory compliance in the State of Maine. Examples of recent TRC permitting projects in Maine include Maritimes and Northeast Pipeline's Phase II and IV Projects, Bangor Hydro Electric Company's Northeast Reliability Interconnect Project; Central Maine Power Company's Maine Power Reliability Program; and TransCanada's Kibby Wind Project. Additional information on TRC is available at: http://www.trcsolutions.com/Pages/default.aspx .

4.B Key Permitting Personnel

Resumes of key TRC staff that have been involved in preparing this application are provided in Appendix 4A.

APPENDIX 4A

Resumes of Key TRC Staff

STEVEN J. WALLACE

EDUCATION
B.A., Biology, Brown University, 1969

AREAS OF EXPERTISE
Mr. Wallace has over 30 years experience encompassing

- Federal, State, and Local Environmental Permitting
- FERC NEPA Review Under Section 7C of the Natural Gas Act
- Regulatory Applicability Review, Route/Site Selection and Constraints Analyses
- Environmental Studies and Impact Assessments
- Industrial and Construction Site Environmental Compliance
- Phase I and II Environmental Site Assessments per ASTM Methodology

REPRESENTATIVE EXPERIENCE
Mr. Wallace has completed or managed the permitting process and/or the preparation of technical documents within state and Federal air, site location, wetlands, wastewater/stormwater, solid/hazardous waste, toxics use/release/reduction, and hazardous materials response regulations. He has many years of experience in the development and implementation of industrial facility compliance programs, including overall compliance auditing, underground tank and SARA Title III compliance, site assessment and remediation. He has performed and managed the collection of and analyzed data from the monitoring of air (both continuous stack emissions and ambient air), surface and ground water discharges, and solid and hazardous wastes. Mr. Wallace has also completed a number of Phase I Environmental Site Assessments in accordance with ASTM Standard Practice E1527 for industrial and commercial property transfers.

DCP Midstream, LLC – Denver, CO (Environmental Permitting)
Managing a TRC project team preparing federal, state and local environmental permit applications in support of DCP's liquid propane receiving, storage and distribution terminal in Searsport, Maine. State of Maine submittals include an Air Emission License application, a Site Location of Development Act application and a Natural Resources Protection Act (NRPA) application. The NRPA application is also to be filed with the U.S. Army Corps of Engineers for a Section 404/Clean Water Act permit for placing fill in wetlands. Also managing the preparation by a firm subcontracted to TRC of a Waterway Suitability Assessment to be submitted to the U.S. Coast Guard for the marine receiving terminal portion of the project.

Spectra Energy Corp. – Jersey City, NJ and Waltham, MA (Environmental Permitting)
Managed a TRC project team preparing the air quality portion of a Natural Gas Act Section 7C environmental resource report for submittal to the Federal Energy Regulatory Commission in support of the proposed New Jersey-New York natural gas

pipeline expansion project. Also managed the preparation of the overall air permitting strategy for the project and state air emission permit applications.

Maritimes & Northeast Pipeline, LLC – Freeport, ME and Waltham, MA (Phase V Project Environmental Permitting)
Managed a multi-company project team preparing Natural Gas Act Section 7C environmental resource reports for submittal to the Federal Energy Regulatory Commission in support of the proposed Phase V natural gas pipeline expansion project in Maine and Massachusetts. Preliminary State of Maine environmental permit applications were prepared for Air Emission License and Site Location of Development permit amendments, and Natural Resources Protection Act permits. An additional Federal application was prepared under Section 404 of the Clean Water Act for submittal to the U.S. Army Corps of Engineers.

Maritimes & Northeast Pipeline, LLC – Freeport, ME and Waltham, MA (Phase IV Project Environmental Permitting and Compliance)
Managed a multi-company project team preparing Natural Gas Act Section 7C environmental resource reports for submittal to the Federal Energy Regulatory Commission and applications for Maine environmental permits in support of the Phase IV natural gas pipeline expansion in Maine and Massachusetts. State of Maine applications included seven Air Emission License applications, seven Site Location of Development Act applications and two Natural Resources Protection Act applications. An additional Federal application was prepared under Section 404 of the Clean Water Act and submitted to the U.S. Army Corps of Engineers. Provided environmental compliance support in Maine and Massachusetts during and following construction.

Maritimes & Northeast Pipeline, LLC – Augusta, ME and Boston, MA (Environmental Permitting and Compliance)
Participated on a project team preparing environmental resource reports for submittal to the Federal Energy Regulatory Commission and applications for Maine environmental permits in support of the Phase I, II and III natural gas pipeline projects in Maine, New Hampshire and Massachusetts. Served as Permitting Coordinator for all state and federal permit modifications necessary during construction of the Phase II Project in Maine. Provided environmental compliance support in Maine during and following construction.

TransCanada Maine Wind Development, Inc – Toronto, ON (Environmental Permitting)
Participated on a project team preparing a Maine Land Use Regulation Commission and US Army Corps of Engineers permit applications for the proposed 33 MW Kibby Expansion Wind Power Project adjacent to the Kibby Wind Power Project near Stratton, ME.

TransCanada Energy Ltd. – Toronto, ON (Environmental Permitting Strategy)
Conducted initial site reconnaissance and prepared a preliminary environmental permitting strategy and timeline for the 132 MW Kibby Wind Power Project near Stratton, ME.

First Wind, LLC – Portland, ME (Environmental Coordination)
Worked with the TRC Engineers, LLC team to insure their engineering design efforts were coordinated with the environmental permitting phase of the proposed 42 MW Oakfield II Wind Power Project near Oakfield, ME.

Gulf of Maine Aquarium Development Corporation – Portland, ME (Environmental Assessment)
Participated on a project team preparing an Environmental Assessment pursuant to the National Environmental Policy Act, Section 102 (2) (C) and Chief of US Naval Operation Instruction 5090.1B for relocating the US Naval Reserve Center in Portland, Maine to the US Naval Air Station at Brunswick, Maine.

Augusta Sewer District – Augusta, ME (Environmental Permitting)
Prepared environmental permit applications under the Maine Natural Resources Protection Act, US Army Corps of Engineers Section 404 Programmatic General Permit Program and City of Augusta, Maine Floodplain Development Ordinance for a 3,700-foot combined sewer overflow conduit in Augusta.

Gorham Energy Limited Partnership – Gorham, ME (Environmental Permitting)
Managed the preparation of the application for a Maine Site Location of Development Permit for a proposed 825-megawatt natural gas fired electric generating facility in Gorham, Maine. Provided additional permitting support for Maine Natural Resource Protection Act and Town Site Plan Review applications. Completed a Phase I Environmental Site Assessment of the power plant property.

Rumford Power Associates, L.P., – North Dartmouth, MA (Environmental Permitting)
Managed the preparation of the application for a Maine Site Location of Development Permit for a 265-megawatt natural gas fired electric generating facility in Rumford, Maine. Also directed the completion of a Phase I Environmental Site Assessment of the power plant property.

Katahdin Commercial Brokers – South Portland, ME (Environmental Site Assessment)
Project Manager for the completion of a Phase I Environmental Site Assessment of the Welch Stencil Company in Westbrook, Maine.

HoltraChem Manufacturing Company – Orrington, ME (Air Monitoring Program)
Designed an air monitoring program to measure cell room mercury emissions and resultant ambient air mercury concentrations around a chloralkali manufacturing plant. Responsibilities included site selection for three ambient mercury monitoring stations and a meteorological tower, meteorological monitoring equipment selection, design and equipment selection to measure cell room exhaust air volume and velocity, as well as preparation of the overall monitoring plan and procedures including QA/QC requirements.

Gates Formed-Fibre Products, Inc., Auburn, ME and Fiber Extrusion, Inc. – Eastport, ME (Stormwater Pollution Prevention Plans)
Prepared Multi-Sector General Permit Stormwater Pollution Prevention Plans for these synthetic fiber processing and manufacturing plants.

FMC BioProducts – Rockland, ME (Environmental Compliance)
Completed a comprehensive evaluation of the environmental compliance requirements associated with a new product line utilizing listed hazardous chemicals.

Department of Public Works – Portsmouth, NH (Environmental Permitting)
Prepared environmental permit applications under New Hampshire's Fill and Dredge in Wetlands statute and the City of Portsmouth Zoning Ordinance covering Inland Wetlands Protection for a 4-mile water main project in Portsmouth.

Boston Sand & Gravel Company – Boston, MA (Stormwater Pollution Prevention Plans)
Managed the preparation of Stormwater Pollution Prevention Plans under the NPDES Stormwater Multi-Sector General Permit Program for four ready-mix concrete and associated crushed stone and vehicle maintenance operations in Massachusetts and managed the evaluation of 16 additional facilities in Massachusetts and New Hampshire for NPDES stormwater compliance. Participated on a project team completing overall environmental compliance audits for three facilities in Massachusetts.

PSE&G Lawrenceburg Energy Company LLC – Parsippany, NJ (Environmental Permitting)
Prepared applications for a US Army Corps of Engineers Section 404 Programmatic General Permit and an Indiana Department of Natural Resources Section 401 Water Quality Certification for a water intake structure at a proposed natural gas-fired power plant in Lawrenceburg, Indiana.

Indeck Capital, Inc. – Wheeling, IL (Environmental Site Assessments)
Project Manager for the completion of Phase I Environmental Site Assessments and follow-up Phase II Site Investigations on nine existing or proposed hydroelectric power generation facilities located in New York State.

SEAN W. DONOHUE, CWS, LSE

EDUCATION
M.S., Environmental Sciences, University of Rhode Island, 2007
B.S., Water Resources Management, University of New Hampshire, 1996

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Certified Wetland Scientist, New Hampshire (#231), 2004
Licensed Site Evaluator, Maine, (#S356), 2001

AREAS OF EXPERTISE
Mr. Sean W. Donohue, CWS, LSE has project management and technical experience in the following areas:

- Wetland Delineation, Functional Assessment, and Mitigation Planning
- Local, State, and Federal Wetlands and Land Use Permitting
- Natural Gas Act Section 7(c) Environmental Permitting
- Alternatives Analyses
- Vernal Pool Surveys
- Soil Evaluation and Analysis
- Vegetation Surveys
- On-Site Wastewater Disposal System Design
- Hydrogeologic Investigations

REPRESENTATIVE EXPERIENCE
Mr. Donohue has over 10 years of experience in environmental consulting and research. Mr. Donohue has managed a variety of natural resources studies and environmental permit applications with local, state, and federal agencies. His project experience includes natural gas pipelines and storage facilities, electric transmission lines and substations, residential and commercial developments, ski resort expansions, and commercial dairy farms. Mr. Donohue has completed soil evaluations, wetland delineations and functional assessments, and vernal pool surveys throughout the Northeast. He is also experienced with wetland mitigation vegetation plans, wetland mitigation site monitoring, and hydrogeologic investigations including bedrock well pump tests, bedrock well water supply analysis, and soil water table monitoring and analysis. He currently serves in the capacity of Environmental Scientist for TRC's Energy Sector, with the responsibilities of completing natural resource field studies, technical report writing, and management of environmental permit applications.

<u>Natural Gas Storage Facility and Pipeline Projects</u>

Northstar Industries, Mt. Carberry Landfill Methane Gas & Natural Gas Pipeline Project – NH (2010)
Mr. Donohue served as wetland scientist for this 2 mile pipeline project, with responsibilities including wetland and waterbody delineations in natural and disturbed site conditions, and technical review of the Project's wetland and waterbody mapping.

Algonquin Gas Transmission, LLC, East to West Expansion Project – MA, CT, RI (2007 – 2008)
Mr. Donohue coordinated United States Army Corps of Engineers (USACE) Section 404 wetlands permitting for this 32 mile pipeline project including agency correspondence, and development of the wetland delineation report, permit application, wetland impact assessment and functional analysis, mitigation plan, and jurisdictional determinations. Mr. Donohue was also responsible for technical review of the Project's wetland mitigation site, vernal pool surveys, and amphibian trapping surveys.

Steckman Ridge, LP, Steckman Ridge Storage Project – Monroe, PA (2007 – 2008)
Mr. Donohue managed wetland field surveys for this natural gas storage project, and coordinated the Project's wetlands permit application to the Pennsylvania Department of Environmental Protection and the USACE. He was also responsible for components of the Project's Federal Energy Regulatory Commission (FERC) Environmental Report, FERC data request responses, and provided general FERC environmental permitting support.

Copiah Storage, LLC, Copiah Storage Project – Copiah County, MS (2007 – 2008)
Mr. Donohue managed a number of environmental permit applications for this natural gas storage facility and its connecting pipeline headers. Mr. Donohue was responsible for developing and coordinating the Project's USACE Section 404 wetlands permit application, the FERC project implementation plan, threatened and endangered species and cultural resource agency consultations, and FERC data request responses. Mr. Donohue also managed state agency environmental permit applications including National Pollutant Discharge Elimination System (NPDES) hydrostatic test permitting, groundwater withdrawal permitting, and surface water withdrawal permitting.

<u>Electric Transmission Line and Substation Projects</u>

Central Maine Power Company, Maine Power Reliability Project – ME (2007 – Present)
Mr. Donohue plays a key role in managing environmental surveys and permit applications for this electric transmission reliability project, which includes 350 miles of transmission corridor and 13 major substations across southern and central Maine. Mr. Donohue is responsible for field survey management, development of major components of the project's state and federal permit applications including the project alternatives analysis and compensatory mitigation plan, municipal permitting, and agency correspondence. His field responsibilities include technical reviews of wetland mitigation sites, wetland delineations and functional assessments, vernal pool surveys, invasive plant surveys, pre-construction resource flagging and signage, and soil evaluations for on-site wastewater disposal systems at the project substations.

Public Service of New Hampshire, Eliot Substation Project – ME (2010)
Mr. Donohue served as the Project's wetland scientist, and was responsible for wetland and waterbody delineations.

Bangor Hydro Electric Company, Keene Road Substation Project – ME (2009)
Mr. Donohue served as the Project's Licensed Site Evaluator, and was responsible for on-site soil investigations and design of the Project's on-site wastewater disposal system in accordance with the State of Maine Subsurface Wastewater Disposal Rules.

Commercial Wind Farm Projects

TransCanada, Kibby Mountain Wind Farm – ME (2008)
As the project's Licensed Site Evaluator, Mr. Donohue conducted soil assessments to determine suitability for on-site wastewater disposal in accordance with the State of Maine Subsurface Wastewater Disposal Rules, and designed the on-site wastewater system for the project's operation and maintenance building. In addition, Mr. Donohue completed mountain ridge top and backcountry wetland delineations.

Ski Resort Expansion Projects

Stowe Mountain Resort, Mountain Expansion Project – Stowe, VT (2003 – 2004)
Mr. Donohue completed field surveys for wetlands, surface waters and potential wetland mitigation sites for this resort expansion project comprised of a golf course, ski trail expansion, and base facility expansion.

Mount Sunapee, Base Facility Parking Expansion – Sunapee, NH (2003 – 2004)
Mr. Donohue served as the managing wetland scientist in charge of wetland and surface water delineations, and compilation and submittal of the project's wetlands permit application to the New Hampshire Department of Environmental Services.

Okemo Mountain Resort, Lake Ninevah Water Withdrawals – Ludlow, VT (2003)
Mr. Donohue served as the associate field manager for an investigation of the effect of proposed water withdrawals for snowmaking operations on lacustrine fringe wetlands of Lake Ninevah in Ludlow, VT. Mr. Donohue mapped and collected field data on bathymetry and wetland plant communities of Lake Ninevah.

Sugarbush Ski Resort, Lincoln Peak Expansion – Warren, VT (2002 – 2003)
Mr. Donohue managed wetland delineations for this ski resort base facility expansion. In addition, Mr. Donohue filed and managed a wetlands permit application with the USACE.

Commercial and Residential Projects

Town of Limerick, ME, Limerick Business Park – Limerick, ME (2007)
As the project's Licensed Site Evaluator, Mr. Donohue conducted soil assessments to determine suitability for on-site wastewater disposal in accordance with the State of Maine Subsurface Wastewater Disposal Rules. In addition, Mr. Donohue compiled water supply and wastewater disposal sections of the project's State of Maine Site Location of Development Act permit application.

Lowe's, Retail Facility Natural Resources Study – St. Albans, VT (2003 – 2004)
Mr. Donohue served as project manager for a comprehensive natural resources inventory of an approximately 25 acre property. Mr. Donohue conducted wetland delineations, vernal pool surveys, installed piezometers, and coordinated botanical, wildlife, and geotechnical subcontractors. Other responsibilities included budget management, hydrologic data analysis, and technical report compilation.

Quechee Lakes, Wetlands and Natural Resources Study – Quechee, VT (2002 – 2004)
Mr. Donohue served as project manager for a natural resources inventory on approximately 700 acres of land proposed for development. Field surveys included wetland, vernal pool, and botanical inventories. Responsibilities included proposal writing, budget monitoring, subcontractor management, wetland and vernal pool investigations, and report compilation.

Multiple Projects – Southern/Central, ME (2000 – 2002)
Mr. Donohue served as project manager for environmental studies throughout southern and central Maine, on properties ranging from less than one acre to over 100 acres in size. Investigations included wetland delineations, wetland functional assessments, wetland mitigation site monitoring, soil evaluation for on-site wastewater disposal, septic system design, and hydrogeologic testing. Mr. Donohue was responsible for proposal writing, budget management, subcontractor coordination, and representing clients during meetings with state regulatory and municipal officials.

The Cliff House, Utility Line Installation – Ogunquit, ME (2001)
Mr. Donohue completed water supply capacity tests on residential wells for a pre-construction blasting survey along an approximately 1.25 mile municipal utility line installation route. Tests involved assessment of well condition, measurement of groundwater recharge rates, and calculation of water supply capacity at various depths.

<u>Commercial Dairy Farm Projects</u>

Four Hills Farm, Wetlands Permitting and Mitigation Plan – Bristol, VT (2003 – 2004)
Mr. Donohue served as the managing wetland scientist in charge of after-the-fact wetland impact permitting and mitigation compensation on a commercial dairy farm. Technical studies included development of a plan to monitor hydrology in disturbed soils to make hydric soil determinations. Mr. Donohue worked with the client, the USACE, the U.S. Department of Agriculture Natural Resource Conservation Service, and the Vermont Agency of Natural Resources to develop a mitigation plan that facilitated agricultural operations while maintaining wetlands functions and values.

SPECIALIZED TRAINING

- Maine Association of Wetland Scientists Winter Conference and Annual Meeting; 2009, 2010, 2011; Hallowell, ME
- Maine Assoc. of Prof. Soil Scientists Cool Climate and High Elevation Soils Field Workshop; September 2010; Rangely, ME
- Environmental Concerns in Rights-of-Way Management 9th Symposium; September 27-30, 2009; Portland, OR
- Maine Association of Wetland Scientists Grass Identification Workshop; March 20, 2009; Bowdoinham, ME
- Maine Association of Prof. Soil Scientists Annual Meeting; 2009, 2011; Various Locations, ME
- Maine Assoc. of Wetland Scientists Vernal Pool Workshop; February 7, 2008; Augusta, ME
- Maine Real Estate & Development Association Vernal Pool Seminar; February 28, 2008; Auburn, ME
- Maine Assoc. of Wetland Scientists USACE Jurisdictional Determination Workshop; February 7, 2008; Augusta, ME
- Maine Assoc. of Prof. Soil Scientists Natural Resource Identification and Regulation Workshop; August 2, 2007; Georgetown, ME
- 18th World Congress of Soil Science; July 9-15, 2006; Philadelphia, PA
- Northeast Regional Graduate Pedology Field Trip; June 13-16, 2005; Throughout WV
- Advanced Hydric Soils; June 5 and 6, 2003; University of Massachusetts, Amherst, MA
- Vermont ANR Wetlands Consultant Workshop; May 01, 2003; Waterbury, VT
- Maine Assoc. of Site Evaluators Annual Field Seminar; 2000, 2001, 2002, 2010; Gorham, ME
- Maine Assoc. of Site Evaluators Annual Meeting; 2001, 2002, 2008, 2010, 2011; Augusta, ME
- Maine Assoc. of Professional Soil Scientists/Maine Assoc. of Wetland Scientists Fall Workshop; September 2000; Rangely, ME
- Maine Assoc. of Wetland Scientists Wetland Delineation Workshop; June 2000; Phippsburg, ME
- University of Maine Coop. Ext. Compost School; June 21 to 25, 1999; Orono, ME

PROFESSIONAL AFFILIATIONS

- Maine Association of Wetland Scientists
- Maine Association of Professional Soil Scientists
- Maine Association of Site Evaluators

PUBLICATIONS

Donohue, S.W., M. Tyrrell, and T. Doyle. 2009. *Important Considerations For Utility Right-of-Way Siting, Construction, and Vernal Pool Management. In* Proceedings of the 9th International Symposium on Environmental Concerns in Rights-of-Way Management.

Watson, T.K., D.Q. Kellog, K. Addy, A.J. Gold, M.H. Stolt, S.W. Donohue, and P.M. Groffman. 2010. *Groundwater Denitrification Capacity of Riparian Zones in Suburban and Agricultural Watersheds*. Journal of the American Water Resources Association, 46(2):237-245.

Donohue, S.W., M.H. Stolt, A.J. Gold, and P.M. Groffman. 2009. *Human Transported Material Soils of Urbanizing Estuarine Landscapes*. Soil Science Society of America Journal, 73:1587-1596.

Donohue, S.W., M.H. Stolt, and M. Zavada. 2007. *Establishing Stratigraphic Markers in Riparian Zones to Identify Land-Use Change.* Poster Session 325. Methodology, Indicators, and Characterization of Wetland Soils. *In* ASA-CSSA-SSSA Annual Meeting Abstracts, November 4-8, 2007, New Orleans, LA.

Donohue, S.W. 2007. *The Effects of Coastal Urbanization on Riparian Hydric Soils*. M.S. Thesis, Department of Natural Resources Science, University of Rhode Island, Kingston, RI.

Donohue, S.W., M.H. Stolt, A.J. Gold, and P.M. Groffman. 2006. *Effects of Anthropogenic Disturbance on Riparian Hydric Soils in Urbanizing Coastal Landscapes*. Poster Session 120. Site disturbance: The role of soil morphology in its assessment. *In* Proceedings from the 18th World Congress of Soil Science, Philadelphia, PA.

COLEN R. PETERS, PG, PWS

EDUCATION

M.S., Geology, University of Rhode Island, 1981
Marine Science Consortium, Wallops Island, Virginia, 1978
B.S., Geology, Edinboro State College, 1978

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Geologist, Maine, (#220), 1989
Professional Wetland Scientist, (#706), 1995
Wetland Scientist, New Hampshire, (#031), 1999

AREAS OF EXPERTISE

Mr. Colen R. Peters, PG, PWS has program management and technical experience in the following general areas:

- Environmental Permitting (local, State, federal)
- Wetland Delineation (1987 Corps of Engineers Manual)
- Wetland Functional Assessments
- Wetland Compensation Design, Implementation and Monitoring
- Construction Management
- Alternative Analyses
- Coastal Geologic Processes
- Glacial Geology

REPRESENTATIVE EXPERIENCE

Colen has more than 28 years of experience in environmental consulting and has worked for a wide variety of clients including: airports, banks, businesses, developers, hospitals, industry, local, state and federal government, private landowners and utilities.

Cole plans and manages a wide variety of projects that encompass site inventory and selection; delineation and assessment of wetlands; design, construction-supervision and post-construction monitoring of wetland compensation; vegetation surveys; groundwater investigations and local, regional, state and federal permitting. He has conducted numerous wetland delineations throughout the Northeast with multi-parameter (vegetation, soils, hydrology) methods and has prepared wetland functional assessments based on professional judgment-based approaches such as the New England Highway Methodology. Cole has identified measures to avoid and minimize project impacts, taken part in alternative analyses, and designed mitigation plans to compensate for necessary project impacts. He has field-supervised implementation of mitigation plans and has directed earthwork and construction at project sites. As a Maine Professional Geologist, Cole has supervised installation of monitoring wells at hydro dams and landfills, conducted hydro-geologic studies for gravel pits and performed aquifer tests and water quality sampling for municipal water wells. Mr.

Peters has served as an instructor in professional training workshops and has made a wide variety of public presentations.

DeLuca Hoffman Associates, Portland International Jetport – Portland, ME (Project Manager: 2004 – present)
In conjunction with DeLuca Hoffman Associates and Coffman Associates prepared the 2009 *Environmental Assessment for Proposed Airfield and Terminal Area Improvements* at Maine's largest airport for the FAA. Prepared related Maine Department of Environmental Protection (MDEP) and US Army Corps of Engineers (Corps) permit applications, designed mitigation for 12 acres of wetland impacts required for USDA-APHIS *Wildlife Hazard Management Plan*. Conducted field surveys for Maine-endangered New England Cottontail rabbit (NEC-*Sylvilagus transitionalis*) and coordinated with the US Fish and Wildlife Service to prepare an Incidental Take Plan for the Maine Department of Inland Fisheries and Wildlife that resulted in live-trapping, relocating and radio-collaring 15 NEC. Prepared several prior MDEP and Corps permit applications, wetland compensation plans and supervised construction of wetland compensation for +14 acres of wetland impacts required for Access Roads, Preferred Facilities Improvement Plan, Runway 11 extension, and related safety improvements.

Portland Pipe Line Corporation – Maine, New Hampshire and Vermont (Project Manager: 2008 – 2009)
Delineated wetlands and conducted vernal pool survey at valve and pump station sites along a 166-mile corridor from South Portland, Maine through the White Mountain National Forest to Troy, VT for a pipeline flow reversal project. Met with the US Department of State and confirmed validity of Presidential Permit for US-Canada border crossing, received a Jurisdictional Opinion from Vermont Natural Resources Board on inapplicability of Act 250, prepared applications and obtained permits from the New Hampshire Department of Environmental Services, Maine Department of Environmental Protection, US Army Corps of Engineers, the Portland Harbor Commissioners and the City of South Portland Planning Board for improvements to the pipeline and installation of vapor combustion units on Pier 2 in Portland Harbor.

Central Maine Power Company MPRP (Maine Power Reliability Program) (Project Geologist and Wetland Scientist: 2007 – Present)
Prepared hydro-geologic assessments to evaluate feasibility of water supply wells at Albion Road, Coopers Mills, Larrabee Road and Ravens Farm Substations. Delineated wetlands and conducted vernal pool surveys along existing and proposed transmission line ROWs. Prepared MDEP and Corps permit application documents, designed wetland compensation plans for relocation of 1,700 feet of stream around Surrowiec Substation and supervised implementation. Developed and implemented 14-specie pre-construction survey protocol for Invasive Species Vegetation Monitoring Plan covering 350 mile of transmission line ROW and substation sites.

***Ecomaine*-UNUM Cogen Evaluation – Portland, ME (Project Manager: 2009)**
Field identified environmental and permitting constraints for feasibility analysis of piped connection between the two campuses that would cross beneath the Maine Turnpike.

Quoddy Bay LNG, Wetland Compensation – Perry, ME
(Project Wetland Scientist: 2007)
Delineated wetlands on project site and surveyed more than 820 square miles of Down East Maine for wetland compensation opportunities needed for more than 10 acres of wetland impact. Designed onsite and offsite wetland compensation plans for State and federal permit applications based on consultation with the Pleasant Point Passamaquoddy tribe, the MDEP and Corps.

AES Armenia Mountain Wind Energy Project – Tioga and Bradford Counties, PA (Project Scientist: 2008)
Designed wetland compensation for permit applications to the Pennsylvania DEP and Corps for wetland impacts required to site wind turbines, access roads and 13 miles of new transmission lines near Tioga State Forest.

Maine Wetlands Bank, LLC, Wetland Compensation – Westbrook, ME (Project Manager: 2000 – present)
Collected baseline data, designed construction and monitoring plans and obtained permits from the MDEP and Corps for a multi-phase, 80-acre wetland compensation site at the County Road Business Park and Glassworld Industrial Park. Restoration, enhancement and preservation of 27 acres of wetland made up the initial phase of compensation which was used to permit 12 acres of wetland impact required for expansion of the Portland International Jetport. Subsequent phases of wetland compensation have been implemented at the site for permits required by MDOT's Interstate 95 Congress Street interchange, Regional Waste Systems, Inc.'s landfill expansion, the Jetport's Runway 11 improvements the City of Westbrook Middle School and Maine Medical Center's laundry facility. The 9th yr of ongoing annual post construction monitoring is now being conducted.

Kennebec Co. Wetlands, LLC, Shops at Augusta Crossing – Augusta, ME (Project Manager: 2004 – present)
Screened and evaluated more than 150 potential offsite compensation areas and prepared offsite wetland compensation plans along 58 acres of Rockwook, Stone and Bond Brooks addressing 6 acres of wetland impact for MDEP and Corps wetland permits. Conducted construction monitoring and ongoing annual (4th yr) post construction monitoring.

York Co. Wetlands, LLC, Shops at Biddeford Crossing – Biddeford, ME (Project Manager: 2004 – present)
Prepared offsite wetland compensation plan for 12-acre parcel along Richardson Brook addressing 4-acres of wetland impact for MDEP and Corps wetland

permits. Conducted construction monitoring and ongoing, annual (5th yr) post construction monitoring.

IDEXX Campus expansion– Westbrook, ME
(Project Manager: 2006 – 2009)
Delineated wetlands, conducted functional assessment and designed onsite wetland compensation for MDEP and Corps wetland permits need for expansion of corporate headquarters.

Department of Public Works, Fall Brook CSO Separation – Portland, ME (Project Manager: 1998 – 2006)
Delineated wetlands and conducted functional assessment along Fall Brook for MDEP and Corps wetland permits required to construct mile long CSO separation project. Conducted post construction monitoring of floodplain restoration and established aquatic water quality sampling program for 2.3 mile long stream corridor.

City of Saco, Mill Brook Business Park – Saco, ME
(Project Manager: 2004 – 2006)
Delineated wetlands, conducted functional assessments and prepared MDEP and Corps permit applications for Mill Brook Business Park. Wetlands on adjoining property were identified for an evaluation of expansion opportunities.

Central Maine Power Company Transmission Line and Substations – Farmington, Harrison, and Woodstock, ME (Project Manager: 2006 – 2008)
Delineated wetlands along 10 mile corridor, and prepared Corps permit application for transmission line overbuild of Kingfield Highline distribution line between Farmington and New Vineyard. Delineated wetlands and prepared Natural Resources Protection Act permit applications to MDEP for upgrades to Kimball Road substation in Harrison and Woodstock substation in Bryant's Pond.

Steckman Ridge Gas Storage Project (Spectra Energy), FERC Licensing – Bedford County, PA (Project Geologist: 2007)
Compiled geologic data for 6,000 ft of the Lower to Upper Devonian (360 – 410 mya) stratigraphic column for FERC Resource Report 6 needed for the proposed conversion of a natural gas production well field into a 17.7 Bcf natural gas storage facility.

AMEREN UE, FERC Re-Licensing – Taum Sauk, MO
(Wetland Scientist: 2005)
Identified and field-mapped wetlands with the National Wetland Inventory Classification System around reservoirs at a pump-storage hydro facility on the East Fork of the Black River.

Linekin Bay Energy Co., LLC, Aroostook Co. Windpower Project – ME (Project Manager: 2005 – 2006)
Prepared permit applications to the Maine Land Use Regulation Commission (LURC) for meteorological towers in Hamlin and Cyr Plantations.

Central Maine Power Company, York County System Reinforcement Project – Eliot, Kittery and York, ME (Project Manager: 2001 – 2004)
Prepared applications to obtain permits from the MDEP) and Corps for construction of 10.1 mile long 69kV transmission line that also required construction of two new substations and renovation of another. Collected environmental data along alternate project routes for selection of LEDPA (least environmentally damaging practical alternative) and took part in alignment negotiations with the Maine Turnpike Authority and the Department of Transportation (MDOT). Work included preparation of Shoreland Zone and Site Location applications for permits from planning boards in Ogunquit, Eliot, Kittery and York. Provided permit compliance field monitoring during construction.

FPL Energy, Skelton Dam Fish Lift Licensing – Buxton, ME (Permitting Manager: 1999 – 2000)
Prepared applications and obtained permits from the Town of Buxton Planning Board, the Saco River Corridor Commission, MDEP and Corps for the replacement of a fish ladder with a fish lift as required by the Federal Energy Commission (FERC) for the re-licensing of the hydro electric dam.

Bath Iron Works, Land Level Transfer Facility – Bath, ME (Wetland Scientist: 1998)
Coordinated permit applications to Maine Board of Environmental Protection, Corps, US EPA and National Marine Fisheries Service. Collected hydrographic and site characteristic ecologic data for restoration of tidal-freshwater wetland for Woolwich wetland compensation site. Assisted with radio telemetry monitoring study of federally listed, rare shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser boxyrhynchus*) for NMFS Section 7 consultation.

Bechtel Environmental, Loring Air Force Base Superfund Site – Limestone, ME (Wetland Scientist: 1996 – 1998)
Developed and supervised stream, floodplain and wetland soil sampling protocol for characterization of PCB, chlordane and DDT contamination along 3 mile stream course. Identified measures to minimize wetland impact during cleanup and supervised construction and restoration of the stream channel and riparian wetland.

SPECIALIZED TRAINING

- Stream Restoration Techniques and Their Application, May 2003
- Watershed Level Geomorphic Assessment, April 2003
- Forty-Hour OSHA Health and Safety Training, April 1998
- Designing Erosion Control Plans and Stormwater Practices Design, 1997

- Hydric Soils Determinations Using Soil Taxonomy, September 1994
- Field Description of Soils, March-April 1994
- Wetland Delineator Training- Corps Delineation Manual, September 1994
- Applied Hydrogeology, September-December 1988

PROFESSIONAL AFFILIATIONS

- Society of Wetland Scientists
- Maine Association of Wetland Scientists
- Geological Society of Maine

SELECTED PUBLICATIONS AND PRESENTATIONS

Peters, C.R., Cowan, D., and Day, E., "Toward an Understanding of Maine's Wetlands", *Society of Wetland Scientists*, abstracts w/programs 16th annual meeting Boston, MA 1995.

Peters, C.R., "Peat Stratigraphy Evidence of the Influence of Hydrology on Succession in a Freshwater Wetland, Sandwich, MA", *Proceedings of the National Wetland Symposium: Wetland Hydrology,* Association of State Wetland Managers, 1988.

Peters, C.R., "The significance of hydrogeology to the mitigation of functions in freshwater wetlands of the glaciated northeast", *Proceedings of the National Wetland Symposium:* Mitigation of Wetlands Impacts and Losses*,* Association of State Wetland Managers, 1987.

Peters, C.R., Boothroyd, J.C., and Hughes, W.D., "Peat Resource Estimation for Rhode Island", Technical Report to the Governor's Energy Office, State of Rhode Island and US Dept of Energy Peat Development Program,1982.

Peters, C.R., Boothroyd, J.C., and Pickart, A.J., "Peat Resources of Block Island, RI", Geologic *Society of America*, abstracts w/programs, v. 2 no.2 p. 77, 1980.

PETER G. TROTTIER, EI

EDUCATION
B.S., Architectural Engineering Technology, Wentworth Institute of Technology, 1989

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Engineering Intern, Massachusetts (#18717)

AREAS OF EXPERTISE
Mr. Peter G. Trottier, EI, has experience in the following general areas:

- Planning Studies
- Preliminary & Conceptual Design
- Construction Specifications
- Detailed Engineering Design
- Spill Prevention, Control & Countermeasure Plans (SPCC)
- Site Layout and Grading
- Licensing & Permitting
- Stormwater Management Permitting

REPRESENTATIVE EXPERIENCE
Mr. Trottier has over 18 years of extensive experience in state and local permitting, site planning/layout, grading, storm water management design, sanitary sewer design, potable water system design and permitting for a number of projects in Maine, Massachusetts, New York and Florida. Mr. Trottier currently serves as Civil Engineer for the Civil and Transmission Division.

Oakfield Wind Power Project Amendment 106MW Wind Farm: Oakfield, ME (Project Engineer: 2009-2010)
Mr. Trottier is the lead civil engineer for the Oakfield Wind Power Project Amendment, which includes the development of a permit-level design for a 46 turbine, 106 MW wind farm located in the forested mountains and hills of Northern Maine. TRC's scope of work included the civil design of the ridge-top turbine sites, with approximately 20 miles of crane and access roads, 31 miles of 34.5 kV collector system including two miles of an underground collector, a 34.5 to 115 kV substation, 60 miles of 115 kV transmission system, and site design for the Operation and Maintenance facility. Mr. Trottier completed the pre- and post-development stormwater runoff analysis, designed the stormwater management plan for the project, and assisted with the access and ridge road design and the project erosion control plans.

Oakfield II 110MW Wind Farm, Oakfield, ME (Project Engineer: 2009-2010)
Mr. Trottier was involved in the Oakfield II project included the development of a permit-level design for a 54 turbine, 110 MW wind farm located in the forested mountains and hills of Eastern Maine. Mr. Trottier assisted with the access and ridge road design and the project storm water and erosion control management plans.

Central Maine Power, Maine Power Reliability Program, Transmission and Substation Improvement Project, ME (Project Engineer: 2008-2009)
Mr. Trottier served as the civil engineer responsible for the storm water management design, erosion control and State permitting for the 13 substation sites throughout Maine.

National Grid, Wakefield Junction 345/115 kV GIS Substation, MA (Project Engineer: 2008)
As the civil engineer for this multi-phase project, Mr. Trottier was responsible for the site grading, potable water, sanitary sewer and storm water utility design for the on the Wakefield Junction Substation project.

Florida Power and Light Company, Broward Substation Facility Relocation Feasibility Project - Broward County, FL (Lead Civil Engineer: 2006-2007)
Mr. Trottier served as the lead civil engineer for the substation site planning and transmission line corridor layout for multiple alternatives as part of the feasibility study. He provided state and local permitting research and environmental support for the project.

Fieldstone Landing, LLC, Fieldstone Landing Subdivision Project, Waterville, ME
(Project Manager: 2007-2008)
Mr. Trottier was responsible for the site grading and layout, storm water management design and State and local permitting for the 80 Acre site.

Maritimes & Northeast Pipeline, Phase IV Expansion Project
(Project Engineer 2006-2007)
Responsible for providing the site grading and layout, storm water management design and state permitting for natural gas compression pump stations sites throughout Maine.

Rochester Gas & Electric Corp. (Project Engineer: 2005-2006)
Provided site and storm water management design and erosion control for the expansion of several substations for the Rochester Transmission project located in and around Rochester, New York.

Estuary at Grey Oaks - Collier County, FL (Project Engineer: 2000-2002)
Mr. Trottier was responsible for surface water management master planning, state and local permitting, utility master planning and site grading design for an upscale 360-acre residential community with an 18-hole golf course.

Collier Regional Medical Center - Collier County, FL (Project Manager: 2003-2004)
Mr. Trottier was responsible for the engineering services consisting of state and local permitting, utility master planning, and site grading design for a 60 acre 100 bed hospital campus.

Magnolia Square - Collier County, FL (Project Manager: 2003-2004)
Mr. Trottier was responsible for state and local permitting, utility master planning, and design for an upscale 30-acre site for 240,000 square feet of commercial/retail space.

Veracruz at Cape Marco - Marco Island, FL (Project Manager: 2001-2002)
Mr. Trottier was responsible for surface water management, utility master planning, state and local permitting, and design for a four-acre site with a 23-story high rise condominium building.

PROFESSIONAL AFFILIATIONS

- Member of the American Society of Civil Engineers

SECTION 5. NOISE

5.A Introduction

DCP is proposing to construct and operate its (LPG terminal on land zoned for industrial use in Searsport, Maine. The project would be located at the Mack Point Terminal, adjacent to the existing Sprague Energy and Irving Oil terminal facilities, and is also adjacent to U.S. Route 1, the major north-south highway through the Searsport area. The land surrounding the Mack Point Terminal is zoned for commercial use. The proposed terminal will include noise emitting equipment such as pumps, propane fired heaters, electric compressors, and electric air fin coolers. A noise study for the project was conducted that included an ambient noise monitoring program to quantify the existing noise environment and computer modeling of the proposed equipment to determine projected noise levels at the nearest protected location during operation of the facility. Project noise levels were evaluated against the MDEP noise standard.

5.B General Information on Noise

Sound results from vibrations in the air. The range of pressures that cause the vibrations that create sound is large. Sound is therefore measured on a logarithmic scale, expressed in decibels (dB). The frequency of a sound is the "pitch" (high or low). The unit for frequency is hertz (Hz). Most sounds are composed of a composite of frequencies. The normal human ear can usually distinguish frequencies from 20 Hz (low frequency) to about 20,000 Hz (high frequency), although people are most sensitive to frequencies between 500 and 4000 Hz. The individual frequency bands can be combined into one overall dB level.

Sound is typically measured on the A-weighted scale (dBA). The A-weighting scale was developed and has been shown to provide a good correlation with the human response to sound and is the most widely used descriptor for community noise assessments (Harris, 1991). The lowest sound that is usually found in rural environments is about 30 dBA, while an uncomfortably loud sound is about 120 dBA. In order to provide a frame of reference, some common sound levels are listed below.

Pile Driver at 100 feet	90 to 100 dBA
Chainsaw at 30 feet	90 dBA
Truck at 100 feet	85 dBA
Noisy Urban Environment	75 dBA
Average Speech	60 dBA
Lawn Mower at 100 feet	65 dBA
Typical Suburban Daytime	50 dBA
Quiet Office	40 dBA
Quiet Suburban nighttime	35 dBA
Soft Whisper at 15 feet	30 dBA

Common terms used in this noise analysis are defined below.

$L_{eq(24)}$ The equivalent noise level over a 24-hour period. It is a single value of sound that includes all of the varying sound energy in a given duration.

5.C State of Maine Department of Environmental Protection

The MDEP has a comprehensive noise standard (Chapter 375.10, Control of Noise) that is applicable to the proposed project. The standard limits noise at protected areas, which are defined as any area

accessible on foot containing a residence, house of worship, school, library, hospital, nursing home, etc. Limits are provided for protected areas based on the existing ambient noise levels and existing land use or zoning. The MDEP regulation defers to a local noise standard if it is quantifiable. The only applicable noise standards identified in the Town of Searsport Land Use Code are:

(1) General Performance Standards: Buffers - All industrial and commercial development adjacent to residential dwellings must provide landscaped buffer strips in the form of evergreen, deciduous vegetation or fencing. The buffering shall be sufficient to minimize the impacts of expected uses such as exposed machinery, outdoor storage areas, vehicle loading and parking, mineral extraction and waste collection, disposal areas, noise, odor and light pollution.
(2) Industrial Performance Standards: Noise - Offensive noise shall not be transmitted beyond lot lines so as to cause unreasonable disturbance to neighboring residential properties.

These are not quantifiable standards so the MDEP standard will apply.

At protected areas where the existing zoning or, if unzoned, the existing use is predominantly commercial, transportation or industrial, project sound levels would be limited to 70 dBA during the day (7 a.m. to 7 p.m.) and 60 dBA at night (7 p.m. to 7 a.m.), measured at the property line of the protected location. For protected areas where the zoning or, if unzoned, the existing use is not predominantly commercial, transportation or industrial, project sound levels would be limited to 60 dBA during the day and 50 dBA at night. Further, if the existing all-encompassing ambient levels (interpreted as being the L_{eq} level) are below 45 dBA during the day or below 35 dBA at night, then the allowable project levels would be limited to 55 dBA during the day and 45 dBA at night. This would be defined as a "Quiet Area". The standard limits noise at the proposed project property line to no greater than 75 dBA. The allowable levels are summarized in Table 5-1.

Table 5-1
Maine Department of Environmental Protection (Chapter 375.10)
Maximum Allowable Sound Levels (dBA)

Receiving Location/Condition	Daytime (7 a.m. – 7 p.m.)	Nighttime (7 p.m. to 7 a.m.)
Project Property Line	75	75
Protected Area in a commercial zone	70	60*
Protected Area - not predominantly commercial, transportation or industrial	60	50
Protected Area - existing ambient L_{eq} level of less than 45 dBA during the day or 35 dBA at night	55	45

*Controlling limit for the proposed DCP Terminal.

The Town of Searsport has a zoning ordinance and all of the significant noise sources at the proposed facility would be located in an industrially zoned area. Several residences, a restaurant and motel, and a gas station/convenience store are located adjacent to the site in commercially zoned parcels. The ambient noise monitoring program (see Section 5.2.2) revealed that both the daytime and nighttime average noise levels at both monitoring locations were greater than 45 dBA during the daytime and greater than 35 dBA during the nighttime. The site is therefore not in a "Quiet Area" as defined by the MDEP noise regulation. Accordingly, the applicable MDEP noise standard for the project is 70 dBA during the day and 60 dBA at night at any protected location in a commercial zone. Since the facility will operate 24 hours a day, the nighttime noise limit of 60 dBA is the controlling standard.

The MDEP standard (Title 38 M.R.S.A. § 484.3.A) provides no limitations on daytime construction noise (defined as the period of time between 7 a.m. and 7 p.m. or daylight hours, whichever is longer). Nighttime construction activity is not anticipated. If nighttime construction becomes essential to comply with outage sequencing or other external factors, the project will meet the standards for nighttime construction under MDEP Chapter 375.10 and any applicable municipal standards.

5.D Baseline Conditions

An ambient noise monitoring survey was conducted at two locations adjacent to the site. These locations are provided below and depicted in Figure 5-1.

- Behind a motel property on East Main Street; and
- Behind a residential property on Station Avenue, the closest protected location.

The primary source of man-made noise in the area is vehicular traffic on U.S. Route 1 and Station Avenue. Natural sounds included birds and some wind noise. Noise levels were measured continuously over a six day period that included a weekend between December 17, 2010 and December 22, 2010 at both locations using RION NL-21 and NL-31 integrating sound level meters. The microphones were mounted at a height of about 5 feet above the ground and fitted with foam windscreens to reduce wind-generated noise.

Meteorological conditions during the monitoring period were obtained from the Bangor, Maine Airport. Skies ranged from cloudy to clear. Precipitation occurred during the period, on December 20 through 22, 2010. Winds were also higher during this period. Some strong gusts occurred. Temperatures varied, ranging from 6 degrees F up to 40 degrees F.

As discussed above, the Maine noise standard utilizes the arithmetic average of the daytime and nighttime noise levels in order to determine the applicable noise limits. Tabular summaries of the monitoring data are provided in Tables 5-2 and 5-3. A review of the data in these tables reveals that the average daytime noise levels were similar at both locations, ranging from 52.0 dBA to 48.4 dBA. The nighttime average levels were similar at both locations, ranging from 48.1 dBA to 45.0 dBA. It would be expected that the existing background noise from traffic was less during the December monitoring program than it would be during the peak summer tourist season.

5.E Future Sound Levels

The design of the proposed project is ongoing at this stage of the licensing process. As such, it is possible that the final design configuration may differ from that depicted in this noise study. Further, the final number and type of equipment pieces may also change. The purpose of this noise study was to demonstrate that the project can be designed to achieve compliance with the MDEP noise standard, based on current expectations of the type and numbers of noise sources that would be at the facility. This study obtained typical noise level data for the sources proposed, and through an iterative process of applying conceptual noise control measures, developed noise level specifications for each type of source that ensure compliance with the standard. It is important to note that the specifications and/or noise control measures that will be used in the final design of the project may differ from those proposed herein. The critical understanding is that regardless of the equipment, buildings and noise control measures used in the final design of the project, DCP must and will comply with the MDEP noise standard at protected property line locations.

Figure 5-1 Monitoring Locations

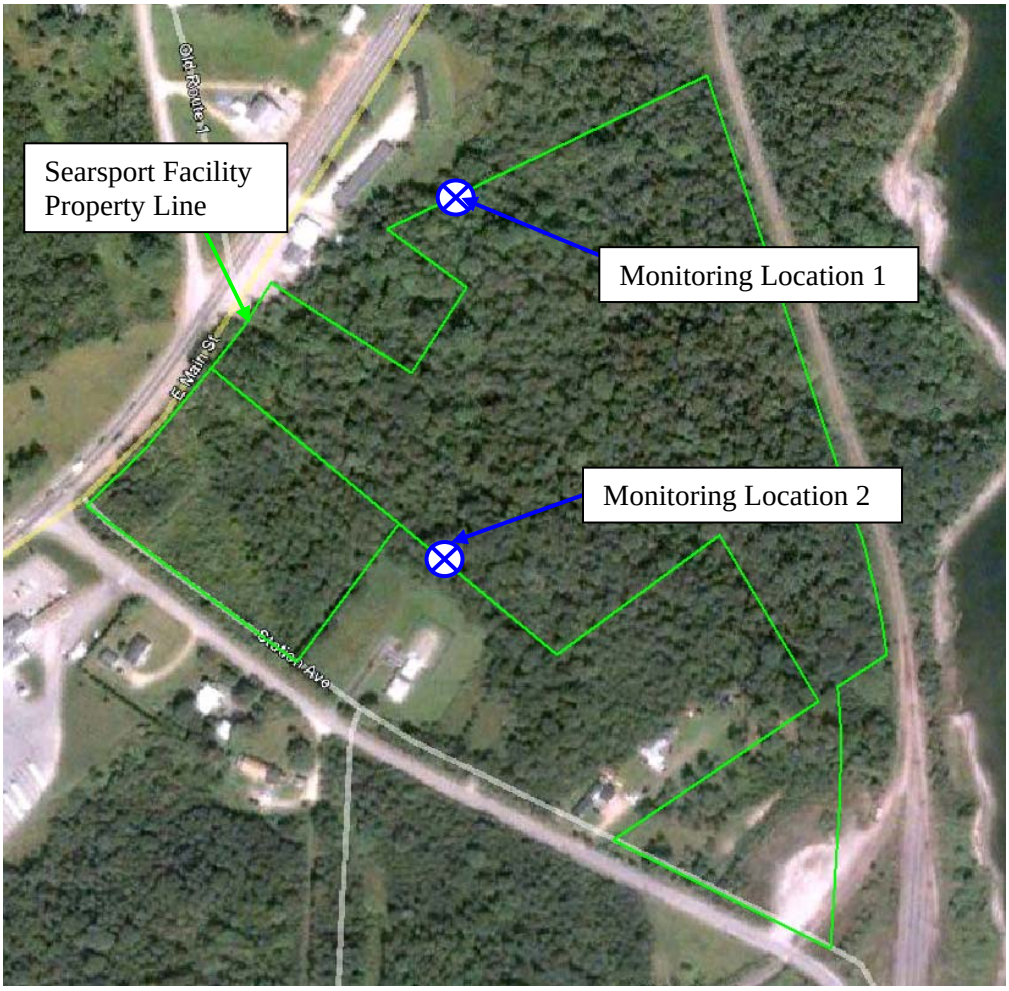


Figure 5-2 Operational Noise Contour Map (dBA)

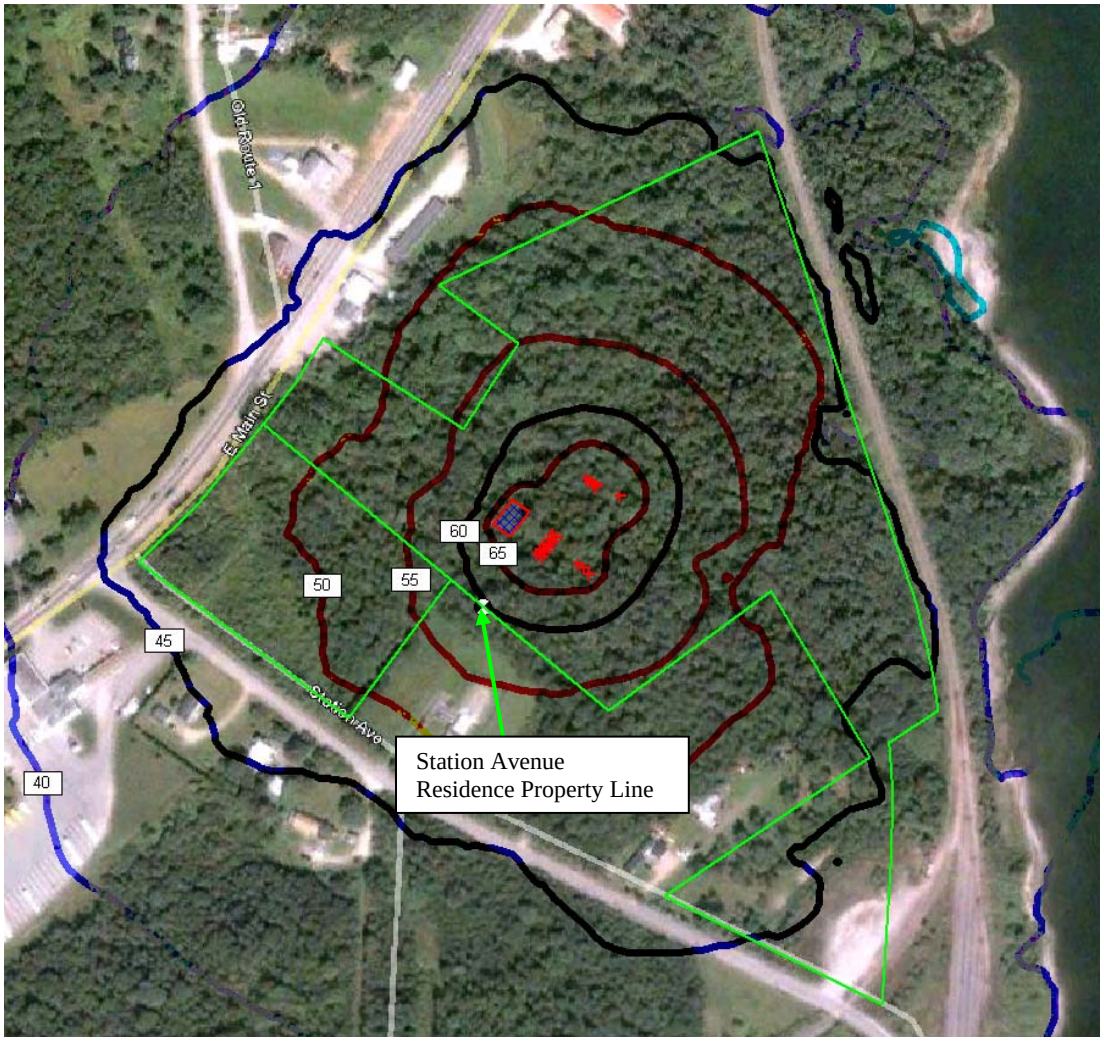


Table 5-2

Searsport Propane Terminal Summary of Hourly Background Measured Leq Noise Levels (dBA) Location 1 - East Main Street							
Hour Ending	December 17, 2010	December 18, 2010	December 19, 2010	December 20, 2010	December 21, 2010	December 22, 2010	Average by Hour
1	---	40.6	42.3	42.2	53.5	48.2	45.4
2	---	41.6	42.7	44.4	54.1	47.7	46.1
3	---	40.7	42.3	44.4	53.7	48.9	46.0
4	---	41.0	43.4	48.8	55.2	48.9	47.5
5	---	43.1	43.9	49.1	56.5	50.5	48.6
6	---	44.2	44.4	52.7	57.2	51.7	50.0
7	---	45.1	46.1	53.0	57.8	53.6	51.1
8	---	47.1	48.3	54.5	59.1	55.8	53.0
9	---	48.1	47.1	53.6	58.4	55.2	52.5
10	50.5	47.4	48.8	54.5	60.1	55.7	52.8
11	47.4	46.4	47.8	54.2	59.1	55.4	51.7
12	46.9	45.4	46.4	55.8	59.1	55.4	51.5
13	46.4	45.3	45.8	55.8	58.9	55.5	51.3
14	48.4	45.4	47.3	55.1	59.5	55.4	51.9
15	49.9	45.8	48.7	54.1	59.0	56.1	52.3
16	50.8	48.1	48.7	55.0	57.4	---	52.0
17	50.7	49.6	48.4	55.6	55.8	---	52.0
18	51.2	50.7	49.1	54.4	55.0	---	52.0
19	49.5	49.4	48.7	52.3	54.0	---	50.8
20	48.6	48.9	48.4	52.9	53.9	---	50.5
21	47.1	48.8	47.7	51.3	52.7	---	49.5
22	46.0	47.7	45.5	51.9	52.1	---	48.6
23	45.1	47.8	43.9	50.4	52.6	---	48.0
24	43.5	44.9	43.4	49.4	49.0	---	46.0
					Average Day		**52.0**
					Average Night		**48.1**

Table 5-3

Searsport Propane Terminal Summary of Hourly Background Measured Leq Noise Levels (dBA) Location 2 - Station Avenue							
Hour Ending	December 17, 2010	December 18, 2010	December 19, 2010	December 20, 2010	December 21, 2010	December 22, 2010	Average by Hour
1	---	38.1	41.4	38.0	49.8	44.7	42.4
2	---	39.1	42.1	39.9	50.6	45.1	43.4
3	---	37.9	41.0	40.4	50.0	45.0	42.9
4	---	38.7	41.2	44.7	51.7	45.8	44.4
5	---	41.8	43.2	45.2	53.4	47.2	46.2
6	---	42.4	43.1	48.4	53.4	48.3	47.1
7	---	42.7	43.6	48.9	54.7	49.7	47.9
8	---	44.0	46.5	50.1	55.7	52.3	49.7
9	49.5	44.0	44.1	48.7	54.9	51.1	48.7
10	46.9	43.5	45.1	50.1	57.2	51.7	49.1
11	44.5	43.2	45.4	50.1	55.9	51.3	48.4
12	43.2	43.5	43.7	51.8	56.1	51.9	48.4
13	44.0	42.5	41.9	51.4	55.3	51.6	47.8
14	44.8	42.2	42.7	50.7	56.4	51.9	48.1
15	45.7	40.6	44.4	50.0	56.1	---	47.4
16	47.6	43.9	44.4	50.2	54.2	---	48.1
17	46.1	46.4	45.6	52.0	52.3	---	48.5
18	46.3	47.4	46.4	50.6	51.0	---	48.3
19	45.5	46.0	44.4	48.8	51.0	---	47.1
20	44.4	45.7	44.0	49.4	50.8	---	46.9
21	43.4	47.2	44.2	48.1	49.8	---	46.5
22	42.2	45.9	41.3	48.5	48.8	---	45.3
23	41.8	46.3	40.4	46.3	49.7	---	44.9
24	40.4	43.0	41.3	45.6	45.6	---	43.2
					Average Day		**48.4**
					Average Night		**45.0**

The project as currently proposed would consist of the following major noise generating sources:

- A compressor building that will house five compressors ranging from 150 horsepower (hp) to 200 hp ratings;
- Ten air fin cooling fans;
- Three propane-fired heaters;
- Four 150 hp loading pumps; and
- One 150 hp vapor line blower.

Noise level data for the above sources were obtained from similar type projects and/or developed based on the source horsepower ratings. The commercially available CadnaA model developed by Datakustik GmBH was used for the modeling analysis. The software takes into account spreading losses, ground and atmospheric effects, shielding from barriers and buildings, and reflections from surfaces. The software is standard based and the ISO 9613 standard was used for air absorption and other noise propagation calculations (ISO, 1993). The existing topographic features of the project site and surrounding area, and their reflection or barrier effects, were also considered in the modeling. As stated above, typical noise level data for each source were included in the model, with noise control measures incorporated, in order to calculate noise levels that would be generated by operation of the proposed project at adjacent protected areas.

Calculated project noise levels at the nearest protected location are provided in Table 5-4. The data in this table indicate that project noise levels would be in compliance with the MDEP noise standard at all adjacent protected areas, given that the noise levels at protected locations further from facility noise sources would be less than those at the closest location. The noise level specifications for each source that ensures compliance with the standard are provided in Table 5-5. These noise specifications are achievable through the use of standard noise control measures.

In addition to the tabular data, a noise contour map is also presented that depicts the expected noise levels in the area. These figures show that all potential protected locations are outside of the 60 dBA standard contour.

TABLE 5-4
Noise Modeling Results (dBA)

Protected Area Location	Calculated Project Noise Level	Applicable MDEP Noise Standard
Station Avenue Residence	59.6	60

TABLE 5-5
Equipment Noise Specifications

Equipment	Noise Level Specification (per source)
Compressor Building	68 dBA at 3 Feet
Fin Fan Coolers	60 dBA at 50 Feet
Gas Heaters	56 dBA at 50 Feet
Pumps	63 dBA at 50 Feet
Vapor Blower	63 dBA at 50 Feet

5.F Noise Control Measures

As stated previously, the noise control measures that will be incorporated into the final design have not been determined. Potential noise control measures may include enhanced walls and acoustically treated ventilation louvers for the compressor building, strategic location of sources onsite, noise barrier walls, and low noise specifications for certain sources such as the cooling fans. Regardless of the final control measures selected, the proposed project will comply with the MDEP noise standard at protected locations.

5.G Construction

Based on Title 38 M.R.S.A. § 484. 3.A, noise generated between the hours of 7 a.m. and 7 p.m. or during daylight hours, whichever is longer, by construction of a development approved under the Site Law may not be regulated. Nighttime construction activity becomes essential to comply with outage sequencing or other external factors, DCP will meet the standards for nighttime construction under MDEP Chapter 375.10 and any applicable municipal standards.

5.H Conclusion

DCP prepared a noise study to demonstrate that the proposed terminal can be designed to meet the requirements of the MDEP noise standard. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, computer noise modeling, identification of required equipment noise specifications, and a demonstration of compliance with the MDEP noise standards.

An ambient noise monitoring program, conducted continuously over a six day period at two adjacent locations revealed that the site is not located in a Quiet Area, as defined by the MDEP regulation. Given that surrounding properties are zoned for commercial use and the facility will operate 24 hours per day, project noise must be limited to 60 dBA at any protected location.

Because project design is ongoing, it is possible that the final design configuration, numbers and type of equipment used may differ from that depicted in this noise study. The noise study demonstrates that the project can be designed to achieve compliance with the MDEP noise standard using standard noise control measures. The specifications and or noise control measures that will be used in the final design of the project may also differ from those proposed herein; nevertheless, the final design and operation of the project will comply with the MDEP noise standard.

5.I References

Harris, 1991. Handbook of Acoustical Measurements and Noise Control, Third Edition. McGraw-Hill, Inc.

ISO, 1993. International Organization for Standardization. Standard ISO 9613-2 Acoustics – Attenuation of Sound During Propagation Outdoors, Part 2 General Method of Calculation. Geneva, Switzerland.

Maine Department of Environmental Protection. Chapter 375.10 – Control of Noise.

Miller, L.N., E.W. Wood, R.M. Hoover, A.R. Thompson, and S.L. Patterson. 1984. Electric Power Plant Environmental Noise Guide. Prepared for Edison Electric Institute by Bolt, Beranek and Newman, Inc., Cambridge, Massachusetts

New York Power Authority, 1987. Sound Cable Project Article VII Application. Prepared by Ebasco Environmental.

United States Environmental Protection Agency, 1978. Protective Noise Levels. Office of Noise Abatement & Control. Report Number EPA 550/9-79-100. Washington, D. C. 20460.

SECTION 6. VISUAL QUALITY AND SCENIC CHARACTER

A Visual Impact Assessment for the project, including computer simulations of the developed site, was completed in accordance with NRPA Chapter 315 requirements. The Visual Impact Assessment is described and discussed in the NRPA application.

SECTION 7. WILDLIFE AND FISHERIES

Measures to protect wildlife and fisheries during construction and operation of the DCP Terminal are described below to illustrate DCP's efforts to minimize detrimental effects on wildlife and fisheries habitat located on and adjacent to the site. These measures demonstrate DCP's compliance with the Protection of Wildlife and Fisheries requirements of the No Adverse Environmental Effect Standards of the Site Law (06-096 CMR 375.15). Criteria to be evaluated that are relevant to reaching this conclusion include:

- Establishment of sufficient buffers for providing wildlife with travel ways between areas of available habitat;
- Demonstration that wildlife and fisheries lifecycles will not be adversely affected; and
- Demonstration that there will be no unreasonable disturbance to:
    - High and moderate value deer wintering areas;
    - Habitat for species declared threatened or endangered by the Maine Department of Inland Fisheries and Wildlife (MDIFW) or the U.S. Fish and Wildlife Service (USFWS);
    - Nesting sites for bird colonies including:
        1. Seabird nesting islands;
        2. High and moderate value waterfowl and wading bird habitat, and;
        3. Shorebird nesting, feeding and staging areas; and
    - Significant vernal pools (06-096 CMR 375.15B 1-3)

7.A Agency Consultations

On behalf of DCP, TRC has contacted state and federal resource agencies responsible for the protection and management of fisheries and wildlife. The purpose of these consultations was to obtain information on the occurrence of rare, threatened or endangered species and related habitat and other wildlife concerns to be considered and evaluated for permitting, constructing, and operating the DCP Terminal. This correspondence with state and federal agencies is provided in Appendix 7A. A narrative summary of agency consultations to date follows.

7.A.1 Maine Department of Inland Fisheries and Wildlife

With respect to both fish and wildlife, MDIFW has found no records of an occurrence of state-listed Endangered, Threatened, or Special Concern species, or their habitats at the project location in Searsport. MDIFW noted that Tidal Waterfowl and Wading Bird Habitat ("TWWH") does occur east of the site along the estuarine fringe of Long Cove. However, MDIFW has concluded there would be no direct impacts from the project on the TWWH, as long as stormwater runoff is managed in accordance with Chapter 500 of MDEP regulations.

TRC has also conducted numerous field surveys and site visits at the project site during various seasons of the year and has observed no evidence of deer wintering areas or vernal pools. The absence of deer wintering areas is also corroborated by MDEP's Geographical Information System (GIS) mapping of deer wintering areas in Searsport.

7.A.2 Maine Department of Marine Resources

The Maine Department of Marine Resources (MDMR) has considered both the land-based as well as the ship traffic components of the DCP Terminal. MDMR has concluded that with proper management, it

does not appear there would be any potential adverse effects to marine resources from the land based tank and send-out pipeline portion of the project. MDMR has designated the east side of Long Cove, including the tidal and sub-tidal area around the pier, as part of "Closed Area No. 33"; i.e., closed to the harvesting of shellfish. Since August 2007, because of pollution, it has been unlawful to dig, take or possess clams, quahogs, oysters or mussels from this Closed Area. MDMR will be further coordinating with the U.S. Coast Guard on ship traffic aspects of the project during preparation of the Waterway Safety Assessment.

7.A.3 United States Fish and Wildlife Service

The USFWS has concluded the project site does not occur in a watershed designated as critical habitat by the National Marine Fisheries Service for the federally-endangered Atlantic salmon (*Salmo salax*). In addition, pursuant to Section 7 of the Endangered Species Act, the USFWS had concluded no other federally-listed species under its jurisdiction are known to occur in the area.

7.A.4 National Marine Fisheries Service (NMFS)

In addition to Atlantic salmon, the NMFS noted the federally endangered shortnose sturgeon (*Acipenser brevirostrom*) inhabits the lower estuary of the Penobscot River as does the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), which for the distinct population segment in the Gulf of Maine is designated as threatened. The NMFS response also noted that the proposed project is not located in designated critical habitat for Atlantic salmon. In follow-up clarification, the NMFS responded that it is unlikely the proposed project is likely to jeopardize the continued existence of Atlantic sturgeon. The land-based terminal and pipeline components of the DCP Terminal will not have an adverse impact on either species of sturgeon, and the increase of approximately six ships per year bringing LPG to the existing piers at the Mack Point Terminal is insignificant when compared to the approximately 130 to 160 vessels per year that currently utilize the existing facility.

7.A.5 Interagency Site Visit

On April 13, 2011, a site visit was held with representatives of MDEP, the U.S. Army Corps of Engineers, USFWS, NMFS, and DCP. Although invited, representatives from MDIFW did not attend. The purpose of the site visit was to review conditions along the southerly stream course and the drainage through the center of the site. The entire length of both the stream and the drainage were walked from their on-site origins to Long Cove. Comments received in the field from these agencies did not deviate from the responses provided in Appendix 7A.

7.B Site Conditions

Palustrine forested wetland (PFO) covers less than approximately 20 percent of the 19.8-acre site where most of the DCP Terminal is to be located. Drainage across the site is generally to the east into Long Cove, which is located at the mouth and west side of the Penobscot River where it enters Penobscot Bay. Wetlands on the site are generally associated with two separate, deeply incised drainage courses and are therefore very narrow (typically less than 20 feet wide) and elongate.

The more southerly drainage course is the larger of the two, and is represented by a marginally perennial stream that conveys flow onto the site via a 24-inch reinforced concrete pipe under U.S. Route 1. Flow then continues to Long Cove through a hanging 36-inch corrugated metal pipe under the Montreal, Maine and Atlantic Railroad. Although this drainage does not appear as a blue line on a USGS topographic map, two of the five requisite defining characteristics for a "river, stream or brook" (38 MRSA §480-B(9)) are exhibited by the southerly drainage include: 1) *the channel bed is primarily composed of mineral material*

such as sand and gravel … that has been deposited or scoured by water, and 2) it appears to … *contain or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.* On the DCP Terminal site the southerly drainage course would therefore be a NRPA-regulated stream. Flow contributing to the stream originates from beyond the site, and the watershed extends to a small area on the opposite side of U.S. Route 1 where no evidence of a stream channel exists in the wetland above the road culvert. While the on-site portion of this southerly drainage does meet the MDEP definition of a stream, it has very limited biological value.

The central drainage course exhibits an eroded channel that is fed by relatively small wetlands on flatter parts of the interior of the site, and then drains beneath the railroad through a 24-inch corrugated metal pipe to Long Cove. Although one of the requisite characteristics for a NRPA-regulated stream is present (see criteria #1 described above), due to the much smaller contributing watershed, the eroded channel appears to be maintained by irregular, ephemeral events such as heavy rainfall or snowmelt that are unlikely to be at least 6 months in duration. Consequently, the two other definitive attributes (*contains aquatic animals* or *contains aquatic vegetation*) are also absent so that the central drainage course is not a NRPA-regulated stream.

A palustrine scrub-shrub (PSS) drainage swale wetland dominated by alder occurs on the approximately 3.8-acre commercially-zoned lot at the corner of Station Avenue and U.S. Route 1, where the proposed administration building and entrance are to be located. The PSS drains northeasterly into the southerly stream described above. Shrubs, saplings, and early successional growth dominating this corner lot appear to have become established subsequent to disturbances associated with previous land uses, including a pipeline corridor that essentially bisects the lot from the northwest to the southeast. Mounds of previously deposited fill materials are also present in the north corner of the lot near U.S. Route 1.

7.C Wildlife Habitat Evaluation

Wildlife habitat at the DCP Terminal site is strongly influenced and limited by conditions surrounding the site. The site is located on the north side of the Mack Point Terminal, the mid-coast port of Maine's Three-Port Strategy developed by the Maine Department of Transportation and the Maine Port Authority. Lots making up the site are zoned as Industrial and Commercial and the properties surrounding the site on all sides are also zoned as Industrial or Commercial.

U.S. Route 1, heavily used by local, commercial and tourist traffic, borders the site on the west along with commercial development that includes a restaurant and motel. Commercial lots bordering the site on the south are located along Station Avenue which provides truck access to the Mack Point Terminal. The easterly side of the site is bordered by the Montreal, Maine and Atlantic Railroad, which provides direct access for cargo to and from the Mack Point Terminal. Although wooded conditions dominate the site and its small wetlands, the site is not readily linked to other habitat of equal or better quality, and is instead closely surrounded by intensive and persistent commercial and industrial activity.

A more detailed description of the functions and values of the wetlands and stream components that would be affected by the project is provided in the NRPA application.

7.D No Adverse Environmental Effects to Wildlife and Fisheries

Existing conditions at and adjacent to the corner of Station Avenue and U.S. Route 1 in Searsport define and control measures to protect wildlife and fisheries during DCP's construction and operation of the proposed DCP Terminal. Wildlife and fisheries lifecycles will not be adversely affected by the proposed project activities. Absent from the site are: high or moderate deer wintering areas, habitat for threatened or endangered species, nesting sites for bird colonies, and vernal pools. Although the site is wooded and

undeveloped, it is surrounded by U.S. Route 1, Station Avenue, and the Montreal, Maine, and Atlantic Railroad tracks leading to Mack Point, so the site is not readily linked to other habitat of equal or better quality, and is instead closely surrounded by intensive and persistent commercial and industrial activity. As a result, the proposed DCP Terminal will comply with the No Adverse Environmental Effect Standards of the Site Law relating to the protection of wildlife and fisheries.

APPENDIX 7A

Fisheries and Wildlife Agency Correspondence

Agency Consultation Letters

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Mr. Mark McCollough
U.S. Fish & Wildlife Service
Maine Ecological Services Office
17 Godfrey Drive, Suite #2
Orono, ME 04473

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Fisheries and Wildlife Consultation

Dear Mark:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail. A location map showing the proposed site is attached.

On behalf of DCP, TRC Environmental Corporation ("TRC"), is requesting information regarding the known location of federally-listed threatened or endangered ("T&E") plant or animal species, essential or significant wildlife habitats, and other natural resource concerns in the vicinity of the site that is under consideration. TRC will also be contacting the appropriate state and other federal agencies for their input.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

Sincerely,

Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Becky Malloy: DCP
Wende Mahaney: USFWS

Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Mr. Steve Timpano
Maine Department of Inland Fisheries and Wildlife
41 State House Station
284 State Street
Augusta, ME 04333

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Fisheries and Wildlife Consultation

Dear Steve:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail. A location map showing the proposed site is attached.

On behalf of DCP, TRC Environmental Corporation ("TRC"), is requesting information regarding the known location of state-listed threatened or endangered ("T&E") animal species, essential or significant wildlife habitats and other natural resource concerns in the vicinity of the site that is under consideration. TRC will also be contacting the appropriate federal and other state agencies for their input.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

Sincerely,

Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Becky Malloy: DCP

Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Mr. Jeff Murphy
National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive, Suite 1
Orono, ME 04473

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Marine Resource Consultation

Dear Jeff:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail. A location map showing the proposed site is attached.

On behalf of DCP, TRC Environmental Corporation ("TRC"), is requesting information regarding the known location of federally-listed threatened or endangered ("T&E") plant or animal species, essential fish habitat, and other fisheries or marine resource concerns in the vicinity of the site that is under consideration. TRC will also be contacting the appropriate state and other federal agencies for their input.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

Sincerely,

Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Becky Malloy: DCP

Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Mr. Brian Swan
Environmental Coordinator
Maine Department of Marine Resources
21 State House Station
Augusta, ME 04333

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Marine Resource Consultation

Dear Brian:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail. A location map showing the proposed site is attached.

On behalf of DCP, TRC Environmental Corporation ("TRC"), is requesting information regarding the known location of state-listed threatened or endangered ("T&E") plant or animal species and other marine resource concerns in the vicinity of the site that is under consideration. TRC will also be contacting the appropriate federal and other state agencies for their input.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

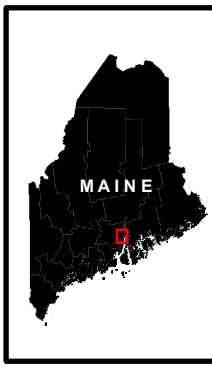
Sincerely,

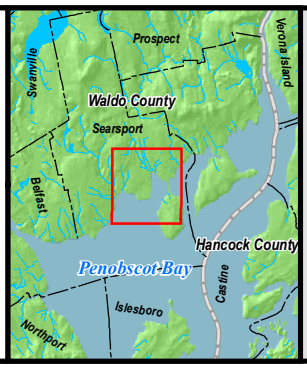
Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Becky Malloy: DCP

Attachment

Site Location Map Provided With Agency Consultation Letters





LEGEND

County Boundary (MEGIS)

Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream, LP

Searsport Propane Terminal
Searsport, Maine

Site Location Map

Created by: TRC 9/23/2010

S:\Projects\TRC\SoPortland\MISC\Searsport_Propane_Terminal\MXD\Locus_8x11P_20100922.mxd

Agency Responses

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Maine Field Office – Ecological Services
17 Godfrey Drive, Suite #2
Orono, ME 04473
(207) 866-3344 Fax: (207) 866-3351

FWS/Region 5/ES/MEFO

October 28, 2010

Steven Wallace
TRC Environmental Corporation
400 Southborough Drive
South Portland, ME 04106

Dear Mr. Wallace:

Thank you for your letter dated October 21, 2010, requesting information or recommendations from the U.S. Fish and Wildlife Service (Service). This letter provides the Service's response pursuant to Section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667d).

Project Name/Location: Searsport propane terminal

Log Number: 53411-2011-SL-029

Federally Listed Species

Atlantic Salmon

This project occurs within the range of the Gulf of Maine Distinct Population Segment (GOM DPS) of Atlantic salmon (*Salmo salar*) in Maine, a federally-endangered species under the joint jurisdiction of the Service and the National Marine Fisheries Service (NMFS) (74 FR 29344; June 19, 2009). The Atlantic salmon GOM DPS encompasses all naturally spawned and conservation hatchery populations of anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River and wherever these fish occur in the estuarine and marine environment. Also included in the GOM DPS are all associated conservation hatchery populations used to supplement these natural populations. Excluded are landlocked Atlantic salmon and those salmon raised in commercial hatcheries for aquaculture.

The proposed project site, however, does **not** occur in a watershed that has been designated as critical habitat for Atlantic salmon by NMFS (74 FR 29300; June 19, 2009).

For Atlantic salmon and its critical habitat, NMFS and the Service share consultation responsibilities under Section 7 of the ESA. The Service generally handles projects in the

freshwater component of the salmon's habitat and NMFS handles projects in the marine and estuarine environment (generally below the head of tide).

Based on the information currently available to us, no other federally-listed species under the jurisdiction of the Service are known to occur in the project area.

Please note that under Section 7 of the ESA, it is the federal action agency's responsibility to determine if a project may affect a federally listed species. For example, if the project receives federal funding or needs a federal permit, those actions may provide a "nexus" for Section 7 consultation under the ESA[1]. If the federal action agency determines that a project would have "no effect" on a listed species or critical habitat, they do not need to seek the concurrence of the Service and there is no need for Section 7 consultation. If the federal agency determines that a project "may affect" a listed species or its critical habitat, then consultation pursuant to Section 7 of the ESA should be initiated. Please note, however, that there is no provision under Section 7 for consultation after a project has already been completed.

Other Protected Species

The bald eagle was removed from the federal threatened list on August 9, 2007 and is now protected from take under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. "Take" means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. The term "disturb" under the Bald and Golden Eagle Protection Act was recently defined within a final rule published in the Federal Register on June 5, 2007 (72 FR 31332). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Further information on bald eagle delisting and their protection can be found at http://www.fws.gov/migratorybirds/baldeagle.htm.

Please consult with our new national bald eagle guidelines, which can found at http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf. These Guidelines are voluntary and were prepared to help landowners, land managers and others meet the intent of the Eagle Act and avoid disturbing bald eagles. If you believe this project will result in taking or disturbing bald or golden eagles, please contact our office for further guidance. We encourage early and frequent consultations to avoid take of eagles.

We have not reviewed this project for state-threatened and endangered wildlife, wildlife species of special concern, and significant wildlife habitats protected under the Maine Natural Resources Protection Act. We recommend that you contact the Maine Department of Inland Fisheries and Wildlife:

---

[1] Section 7 consultation, however, is only necessary when a federal agency takes a *discretionary* action (e.g., an agency has a choice of whether or not to fund or permit a particular project).

Steve Timpano
Maine Department of Inland Fisheries and Wildlife
284 State St.
State House Station 41
Augusta, ME 04333-0041
Phone: 207 287-5258

We also recommend that you contact the Maine Natural Areas Program for additional information on state-threatened and endangered plant species, plant species of special concern, and rare natural communities:

Lisa St. Hilaire
Maine Natural Areas Program
Department of Conservation
93 State House Station
Augusta, ME 04333
Phone: 207 287-8046

If you have any questions please call Mark McCollough, endangered species biologist, at (207) 866-3344 x115.

Sincerely,

Mark McCollough

Mark McCollough, Acting Field Supervisor
Maine Field Office

Enclosure

Searsport propane terminal

Stockton Springs

Main

Searsport

Project Site

Mount Ephraim

Prospect

Mill Pond

Mill Brook Dam

1

Ribbon Snake
Last obs:1974

Sears Island

RIBBON SNAKE

Legend

- ATS Critical_Habitat_by_HUC10
- ATS GOM_DPS
- Eagle nests 12-2009

Eagle nests w/ buffers 12-2009

buffer distance

- 660'
- 1,320'
- RTE points-2006
- RTE polys-2006

MDIFW Heritage 2008-05

State legal status(SPROT)

- Endangered
- Threatened
- Special Concern
- Other

0 0.25 0.5 0.75 Miles

N W E S

Data from USFWS, MDIFW & MNAP.

Maine

Area of detail

Date map made; file name; map maker.

Fisheries Division, Region B
Maine Department of Inland Fisheries
and Wildlife
Sidney Regional Headquarters
270 Lyons Road
Sidney, Maine 04330

November 2, 2010

Mr. Steven Wallace
TRC Environmental Corporation
400 Southborough Drive
South Portland, Maine 04106

RE: DCP Midstream Project, Searsport, Maine.

Dear Steve:

This letter will document completion of your request for a review of natural resources on and adjacent to the location of the subject project.

The Region B Fisheries office of the Maine Department of Inland Fisheries and Wildlife has reviewed the supporting map in relation to known information on the existence of threatened and endangered species, and\or significant fisheries habitat and has found that none within our jurisdiction exists in the vicinity of the proposed project.

Thank you for the opportunity to review the project. If this office can be of additional assistance regarding natural resources, please do not hesitate to contact us. Best of luck with the project.

Sincerely,

Robert Van Riper
Regional Fisheries Biologist

Donohue, Sean (S.Portland,ME-US)

From: Wallace, Steve (S.Portland,ME-US)
Sent: Tuesday, December 07, 2010 9:32 AM
To: 'Timpano, Steve'; Kemper, Keel
Cc: Connolly, James; VanRiper, Robert
Subject: RE: Initial Consultation: DCP Midstream, Searsport

We will be working with Ken Libby at DEP in Bangor to ensure stormwater runoff from the site meets the Chapter 500 DEP standards.
Thanks for the input, Steve Wallace

From: Timpano, Steve [mailto:Steve.Timpano@maine.gov]
Sent: Tuesday, December 07, 2010 9:22 AM
To: Kemper, Keel; Wallace, Steve (S.Portland,ME-US)
Cc: Connolly, James; VanRiper, Robert
Subject: RE: Initial Consultation: DCP Midstream, Searsport

Thanks Keel. I had mentioned stormwater runoff as an issue of possible concern in the context of possible toxics contamination of the small tributary streams and consequently the TWWH mudflats. Not an issue of incorporating appropriate stormwater program design standards per sec.

Steve T.

From: Kemper, Keel
Sent: Tuesday, December 07, 2010 8:22 AM
To: Timpano, Steve; 'Wallace, Steve (S.Portland,ME-US)'
Cc: Connolly, James; VanRiper, Robert
Subject: RE: Initial Consultation: DCP Midstream, Searsport

If someone does have "stormwater" concerns, those are most appropriately addressed by David Ladd of the MDEP who manages the stormwater program.

KK

From: Timpano, Steve
Sent: Monday, December 06, 2010 10:04 AM
To: 'Wallace, Steve (S.Portland,ME-US)'; Kemper, Keel
Cc: Kemper, Keel; Connolly, James; VanRiper, Robert
Subject: RE: Initial Consultation: DCP Midstream, Searsport

Hi Steve;

Sorry, my lapse. Regional wildlife staff deferred to me for response because I attended the 11-18-10 consultation meeting at DEP.

As discussed at the meeting, I've checked our habitat consultation database and found no records of occurrence of State-listed Endangered, Threatened, or Species of Special Concern, or their habitats at the project location. The shallow-water fringe along the shoreline from the existing piers to the mudlflats at the upper end of Long Cove are identified as Tidal Waterfowl and Wading Bird Habitat (TWWH), a Significant Wildlife Habitat under NRPA. Based upon description of the proposed project there would be no direct impacts to TWWH, though stormwater runoff/water quality concerns were identified as issues of possible concern. As also discussed, there could be an opportunity for enhancing functions and

values of adjacent TWWH through vegetative plantings to provide screening along the proposed pipeline route where it would parallel the existing, mostly unscreened roadway.

Please contact me if there are any questions, or if you would like to discuss possible habitat enhancement as mentioned above. We'll look forward to opportunity for review and additional comment upon the permit application.

Steve T.

From: Wallace, Steve (S.Portland,ME-US) [mailto:SWallace@trcsolutions.com]
Sent: Friday, December 03, 2010 9:54 AM
To: Timpano, Steve
Subject: FW: Initial Consultation: DCP Midstream, Searsport

Steve-
Still don't seem to have a response to this from the wildlife side (fisheries sent me a response). Could you check into that for me? Thanks
Steve

From: Wallace, Steve (S.Portland,ME-US)
Sent: Thursday, October 21, 2010 10:16 AM
To: 'Timpano, Steve'
Cc: 'Malloy, Rebecca P'
Subject: RE: Initial Consultation: DCP Midstream, Searsport

Steve:
See attached T&E Species info request re the potential project on Mack Point, Searsport that we talked about last week. See you on Nov. 18th. It looks like the meeting will be in Bangor. More on that tomorrow.
Thanks, Steve

Steven Wallace
Senior Project Manager

TRC

TRC Companies, Inc.
312 Keene Neck Road
Bremen, Maine 04551

Direct: (207) 529-2900
Fax: (207) 529-2901
Mobile: (207) 233-2020
swallace@trcsolutions.com

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

NOV 16 2010

Steven Wallace
Senior Project Officer
TRC Companies, Inc.
312 Keene Neck Road
Bremen, Maine 04551

RE: DCP Midstream Project, Marine Resource Consultation, Searsport, Maine

Dear Mr. Wallace:

This correspondence is in response to your letter dated October 21, 2010 requesting information on the presence of federally listed species under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS) adjacent to the Sprague and Irving Oil bulk products receiving terminals on Mack Point in Searsport, Waldo County, Maine. The specific site, as indicated by the map provided in your initial letter, is located upland of Long Cove which lies within the upper reaches of Penobscot Bay in Maine. It is our understanding that DCP Midstream is evaluating the site for a liquid propane (LPG) receiving terminal.

Species Listed Under the ESA
Two species of federally endangered fish (shortnose sturgeon, *Acipenser brevirostrom,* and the Gulf of Maine Distinct Population Segment (DPS) of Atlantic salmon, *Salmo salar)* listed under NMFS jurisdiction of NOAA's National Marine Fisheries Service (NMFS) occur in the Penobscot River. In the Penobscot River, shortnose sturgeon range from the Veazie Dam to the lower estuary. A study targeting sturgeon has been ongoing in the river since 2006 with approximately 250 shortnose sturgeon captured by the University of Maine (UM) through the end of 2008. Preliminary population estimates by UM indicate that there are 300 to 2000 adult shortnose sturgeon in the Penobscot River.

The Gulf of Maine DPS (GOM DPS) of Atlantic salmon *(Salmo salar)* is listed as endangered under the ESA. The expanded GOM DPS includes all anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River (74 *Federal Register* 29344-29387). Included are all associated conservation hatchery populations used to supplement these natural populations; currently, such conservation hatchery populations are maintained at Green Lake National Fish Hatchery (GLNFH) and Craig Brook National Fish Hatchery (CBNFH). The proposed project

is located within the geographic range of GOM DPS of Atlantic salmon. Based on this information, Atlantic salmon are likely to occur in the action area.

On June 19, 2009, NMFS also designated critical habitat for listed Atlantic salmon pursuant to section 4(b)(2) of the ESA (74 FR 29300-29341; 39903-39907). The critical habitat designation for the GOM DPS includes 45 specific areas occupied by Atlantic salmon at the time of listing that include approximately 19,571 km of perennial river, stream, and estuary habitat and 799 square km of lake habitat within the range of the GOM DPS and in which are found those physical and biological features essential to the conservation of the species. The entire occupied range of the GOM DPS in which critical habitat is designated is within the State of Maine. However, the proposed project is not located within designated critical habitat for listed Atlantic salmon.

Technical Assistance for Proposed Species

On October 6, 2010, NMFS published two rules proposing to list four distinct population segments (DPS) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus)* as endangered and one DPS as threatened (Gulf of Maine DPS) under the ESA (75 FR 1872). The GOM DPS of Atlantic sturgeon includes the following: all anadromous Atlantic sturgeon whose range occurs in watersheds from the Maine/Canadian border and extending southward to include all associated watersheds draining into the Gulf of Maine as far south as Chatham, MA, as well as wherever these fish occur in coastal bays and estuaries and the marine environment. Within this range, Atlantic sturgeon have been documented in the following rivers: Penobscot, Kennebec, Androscoggin, Sheepscot, Saco, Piscataqua, and Merrimack. The marine range of Atlantic sturgeon from the GOM DPS extends from the Bay of Fundy, Canada to the Saint Johns River, FL. The GOM DPS also includes Atlantic sturgeon held in captivity (*e.g.*, hatcheries, scientific institutions) and which are identified as fish belonging to the GOM DPS based on genetics analyses, previously applied tags, previously applied marks, or documentation to verify that the fish originated from (hatched in) a river within the range of the GOM DPS, or is the progeny of any fish that that originated from a river within the range of the GOM DPS. The proposed action falls within the geographic range of the GOM DPS of Atlantic sturgeon.

Under the provisions of 50 CFR §402.10, federal agencies shall confer with NMFS on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. As the GOM DPS of Atlantic sturgeon has been proposed as a threatened species under the ESA, the project proponent should consider the potential effects of the proposed project on Atlantic sturgeon and work with NMFS to determine if a conference is necessary.

As listed species and/or critical habitat are likely to be present in the action area of this project, a consultation, pursuant to section 7 of the Endangered Species Act (ESA) of 1973, may be necessary. If the proposed project has the potential to affect listed species and/or critical habitat and it is being approved, permitted, funded, or carried out by a Federal agency, the lead Federal agency, or their designated non-Federal representative, is responsible for determining whether the proposed action is likely to affect listed species. The lead Federal agency should

submit their determination of effects, along with justification for the determination and a request for concurrence, to the attention of the Section 7 Coordinator, NMFS, Northeast Regional Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930. After reviewing this information, NMFS would then be able to conduct a consultation under section 7 of the ESA. Should you have any questions regarding the section 7 consultation process or the species discussed in this letter, please contact Max Tritt at our Maine Field Station at (207)866-3756. We look forward to continuing to work cooperatively with you on this project and the upcoming section 7 consultation.

Sincerely,

Mary A. Colligan
Assistant Regional Administrator
for Protected Resources

EC: Tritt, Murphy – F/NER3

File Code: Sec 7 tech assist 2010

Donohue, Sean (S.Portland,ME-US)

From: Jeff Murphy [Jeff.Murphy@noaa.gov]
Sent: Tuesday, November 30, 2010 10:37 AM
To: Wallace, Steve (S.Portland,ME-US)
Cc: 'Malloy, Rebecca P'; Max Tritt
Subject: Re: DCP Midstream Searsport, ME

Hello Steve - Based upon my present understanding of the project and its likely effects to Atlantic sturgeon, I believe that It's unlikely that the proposed project is likely to jeopardize the continued existence of Atlantic sturgeon. Pending your impact analysis, I think a conference won't be needed. Once we have all the information, NMFS will be able to make a final determination on whether a conference is needed. Thanks, Jeff.

On 11/30/2010 9:26 AM, Wallace, Steve (S.Portland,ME-US) wrote:

Jeff-

I received the NMFS response (dated 11/16/10) to my initial consultation letter for the DCP Searsport Propane Terminal Project. Thanks very much, it seems pretty straight forward but I have one question. On page 2 the letter states: “As the GOM DPS of Altantic sturgeon has been proposed as a threatened species under the ESA, the project proponent should consider the potential effects of the proposed project on Atlantic sturgeon and work with NMFS to determine if a conference is necessary.” From my initial phone call with you back in October, I had understood that you considered the approximately 6 additional propane ships per year compared to the over 130 vessels that already dock at the Sprague Terminal each year to be relatively insignificant in terms of potential effects on marine resources. As I mentioned then, there is no work planned below the water line in order to install the new propane pipeline on the existing pier.

We will address potential impacts to Atlantic sturgeon (and other marine fisheries) in our USACE and Maine DEP applications. Given this, do you feel a conference or meeting re potential affects to Atlantic sturgeon is needed?

Thanks in advance for your clarification, Steve

Steven Wallace

Senior Project Manager

TRC

TRC Companies, Inc.

312 Keene Neck Road

Bremen, Maine 04551

Direct: (207) 529-2900

Fax: (207) 529-2901

Mobile: (207) 233-2020

swallace@trcsolutions.com

--
Jeff Murphy
NOAA's National Marine Fisheries Service
Maine Field Station
17 Godfrey Drive - Suite 1
Orono, Maine 04473

Tel: 207.866.7379
Fax: 207.866.7342
Email: Jeff.Murphy@noaa.gov

STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
21 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0021

John Elias Baldacci
GOVERNOR

GEORGE D. LAPOINTE
COMMISSIONER

October 25, 2010

Mr. Steven Wallace
Senior Project Manager
TRC Environmental Corporation
South Portland, Maine 04106

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Marine Resource Consultation

Dear Steve:

It is my understanding that the proposed project would involve the installation of a liquid propane (LPG) storage tank on an upland site adjacent to the Sprague and Irving Oil receiving terminals. A send-out pipe would run along the existing pier for off-loading of LPG. An estimated half dozen LPG vessels per year would dock at the existing Sprague pier.

It does not appear there would be any potential adverse impacts to marine resources from the tank and send-out pipe portion of the project, provided Best Management Practices during construction are followed.

Potential adverse impacts from the proposed increased ship traffic to and from the Sprague pier, Searsport would be addressed by the U.S. Coast Guard Ports and Waterways Safety Assessment (PAWSA). DMR's Bureau of Marine Patrol would likely be consulted during the preparation of that document. As these vessels head up Penobscot Bay to Searsport it is very important for them to use the approaches that have been established by local pilots and mariners for Penobscot Bay. DMR may also have concerns related to ship operation, particularly water withdrawn for ballast and ship hotelling needs, as well as any potential ship discharges.

Sincerely,

Brian M. Swan
Environmental Coordinator
Maine Dept. of Marine Resources (DMR)

OFFICES AT STEVENS SCHOOL COMPLEX, HALLOWELL
PHONE: (207) 624-6550
FAX: (207) 624-6024

SECTION 8. HISTORIC SITES

This section presents a summary of all cultural resource survey activities and consultations conducted for the proposed DCP Terminal. On behalf of DCP, TRC consulted with the Maine Historic Preservation Commission ("MHPC"), Native American tribal leaders, and completed historic architecture surveys within the project's area of potential effect ("APE"). The results of these consultations and surveys are summarized below.

8.A Pre-contact and Post-contact Archaeological Consultation Summary

On October 21, 2010, TRC contacted the MHPC to initiate consultations regarding the DCP Terminal project. In an email response dated November 18, 2010, the MHPC stated that the MHPC has no concern regarding archaeological resources. Correspondence with the MHPC is provided in Appendix 8A.

8.B Historic Architectural Consultation Summary

The MHPC's November 10, 2010 response indicated that architectural surveys would be required for the project, and an assessment made of the potential effects on historic properties that are identified. A review of MHPC records to determine if historic properties that are listed on the National Register of Historic Places (NRHP) are located within a one-mile APE from the proposed terminal was completed and an architectural field survey of other structures greater than 50 years old was conducted to determine if any of those properties are potentially eligible for listing on the NRHP. Four NRHP-listed properties and two other previously-surveyed properties that are contributing resources to Searsport's East Main Street Historic District were identified. In addition, 11 other properties within the APE were determined to be potentially eligible for listing on the NRHP. An Architectural Survey Report was prepared to address potential impacts to historic structures within the project's APE and has been submitted to the MHPC for its review and concurrence. The only potential impacts found from the proposed project are potential visual impacts to three potentially-eligible structures. MHPC's response to the recommendations in the Architectural Survey Report will be provided to the MDEP as soon as it is available.

Potential visual impacts to historic architectural resources are also addressed in the NRPA application.

8.C Native American Tribal Resource Consultation Summary

On behalf of DCP, TRC also contacted the Passamaquoddy Tribe of Indians, the Penobscot Indian Nation, the Aroostook Band of Micmacs, and the Houlton Band of Maliseet Indians by letter dated March 14, 2011, to request information regarding the presence of tribal resources that may be located on the site. Responses have been received from the Passamaquoddy Tribe of Indians and the Penobscot Indian Nation to date. No concerns related to tribal resources were identified in the responses provided by the Passamaquoddy Tribe of Indians and the Penobscot Indian Nation. Copies of the letters sent to the Native American Tribes and the two responses that have been received are provided in Appendix 8B.

APPENDIX 8A

MHPC Correspondence

Correspondence Sent to MHPC

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Ms. Robin Stancampiano
Maine Historic Preservation Commission
#65 State House Station
Augusta, ME 04333

RE: DCP Midstream Project, Searsport, Waldo County, Maine
Section 106 Initial Consultation and Documentation

Dear Robin:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Maine Historic Preservation Commission ("MHPC"), specifically with regard to historic architectural resource surveys, to identify any such resources that may be located near the site. TRC is seeking information on previously surveyed architectural resources within approximately one mile of the site that is under evaluation, as well as resources listed in or determined eligible for listing in the National Register of Historic Places. A location map showing the proposed site is attached.

Assuming that cultural resource studies will be required, field investigations will include a Phase I/II (identification, evaluation and assessment of effects) architectural survey of buildings, structures, objects, and districts 50 years or older or that have achieved significance within the past fifty years. The survey will follow all applicable federal and state guidelines, including those contained in *Guidelines for Identification: Architecture and Cultural Landscapes—Section 106 Specific* (Maine Historic Preservation

Commission: April 2010). Photographs produced during the survey will be processed and printed according to "Photographic Policy—Supplement to the Guidelines" (June 2008).

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. As I mentioned on the phone on Tuesday, we have scheduled an interagency meeting for federal and state review agencies to discuss issues and permitting requirements for 9AM on November 18, 2010. The meeting will likely be held at the Maine DEP offices in Bangor. Please let me know if someone from your group would like to attend or if you would like me to set up a call-in number.

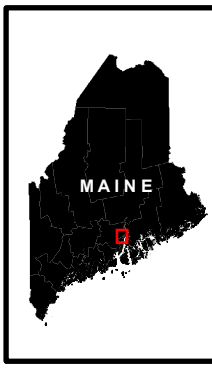
I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

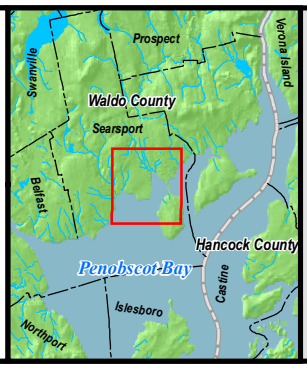
Sincerely,

Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Geoff Henry, Ellen Jenkins: TRC
Becky Malloy: DCP

Attachment





LEGEND

County Boundary (MEGIS)

Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream, LP

Searsport Propane Terminal
Searsport, Maine

Site Location Map

Created by: TRC 9/23/2010

S:\Projects\TRC\SoPortland\MISC\Searsport_Propane_Terminal\MXD\Locus_8x11P_20100922.mxd

MHPC Responses

From: Stancampiano, Robin
To: Wallace, Steve (S.Portland,ME-US);
cc: Mohney, Kirk; Neal, LeeAnn NAE;
Mitchell, Christi;
Subject: RE: DCP Searsport Meeting 11.18.10
Date: Friday, November 12, 2010 12:34:36 PM

MHPC# 2083-10 DCP Midstream; Mack Point; Sprague Facility; proposed liquid propane receiving terminal

Steve-

Per your email below and your October 21 email, our office has reviewed the information received to initiate consultation on the above referenced undertaking pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. It is our understanding that there will be two federal agencies involved in this undertaking, the US Coast Guard and the US Army Corps of Engineers.

Our office has no concern regarding archaeological resources for this undertaking.

Regarding architectural resources, architectural survey is required for this project. We request that your proposed Area of Potential Effects (APE) for architectural resources be clearly outlined on a USGS topo map. Architectural survey will identify and record information on all resources within the APE that are 50 years old or older. Survey must be completed according to our "**Revised** Above Ground Cultural Resource Survey Manual Project Review Specific." All surveys must now be submitted electronically via the CARMA on-line database. See http://www.maine.gov/mhpc/architectural_survey/survey_guidelines.html for more information. Please note that the project area may include properties that have been surveyed as part of prior project reviews. In order to determine whether portions of the project area have been previously surveyed (including National Register listed or previously determined eligible properties), please contact Christi Mitchell of our office at 287-1453 or christi.mitchell@maine.gov

A list of historic preservation consultants may be found on our website: http://www.maine.gov/mhpc/project_review/consultants/architectural_consultants.shtml

In addition, an assessment of effects must be made for historic properties that are

identified, pursuant to the Section 106 regulations.

Our office will not be participating in the 11.18.10 meeting.

We look forward to continuing consultation with you on this project.

Robin Stancampiano
--Review & Compliance Coordinator
--Certified Local Government Coordinator
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333
phone: 207-287-2132 ext. 1
fax: 207-287-2335
http://www.maine.gov/mhpc

From: Wallace, Steve (S.Portland,ME-US) [mailto:SWallace@trcsolutions.com]
Sent: Thursday, November 11, 2010 10:29 AM
To: Clukey, Robin; Beyer, Jim R; 'Clement, Jay L NAE'; 'Wende Mahaney (wende_mahaney@fws.gov)'; ''Jeff Murphy'; Timpano, Steve; Cameron, Don S.; Stancampiano, Robin; 'Matt Schweisberg (schweisberg.matt@epa.gov)'; Trish Garrigan; 'kern.mark@epa.gov'; Swan, Brian
Cc: 'Malloy, Rebecca P'; 'Graham, David W'; 'Boden, Kelly'; Peters, Colen (S. Portland,ME-US); Donohue, Sean (S.Portland,ME-US); Kichner, Jerry
Subject: RE: DCP Searsport Meeting 11.18.10

Attached is an agenda for our meeting at DEP/Bangor next Thursday, 11/18, at 9AM.

As I understand it, confirmed agency representation at the meeting will be Robin, Jim, Jay, Wende, and Steve. There will also be a US Coast Guard representative there. Don and Brian will not be participating.

I am still unsure if Jeff will be participating or if there will be a representative from the MHPO or EPA. If you are in this group please let me know if you will be in Bangor, want to call in, or won't be participating at all.

The call-in numbers for those who may need them are: Dial-in: 866-208-4552 Access Code: 5386293.

Thanks, Steve

Steven Wallace
Senior Project Manager

TRC Companies, Inc.
312 Keene Neck Road
Bremen, Maine 04551

Direct: (207) 529-2900
Fax: (207) 529-2901
Mobile: (207) 233-2020
swallace@trcsolutions.com

APPENDIX 8B

Native American Tribal Resource Correspondence

Native American Tribal Resource Consultation Letters

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

March 14, 2011

Passamaquoddy Tribe of Indians
Indian Township Reservation
Attn: Donald Soctomah, THPO
P.O. Box 301
Princeton, Maine 04668

RE: DCP Midstream Project, Searsport, Waldo County, Maine
NHPA Section 106 Consultation

Dear Mr. Soctomah:

DCP Midstream, LP ("DCP"), based in Denver, Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Passamaquoddy Tribe of Indians as required by Section 106 of the National Historic Preservation Act ("NHPA"). Specifically, TRC is seeking information regarding the presence of tribal resources that may be located on the site. A location map showing the proposed site is attached.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. If we don't hear back from you within 30 days we will assume that you have no concerns. I may be reached at (207) 879-1930 extension 120, or sdonohue@trcsolutions.com. Thank you.

Sincerely,

Sean Donohue
TRC Environmental Corporation

Cc: Becky Malloy, DCP
Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

March 14, 2011

Penobscot Indian Nation
Indian Island Reservation
Attn: Ms. Bonnie Newsom, THPO
12 Wabanaki Way
Indian Island, Maine 04468

RE: DCP Midstream Project, Searsport, Waldo County, Maine
NHPA Section 106 Consultation

Dear Ms. Newsom:

DCP Midstream, LP ("DCP"), based in Denver, Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Penobscot Indian Nation as required by Section 106 of the National Historic Preservation Act ("NHPA"). Specifically, TRC is seeking information regarding the presence of tribal resources that may be located on the site. A location map showing the proposed site is attached.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. If we don't hear back from you within 30 days we will assume that you have no concerns. I may be reached at (207) 879-1930 extension 120, or sdonohue@trcsolutions.com. Thank you.

Sincerely,

Sean Donohue
TRC Environmental Corporation

Cc: Becky Malloy, DCP
Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

March 14, 2011

Aroostook Band of Micmacs
Attn: Victoria Higgins, Chief
7 Northern Road
Presque Isle, Maine 04769

RE: DCP Midstream Project, Searsport, Waldo County, Maine
NHPA Section 106 Consultation

Dear Ms. Higgins:

DCP Midstream, LP ("DCP"), based in Denver, Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Aroostook Band of Micmacs as required by Section 106 of the National Historic Preservation Act ("NHPA"). Specifically, TRC is seeking information regarding the presence of tribal resources that may be located on the site. A location map showing the proposed site is attached.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. If we don't hear back from you within 30 days we will assume that you have no concerns. I may be reached at (207) 879-1930 extension 120, or sdonohue@trcsolutions.com. Thank you.

Sincerely,

Sean Donohue
TRC Environmental Corporation

Cc: Becky Malloy, DCP
Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

March 14, 2011

Passamaquoddy Tribe of Indians
Pleasant Point Reservation
Attn: Donald Soctomah, THPO
P.O. Box 343
Perry, Maine 04667

RE: DCP Midstream Project, Searsport, Waldo County, Maine
NHPA Section 106 Consultation

Dear Mr. Soctomah:

DCP Midstream, LP ("DCP"), based in Denver, Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Passamaquoddy Tribe of Indians as required by Section 106 of the National Historic Preservation Act ("NHPA"). Specifically, TRC is seeking information regarding the presence of tribal resources that may be located on the site. A location map showing the proposed site is attached.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. If we don't hear back from you within 30 days we will assume that you have no concerns. I may be reached at (207) 879-1930 extension 120, or sdonohue@trcsolutions.com. Thank you.

Sincerely,

Sean Donohue
TRC Environmental Corporation

Cc: Becky Malloy, DCP
Attachment

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

March 14, 2011

Houlton Band of Maliseet Indians
Attn: Sharri Venno, Environmental Planner
88 Bell Road
Littleton, Maine 04730

RE: DCP Midstream Project, Searsport, Waldo County, Maine
NHPA Section 106 Consultation

Dear Ms. Venno:

DCP Midstream, LP ("DCP"), based in Denver, Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail.

On behalf of DCP, TRC Environmental Corporation ("TRC") is initiating consultation with the Houlton Band of Maliseet Indians as required by Section 106 of the National Historic Preservation Act ("NHPA"). Specifically, TRC is seeking information regarding the presence of tribal resources that may be located on the site. A location map showing the proposed site is attached.

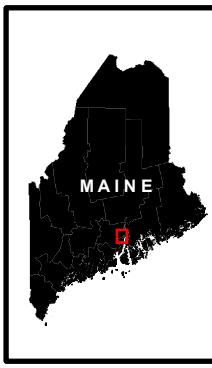
Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. If we don't hear back from you within 30 days we will assume that you have no concerns. I may be reached at (207) 879-1930 extension 120, or sdonohue@trcsolutions.com. Thank you.

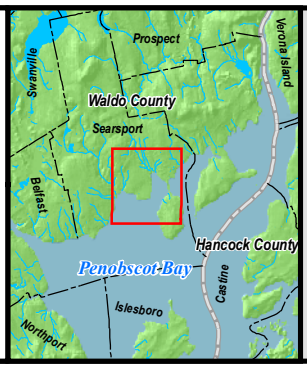
Sincerely,

Sean Donohue
TRC Environmental Corporation

Cc: Becky Malloy, DCP
Attachment

Site Location Map Provided With Consultation Letters





LEGEND

- Site Parcel (MEGIS)
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream, LP

Searsport Propane Terminal
Searsport, Maine

Site Location Map

Created by: TRC 9/23/2010

S:\Projects\TRC\SoPortland\MISC\Searsport_Propane_Terminal\MXD\Locus_8x11P_20100922.mxd

Native American Tribal Resource Consultation Responses

From: Donald Soctomah
To: Donohue, Sean (S.Portland,ME-US);
Subject: Searsport Project
Date: Tuesday, March 22, 2011 12:56:35 PM

Tribal Historic Preservation Office

Passamaquoddy Tribe

207-796-2301

TRC

400 Southborough Dr

South Portland, ME

sdonohue@trcsolutions.com

March 22, 2011

Re: Searsport – DCP Project

Dear Sean Donohue;

The Passamaquoddy THPO has reviewed the following application regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The proposed project listed above will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe.

Sincerely;

Donald Soctomah

Soctomah@ainop.com

THPO

Passamaquoddy Tribe

PENOBSCOT INDIAN NATION
BONNIE NEWSOM - ARCHAEOLOGY DEPARTMENT
12 WABANAKI WAY, INDIAN ISLAND, ME 04468
E-MAIL: Bonnie.Newsom@penobscotnation.org Fax: 207-817-7463

NAME	Sean Donohue
ADDRESS	TRC Solutions 400 Southborough Drive South Portland, ME 04106
OWNER'S NAME	DCP Midstream, LP
TELEPHONE	(207) 879-1930
FAX	(207) 879-9293
EMAIL	sdonohue@trcsolutions.com
PROJECT NAME	Liquid Propane ("LPG") receiving terminal
PROJECT SITE	Searsport, ME
DATE OF REQUEST	March 14, 2011
DATE REVIEWED	April 20, 2011

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, and subsequent updates.

Also, if Native American cultural materials are encountered during the course of the project, please contact me at (207) 817-7332. Thank you.

BONNIE NEWSOM, THPO
Penobscot Nation

SECTION 9. UNUSUAL NATURAL AREAS

On behalf of DCP, TRC contacted the Maine Natural Areas Program (MNAP) to request information regarding known locations of state-listed threatened or endangered (T&E) plant species, or exemplary or unique natural communities in the vicinity of the project. According to a letter response from the MNAP dated October 21, 2010, no rare botanical features have been previously documented within the project area.

Within a four mile radius of the project area, two rare botanical features have been previously documented. One of these botanical features is an herbaceous plant known as bog bedstraw (*Galium labradoricum*), which typically grows in peatlands, sedge meadows, northern white cedar swamps, and mossy woods. These habitats are not present within the project area. The second feature is the 'dune grassland' natural community type, which occurs in coastal environments. No coastal dunes are located within the project area. Copies of the correspondence with the MNAP are included in Appendix 9A.

APPENDIX 9A

Maine Natural Areas Program Correspondence

Consultation Letter Sent to MNAP

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

October 21, 2010 VIA EMAIL

Mr. Don Cameron
Maine Department of Conservation
Natural Areas Program
93 State House Station
17 Elkins Lane
Augusta, ME 04333

RE: DCP Midstream Project, Searsport, Waldo County, Maine
State Listed T&E Species Consultation

Dear Don:

DCP Midstream, LP ("DCP"), based in Denver Colorado, is evaluating an area adjacent to the Sprague and Irving oil and bulk products receiving terminals on Mack Point in Searsport as a site for a liquid propane ("LPG") receiving terminal. The area is zoned for industrial development by the Town of Searsport. Incoming LPG ships (on the order of half a dozen/year) would dock at an existing pier at the Sprague facility and off load through a new aboveground pipe to a LPG storage tank at the new terminal. The LPG would then be loaded into trucks at the storage facility for distribution throughout Northern New England. There is also an existing rail siding at the site that may be used for future distribution by rail. A location map showing the proposed site is attached.

On behalf of DCP, TRC Environmental Corporation ("TRC"), is requesting information regarding the known location of state-listed threatened or endangered (T&E) plant species, or exemplary or unique natural communities in the vicinity of the site that is under consideration. TRC will also be contacting the appropriate federal and other state agencies for their input.

Please advise us should you have any questions or comments regarding this request for information or the proposed project or site. As I mentioned on the phone on Tuesday, we have scheduled an interagency meeting for federal and state review agencies to discuss issues and permitting requirements for 9AM on November 18, 2010. The meeting will likely be held at the Maine DEP offices in Bangor. Please let me know if someone from your group would like to attend or if you would like me to set up a call-in number.

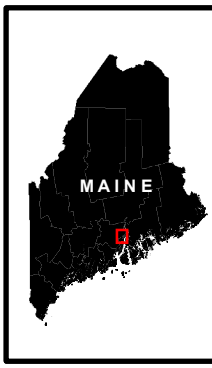
I look forward to hearing from you and may be reached at (207) 529-2900 or swallace@trcsolutions.com. Thank you.

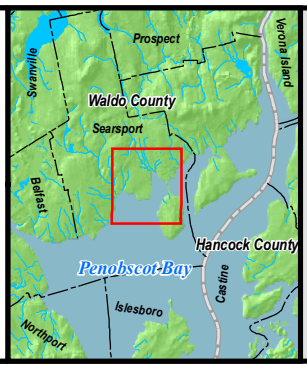
Sincerely,

Steven Wallace
Senior Project Manager
TRC Environmental Corporation

Cc: Lisa St. Hilaire, MNAP
Becky Malloy: DCP

Attachment





LEGEND

County Boundary (MEGIS)

Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream, LP

Searsport Propane Terminal
Searsport, Maine

Site Location Map

Created by: TRC 9/23/2010

S:\Projects\TRC\SoPortland\MISC\Searsport_Propane_Terminal\MXD\Locus_8x11P_20100922.mxd

MNAP Response

STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

JOHN ELIAS BALDACCI
GOVERNOR

ELIZA TOWNSEND
COMMISSIONER

October 21, 2010

Steven Wallace
TRC Environmental Corporation
400 Southborough Drive
South Portland, Maine 04106

Re: Rare and exemplary botanical features in proximity to: Proposed DCP Midstream Project, Searsport, Maine

Dear Mr. Wallace:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of October 21, 2010 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Searsport, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

PHONE: (207) 287-8044
FAX: (207) 287-8040
TTY: (207) 287-2213

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Don Cameron
Ecologist
Maine Natural Areas Program
207-287-8041
don.s.cameron@maine.gov

Enclosures

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed DCP Midstream Project, Searsport, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Galium labradoricum	G5	S2	SC	3	1940-07-23	Conifer forest (forest, upland)
Dune grassland	G4?	S2		11	2007-07-26	Rocky coastal (non-forested, upland)

SECTION 10. BUFFERS

No natural resource buffers are required for construction or operation of the DCP Terminal. Nevertheless, DCP has committed to leave undisturbed the approximately 6-acre, wooded upland on the land they will own between the existing railroad tracks and Long Cove. This will maintain an undisturbed buffer up to approximately 200 feet wide or more in some areas between the DCP Terminal and coastal resources, most specifically the TWWH.

The buffering of potential visual impacts from the terminal facilities located on the upper parcel will be achieved through using a combination of existing and proposed topography and forest vegetation. The existing topography of the upper parcels drops significantly between U.S. Route 1 and the shoreline. This downward slope between U.S. Route 1 and the shoreline will limit views of the project from the south along U.S. Route 1. In addition, the base of the largest structure at the facility, the bulk storage tank, has been established at as low an elevation as feasible. Views of the project are further limited by retaining as much of the existing tree cover as can be allowed by facility safety and security requirements. Visual screening will also be enhanced in most directions by existing tree cover on surrounding properties. Additional information regarding visual impacts is provided in Section 6: Visual Quality and Scenic and the NRPA application.

Topography and remaining forest cover will also help to reduce noise impacts on surrounding properties, although compliance with noise standards will be accomplished through use of appropriate noise abatement measures in the facility design and when selecting much of the motorized and fuel burning equipment that will be installed. The Sound Level Study for the proposed terminal is provided in Section 5: Noise.

SECTION 11. SOILS

Development of the DCP Terminal will require modifications to the site's existing topography, soils, drainage patterns, and vegetation cover. This section provides a general overview of the existing soil conditions at the site and their limitations relative to the proposed development.

Per agreement with the MDEP, in lieu of an on-site Class B Soil Survey, an on-site geotechnical investigation and U.S. Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS) soil data will be used to evaluate the project area soil characteristics and limitations. Soil limitations such as slope, depth to bedrock, surface condition, subsurface soil characteristics and drainage class have been identified using USDA-NRCS data. The site's soil characteristics relative to parent materials, drainage class, texture, consistence, and hydric soil status have been further evaluated as part of the on-site wetland delineations. The boring logs from the on-site geotechnical investigation are included as Appendix 11A, and will provide soil information needed for the design and engineering of the structure foundations. These sources of soil information are considered collectively in developing the site design.

11.A Soil Survey Map and Report

An analysis of soils within the project area was completed using USDA-NRCS soil mapping and data including the Soil Survey Geographic Database (SSURGO), the *Soil Survey of Waldo County, Maine*, and the "Official Soil Series Description" website (https://soilseries.sc.egov.usda.gov/osdname.asp). In order to identify and map soils within the project area, GIS software was used to complete an overlay analysis of the georeferenced SSURGO data and the project area. A soil map of the project area based on the USDA-NRCS data is included as Figure 12-3 in Section 12: Stormwater Management. Soil types mapped by the USDA-NRCS within the project area are listed below along with summary descriptions of their characteristics and limitations.

<u>Boothbay Silt Loam (Bob/BoE3)</u> – *Fine-silty, mixed, superactive, frigid aquic Dystric Eutrudepts*

Boothbay soils are very deep, moderately well drained to somewhat poorly drained soils formed in glacio-lacustrine and glacio-marine parent materials on lake and marine plains. Depth to the seasonal high water table is 16 to 40 inches in moderately well drained components, and from 7 to 16 inches in somewhat poorly drained components. Depth to bedrock is greater than 60 inches. Boothbay soils have silty textured surface horizons, and are hydrologic group C soils. Slopes range from 8 to 45 percent within the map units identified by the USDA-NRCS in the project area. There is a risk of erosion in areas with steep slopes.

<u>Swanville Silt Loam (Sw)</u> – *Fine-silty, mixed, active, nonacid, frigid Aeric Epiaquepts*

Swanville soils are very deep, poorly drained soils formed in glaciolacustrine or glaciomarine deposits on lake and marine plains. The depth to bedrock is greater than 60 inches, and the seasonal high water table is within 12 inches of the surface. Swanville soils have silty textured surface horizons and are hydrologic group C soils. Slopes range from 0 to 8 percent within the map units identified by the USDA-NRCS in the project area.

<u>Udorthents (Ud)</u> – *Udorthents*

Udorthents are human-altered soils such filled land, and stripped/cut areas. The properties and characteristics of these soils are highly variable as a result of this disturbance. Within the project area,

Udorthents are mapped by the USDA-NRCS along the existing railroad corridor, and within developed areas of the Mack Point Terminal.

Soil limitations on the site are primarily related to drainage, slope, and erosion. These limitations will be addressed by utilizing common engineering, construction, and erosion and sediment control practices.

11.B Geotechnical Investigation

A geotechnical investigation has been conducted for the area proposed for the LPG bulk storage tank and associated larger structures that would be constructed. The geotechnical investigation will identify various recommendations for addressing soil limitations and constraints. In locations where soils have limitations, proper engineering techniques will be implemented to overcome the limitations of the soils. This may include the removal of native soils and the importation of more suitable soils. The boring logs from the geotechnical investigation are included as Appendix 11A.

11.C Hydric Soils Mapping

Hydric soil is defined as a soil that has formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils were found within the wetland areas of the site based on evaluation of soil morphology and hydrologic indicators. Wetlands delineated within the project area are shown on the Pre- and Post-Development Site plans (Appendix 1A), the Pre- and Post-Development Drainage Plans (Appendix 12A), and are discussed in more detail in Section 7 of this application and the NRPA application.

11.D Wetlands Investigation Report

Additional information regarding wetland surveys that were conducted on the site is included in the NRPA application.

APPENDIX 11A

Geotechnical Boring Logs

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-1
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	4/27/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	northwest tank edge
						TIME AT COMP.:	4/27/11 8:25 AM - 4/28/11 7:55 AM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/14"	0' - 2'	1, 0	2" Black organic PEAT, moist (Pt). 4" Grayish brown fine to medium CLAY, moist (CH). 8" Grayish brown fine to medium silty CLAY, moist (CL).		No Odor	CLAY
							1, 2				
				A		2' - 5'					
5											
		15	S-2	SS	24"/20"	5' - 7'	4, 5	Grayish brown fine silty CLAY, mottled with red spots, wet (CL).		No Odor	
		20					5, 7				
		21		RB		7' - 10'					
		22									
10		25									
		16	S-3	SS	24"/20"	10' - 12'	2, 3	8" Light brown fine CLAY, 10% gravel, wet (CH). 7" light brown fine to medium silty SAND, 30% gravel, wet (SM). 5" Gray fine to medium CLAY, 40% gravel, wet (CH).		No Odor	
		22					6, 4				SILTY SAND, some gravel
		50		RB		12' - 15'					CLAY & GRAVEL
		62									
15		40									
		34	S-4	SS	24"/8"	15' - 17'	2, 3	Gray fine to medium clayey SAND, 30% gravel, wet (SC).		No Odor	CLAYEY SAND, some gravel
		38					3, 3				
		38		RB		17' - 20'					
		48									
20		46									
		38	S-5	SS	24"/11"	20' - 22'	4, 6	Gray fine to medium clayey SAND, 40% gravel, wet (SC).		No Odor	
		50					13, 11				
		65		RB		22' - 25'					
		87									
25		120									
		61	S-6	SS	24"/16"	25' - 27'	8, 11	Gray fine to coarse silty SAND, 30% gravel, wet (SM).		No Odor	SILTY SAND, some gravel
		120					11, 18				
		48		RB		27' - 30'					
		42									
30		70									
		28	S-7	SS	24"/12"	30' - 32'	26, 47	40% COBBLES, 40% GRAVEL, 20% gray fine silty sand (SM), wet.		No Odor	COBBLES & GRAVEL, little silty sand
		60					44, 48				
				RB		32' - 35'		Boulder at 32.7			BOULDER
35											

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 32' then continued with 3" casing
Water at 4.4' - 4/27/11
* RB before advancing casing

B-1

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-1
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	4/27/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"
			HAMMER WT.	300#	140#
			HAMMER FALL	16"	30"

G.S. ELEVATION:
DATUM:
LOCATION: northwest tank edge
TIME AT COMP.: 4/27/11 8:25 AM - 4/28/11 7:55 AM

DEPTH	BLOWS/6"	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	7	S-8	SS	14"/8"	35' -36.2'	24, 50 / 50/2"	4" Gray medium to coarse SAND, 50% GRAVEL, wet (GP). 3" Gray fine to coarse SAND, 30% gravel, wet (SP). 1" COBBLE		No Odor	SAND & GRAVEL
			RB		36.2'-37.5'					
40										
45										
50			RC		37.5' - 57.5'		Rock Core (See Coring Log)			BEDROCK
55										
							End of Boring at 57.5'			
60										
65										
70										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 32' then continued with 3" casing
Water at 4.4' - 4/27/11
* RB before advancing casing

B-1

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-1
4/27/2011
Sheet No. 3 of 3

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: northwest tank edge

Start Time: 4/27/11 4:16 PM
End Time: 4/28/11 7:55 AM

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
37.5' - 42.5'	3, 1, 2, 2, 1	60"/60"	40"	67%	Fair	None to moderate	None	dark gray moderate to heavily metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding & associated 2 cm to 6 cm masses, bedding is mostly vertical	Fractures spaced <1" to 13", fractures to 90° off of horizontal, severe fracturing from 37.8' to 38' & 38.5' to 39'
42.5' - 47.5'	2, 1, 1, 2, 1	60"/60"	32.5"	54%	Fair	None to moderate	None		Fractures spaced <1" to 14", fractures to 90° off of horizontal, severe fracturing from 46.25' to 47'
47.5' - 52.5'	2, 1, 2, 2, 2	60"/60"	9.5"	16%	Very Poor	None to moderate	None		Fractures spaced <1" to 6", fractures to 45° off of horizontal, severe fracturing from 50' to 50.6' & 51.7' to 52'
52.5' - 57.5'	2, 2, 2, 2, 3	54"/60"	7.5"	13%	Very Poor	None to moderate	56.5' - 57': pegmatite zone		Fractures spaced <1" to 8", fractures to 45° off of horizontal, severe fracturing from 56.2' to 56.6' & 57' to 57.2'

Notes:

B-1

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-2
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	4/28/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"
			HAMMER WT.	300#	140#
			HAMMER FALL	16"	30"

G.S. ELEVATION:
DATUM:
LOCATION: northeast tank edge
TIME AT COMP.: 4/28/11 10:10 AM - 4/29/11 9:30 AM

DEPTH	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
		S-1	SS	24"/16"	0' - 2'	1, 1	1" Black organic PEAT, moist (Pt). 12" Light brown fine silty SAND, moist (SM). 3" Light brown fine silty SAND, damp (SM).		No Odor	SILTY SAND
						3, 6				
	DP		A		2' - 5'					
5										
		S-2	SS	24"/14"	5' - 7'	7, 11	Light brown fine to medium SAND,40% gravel, damp (SP).		No Odor	SAND & GRAVEL
						14, 16				
	DP		A		7' - 9'					
10	23		RB		9' - 10'					
	17	S-3	SS	24"/9"	10' - 12'	6, 6	Gray fine to medium silty SAND, 50% GRAVEL, wet (SM).		No Odor	SILTY SAND & GRAVEL
	21					4, 5				
	29		RB		12' - 15'					
	24									
15	22									
	17	S-4	SS	24"/3"	15' - 17'	3, 2	Subangular GRAVEL, 40% gray fine clay, wet (GC).		No Odor	CLAY & GRAVEL
	24					3, 5				
	42		RB		17' - 20'					
	45									
20	58									
	36	S-5	SS	24"/12"	20' - 22'	3, 4	Gray fine to medium clayey SAND, 30% gravel, wet (SC).		No Odor	CLAYEY SAND, some gravel
	58					7, 11				
	85		RB		22'-23.4'					
					23.4' - 25.2'		Boulder			BOULDER
25										
		S-6	SS	24"/0"	25.2' - 27.2'	15, 18	No Recovery			
						17, 25				
	52*		RB		27.2' - 30'					
	30*									
30										
	55*	S-7	SS	6"/2"	30'-30.5'	65	Subangular GRAVEL, 40% gray fine to medium silty sand, wet (GM).		No Odor	SILTY SAND & GRAVEL
	57*		RB		30.5' - 35'					
	31*									
	30*									
35										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 23.4' then continued with 3" casing
Water at 3.6' - 4/29/11 7:00 AM
* RB before advancing casing

B-2

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-2
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	4/28/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	northeast tank edge
						TIME AT COMP.:	4/28/11 10:10 AM - 4/29/11 9:30 AM

DEPTH	CASING BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
		S-8	SS	6"/3"	35' -35.5'	90	2" GRAVEL, 40% grayish brown fine to medium silty SAND, wet (GM). 1" COBBLE		No Odor	SILTY SAND & GRAVEL
			RB		35.5'-39.5'		weathered rock			WEATHERED BEDROCK
40					39.5'-40'		competent rock			BEDROCK
45			RC		40' - 59.2'		Rock Core (See Coring Log)			
50										
55										
60										
							End of Boring at 59.2'			
65										
70										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 23.4' then continued with 3" casing
Water at 3.6' - 4/29/11 7:00 AM
* RB before advancing casing

B-2

COLER & COLANTONIO
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-2
4/29/2011
Sheet No. 3 of 3

Start Time: 4/29/11 7:51 AM
End Time: 4/29/11 9:30 AM

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: northeast tank edge

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
40' - 45'	2, 3, 2, 2, 2	60"/60"	30"	50%	Poor	None to moderate	None	gray low to moderately metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding, bedding is mostly vertical, deformed sedimentary layering visible	Fractures spaced <1" to 13", fractures to 80° off of horizontal
45' - 49.6'	2, 1, 2, 1, 2	55"/55"	22"	40%	Poor	None to moderate	None		Fractures spaced <1" to 9", fractures to 90° off of horizontal, severe fracturing from 49.4' to 49.6'
49.6' - 54.2'	1, 2, 1, 2, 1	55"/55"	18"	33%	Poor	None to moderate	None		Fractures spaced <1" to 11", fractures to 90° off of horizontal
54.2' - 59.2	1, 2, 2, 2, 2	55"/60"	36"	60%	Fair	None to moderate	None		Fractures spaced <1" to 21", fractures to 90° off of horizontal, severe fracturing from 54.7' to 55'

Notes:

B-2

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-3
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	4/29/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	tank center
						TIME AT COMP.:	4/29/11 11:32 AM - 5/2/11 8:37 AM

DEPTH	CASING	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP	S-1	SS	24"/20"	0' - 2'	1, 1	1" Brown fine to medium clayey SAND, moist (SC). 19" Light brown fine to medium clayey SAND with orange and brown striations, moist (SC).		No Odor	CLAYEY SAND
						2, 4				
			A		2' - 5'					
5										
	9	S-2	SS	24"/24"	5' - 7'	4, 5	16" Light brown fine clayey SAND, mottled with red spots, moist (SC). 8" Light brown fine CLAY, slight red mottling, moist (CH).		No Odor	
	20					6, 6				CLAY, little gravel
	19		RB		7' - 10'					
	20									
10	24									
	18	S-3	SS	24"/20"	10' - 12 '	1, 1	10" Light brown fine CLAY, wet (CH). 8" Light brown fine CLAY, 20% gravel, wet (CH). 2" Light brown fine to medium silty SAND, 20% gravel, wet (SM).		No Odor	
	22					3, 5				
	26		RB		12' - 15'					SILTY SAND, little gravel
	26									
15	27									
	15*		ST		15' - 17'		Shelby Tube Sample			
	14*									
	14*		RB		17' - 20'					
	45*									
20	48*									
	18	S-4	SS	24"/9"	20' - 22'	7, 12	5" Gray fine CLAY, 40% gravel, wet (CH). 3" Gray silty SAND, 20% gravel, wet (SM). 1" COBBLES, wet.		No Odor	CLAY & GRAVEL
	20					19, 13				SILTY SAND, little gravel
	22		RB		22' - 26'					COBBLES
	18									
25	25									BOULDER
	25						Boulder		No Odor	
	18	S-5	SS	24"/12"	26' - 28'	10, 7	6" Gray fine to coarse clayey SAND, 50% subangular GRAVEL, wet (SC). 6" Gray fine clayey SAND, 50% subangular GRAVEL, wet (SC).			CLAYEY SAND & GRAVEL
	10					6, 11				
	16		RB		28' - 29.8'					
30	30									
					29.8'-31'		Boulder		No Odor	BOULDER
		S-6	SS	10"/7"	31'-31.8'	32, 50/4"	Subangular GRAVEL, 30% gray fine to coarse silty sand, wet (GM).			
			RB		31.8' - 35'					GRAVEL, some silty sand
35										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 29.8' then continued with 3" casing
Water at 3.6' - 5/2/11 7:00 AM
* RB before advancing casing

B-3

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-3
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	4/29/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	tank center
						TIME AT COMP.:	4/29/11 11:32 AM - 5/2/11 8:37 AM

DEPTH	CBLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	15	S-7	SS	9"/5"	35'-35.8'	43, 50/3"	Gray fine to medium silty SAND, 50% GRAVEL, wet (SM).		No Odor	SILTY SAND & GRAVEL
	25		RB		35.8' - 40'					
	117									
	80									
40	110									
	20*	S-8	SS	18"/12"	40' - 41.5'	40, 47	Gray fine to medium silty SAND, 30% subangular gravel, wet (SM).		No Odor	SILTY SAND, little to some gravel
	38*					60				
	87*		RB		41.5' - 45'					
	32*									
45	27*									
	24	S-9	SS	16"/14"	45' - 46.3'	36, 52	Grayish brown fine to medium silty SAND, 10% gravel, wet (SM).		No Odor	
	24					50/4"				
	32		RB		46.3' - 50'					
	84*									
50	35*									
	27	S-10	SS	9"/5"	50'-50.8'	45, 50/3"	GRAVEL, 30% grayish brown fine to coarse sand, wet (GP).		No Odor	GRAVEL, some sand
	30		RB		50.8' - 55'					
	29									
	44						Boulder at 53.5			BOULDER
55										
		S-11	SS	14"/6"	55' - 56.2'	25, 35	2" Reddish & grayish brown fine to medium silty SAND, wet (SM). 4" Gray fine to medium silty SAND, 40% gravel, wet (SM).		No Odor	SITLY SAND
						50/2"				SILTY SAND & GRAVEL
			RB		56.2'-56.5'					
			RC		56.5' - 76.1'		Rock Core (See Coring Log)			BEDROCK
60										
							End of Boring at 76.1'			

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 29.8' then continued with 3" casing
Water at 3.6' - 5/2/11 7:00 AM
* RB before advancing casing

B-3

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-3
5/2/2011
Sheet No. 3 of 3

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: tank center

Start Time: 5/2/11 3:52 PM
End Time: 5/3/11 8:37 AM

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
56.5' - 61.5'	2, 1, 2, 2, 1	60"/60"	53"	88%	Good	None to slight	None	gray low to moderately metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding, bedding is mostly vertical, deformed sedimentary layering visible	Fractures spaced 10" to 18", fractures to 90° off of horizontal
61.5' - 66.5'	2, 2, 1, 2, 2	60"/60"	46.5"	78%	Good	None to slight	None		Fractures spaced <1" to 22", fractures to 70° off of horizontal
66.5' - 71.5'	2, 1, 2, 2, 2	60"/60"	38.5"	64%	Fair	None to slight	None		Fractures spaced <1" to 14", fractures to 70° off of horizontal, severe fracturing from 71.1' to 71.5'
71.5' - 76.1'	2, 2, 1, 1, 2	55"/55"	20"	36%	Poor	None to moderate	None		Fractures spaced <1" to 9", fractures to 70° off of horizontal, severe fracturing from 73.5' to 73.8' & 75' to 75.3'

Notes:

B-3

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-4
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	5/3/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"
			HAMMER WT.	300#	140#
			HAMMER FALL	16"	30"

G.S. ELEVATION:
DATUM:
LOCATION: southeast tank edge
TIME AT COMP.: 5/3/11 10:30 AM - 5/4/11 9:11 AM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/16"	0' - 2'	1, 1	1" Black organic PEAT, damp (Pt). 8" Grayish brown fine to medium clayey SAND, damp (SC). 7" Light brown, reddish brown & gray striated fine clayey SAND, moist (SC).		No Odor	CLAYEY SAND
							1, 4				
				A		2' - 5'					
5											
	DP		S-2	SS	24"/24"	5' - 7'	3, 4	8" Light brown & gray striated fine clayey SAND with red mottles, damp (SC). 16" Light brown with some gray striations fine clayey SAND, wet (SC).		No Odor	
							5, 5				
				A		7' - 10'					
10											
	DP			ST		10' - 12'		Shelby Tube Sample			
				RB		12' - 15'					
15											
		12	S-3	SS	24"/3"	15' - 17 '	1, 2	Gray fine CLAY, 20% gravel, wet (CH). Cobble in tip.		No Odor	CLAY, little gravel, little cobbles
		16					3, 5				
		21		RB		17' - 20'					
		27									
20		36									
		24	S-4	SS	24"/10"	20' - 22'	2, 3	Gray fine to medium CLAY, 40% gravel, wet (CH).		No Odor	CLAY & GRAVEL
		42					5, 5				
		50		RB		22'-25'					
		76									
25		72									
		55	S-5	SS	24"/10"	25' - 27'	6, 7	Gray fine to medium clayey SAND, 40% gravel, wet (SC).		No Odor	CLAYEY SAND & GRAVEL
		75					8, 8				
		105		RB		27' - 30'					
		170									
30		90*									
		70	S-6	SS	24"/8"	30' - 32'	32, 16	3" Gray fine to medium silty SAND, 40% gravel, wet (SM). 5" Gray COBBLES, wet.		No Odor	SILTY SAND & GRAVEL
		72					14, 15				
		78		RB		32' - 35'					COBBLES
		95									
35		140									

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 4.4' - 5/4/11 7:00 AM
* RB before advancing casing

B-4

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-4
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	5/3/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER	
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:
			HAMMER WT.	300#	140#	DATUM:
			HAMMER FALL	16"	30"	LOCATION: southeast tank edge
						TIME AT COMP.: 5/3/11 10:30 AM - 5/4/11 9:11 AM

DEPTH	BLOWS/6"	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	95*	S-7	SS	10"/5"	35' -35.8'	45, 50/4"	Subangular GRAVEL, 40% gray fine to coarse silty sand, wet (GM).		No Odor	SILTY SAND & GRAVEL
	78*		RB		35.8' - 40'					
	67*									
	69*									
40	65*									
		S-8	SS	24"/12"	40' - 42'	22, 35	Alternating 1" to 2" layers of brown and reddish brown medium to coarse SAND, wet (SP).		No Odor	SAND
						46, 50				
			RB		42' - 45'					
45										
	25	S-9	SS	18"/12"	45' - 46.5'	33, 35	Orange brown medium to coarse SAND, 20% gravel, wet (SP).		No Odor	SAND, little gravel
	75					55				
			RB		46.5'-48'					BEDROCK
			RC		48' - 58'		Rock Core (See Coring Log)			
50										
55										
							End of Boring at 58'			
60										
65										
70										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 4.4' - 5/4/11 7:00 AM
* RB before advancing casing

B-4

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-4
5/4/2011
Sheet No. 3 of 3

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: southeast tank edge

Start Time: 5/4/11 8:38 AM
End Time: 5/4/11 9:11 AM

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
48' - 53'	2, 2, 1, 2, 2	57"/60"	37"	62%	Fair	None to moderate	None	gray moderate to highly metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding & associated 3 cm to 6 cm masses, bedding is mostly vertical, deformed sedimentary layering visible	Fractures spaced <1" to 13", fractures to 70° off of horizontal
53' - 58'	1, 2, 1, 2, 2	58"/60"	17.5"	29%	Poor	None to moderate	None		Fractures spaced <1" to 12", fractures to 90° off of horizontal, severe fracturing from 57.3' to 58'

Notes:

B-4

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-5
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	5/5/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"
			HAMMER WT.	300#	140#
			HAMMER FALL	16"	30"

G.S. ELEVATION:
DATUM:
LOCATION: southwest tank edge
TIME AT COMP.: 5/5/11 1:15 PM - 5/6/11 1:42 PM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/18"	0' - 2'	0, 1	1" Black organic PEAT, wet (Pt). 12" Light brown fine clayey SAND, damp (SC). 5" Grayish brown with reddish brown striations fine silty SAND, moist (SM).		No Odor	CLAYEY SAND
							4, 5				
				A		2' - 5'					SILTY SAND
5											
	DP		S-2	SS	24"/24"	5' - 7'	5, 5	Light brown fine CLAY with red mottles, wet (CH).		No Odor	CLAY
							9, 8				
				A		7' - 10'					
10											
	DP			ST		10' - 12'		Shelby Tube Sample			
				RB		12' - 15'					
15											
		18	S-3	SS	24"/18"	15' - 17'	4, 3	9" Gray fine CLAY, 30% gravel, wet (CH). 9" Gray fine to coarse CLAY, 40% gravel, wet (CH).		No Odor	CLAY, some gravel
		20					3, 4				
		23		RB		17' - 20'					
		20									
20		21									
		10	S-4	SS	24"/12"	20' - 22'	1, 1	Gray fine to medium CLAY, 40% gravel, wet (CH).		No Odor	CLAY & GRAVEL
		21					2, 2				
		24		RB		22'-24.9'					
		32									
25		50									
		27*		RC		24.9'-26.1'		Boulder		No Odor	BOULDER
		54*									
		49*		RB		26.1' - 30'					
		59*									
30		95*									
		43*	S-5	SS	12"/5"	30' - 31'	38, 50	3" Gray fine to medium silty SAND, 40% subangular gravel, wet (SM). 2" COBBLES, wet.		No Odor	SILTY SAND & GRAVEL
		48*		RB		31' - 35'					
		108*									COBBLES
		33*									
35		71*									

LEGEND
SS = split spoon
ST= Shelby Tube Sample
RB = roller bit
RC = rock core
A = auger
DP = direct push

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 5.1' - 5/6/11 7:00 AM
* RB before advancing casing

B-5

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-5
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	5/5/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	southwest tank edge
						TIME AT COMP.:	5/5/11 1:15 PM - 5/6/11 1:42 PM

DEPTH	BLOWS/6"	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	52*	S-6	SS	10"/5"	35' -35.8'	56, 50/4"	2" Gray fine to medium silty SAND, 20% gravel, wet (SM). 3" Grayish brown fine to medium SAND, 5% gravel, wet (SP).		No Odor	SILTY SAND, little gravel
	31*		RB		35.8' - 40'					SAND, trace gravel, trace cobbles
	30*									
	43*									
40	58*									
		S-7	SS	24"/22"	40' - 42'	18, 36	8" Light brown fine to medium SAND, wet (SP). 8" Reddish brown fine to medium SAND, 10% cobbles, 5% gravel, wet (SP). 6" Grayish brown fine to medium clayey SAND, wet (SC).		No Odor	
						25, 40				CLAYEY SAND
			RB		42' - 45'					
45										
	5*	S-8	SS	21"/18"	45' - 46.8'	23, 35	4" Light brown fine to medium clayey SAND, wet (SC).6" Orange fine to medium SAND, wet (SP). 6" Light brown fine to medium SAND, wet (SP). 2" Light brown fine to medium clayey SAND, wet (SC).		No Odor	SAND
	7*					36, 50/3"				CLAYEY SAND
	8*		RB		46.8'-49.9'					
	10*									
50	72*									
					49.9'-51'		Bedrock			BEDROCK
			RC		51' - 61'		Rock Core (See Coring Log)			
55										
60										
							End of Boring at 61'			
65										
70										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 5.1' - 5/6/11 7:00 AM
* RB before advancing casing

B-5

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-5
5/6/2011
Sheet No. 3 of 3

Start Time: 5/6/11 12:45 PM
End Time: 5/6/11 1:42 PM

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: southeast tank edge

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
51' - 56'	2, 2, 2, 2, 2	60"/60"	32.5"	54%	Fair	None to slight	None	dark gray moderate to highly metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 40 mm white feldspar banding, bedding is mostly vertical	Fractures spaced 3" to 11", fractures to 90° off of horizontal
56' - 61'	3, 2, 3, 2, 4	52"/60"	30.5"	51%	Fair	None to slight	None		Fractures spaced <1" to 7", fractures to 90° off of horizontal, severe fracturing from 59.8' to 60'

Notes:

B-5

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-6
LOCATION:	Searsport, ME	SHEET NO.:	1 of 2
FILE NO.:	15-605	DATE:	5/9/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"
			HAMMER WT.	300#	140#
			HAMMER FALL	16"	30"

G.S. ELEVATION:
DATUM:
LOCATION: western most boring on Map 7 Lot 56
TIME AT COMP.: 5/9/11 9:45 AM - 5/9/11 1:18 PM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/15"	0' - 2'	0, 1	10" Light brown fine clayey SAND, damp (SC). 5" Grayish brown fine SAND, dry (SW).		No Odor	CLAYEY SAND
							3, 6				
				A		2' - 5'					SAND
5											
	DP		S-2	SS	24"/22"	5' - 7'	5, 6	16" Light brown and gray striated fine clayey SAND with reddish brown mottles, moist (SC). 6" Light brown fine CLAY, damp (CH).		No Odor	CLAYEY SAND
							7, 7				
				A		7' - 10'					CLAY
10											
	5*			ST		10' - 12'		Shelby Tube Sample			
	5*										
	7			RB		12' - 15'					
	12										
15	12										
	10		S-3	SS	24"/2"	15' - 17'	2, 2	GRAVEL, 50% brown fine CLAY, saturated (GC).		No Odor	
	10						3, 2				
	15			RB		17' - 20'					CLAY & GRAVEL
	19										
20	27										
						19.9'-21'		Bedrock			
				RC		21' - 30.7'		Rock Core (See Coring Log)			BEDROCK
25											
30											
								End of Boring at 30.7'			
35											

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 20' then continued with 3" casing

* RB before advancing casing

B-6

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-6
5/9/2011
Sheet No. 2 of 2

Start Time: 5/9/11 12:27 PM
End Time: 5/9/11 1:18 PM

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: western most boring on Map 7 Lot 56

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
21' - 26'	2, 2, 2, 3, 3	54"/60"	6"	10%	Very Poor	Moderate to high	None	gray moderate to highly metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 25 mm white feldspar banding, deformed sedimentary layering visible	Fractures spaced <1" to 6", fractures to 90° off of horizontal, severe fracturing from 21' to 24'
26' - 30.7'	2, 2, 2, 2, 2	56"/56"	35.5"	63%	Fair	Moderate to high	None		Fractures spaced <1" to 22", fractures to 90° off of horizontal, severe fracturing from 29' to 29.5'

Notes:

B-6

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-7
LOCATION:	Searsport, ME	SHEET NO.:	1 of 2
FILE NO.:	15-605	DATE:	5/10/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	western most boring
						TIME AT COMP.:	5/10/11 8:00 AM - 5/10/11 11:44 AM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/12"	0' - 2'	1, 1	4" Brown fine clayey SAND, damp (SC). 4" Light brown fine clayey SAND, moist (SC). 4" Gray and light brown fine clayey SAND, moist (SC).		No Odor	CLAYEY SAND
							4, 5				
				A		2' - 5'					
5											
	DP		S-2	SS	24"/18"	5' - 7'	5, 8	6" Light brown, gray, & reddish brown fine clayey SAND, wet (SC). 4" Brown fine to medium SAND, wet (SP). 3" Light brown fine clayey SAND, 30% gravel, wet (SC). 2" Brown fine to medium SAND, 10% gravel, wet (SP). 2" Brown fine clayey SAND, 40% gravel, wet (SC). 1" Cobble.		No Odor	SAND, trace to some gravel
							9, 20				
				A		7' - 10'					
10											
	29		S-3	SS	24"/8"	10' - 12'	9, 7	3" Brown fine clayey SAND, 40% gravel, wet (SC). 5" Grayish brown fine clayey SAND with orange mottling, 40% gravel, wet (SC).		No Odor	CLAYEY SAND & GRAVEL, trace cobble
	33						8, 8				
	44			RB		12' - 15.5'					
	58										
15	86										
			S-4	SS	24"/8"	15.5' - 17.5'	7, 7	3" Dark gray fine to medium clayey SAND, 50% GRAVEL, wet (GC). 5" Silvery gray, soft, friable COBBLE, wet.		No Odor	
							13, 18				WEATHERED BEDROCK
				RB		17.5' - 20'					
20											
				RC		20' - 30'		Rock Core (See Coring Log)			BEDROCK
25											
30											
								End of Boring at 30'			
35											

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 15' then continued with 3" casing

* RB before advancing casing

B-7

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-7
5/10/2011
Sheet No. 2 of 2

Start Time: 5/10/11 10:44 AM
End Time: 5/10/11 11:44 AM

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: western most boring

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
20' - 25'	2, 2, 2, 2, 2	30"/60"	0"	0%	Very Poor	Moderate to high	None	dark gray moderate to highly metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding, bedding is mostly vertical	Fractures spaced <1" to 4", fractures to 90° off of horizontal, severe fracturing from 20' to 25'
25' - 30'	2, 2, 2, 1, 2	60"/60"	29"	48%	Poor	None to moderate	None		Fractures spaced 1" to 15", fractures to 90° off of horizontal

Notes:

B-7

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-8
LOCATION:	Searsport, ME	SHEET NO.:	1 of 3
FILE NO.:	15-605	DATE:	5/4/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	eastern most boring
						TIME AT COMP.:	5/4/11 12:15 PM - 5/5/11 10:08 AM

DEPTH	CASING	BLOWS	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	DP		S-1	SS	24"/5"	0' - 2'	1, 1	1" Black organic PEAT, damp (Pt). 1" Brown fine silty SAND, damp (SM). 1" Cobble. 2" Grayish brown fine silty SAND, damp (SM).		No Odor	SILTY SAND, trace cobbles
							3, 6				
				A		2' - 5'					
5											
	DP		S-2	SS	24"/22"	5' - 7'	4, 7	Grayish brown fine clayey SAND with red mottles, damp (SC).		No Odor	CLAYEY SAND
							7, 10				
				A		7' - 8'					
				ST		8' - 10'		Shelby Tube Sample			
10											
	DP		S-3	SS	24"/24"	10' - 12'	3, 2	Grayish brown fine CLAY with red mottles, wet (CH).		No Odor	CLAY
							4, 4				
				RB		12' - 15'					
15											
	DP		S-4	SS	24"/24"	15' - 17'	3, 3	20" Gray fine to medium clayey SAND with a reddish brown vertical stripe, wet (SC). 4" Gray fine CLAY, wet (CH).		No Odor	CLAYEY SAND
							3, 3				CLAY
				RB		17' - 20'					
20											
	DP		S-5	SS	24"/24"	20' - 22'	0, 0	Gray fine CLAY, wet (CH).		No Odor	
							0, 0				
				RB		22'-25'					
25											
	24		S-6	SS	24"/24"	25' - 27'	0, 0	Gray fine CLAY, trace gravel, wet (CH).		No Odor	CLAY, trace gravel
	25						1, 5				
	35			RB		27' - 30'					
	47										
30	47										
	44		S-7	SS	24"/0"	30' - 32'	3, 4	No Recovery			
	57						6, 11				
	70			RB		32' - 35'					
	78										
35	110										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 9.4' - 5/5/11 7:00 AM
* RB before advancing casing

B-8

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

PROJECT:	DCP Midstream	BORING NO.:	B-8
LOCATION:	Searsport, ME	SHEET NO.:	2 of 3
FILE NO.:	15-605	DATE:	5/4/2011
FOREMAN:	Maine Test Boring	ENGINEER:	Lauren Konetzny

GROUNDWATER READINGS				CASING	SAMPLER		
DATE	TIME	DEPTH	TYPE & I.D.	4"/3"	SS/1.38"	G.S. ELEVATION:	
			HAMMER WT.	300#	140#	DATUM:	
			HAMMER FALL	16"	30"	LOCATION:	eastern most boring
						TIME AT COMP.:	5/4/11 12:15 PM - 5/5/11 10:08 AM

DEPTH	BLOWS/6"	SAMPLE NO.	TYPE	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	WELL CONSTRUCTION	Visual/Olfactory Observations	STRATUM DESCRIPTION
	48*	S-8	SS	24"/12"	35' - 37'	9, 9	1" Cobble. 11" Gray fine to medium clayey SAND, 30% gravel, wet (SC).		No Odor	CLAYEY SAND, some gravel, trace cobbles
	50*					15, 16				
	72*		RB		37' - 39'		Cobbles			COBBLES
	65*									
40	52*				39' - 40'					CLAYEY SAND & GRAVEL
		S-9	SS	24"/9"	40' - 42'	9, 14	Subangular GRAVEL, 50% gray fine to medium clayey SAND, wet (SC).		No Odor	
						31, 34				
			RB		42' - 45'					
45	28									
	17*	S-10	SS	24"/16"	45' - 47'	19, 34	Gray fine to medium silty SAND, 40% gravel, 5% cobbles, wet (SM).		No Odor	SILTY SAND & GRAVEL, trace cobbles
	17*					30, 35				
			RB		47' - 48'					
50			RC		48' - 58'		Rock Core (See Coring Log)			BEDROCK
55										
							End of Boring at 58'			
60										
65										
70										

LEGEND
SS = split spoon
RB = roller bit
RC = rock core
A = auger
DP = direct push
ST= Shelby Tube Sample

REMARKS:
4" diameter casing to 40' then continued with 3" casing
Water at 9.4' - 5/5/11 7:00 AM
* RB before advancing casing

B-8

COLER & COLANTONIO INC
ENGINEERS AND SCIENTISTS

ROCK CORE BORING LOG

Boring No. B-8
5/5/2011
Sheet No. 3 of 3

Start Time: 5/5/11 9:31 AM
End Time: 5/5/11 10:08 AM

Project Name: DCP Midstream
Site Location: Searsport, ME
Project No.: 15-605
Drilling Co.: Maine Test Boring

Geologist: Lauren Konetzny
Boring Location: eastern most boring

Depth (ft)	Drilling Rate Min/ft	Recovery Ratio (in)	Recovery RQD In	Recovery RQD %	Rock Quality	Weathering	Strata Change	Visual Classification and Remarks	Fractures
48' - 53'	2, 2, 2, 2, 2	60"/60"	14"	23%	Very Poor	None to moderate	None	gray low to moderately metamorphosized slate with moderate amounts of mica & some pyrite visible, 1 mm to 5 mm white feldspar banding, bedding is mostly vertical, deformed sedimentary layering visible	Fractures spaced <1" to 6", fractures to 90° off of horizontal, severe fracturing from 51' to 51.5'
53' - 58'	1, 2, 2, 1, 2	58"/60"	28"	47%	Poor	None to moderate	None		Fractures spaced 2" to 11", fractures to 90° off of horizontal

Notes:

B-8

SECTION 12. STORMWATER MANAGEMENT

This section summarizes the stormwater management analysis conducted for the proposed DCP Terminal. The purpose of this section is to describe and quantify the pre- and post-development stormwater characteristics, and to demonstrate that construction of the project will comply with the applicable MDEP stormwater management requirements in Chapter 500 and 502. According to the Chapter 500 standards, this development must meet the Basic Standards, General Standards and Flooding Standards. The DCP Terminal will not be located in a "watershed most at risk from development" or an "urban impaired watershed."

12.A Narrative

12.A.1 Development Location

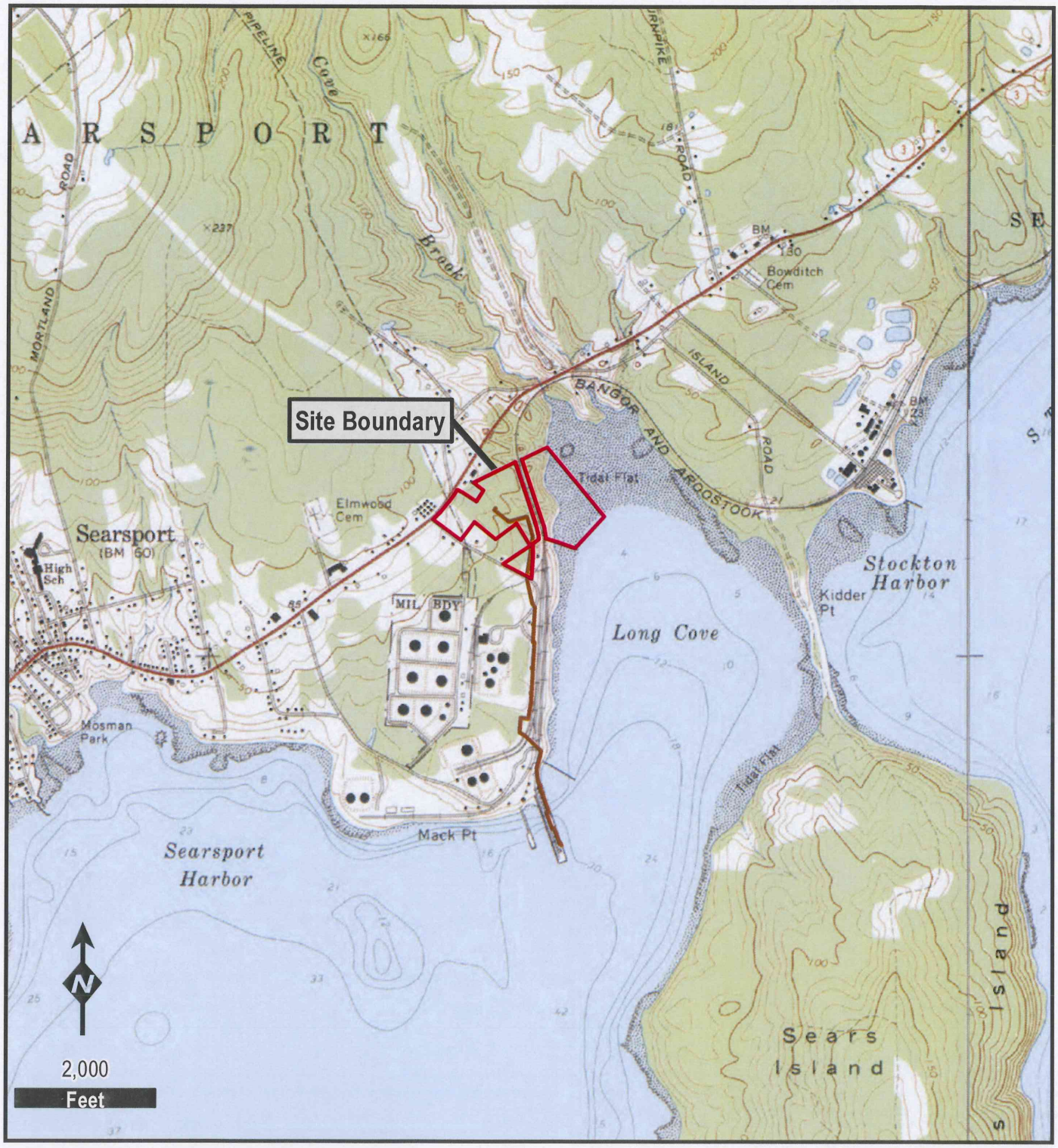
The DCP Terminal would be located off U.S. Route 1 in the Town of Searsport, Waldo County, Maine, as shown on Figure 12-1. The parcel is bounded on the east by the Montreal, Maine and Atlantic Railroad and Long Cove, on the north by commercial development along U.S. Route 1, including a restaurant and motel, and to the west and south by commercial and sparse residential development along Station Avenue and the existing Mack Point Terminal.

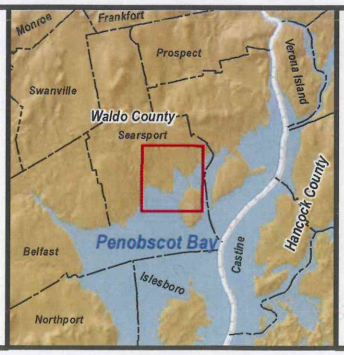
DCP Partners would be acquiring land parcels totaling approximately 23.6 acres for the proposed terminal. Most of this land is currently forested with some mixed scrub-shrub vegetation. An underground petroleum pipeline runs under the westerly corner of the site. In addition, DCP will be constructing a predominantly aboveground transfer pipeline that will carry LPG from ships docked at the existing Sprague pier to the bulk storage tank at the DCP Terminal. Only a portion the transfer pipeline will be installed through a 2.5-acre portion of the land to be purchased. The transfer pipeline will continue through the existing developed area within the Sprague and Irving terminals on Mack Point until it reaches the DCP parcel. The pipeline will be mounted on pipe or concrete and pipe pilings and will result in an insignificant amount of new impervious area.

DCP is also buying an additional approximately 20.1 acres of forested and tidal land on the east side of the railroad tracks, but no development is planned on that parcel. The undeveloped 20.1-acre parcel, the 2.5-acre portion of the property to be purchased that will contain only a portion of the transfer pipeline, and the remainder of the pipeline route to the pier are not included in this stormwater analysis.

As a result, this stormwater runoff analysis targets 21.1 acres of land to be owned by DCP that will contain the new terminal. Within this 21.1-acre parcel, approximately 18.7 acres will be disturbed during construction. Following construction, approximately 5.5 acres will be revegetated with grass and the vegetation maintained at approximately one-foot tall. Approximately 13.2 acres will remain as permanently developed area containing the buildings, storage tanks and containment area, truck and rail loading facilities, propane fired heaters, coolers and other yard equipment, an emergency flare, associated roads and piping, and regularly maintained grass.

Based on aerial photography and field surveys, the surrounding land use may be characterized as commercial and residential development along U.S. Route 1, the existing Mack Point Terminal, some rural residential development sparsely scattered along Station Avenue, and some undeveloped wooded land to the north and east.





LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, Maine

Figure 12-1: Site Location Map

Created by: TRC 5/4/2011

12.A.2 Surface Water on or Abutting the Site

A stream flows from a culvert beneath U.S. Route 1 through the southerly portion of the site to a culvert beneath the railroad tracks and into Long Cove, which is a part of the Penobscot Bay. Approximately 325 feet of this stream will be placed within a culvert under the terminal truck loading area and other paved area. An additional approximately 640 feet of the stream will be relocated to the perimeter of the site.

12.A.3 Downstream Ponds and Lakes

The site is not located in a "watershed most at risk from development" or an "urban impaired stream," as defined in Chapter 502. As shown on Figure 12-2, the entire Project site is located in the West Penobscot Bay Costal watershed. The site drains through a series of existing culverts placed beneath the railroad right-of-way, and then drains to Long Cove and Penobscot Bay.

12.A.4 General Topography

The topography of the site varies, generally sloping from U.S. Route 1 in the northwest to the southeast towards Long Cove. Elevations across the site range from approximately 80 feet to approximately 10 feet above mean sea level. The two-foot contour information on the project site was surveyed by Coler & Colantonio Inc. in April 2011. USGS contour information was used for the outlying areas to supplement the watershed mapping.

12.A.5 Flooding

Based on the Q3 Flood Data derived from the Federal Emergency Management Agency Flood Insurance Rate Map ("FEMA Map"), the only component of the proposed facilities that may occur within the 100-year flood zone is the portion of the transfer pipeline located beneath or adjacent to the pier. The proposed terminal site is not located within the 100-year flood zone. A copy of the flood zone map with the proposed development boundary is provided in Section 19: Flooding.

12.A.6 Alterations to Natural Drainage Ways

Approximately 640 feet of a small, unnamed stream with limited biological functions and values will be relocated as part of the proposed terminal construction. An additional approximately 325 feet will be placed in a new culvert. In order to properly size the flow through this stream, a watershed model depicting the contributing area as well as time of concentration was used to analyze its runoff characteristics (refer to the drawings and calculations for further information). The contributing watersheds 1S, 2S, 2SA, and 2SB, which were modeled for sizing the culvert and relocated stream channel, total approximately 62.33 acres. The culvert that will initially carry the stream flow is designed for 22.04 cubic feet per second (cfs). Calculations to determine the size of the relocated stream cross section are included in the post development routings. The stream cross section is designed to promote stability and to maintain the water velocity at near the existing condition where it leaves the site. Any runoff from areas that currently drain to the stream that will drain to other subwatersheds post construction will be collected in a vegetated soil filter area for treatment. Additional discussion of the biological properties of the existing stream is provided in the NRPA application.

In addition to the stream modifications, there are some wetlands associated with the unnamed stream throughout and adjacent to much of the proposed terminal construction. The proposed terminal construction will also result in the filling of the wetlands within the construction area. Despite the

LEGEND

- Site Boundary
- Drainage Divide (HUC 12)
- Transfer Pipeline
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), United States Geological Survey (USGS) - Searsport and Castine Topo Quads.
Watershed information: EPA Office of Water
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, Maine

Figure 12-2: Watershed Boundary Map

Created by: TRC 5/4/2011

relocation of the stream channel and associated wetland fill, the overall drainage pattern and direction will be similar to the existing condition.

12.A.7 Alterations to Land Cover

The proposed site is expected to consist of approximately 3.3 acres of impervious areas (pavement, buildings, tanks, and equipment areas and piping); 8.6 acres of crushed stone equipment pads, rip rap, or new rail bed; and approximately 6.8 acres of area to be revegetated with grass, approximately 1.3 acres of which will be mowed regularly. A summary of the watershed's pre- and post-development cover types is presented in Table 12-1.

Table 12-1

Watershed Cover Types

Cover Type	Pre-development Area, acres	Post-development Areas, Area, acres	Net Change, Area, acres
Buildings/Structures	0.82	2.02	1.20
Gravel Areas	2.58	2.38	-0.20
Crushed Stone/Rip Rap	0.00	7.87	7.87
Mowed Grass	10.15	11.46	1.31
Railbed	0.15	0.89	0.74
Paved	2.41	4.51	2.10
Tall Grass	3.10	8.56	5.46
Wooded (good)	73.85	55.37	-18.48
Total	**93.06**	**93.06**	**0.00**

12.A.8 Modeling Assumptions

The stormwater runoff was estimated using HydroCAD, Version 9.0. HydroCAD is based on methodologies developed by the U. S. Department of Agriculture Soil Conservation Service ("SCS"), namely TR-55 and TR-20, in combination with other hydraulic and hydrology calculations. Based on site specific information and rainfall data, the program estimates inflow and outflow hydrographs for a watershed. The SCS is now called the Natural Resources Conservation Service ("NRCS").

The pre- and post-development watershed boundaries and hydrologic flow lines used to determine the time of concentration are indicated on the Pre- and Post-Development Drainage Plans located in Appendix 12A. Within the areas proposed to be developed, the watershed boundaries were determined from the surveyed two-foot contours. Watershed boundaries outside the areas of proposed development were determined from contour information outside of the property extrapolated from USGS topographic mapping, in conjunction with a site visit. The times of concentration were determined from this same contour information.

The pre-development stormwater analysis consists of four separate subwatersheds totaling approximately 93.06 acres in size. The control points for the pre-development analysis describe the down slope intersection of the hydrologic flow line and the boundary line for each subwatershed.

The post-development watershed plan consists of five separate subwatersheds also totaling approximately 93.06 acres in size. The control points for the post-development analysis describe the down slope intersection of the hydrologic flow line and the property boundary line for each subwatershed.

Storm events modeled for the pre- and post-development analyses assumed precipitation events with a 24-hour duration having a type III distribution and rainfall amounts of 2.8, 4.3, 4.9, and 5.5 inches, with return frequencies of 2-, 10-, 25-, and 50-years, respectively. The storm type and rainfall amounts are based on SCS County Rainfall Data for the State of Maine, Waldo County, "24 Hour Storm Duration Rainfalls for Various Return Periods" from the DEP *Stormwater Management for Maine: Best Management Practices*.

Additional assumptions made to complete the pre- and post-development runoff analysis are provided in Section 12.D: Runoff Analysis in this application.

12.A.9 Water Quantity Control

A comprehensive analysis of the pre- and post-development peak runoff flow rates is provided in Section 12.D. The impact of the proposed development on flooding is discussed in Section 12.E: Flooding Standard Submissions.

12.A.10 Water Quality Treatment

A discussion of the measures and practices that will be used on site to reduce the impact of site runoff on downstream water quality is provided in Section 12.F: Stormwater Quality Treatment Plan. The measures to be utilized include the Basic Stabilization Standards and the General Standards.

12.A.11 Off-Site Credits

Off-site credits for total suspended solids ("TSS") or phosphorus are not needed for the proposed terminal site. The site is not located in a lake watershed; therefore phosphorus control is not required.

12.A.12 Compensation Fees

Compensation fees to offset phosphorus removal are not needed for the proposed development.

12.A.13 Development Impacts

As described in more detail in the following sections, construction and operation of the proposed terminal site will have an insignificant effect on receiving waters, adjacent and downstream properties, and downstream culverts.

12.B Maps

12.B.1 USGS Quadrangle Map with Site Boundaries

An 8½- X 11-inch excerpt from the USGS Searsport and Castine topographic quadrangle maps with the site boundaries shown is provided as Figure 12-1.

12.B.2 USDA-NRCS Soils Map with Site Boundaries

An 8½- X 11-inch excerpt from the USDA-NRCS Soils Survey Map with the site boundaries shown is provided as Figure 12-3. The soil test pit data for the underdrained soil filters is provided in Appendix 12-B.

12.C Drainage Plans

The Pre-Development Drainage Plan and the Post-Development Drainage Plan for the proposed terminal are provided in Appendix 12A. The pre-development plan includes existing two-foot contours, cover types, soils groups, subwatershed boundaries and analysis points, hydrologic flow lines, time of concentration flow lines, existing features, and drainage ways where applicable. The Post-Development Drainage Plan includes the locations of the proposed tanks, buildings, roads and other above ground structures, and post-development contours at a two-foot interval, post-development subwatershed boundaries and locations and sizes of the underdrained soil filters.

12.D Runoff Analysis

The pre- and post-development stormwater analysis calculations are provided in Appendix 12B. The analysis includes computations for determining the curve numbers for the pre-development watersheds and the HydroCAD output, which includes time of concentration calculations, travel time calculations, peak discharge calculations for the 24-hour storms of the 2-, 10-, and 25-year frequencies, and routing calculations.

The pre– and post-development peak runoff at the control points is provided in Tables 12-2 12-3 and 12-4.

Table 12-2

Pre-Development Peak Outflow by Watershed

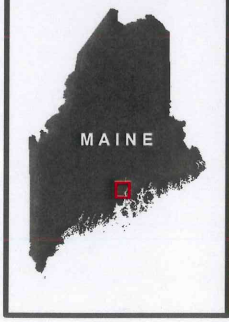
Storm Frequency	Discharge Rates, cfs		
	Boundary Node 1R	Boundary Node 2R	Boundary Node 3R
2-Year	9.16	2.77	4.10
10-Year	26.05	7.44	10.38
25-Year	33.93	9.55	13.18

Table 12-3

Post-Development Peak Outflow by Watershed

Storm Frequency	Discharge Rates, cfs		
	Boundary Node 1R	Boundary Node 2R	Boundary Node 3R
2-Year	9.10	2.01	3.73
10-Year	26.35	5.95	9.73
25-Year	33.86	9.39	12.44

Map Symbol	Soil Name	Hydrologic Group
BoB	Boothbay	C
BoE3	Boothbay	C
Sw	Swanville	C
Ud	Udorthents	C



LEGEND

- Site Boundary
- Transfer Pipeline
- Soil Series Boundary
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), Orthophoto Date: 2003.
Soils information: USDA-NRCS County Soil Survey
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, Maine

Figure 12-3:
USDA-NRCS Soil Survey Map

Created by: TRC 5/4/2011

Table 12-4 Net Change in Peak Outflow by Watershed			
Storm Frequency	Discharge Rates, cfs		
	Boundary Node 1R	Boundary Node 2R	Boundary Node 3R
2-Year	-0.06	-0.76	-0.37
10-Year	0.30	-0.49	-0.65
25-Year	-0.07	-0.16	-0.74

12.D.1 Summary of Results

The calculations show a net decrease of approximately 2 percent in the total peak outflow from the developed site following a 25-year, 24-hour storm event.

Node 1R
Boundary Node 1R is the southern-most boundary node describing the runoff entering an existing 36-inch CMP culvert under the railroad bed. This analysis point includes the runoff from subwatersheds 2S, 2SA, 2SB. The results show a small increase in runoff from the 10-year storm event but a decrease in the 2- and 25-year events. The increase will have a minimal effect on the existing culvert.

Node 2R
Boundary Node 2R is the boundary node describing the runoff entering an existing 24-inch CMP culvert under the railroad bed. This analysis point includes the runoff from subwatersheds 3S, 3SA, 3SB. The results show a small decrease in runoff from the 2-, 10-, and 25-year storm events.

Node 3R
Boundary Node 4R is the northern most boundary node describing the runoff entering an existing 18-inch CMP culvert under the railroad bed. This analysis point includes the runoff from subwatersheds 4S. The results show a small decrease in runoff from the 2-, 10- and 25-year storm events.

12.D.2 Curve Number Computations

A summary of the cover types, hydrologic soil group ("HSG"), and curve numbers for the pre-development watershed is provided in the stormwater calculation package in Appendix 12B. Cover types for the affected area were determined from the topographic field survey and a site visit and are indicated on the Pre- and Post-Development Drainage Plans.

The soils and hydrologic soil groups within the area to be developed are based on the medium intensity soil survey mapping obtained from the SCS *Soil Survey of Waldo County, Maine* (Figure 12-3). The soils and hydrologic soil groups within the watershed analysis areas are shown on the Pre- and Post-Development Drainage Plans.

The runoff curve numbers were developed from Appendix D-13: "Runoff Curve Numbers for use in TR-55 and TR-20" of the DEP *Stormwater Management for Maine: Best Management Practices* and HydroCAD, based on the observed cover types and hydrologic soil groups. Included in the appendix is the curve number developed for the crushed stone surfaces. The weighted curve number calculations for

the subwatersheds are included within the HydroCAD output provided in the stormwater calculation package.

An engineering study was conducted by TRC Environmental Corporation (TRC), detailing the "typical" cross section and surface materials of a switchyard/substation covered with gravel and crushed stone to calculate its permeability rate. The study was reviewed by John Simon, a USDA-NRCS engineer in Maine. The conclusions of this report were used as the basis of an agreement between Central Maine Power Company and MDEP that a CN value of 55 may be used for switchyards and substations that are mapped as HSG "A", "B", "C"; and a CN value of 60 must be used when the area is mapped as HSG "D". A copy of the letter agreement is included at the back of the stormwater calculations (Appendix 12-3). For this project, the approximately 2,700-square foot gravel area around the emergency flare will be constructed based on the materials provided by this typical cross section, (4" of crushed stone topping and 18" MDOT 703.06 gravel fill material). As a result, the runoff from this area is considered to be treated and no additional water quality treatment for this area is proposed.

12.D.3 Time of Concentration Calculations

Time of concentration was calculated using NRCS TR-55 methodologies for each watershed considering the hydrologic flow lengths, slope, vegetative cover, surface roughness, and each stage-storage relationship. The type and length of each hydrologic flow line for determining time of concentration and travel times in the area to be developed are indicated on the Pre- and Post-Development Drainage Plans. The maximum sheet flow length used for this analysis was 150 feet. Flow lengths beyond 150 feet were assumed to be shallow concentrated flows. Shallow concentrated flow lengths varied for each watershed and were extended until they reached the end of the watershed or until it reached a concentrated flow channel. A summary of the input data used to estimate the time of concentration for each subwatershed is provided in the calculation package.

12.D.4 Travel Time Calculations

The travel time for each subwatershed was calculated using a spreadsheet based on equations prepared by the NRCS. These times were then inputted directly into HydroCAD. The spreadsheets are included with the calculations in Appendix 12B.

12.D.5 Peak Discharge Calculations

Peak discharge calculations are included in the HydroCAD output. A summary comparison of pre- and post development peak discharge calculations for each subwatershed affected by the proposed development is presented in Section 12.D, above.

12.D.6 Reservoir Routing Calculations

Reservoir routing calculations are included in the HydroCAD output. The "storage-indication+ translation" method was used in the analyses. This method first performs a storage-indication routing, and then translates the resulting hydrograph by the travel time.

12.E Flooding Standard Submissions

12.E.1 Variance Submissions

This project directly discharges to the ocean, through culverts under the rail road tracks, thus a waiver is available based on the Chapter 500 requirements. A hydraulic analysis was completed to verify that the

existing culverts are adequate to handle the flow from the proposed development without creating erosive flows or potential damage to the existing railroad bed and rails (see Section 12.D.1 and Appendix 12B).

12.E.2 Sizing of Storm Drains and Culverts

The calculations for the sizing of proposed culverts under the access roads and other conveyance structures are provided in the stormwater calculation package located in Appendix 12B. The proposed culverts, conveyance swales and other discharge structures are designed and sized to handle the anticipated runoff from the proposed development without creating erosive flows. Detail drawings for potential on-site conveyance structures, including vegetated and stone-lined drainage swales, culverts with inlet and outlet protection, underground pipes, etc. are shown on the Construction and Erosion Control Detail drawings located in Appendix 12A. Stabilization methods will be designed, constructed and maintained in accordance with the *Maine Erosion and Sedimentation Control BMPs*, dated March 2003. Please refer to Section 14: Basic Standards Submissions for a detailed description of the site-specific erosion control measures and practices to be utilized during construction and operation of the DCP Terminal.

12.E.3 Stormwater Ponds and Basins

No stormwater ponds are proposed for the project. The stormwater system will use vegetated and/or stone-lined swales, and possibly plunge pools, in conjunction with underdrain soil filters to collect and treat the stormwater runoff from the buildings, access roads and the equipment yard areas. The site is broken up into subwatersheds to collect and treat the impervious areas.

12.E.4 Infiltration Systems

No infiltration systems are proposed.

12.E.5 Drainage Easement Declarations

A drainage easement from the Montreal, Maine and Atlantic Railroad will be provided in a subsequent submittal that documents their concurrence with the use of existing culverts under their tracks to carry runoff from the terminal site to Long Cove.

12.F Stormwater Quality Treatment Plan

12.F.1 Basic Stabilization Submissions

The proposed project will be disturbing more than one acre of land, approximately 19.7 acres of total disturbance within DCP property and an additional disturbance of up to approximately 4.4 acres to install the transfer pipeline across the existing Mack Point Terminal. Therefore the Basic Stabilization Standards must be met. Section 14: Basic Stabilization Submissions addresses erosion and sedimentation control, inspection and maintenance, and housekeeping, respectively. In accordance with the Basic Stabilization Standards, stormwater conveyance structures will be designed, constructed, and stabilized using erosion and sedimentation BMPs and receive adequate routine maintenance to ensure their continued function. The site will be maintained to prevent or correct erosion problems. The basic strategy of the site-specific erosion and sedimentation control measures is to prevent erosion from occurring, rather than correcting problems. Section 14 contains the details and specifications for stabilization measures to be used during construction and operation of the terminal. These measures will be used to protect exposed soils during construction and throughout the service life of the project.

Stabilization measures for the site will include temporary and permanent erosion and sedimentation controls, periodic mulching or seeding, appropriate design of swales and culverts with inlet and outlet protection, evaluation of slope stability and erosion protection for earthen cut and fill slopes, revegetation or other stabilization of disturbed areas, and provisions for future maintenance of the site. These treatment practices will be used to reduce the impacts of site runoff on downstream water quality. The swale and culvert design calculations are provided in Appendix 12B and summarized in Section 12.F.2.1. Detailed drawings showing proper construction and stabilization are provided in Appendix 12A.

12.F.2 General Standard Submissions

As mentioned previously, the construction of the terminal site is expected to result in approximately 13.2 acres of new permanently developed area consisting of approximately 3.3 acres of new impervious areas (storage tanks, containment area, pavement and roads, buildings, truck and rail car loading facilities and other equipment and structures), 8.6 acres of crushed stone equipment pads and/or rip rap, and approximately 1.3 acres of regularly mowed grass.

12.F.2.1 Runoff Treatment Measures

The drainage design of the DCP Terminal will consist of vegetated or stone-lined conveyance swales that will collect and direct runoff to adjacent underdrained vegetated soil filters. The measures will be designed per the January 2006 MDEP manual *Design of Stormwater Best Management Practices* (the "Stormwater BMP Manual"). Because of site constraints, buffers are not available immediately adjacent to the proposed development so the use of conveyance swales and underdrained soil filters are incorporated into the stormwater management design to collect and treat the surface runoff from impervious areas, areas covered with crushed stone and grass that is mowed regularly. Areas of vegetation that will be maintained at approximately one-foot tall by infrequent mowing are not considered to require treatment.

Treatment measures for the precipitation that falls within the bulk LPG storage tank containment area will consist of collecting the first one-inch or more of rainfall (the first flush) in a concrete sump, visual examination of the collected runoff for signs of petroleum or other contaminants, then manually activating a pump to discharge the water at a controlled rate to a stabilized, rip rapped pad outside the impoundment area. The discharge will then enter a catch basin and be directed to an extension of an existing culvert under the railroad tracks. Removal of the collected runoff from storm events that result in less than one inch of rain will not occur until approximately 24 hours after the precipitation has stopped. If runoff shows signs of the presence of petroleum or other contaminants, it will be removed from the containment area for proper disposal by a licensed waste transporter. A cross section through the containment area runoff collection and discharge area is provided in the LPG Tank Area Grading, Sections and Details drawing in Appendix 1A (DWG. 2004-01). Calculations to demonstrate the adequacy of the existing culvert to handle the proposed discharge rate are provided in the post-development runoff calculations submitted in Appendix 12B.

12.F.3 Phosphorus Control Plan

The proposed terminal site is not located in a lake watershed. Therefore a Phosphorus Control Plan is not required.

12.F.4 Control Plan for Thermal Impacts to Coldwater Fisheries

There will be no thermal impacts due to the use of vegetated conveyance swales in conjunction with the undertrained vegetated soil filters as the stormwater BMP's choice of treatment. In addition, the runoff will discharge directly to tidal waters.

12.F.5 Control Plan for Other Pollutants

A control plan for other pollutants in stormwater runoff is not required.

12.F.6 Engineering Inspection of Stormwater Management Facilities

DCP will ensure that a qualified design engineer will inspect the construction site weekly during periods when stormwater conveyance, control and treatment structures are being constructed to verify that construction is in accordance with the plans and specifications shown on the design drawings in Appendix 12A and functioning properly. Additional inspections of the site during and after construction to evaluate and maintain the condition and effectiveness of erosion and sedimentation control measures will be conducted as described in Sections 12.G and 14 of this application.

12.G Components of the DCP Terminal Stormwater Maintenance Plan

The DCP Terminal will be solely-owned, operated and maintained by DCP Searsport, LLC.

12.G.1 Facilities to be Maintained

The stormwater management facilities to be maintained at the DCP Terminal include:

- Drainage conveyance swales, associated with the access road and yard areas;
- Catch basins, plunge pools and culverts with inlet and outlet protection, as applicable; and
- Vegetated underdrained soil filter fields.

A sample maintenance and inspection log is provided in Appendix 12C.

12.G.2 General Inspection and Maintenance Requirements

At a minimum, DCP will inspect stormwater conveyance, control and treatment structures at the Searsport Terminal on a quarterly basis. Additional inspections will occur immediately following a 25-year or more severe storm event, and more frequently, as needed, depending on the results of routine inspections and site conditions. A DCP Terminal employee responsible for environmental compliance will be present at the semi-annual inspections, which will include a detailed visual inspection of all features of the site identified on the "Stormwater Management System Monitoring Inspection Log" (Appendix 12C). More frequent inspections will be made, as needed, by on-site personnel under the direction of the terminal compliance coordinator. Maintenance will be performed on an as-needed basis, in accordance with recommendations made by the site inspector. Routine maintenance will include the immediate repair of newly-formed channels or gullies; reseeding or sodding of bare ground; removal of trash, leaves and sediment; and control of woody vegetation.

Maintenance issues associated with specific areas and facilities at the terminal are identified in the following paragraphs.

12.G.2.1 Drainage Conveyance Systems

Conveyance swales (vegetated and rip rapped), catch basins, and culverts are to be inspected on a quarterly basis. Any signs of existing or developing blockage of flow, trash, erosion, channeling or excessive build up of sediment will be removed/repaired, as needed. Vegetated swales will be mowed or otherwise maintained to control the growth of woody vegetation within the channel, but generally no more than twice per year.

12.G.2.2 Roadways, Parking Surfaces and Equipment Yard Area

The roadways, parking surfaces, and crushed stone yard surfaces will typically require little on-going maintenance, owing to the limited use by heavy vehicles in all areas except those traveled by the trucks involved with LPG distribution. These areas will be inspected quarterly, and signs of existing or developing erosion, rutting, trash or unwanted vegetation will be removed/repaired as needed. Any accumulation of sand from winter maintenance will be removed promptly in the spring. The grass areas immediately adjacent to facility roads and behind the administration building will be maintained by frequent mowing during the growing season. Other revegetated surfaces are to be maintained at approximately one-foot tall, provided facility safety/security requirements are met. Yard areas are to be kept free of trash and any non-functional equipment at all times.

12.G.2.3 Underdrain Soil Filter Field

The underdrain soil filter beds will be inspected on a quarterly basis. Any signs of existing or developing blockage of flow (pooling of water), trash, or build up of sediment will be removed/repaired, as needed. The vegetation on top of the filter bed will be mowed or otherwise maintained to prevent the growth of woody vegetation, as is done for the other areas of maintained vegetation at the terminal.

APPENDIX 12A

Pre- and Post-Development Drainage Plans

Construction Detail Drawings

Erosion Control Detail Drawings

(Bound Separately – Volume II)

APPENDIX 12B

Stormwater Calculation Package

249 Western Avenue
Augusta, ME 04330

207.621.7000 PHONE
207.621.7001 FAX

www.TRCsolutions.com

Stormwater Management Calculations
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STATE OF MAINE
DANIEL T. BUTLER
No. 6796
LICENSED
PROFESSIONAL ENGINEER

Daniel T. Butler

5/6/11
Date

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011

Time of Concentration Equations:

1. Where $T_t := \frac{0.007 \cdot (N \cdot L)^{0.8}}{P_2^{0.5} \cdot S^{0.4}}$ from SCS TR-55. For Sheet Flow (300 feet of less)

2. Where $V := 20.3282 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* For Shallow Concentrated Flow (Paved surfaces)

3. Where $T_t := \frac{L}{3600 \cdot V}$ from the SCS Upland Method *Channel Flow Chart* Travel time equation

4. Where: $v = 7\sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* For Shallow Concentrated Flow (Short Grass Pasture)

5. Where: $v = 5\sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* For Shallow Concentrated Flow (Woodland)

6. Where $V := 12 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* For waterways and swamps, no channels

7. Where $V := 15 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* For grassed waterways and roadside ditches

8. Where $V := 21 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* Small Tributary & Swamp w/Channels

9. Where $V := 35 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* Large Tributary

10. Where $V := 60 \cdot \sqrt{S}$ from the SCS Upland Method *Channel Flow Chart* Main River

11. Where $V := \frac{1.49 \cdot R^{.667} \cdot \sqrt{S}}{N}$ Culvert Flow

12. Where P_2 = 2-Year, 24 Hour Rainfall (in) (In Waldo County is 2.8 inches)

Mannings Roughness Coefficients Table

Surface Description	n - value
Smooth surfaces	0.011
Crush Stone/Substation Yards	0.025
Fallow	0.050
Cultivated: Residue<=20%	0.060
Cultivated: Residue>=20%	0.170
Grass: Short	0.150
Grass: Dense	0.240
Grass: Bermuda	0.410
Range	0.130
Woods: Light underbrush	0.400
Woods: Dense underbrush	0.800

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011
Watershed:	**1S (Pre development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1		Seg 2		Seg 3	Seg 4	Seg 5	Seg 6			
SHEET FLOW											
Manning's No.	0.8										
Length, ft	150										
P2 , in	2.8										
Slope, ft/ft	0.01667	avg 1/60									
T_t[1], hr	0.991										0.9910
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft			2710								
Slope, ft/ft			0.02214	avg 60/2710							
Velocity[5], ft/sec			0.7440								
T_t[3], hr			1.012								1.0118
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	2.003
Min	**120.17**

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011
Watershed:	**2S (Pre development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6					
SHEET FLOW											
Manning's No.	0.8	0.8	0.8								
Length, ft	70	68	12								
P2 , in	2.8	2.8	2.8								
Slope, ft/ft	0.02857	0.02941	0.03571	ave 2/56							
T_t[1], hr	0.434	0.419	0.097								0.9505
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft				50	140						
Slope, ft/ft				0.032	0.10714	ave 15.0/140					
Velocity[5], ft/sec				0.8944	1.6366						
T_t[3], hr				0.016	0.024						0.0393
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft						1000					
Slope, ft/ft						0.0351	ave 35.1/1000				
Velocity[7], ft/sec						3.934					
T_t, hr						0.071					0.0706
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	1.060
Min	63.62

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011
Watershed:	**3S (Pre development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1		Seg 2		Seg 3	Seg 4	Seg 5	Seg 6			
SHEET FLOW											
Manning's No.	0.8		0.8								
Length, ft	66		84								
P2 , in	2.8		2.8								
Slope, ft/ft	0.0303	avg 2/66	0.04	avg 2/50							
T_t[1], hr	0.405		0.439								0.8437
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft					510	32					
Slope, ft/ft					0.0486	0.5					
Velocity[5], ft/sec					1.1023	3.5355					
T_t[3], hr					0.129	0.003					0.1310
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft							160				
Slope, ft/ft							0.03125	avg 5/160			
Velocity[7], ft/sec							3.712				
T_t, hr							0.012				0.0120
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

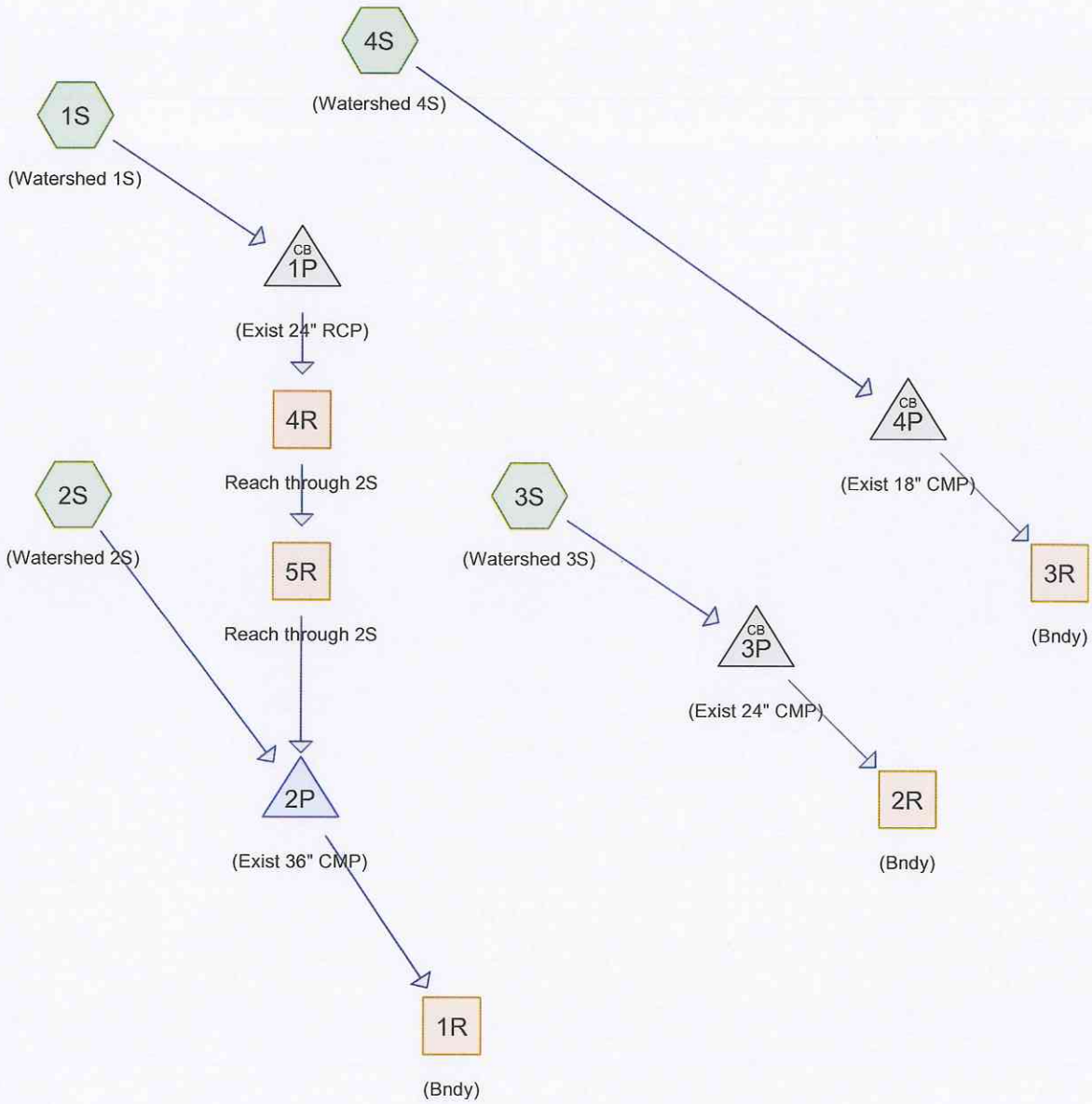
HR	0.987
Min	**59.21**

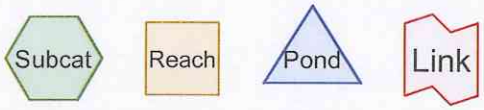
PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011
Watershed:	**4S (Pre development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1		Seg 2		Seg 3	Seg 4	Seg 5	Seg 6			
SHEET FLOW											
Manning's No.	0.8		0.8								
Length, ft	110		40								
P2 , in	2.8		2.8								
Slope, ft/ft	0.01818	avg 2/110	0.0222	avg 2/90							
T_t[1], hr	0.747		0.307								1.0539
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft					1840						
Slope, ft/ft					0.0277	avg 51.0/1840					
Velocity[5], ft/sec					0.8322						
T_t[3], hr					0.614						0.6142
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft						880					
Slope, ft/ft						0.0575	avg 50.6/880				
Velocity[7], ft/sec						5.036					
T_t, hr						0.049					0.0485
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	1.717
Min	**103.00**





Drainage Diagram for Searsport Pre-dev MODEL 5-10-11
Prepared by TRC Environmental Corp, Printed 5/11/2011
HydroCAD® 9.00 s/n 01824 © 2009 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.150	55	Railbed (2S)
3.100	65	Brush, Good, HSG C (2S, 3S, 4S)
73.850	70	Woods, Good, HSG C (1S, 2S, 3S, 4S)
10.150	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S)
2.580	89	Gravel roads, HSG C (1S, 2S, 3S, 4S)
2.410	98	Paved roads w/curbs & sewers, HSG C (1S, 2S, 3S, 4S)
0.820	98	Roofs, HSG C (1S, 2S, 3S, 4S)
93.060		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
92.910	HSG C	1S, 2S, 3S, 4S
0.000	HSG D	
0.150	Other	2S
93.060		**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)
1	1P	73.50	70.20	88.0	0.0375	0.012	24.0	0.0
2	2P	9.90	8.40	105.0	0.0143	0.025	36.0	0.0
3	3P	15.00	13.10	105.0	0.0181	0.025	24.0	0.0
4	4P	19.40	15.60	100.0	0.0380	0.025	18.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth>0.65"
Tc=120.2 min CN=71 Runoff=6.15 cfs 2.062 af

Subcatchment 2S: (Watershed 2S) Runoff Area=27.110 ac 3.61% Impervious Runoff Depth=0.69"
Tc=63.6 min CN=72 Runoff=7.29 cfs 1.563 af

Subcatchment 3S: (Watershed 3S) Runoff Area=9.850 ac 2.94% Impervious Runoff Depth=0.69"
Tc=59.2 min CN=72 Runoff=2.77 cfs 0.568 af

Subcatchment 4S: (Watershed 4S) Runoff Area=17.920 ac 7.31% Impervious Runoff Depth=0.78"
Tc=103.0 min CN=74 Runoff=4.10 cfs 1.171 af

Reach 1R: (Bndy) Inflow=9.16 cfs 3.625 af
Outflow=9.16 cfs 3.625 af

Reach 2R: (Bndy) Inflow=2.77 cfs 0.568 af
Outflow=2.77 cfs 0.568 af

Reach 3R: (Bndy) Inflow=4.10 cfs 1.171 af
Outflow=4.10 cfs 1.171 af

Reach 4R: Reach through 2S Avg. Depth=0.29' Max Vel=2.44 fps Inflow=6.15 cfs 2.062 af
n=0.040 L=767.0' S=0.0329 '/' Capacity=885.60 cfs Outflow=6.12 cfs 2.062 af

Reach 5R: Reach through 2S Avg. Depth=0.20' Max Vel=2.21 fps Inflow=6.12 cfs 2.062 af
n=0.040 L=1,019.0' S=0.0344 '/' Capacity=3,557.11 cfs Outflow=6.09 cfs 2.062 af

Pond 1P: (Exist 24" RCP) Peak Elev=74.45' Inflow=6.15 cfs 2.062 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=6.15 cfs 2.062 af

Pond 2P: (Exist 36" CMP) Peak Elev=11.24' Storage=222 cf Inflow=9.16 cfs 3.625 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=9.16 cfs 3.625 af

Pond 3P: (Exist 24" CMP) Peak Elev=15.79' Inflow=2.77 cfs 0.568 af
24.0" Round Culvert n=0.025 L=105.0' S=0.0181 '/' Outflow=2.77 cfs 0.568 af

Pond 4P: (Exist 18" CMP) Peak Elev=20.53' Inflow=4.10 cfs 1.171 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=4.10 cfs 1.171 af

Total Runoff Area = 93.060 ac Runoff Volume = 5.364 af Average Runoff Depth = 0.69"
96.53% Pervious = 89.830 ac 3.47% Impervious = 3.230 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 7.29 cfs @ 12.96 hrs, Volume= 1.563 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	1.560	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.800	74	>75% Grass cover, Good, HSG C
	1.180	89	Gravel roads, HSG C
	0.800	98	Paved roads w/curbs & sewers, HSG C
*	0.150	55	Railbed
	19.440	70	Woods, Good, HSG C
	27.110	72	Weighted Average
	26.130		96.39% Pervious Area
	0.980		3.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
63.6					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 2.77 cfs @ 12.90 hrs, Volume= 0.568 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
0.590	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.490	74	>75% Grass cover, Good, HSG C
0.430	89	Gravel roads, HSG C
0.140	98	Paved roads w/curbs & sewers, HSG C
8.050	70	Woods, Good, HSG C
9.850	72	Weighted Average
9.560		97.06% Pervious Area
0.290		2.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
59.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 4.10 cfs @ 13.50 hrs, Volume= 1.171 af, Depth= 0.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
0.950	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.410	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
11.300	70	Woods, Good, HSG C
17.920	74	Weighted Average
16.610		92.69% Pervious Area
1.310		7.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 0.67" for 2-yr Waldo County event
Inflow = 9.16 cfs @ 13.89 hrs, Volume= 3.625 af
Outflow = 9.16 cfs @ 13.89 hrs, Volume= 3.625 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	9.850 ac,	2.94% Impervious,	Inflow Depth =	0.69"	for 2-yr Waldo County event
Inflow =	2.77 cfs @	12.90 hrs, Volume=	0.568 af		
Outflow =	2.77 cfs @	12.90 hrs, Volume=	0.568 af, Atten= 0%, Lag= 0.0 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	0.78"	for 2-yr Waldo County event
Inflow =	4.10 cfs @	13.50 hrs, Volume=	1.171 af		
Outflow =	4.10 cfs @	13.50 hrs, Volume=	1.171 af, Atten= 0%, Lag= 0.0 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 4R: Reach through 2S

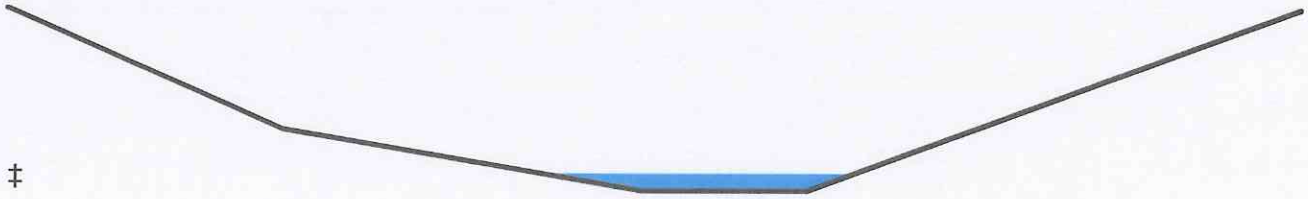
[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.29'

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth >	0.65"	for 2-yr Waldo County event
Inflow =	6.15 cfs @	13.77 hrs, Volume=	2.062 af		
Outflow =	6.12 cfs @	13.95 hrs, Volume=	2.062 af, Atten= 0%, Lag= 10.5 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.44 fps, Min. Travel Time= 5.2 min
Avg. Velocity = 1.31 fps, Avg. Travel Time= 9.7 min

Peak Storage= 1,923 cf @ 13.86 hrs, Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 885.60 cfs

Custom cross-section, Length= 767.0' Slope= 0.0329 '/' (102 Elevation Intervals)
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 45.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	51.00	0.00
5.00	50.00	1.00
10.00	49.00	2.00
23.00	48.00	3.00
29.00	48.00	3.00
35.00	49.00	2.00
41.00	50.00	1.00
47.00	51.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	6.0	0	0.00
1.00	15.5	25.1	11,889	75.65
2.00	46.0	36.3	35,282	362.71
3.00	87.5	47.5	67,113	885.60

Summary for Reach 5R: Reach through 2S

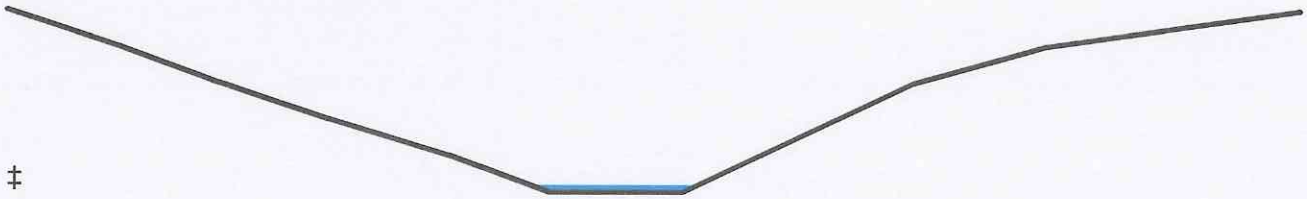
[61] Hint: Exceeded Reach 4R outlet invert by 0.20' @ 14.05 hrs

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 0.65" for 2-yr Waldo County event
Inflow = 6.12 cfs @ 13.95 hrs, Volume= 2.062 af
Outflow = 6.09 cfs @ 14.17 hrs, Volume= 2.062 af, Atten= 1%, Lag= 13.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.21 fps, Min. Travel Time= 7.7 min
Avg. Velocity = 1.23 fps, Avg. Travel Time= 13.8 min

Peak Storage= 2,813 cf @ 14.04 hrs, Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,557.11 cfs

Custom cross-section, Length= 1,019.0' Slope= 0.0344 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 45.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	20,380	109.86
2.00	57.0	46.2	58,083	451.81
3.00	111.5	63.4	113,619	1,120.53
4.00	185.0	84.5	188,515	2,151.33
5.00	285.5	117.5	290,925	3,557.11

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 0.65" for 2-yr Waldo County event
Inflow = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af
Outflow = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af, Atten= 0%, Lag= 0.0 min
Primary = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 74.45' @ 13.77 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=6.14 cfs @ 13.77 hrs HW=74.45' (Free Discharge)
└─**1=Culvert** (Inlet Controls 6.14 cfs @ 4.16 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 5R OUTLET depth by 1.15' @ 13.10 hrs

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 0.67" for 2-yr Waldo County event
Inflow = 9.16 cfs @ 13.88 hrs, Volume= 3.625 af
Outflow = 9.16 cfs @ 13.89 hrs, Volume= 3.625 af, Atten= 0%, Lag= 1.0 min
Primary = 9.16 cfs @ 13.89 hrs, Volume= 3.625 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 11.24' @ 13.89 hrs Surf.Area= 941 sf Storage= 222 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 0.4 min calculated for 3.619 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (982.0 - 981.7)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=9.14 cfs @ 13.89 hrs HW=11.24' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 9.14 cfs @ 4.41 fps)

Summary for Pond 3P: (Exist 24" CMP)

Inflow Area = 9.850 ac, 2.94% Impervious, Inflow Depth = 0.69" for 2-yr Waldo County event
Inflow = 2.77 cfs @ 12.90 hrs, Volume= 0.568 af
Outflow = 2.77 cfs @ 12.90 hrs, Volume= 0.568 af, Atten= 0%, Lag= 0.0 min
Primary = 2.77 cfs @ 12.90 hrs, Volume= 0.568 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 15.79' @ 12.90 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=2.77 cfs @ 12.90 hrs HW=15.79' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.77 cfs @ 2.39 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	0.78"	for 2-yr Waldo County event
Inflow =	4.10 cfs @	13.50 hrs,	Volume=	1.171 af	
Outflow =	4.10 cfs @	13.50 hrs,	Volume=	1.171 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.10 cfs @	13.50 hrs,	Volume=	1.171 af	

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 20.53' @ 13.50 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=4.10 cfs @ 13.50 hrs HW=20.53' (Free Discharge)
└**1=Culvert** (Inlet Controls 4.10 cfs @ 2.86 fps)

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth>1.60"
Tc=120.2 min CN=71 Runoff=17.03 cfs 5.101 af

Subcatchment2S: (Watershed 2S) Runoff Area=27.110 ac 3.61% Impervious Runoff Depth=1.67"
Tc=63.6 min CN=72 Runoff=19.53 cfs 3.782 af

Subcatchment3S: (Watershed 3S) Runoff Area=9.850 ac 2.94% Impervious Runoff Depth=1.67"
Tc=59.2 min CN=72 Runoff=7.44 cfs 1.374 af

Subcatchment4S: (Watershed 4S) Runoff Area=17.920 ac 7.31% Impervious Runoff Depth=1.82"
Tc=103.0 min CN=74 Runoff=10.38 cfs 2.718 af

Reach 1R: (Bndy) Inflow=26.05 cfs 8.882 af
Outflow=26.05 cfs 8.882 af

Reach 2R: (Bndy) Inflow=7.44 cfs 1.374 af
Outflow=7.44 cfs 1.374 af

Reach 3R: (Bndy) Inflow=10.38 cfs 2.718 af
Outflow=10.38 cfs 2.718 af

Reach 4R: Reach through 2S Avg. Depth=0.49' Max Vel=3.27 fps Inflow=17.03 cfs 5.101 af
n=0.040 L=767.0' S=0.0329 '/' Capacity=885.60 cfs Outflow=16.99 cfs 5.101 af

Reach 5R: Reach through 2S Avg. Depth=0.36' Max Vel=3.12 fps Inflow=16.99 cfs 5.101 af
n=0.040 L=1,019.0' S=0.0344 '/' Capacity=3,557.11 cfs Outflow=16.95 cfs 5.100 af

Pond 1P: (Exist 24" RCP) Peak Elev=75.30' Inflow=17.03 cfs 5.101 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=17.03 cfs 5.101 af

Pond 2P: (Exist 36" CMP) Peak Elev=12.39' Storage=3,612 cf Inflow=26.08 cfs 8.882 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=26.05 cfs 8.882 af

Pond 3P: (Exist 24" CMP) Peak Elev=16.40' Inflow=7.44 cfs 1.374 af
24.0" Round Culvert n=0.025 L=105.0' S=0.0181 '/' Outflow=7.44 cfs 1.374 af

Pond 4P: (Exist 18" CMP) Peak Elev=22.54' Inflow=10.38 cfs 2.718 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=10.38 cfs 2.718 af

Total Runoff Area = 93.060 ac Runoff Volume = 12.974 af Average Runoff Depth = 1.67"
96.53% Pervious = 89.830 ac 3.47% Impervious = 3.230 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 19.53 cfs @ 12.90 hrs, Volume= 3.782 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	1.560	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.800	74	>75% Grass cover, Good, HSG C
	1.180	89	Gravel roads, HSG C
	0.800	98	Paved roads w/curbs & sewers, HSG C
*	0.150	55	Railbed
	19.440	70	Woods, Good, HSG C
	27.110	72	Weighted Average
	26.130		96.39% Pervious Area
	0.980		3.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
63.6					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 7.44 cfs @ 12.84 hrs, Volume= 1.374 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
0.590	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.490	74	>75% Grass cover, Good, HSG C
0.430	89	Gravel roads, HSG C
0.140	98	Paved roads w/curbs & sewers, HSG C
8.050	70	Woods, Good, HSG C
9.850	72	Weighted Average
9.560		97.06% Pervious Area
0.290		2.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
59.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 10.38 cfs @ 13.41 hrs, Volume= 2.718 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
0.950	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.410	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
11.300	70	Woods, Good, HSG C
17.920	74	Weighted Average
16.610		92.69% Pervious Area
1.310		7.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 1.63" for 10-yr Waldo County event
Inflow = 26.05 cfs @ 13.46 hrs, Volume= 8.882 af
Outflow = 26.05 cfs @ 13.46 hrs, Volume= 8.882 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	9.850 ac,	2.94% Impervious,	Inflow Depth =	1.67"	for 10-yr Waldo County event
Inflow =	7.44 cfs @	12.84 hrs, Volume=	1.374 af		
Outflow =	7.44 cfs @	12.84 hrs, Volume=	1.374 af, Atten= 0%, Lag= 0.0 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	1.82"	for 10-yr Waldo County event
Inflow =	10.38 cfs @	13.41 hrs, Volume=	2.718 af		
Outflow =	10.38 cfs @	13.41 hrs, Volume=	2.718 af, Atten= 0%, Lag= 0.0 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 4R: Reach through 2S

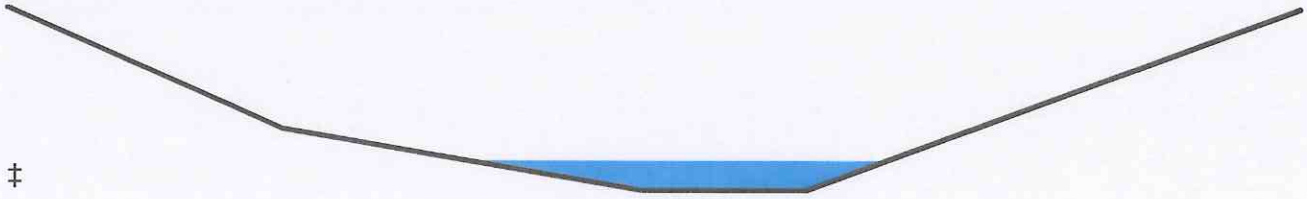
[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.49'

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth >	1.60"	for 10-yr Waldo County event
Inflow =	17.03 cfs @	13.73 hrs, Volume=	5.101 af		
Outflow =	16.99 cfs @	13.81 hrs, Volume=	5.101 af, Atten= 0%, Lag= 5.0 min		

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.27 fps, Min. Travel Time= 3.9 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 7.9 min

Peak Storage= 3,984 cf @ 13.75 hrs, Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 885.60 cfs

Custom cross-section, Length= 767.0' Slope= 0.0329 '/' (102 Elevation Intervals)
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 45.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	51.00	0.00
5.00	50.00	1.00
10.00	49.00	2.00
23.00	48.00	3.00
29.00	48.00	3.00
35.00	49.00	2.00
41.00	50.00	1.00
47.00	51.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	6.0	0	0.00
1.00	15.5	25.1	11,889	75.65
2.00	46.0	36.3	35,282	362.71
3.00	87.5	47.5	67,113	885.60

Summary for Reach 5R: Reach through 2S

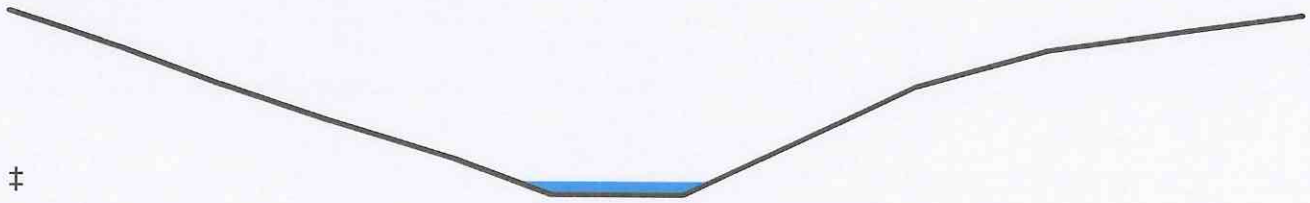
[61] Hint: Exceeded Reach 4R outlet invert by 0.36' @ 13.85 hrs

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 1.60" for 10-yr Waldo County event
Inflow = 16.99 cfs @ 13.81 hrs, Volume= 5.101 af
Outflow = 16.95 cfs @ 13.96 hrs, Volume= 5.100 af, Atten= 0%, Lag= 8.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.12 fps, Min. Travel Time= 5.4 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 11.1 min

Peak Storage= 5,534 cf @ 13.86 hrs, Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,557.11 cfs

Custom cross-section, Length= 1,019.0' Slope= 0.0344 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 45.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	20,380	109.86
2.00	57.0	46.2	58,083	451.81
3.00	111.5	63.4	113,619	1,120.53
4.00	185.0	84.5	188,515	2,151.33
5.00	285.5	117.5	290,925	3,557.11

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 1.60" for 10-yr Waldo County event
Inflow = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af
Outflow = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af, Atten= 0%, Lag= 0.0 min
Primary = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 75.30' @ 13.73 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=17.02 cfs @ 13.73 hrs HW=75.30' (Free Discharge)
└**1=Culvert** (Inlet Controls 17.02 cfs @ 5.71 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 5R OUTLET depth by 2.18' @ 13.15 hrs

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 1.63" for 10-yr Waldo County event
Inflow = 26.08 cfs @ 13.26 hrs, Volume= 8.882 af
Outflow = 26.05 cfs @ 13.46 hrs, Volume= 8.882 af, Atten= 0%, Lag= 11.7 min
Primary = 26.05 cfs @ 13.46 hrs, Volume= 8.882 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 12.39' @ 13.46 hrs Surf.Area= 4,979 sf Storage= 3,612 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 1.2 min calculated for 8.882 af (100% of inflow)
Center-of-Mass det. time= 1.2 min (949.9 - 948.7)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=26.05 cfs @ 13.46 hrs HW=12.39' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 26.05 cfs @ 5.64 fps)

Summary for Pond 3P: (Exist 24" CMP)

Inflow Area = 9.850 ac, 2.94% Impervious, Inflow Depth = 1.67" for 10-yr Waldo County event
Inflow = 7.44 cfs @ 12.84 hrs, Volume= 1.374 af
Outflow = 7.44 cfs @ 12.84 hrs, Volume= 1.374 af, Atten= 0%, Lag= 0.0 min
Primary = 7.44 cfs @ 12.84 hrs, Volume= 1.374 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 16.40' @ 12.84 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=7.43 cfs @ 12.84 hrs HW=16.40' (Free Discharge)
└**1=Culvert** (Inlet Controls 7.43 cfs @ 3.17 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	1.82"	for 10-yr Waldo County event
Inflow =	10.38 cfs @	13.41 hrs,	Volume=	2.718 af	
Outflow =	10.38 cfs @	13.41 hrs,	Volume=	2.718 af,	Atten= 0%, Lag= 0.0 min
Primary =	10.38 cfs @	13.41 hrs,	Volume=	2.718 af	

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 22.54' @ 13.41 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=10.37 cfs @ 13.41 hrs HW=22.53' (Free Discharge)
└**1=Culvert** (Inlet Controls 10.37 cfs @ 5.87 fps)

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth=2.04"
Tc=120.2 min CN=71 Runoff=22.03 cfs 6.494 af

Subcatchment 2S: (Watershed 2S) Runoff Area=27.110 ac 3.61% Impervious Runoff Depth=2.12"
Tc=63.6 min CN=72 Runoff=25.08 cfs 4.792 af

Subcatchment 3S: (Watershed 3S) Runoff Area=9.850 ac 2.94% Impervious Runoff Depth=2.12"
Tc=59.2 min CN=72 Runoff=9.55 cfs 1.741 af

Subcatchment 4S: (Watershed 4S) Runoff Area=17.920 ac 7.31% Impervious Runoff Depth=2.28"
Tc=103.0 min CN=74 Runoff=13.18 cfs 3.412 af

Reach 1R: (Bndy) Inflow=33.93 cfs 11.286 af
Outflow=33.93 cfs 11.286 af

Reach 2R: (Bndy) Inflow=9.55 cfs 1.741 af
Outflow=9.55 cfs 1.741 af

Reach 3R: (Bndy) Inflow=13.18 cfs 3.412 af
Outflow=13.18 cfs 3.412 af

Reach 4R: Reach through 2S Avg. Depth=0.56' Max Vel=3.51 fps Inflow=22.03 cfs 6.494 af
n=0.040 L=767.0' S=0.0329 '/' Capacity=885.60 cfs Outflow=22.01 cfs 6.494 af

Reach 5R: Reach through 2S Avg. Depth=0.42' Max Vel=3.39 fps Inflow=22.01 cfs 6.494 af
n=0.040 L=1,019.0' S=0.0344 '/' Capacity=3,557.11 cfs Outflow=21.96 cfs 6.494 af

Pond 1P: (Exist 24" RCP) Peak Elev=75.86' Inflow=22.03 cfs 6.494 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=22.03 cfs 6.494 af

Pond 2P: (Exist 36" CMP) Peak Elev=12.99' Storage=7,297 cf Inflow=34.34 cfs 11.286 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=33.93 cfs 11.286 af

Pond 3P: (Exist 24" CMP) Peak Elev=16.65' Inflow=9.55 cfs 1.741 af
24.0" Round Culvert n=0.025 L=105.0' S=0.0181 '/' Outflow=9.55 cfs 1.741 af

Pond 4P: (Exist 18" CMP) Peak Elev=24.59' Inflow=13.18 cfs 3.412 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=13.18 cfs 3.412 af

Total Runoff Area = 93.060 ac Runoff Volume = 16.439 af Average Runoff Depth = 2.12"
96.53% Pervious = 89.830 ac 3.47% Impervious = 3.230 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 25.08 cfs @ 12.89 hrs, Volume= 4.792 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	1.560	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.800	74	>75% Grass cover, Good, HSG C
	1.180	89	Gravel roads, HSG C
	0.800	98	Paved roads w/curbs & sewers, HSG C
*	0.150	55	Railbed
	19.440	70	Woods, Good, HSG C
	27.110	72	Weighted Average
	26.130		96.39% Pervious Area
	0.980		3.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
63.6					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 9.55 cfs @ 12.83 hrs, Volume= 1.741 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.590	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.490	74	>75% Grass cover, Good, HSG C
0.430	89	Gravel roads, HSG C
0.140	98	Paved roads w/curbs & sewers, HSG C
8.050	70	Woods, Good, HSG C
9.850	72	Weighted Average
9.560		97.06% Pervious Area
0.290		2.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
59.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 13.18 cfs @ 13.40 hrs, Volume= 3.412 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.950	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.410	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
11.300	70	Woods, Good, HSG C
17.920	74	Weighted Average
16.610		92.69% Pervious Area
1.310		7.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 2.07" for 25-yr Waldo County event
Inflow = 33.93 cfs @ 13.48 hrs, Volume= 11.286 af
Outflow = 33.93 cfs @ 13.48 hrs, Volume= 11.286 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	9.850 ac,	2.94% Impervious,	Inflow Depth =	2.12"	for 25-yr Waldo County event
Inflow =	9.55 cfs @	12.83 hrs, Volume=	1.741 af		
Outflow =	9.55 cfs @	12.83 hrs, Volume=	1.741 af,	Atten= 0%,	Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	2.28"	for 25-yr Waldo County event
Inflow =	13.18 cfs @	13.40 hrs, Volume=	3.412 af		
Outflow =	13.18 cfs @	13.40 hrs, Volume=	3.412 af,	Atten= 0%,	Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 4R: Reach through 2S

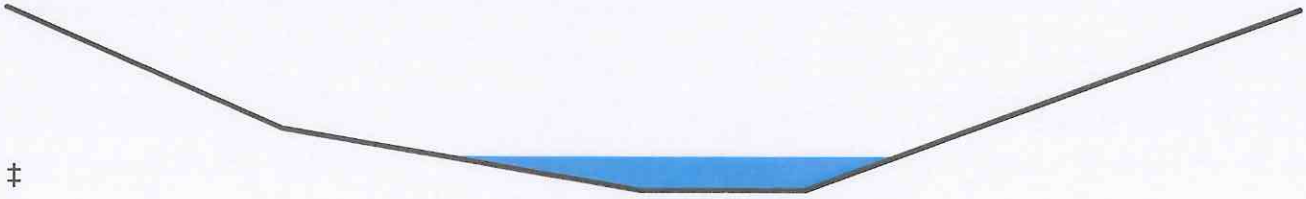
[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.56'

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth =	2.04"	for 25-yr Waldo County event
Inflow =	22.03 cfs @	13.66 hrs, Volume=	6.494 af		
Outflow =	22.01 cfs @	13.78 hrs, Volume=	6.494 af,	Atten= 0%,	Lag= 6.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.51 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 7.5 min

Peak Storage= 4,804 cf @ 13.72 hrs, Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 885.60 cfs

Custom cross-section, Length= 767.0' Slope= 0.0329 '/' (102 Elevation Intervals)
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 45.00'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	51.00	0.00
5.00	50.00	1.00
10.00	49.00	2.00
23.00	48.00	3.00
29.00	48.00	3.00
35.00	49.00	2.00
41.00	50.00	1.00
47.00	51.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	6.0	0	0.00
1.00	15.5	25.1	11,889	75.65
2.00	46.0	36.3	35,282	362.71
3.00	87.5	47.5	67,113	885.60

Summary for Reach 5R: Reach through 2S

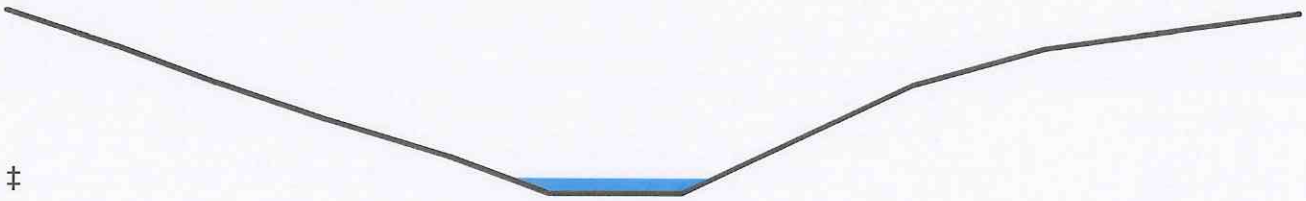
[61] Hint: Exceeded Reach 4R outlet invert by 0.42' @ 13.85 hrs

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 2.04" for 25-yr Waldo County event
Inflow = 22.01 cfs @ 13.78 hrs, Volume= 6.494 af
Outflow = 21.96 cfs @ 13.91 hrs, Volume= 6.494 af, Atten= 0%, Lag= 8.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.39 fps, Min. Travel Time= 5.0 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 10.5 min

Peak Storage= 6,597 cf @ 13.83 hrs, Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,557.11 cfs

Custom cross-section, Length= 1,019.0' Slope= 0.0344 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 45.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	20,380	109.86
2.00	57.0	46.2	58,083	451.81
3.00	111.5	63.4	113,619	1,120.53
4.00	185.0	84.5	188,515	2,151.33
5.00	285.5	117.5	290,925	3,557.11

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth = 2.04" for 25-yr Waldo County event
Inflow = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af
Outflow = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af, Atten= 0%, Lag= 0.0 min
Primary = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 75.86' @ 13.66 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=22.03 cfs @ 13.66 hrs HW=75.86' (Free Discharge)
└─**1=Culvert** (Inlet Controls 22.03 cfs @ 7.01 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 5R OUTLET depth by 2.70' @ 13.35 hrs

Inflow Area = 65.290 ac, 2.50% Impervious, Inflow Depth > 2.07" for 25-yr Waldo County event
Inflow = 34.34 cfs @ 13.21 hrs, Volume= 11.286 af
Outflow = 33.93 cfs @ 13.48 hrs, Volume= 11.286 af, Atten= 1%, Lag= 16.0 min
Primary = 33.93 cfs @ 13.48 hrs, Volume= 11.286 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 12.99' @ 13.48 hrs Surf.Area= 7,145 sf Storage= 7,297 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 1.8 min calculated for 11.286 af (100% of inflow)
Center-of-Mass det. time= 1.8 min (942.4 - 940.7)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=33.93 cfs @ 13.48 hrs HW=12.99' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 33.93 cfs @ 4.80 fps)

Summary for Pond 3P: (Exist 24" CMP)

Inflow Area = 9.850 ac, 2.94% Impervious, Inflow Depth = 2.12" for 25-yr Waldo County event
Inflow = 9.55 cfs @ 12.83 hrs, Volume= 1.741 af
Outflow = 9.55 cfs @ 12.83 hrs, Volume= 1.741 af, Atten= 0%, Lag= 0.0 min
Primary = 9.55 cfs @ 12.83 hrs, Volume= 1.741 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 16.65' @ 12.83 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=9.54 cfs @ 12.83 hrs HW=16.65' (Free Discharge)
└─**1=Culvert** (Inlet Controls 9.54 cfs @ 3.45 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.920 ac,	7.31% Impervious,	Inflow Depth =	2.28"	for 25-yr Waldo County event
Inflow =	13.18 cfs @	13.40 hrs,	Volume=	3.412 af	
Outflow =	13.18 cfs @	13.40 hrs,	Volume=	3.412 af,	Atten= 0%, Lag= 0.0 min
Primary =	13.18 cfs @	13.40 hrs,	Volume=	3.412 af	

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 24.59' @ 13.40 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=13.18 cfs @ 13.40 hrs HW=24.59' (Free Discharge)
└─**1=Culvert** (Barrel Controls 13.18 cfs @ 7.46 fps)

Preliminary Stream Channel Sizing

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.069	
Channel Slope	0.03231	ft/ft
Left Side Slope	1.00	ft/ft (H:V)
Right Side Slope	1.00	ft/ft (H:V)
Bottom Width	9.00	ft
Discharge	34.00	ft^3/s

Results

Normal Depth	0.99	ft
Flow Area	9.88	ft^2
Wetted Perimeter	11.80	ft
Top Width	10.98	ft
Critical Depth	0.74	ft
Critical Slope	0.08475	ft/ft
Velocity	3.44	ft/s
Velocity Head	0.18	ft
Specific Energy	1.17	ft
Froude Number	0.64	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.99	ft
Critical Depth	0.74	ft
Channel Slope	0.03231	ft/ft
Critical Slope	0.08475	ft/ft

Preliminary Stream Channnel Cross Section

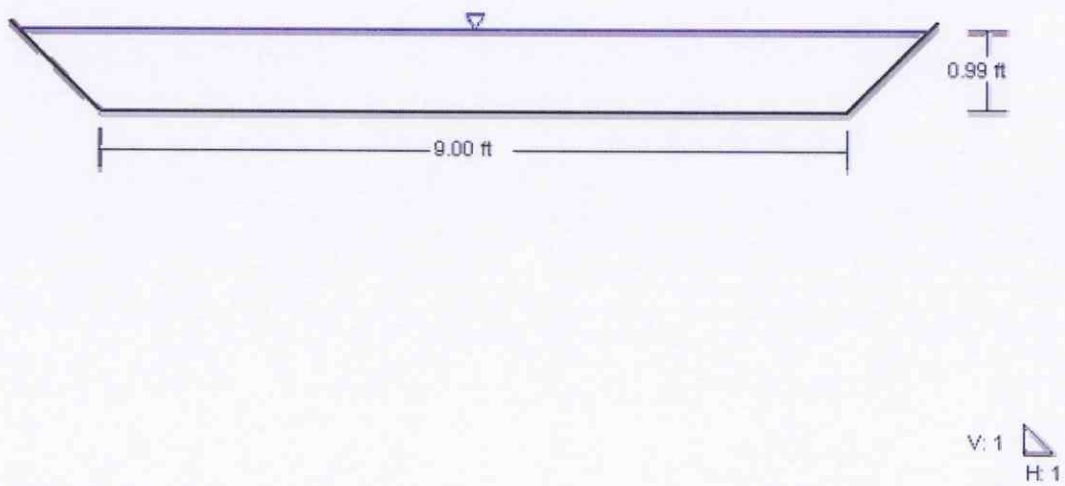
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.069	
Channel Slope	0.03231	ft/ft
Normal Depth	0.99	ft
Left Side Slope	1.00	ft/ft (H:V)
Right Side Slope	1.00	ft/ft (H:V)
Bottom Width	9.00	ft
Discharge	34.00	ft^3/s

Cross Section Image



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ELIAS BALDACCI
GOVERNOR

DAVID
COMMISSIONER

June 5, 2008

Roy Koster
Central Maine Power
83 Edison Drive
Augusta, ME 04336

RE: DEP Stormwater Management Regulations and how they apply to Central Maine Power Company Substations and Switchyards

Dear Mr. Koster:

I am writing to provide clarification on how substations and switchyards designed by Central Maine Power Company (CMP) can meet DEP Stormwater Management rules, Chapter 500 and the Site Location of Development Law. This letter supersedes a previous DEP letter on this subject dated February 29, 2008 and is a follow-up to further discussions between CMP and DEP staff.

Based on the report prepared by John Simon of Balance Engineering, dated March 8, 2008, regarding the stormwater runoff coefficient at CMP substations and switchyards, the required gravel fill and surface nature of these structures performs differently than most common construction practices and a modeling variance will be allowed for CMP substations and switchyards as follows:

When Flooding Standard requirements apply to a CMP project, modeling must demonstrate that peak runoff from the substation structure does not exceed predevelopment flow rates at the property line. Because of the permeability plus storage within the gravel fill and roughness of the crushed rock surface, the curve number (CN) specified in John Simon's report (March 2008) may be used for the substation area. As reported, a CN of 55 may be used for substations and switchyards that are built on areas that are mapped as HSG "A", "B", and "C", and a CN of 60 must be used when the area is mapped as HSG "D" for the HydroCAD model. However, all impervious surfaces will have to be added for an averaged curve number.

The General Standards of Chapter 500 (water quality) will be considered as met by the CMP substation/switchyard design specifications as long as the structure includes the typical CMP substation profile overlaying the natural ground surface. The soil layers within the CMP substation profile consist of 4 inches of crushed stone, 50:50 mix of 1.5"

USTA
ATE HOUSE STATION
USTA, MAINE 04333-0017
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and 0.75" diameter stone overlaying 18 inches or more of gravel fill, MDOT 703.06 Type A. Saturation within the granular fill will detain and provide treatment for the one-inch design standard under that requirement. Groundwater can never be any higher than 18 inches below the top of the gravel fill. Other treatment considerations will need to be provided for all impervious structures anticipated on the substation and switchyard and for the roadway.

The Basic Standards of Chapter 500 (erosion and sedimentation control, inspection and maintenance, and housekeeping) will be met by the standard CMP substation and switchyard design specification and erosion control/construction plan as developed by CMP for each Stormwater Management application. These are minimum erosion control measures that will need to be maintained until the site is fully stabilized. However, based on site and weather conditions during construction, additional erosion control measures may be needed.

While there are several ways to approach the design standards discussed above, these must be considered the minimum requirements in meeting the Stormwater Management and Site Location of Development Laws. However, in some situations where the local hydrology and site conditions warrant more resource protection, additional BMPs may be required. Also, the access drive and associated roadside swales are included in the disturbed area for permitting purposes and the treatment of these areas must be addressed separately from the substation or switchyard and be treated with standard practices. The natural hydrology of these areas will need to be maintained and will have to meet all applicable standards as established in Chapter 500 (page 11, Section 5).

I hope this addresses your request and will make the DEP permitting process more straight forward. If you have further questions, please contact Marianne Hubert at (207) 287-4140.

Sincerely,

Don Witherill, Director
Watershed Management Division
Bureau of Land and Water Quality

Cc: Marianne Hubert, PE, DEP program manager
Andy Fisk, DEP L&W Bureau Director
Dan Butler, PE, TRC
Gerry Mirabile, CMP

249 Western Avenue
Augusta, ME 04330

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Post Development Stormwater Management Calculations
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STATE OF MAINE
DANIEL T. BUTLER
No. 6796
LICENSED
PROFESSIONAL ENGINEER

6/10/11
Date

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	May 11, 2011
Watershed:	**1S (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1		Seg 2		Seg 3	Seg 4	Seg 5	Seg 6			
SHEET FLOW											
Manning's No.	0.8										
Length, ft	150										
P2 , in	2.8										
Slope, ft/ft	0.01667	avg 1/60									
T_t[1], hr	0.991										0.9910
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft			2710								
Slope, ft/ft			0.02214	avg 60/2710							
Velocity[5], ft/sec			0.7440								
T_t[3], hr			1.012								1.0118
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	2.003
Min	**120.17**

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**2S (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7				
SHEET FLOW											
Manning's No.	0.8	0.8	0.8								
Length, ft	95	38	17								
P2 , in	2.8	2.8	2.8								
Slope, ft/ft	0.0210526	0.0526316	0.076923077								
T_t[1], hr	0.626	0.209	0.094								0.9292
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft				320							
Slope, ft/ft				0.053125							
Velocity[4], ft/sec				1.6134							
T_t[3], hr				0.055							0.0551
Woodland											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft					348						
Slope, ft/ft					0.052011494						
Velocity[7], ft/sec					4.789						
T_t, hr					0.020						0.0202
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	1.004
Min	**60.27**

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**2SA (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7				
SHEET FLOW											
Manning's No.	0.011	0.41	0.8	0.8	0.8						
Length, ft	12	15	50	40	33						
P2 , in	2.8	2.8	2.8	2.8	2.8						
Slope, ft/ft	0.02	0.1333333	0.08	0.05	0.06969697						
T_t[1], hr	0.004	0.040	0.220	0.222	0.167						0.6521
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft						258					
Slope, ft/ft						0.037596899					
Velocity[5], ft/sec						0.9695					
T_t[3], hr						0.074					0.0739
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft							40				
Slope, ft/ft							0.0625				
Velocity[6], ft/sec							3.750				
T_t, hr							0.003				0.0030
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	0.729
Min	**43.74**

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**3S (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6					
SHEET FLOW											
Manning's No.	0.41	0.41	0.8	0.8	0.8						
Length, ft	29	14	42	60	5						
P2 , in	2.8	2.8	2.8	2.8	2.8						
Slope, ft/ft	0.0689655	0.0357143	0.035714286	0.03333333	0.042553191						
T_t[1], hr	0.088	0.064	0.264	0.361	0.045						0.8222
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft						106					
Slope, ft/ft						0.054716981					
Velocity[4], ft/sec						1.6374					
T_t[3], hr						0.018					0.0180
Woodland											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

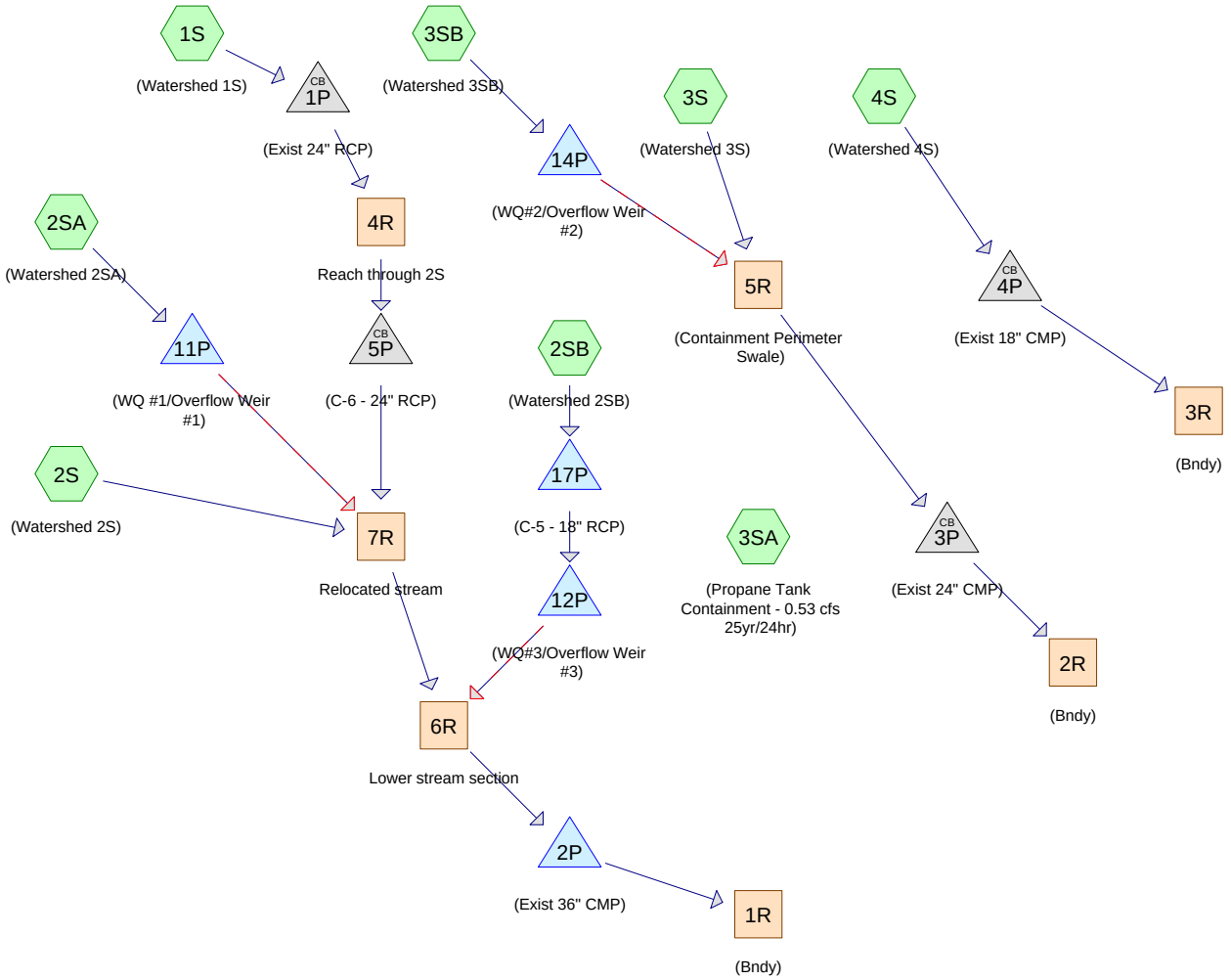
HR	0.840
Min	**50.41**

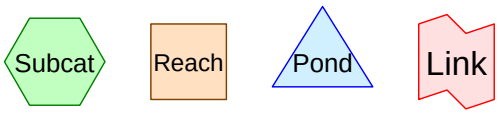
PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**4S (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1		Seg 2		Seg 3	Seg 4	Seg 5	Seg 6			
SHEET FLOW											
Manning's No.	0.8		0.8								
Length, ft	110		40								
P2 , in	2.8		2.8								
Slope, ft/ft	0.01818	avg 2/110	0.0222	avg 2/90							
T_t[1], hr	0.747		0.307								1.0539
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft					1840						
Slope, ft/ft					0.0277	avg 51.0/1840					
Velocity[5], ft/sec					0.8322						
T_t[3], hr					0.614						0.6142
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft											
Slope, ft/ft											
Velocity[6], ft/sec											
T_t, hr											0.0000
Small Tributary & Swamp w/Channels											
Length, ft						880					
Slope, ft/ft						0.0575	avg 50.6/880				
Velocity[7], ft/sec						5.036					
T_t, hr						0.049					0.0485
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	1.717
Min	**103.00**





Drainage Diagram for Searsport Post-dev MODEL 6-5-11
Prepared by TRC Environmental Corp, Printed 6/10/2011
HydroCAD® 9.00 s/n 01824 © 2009 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.890	55	Railbed (2S, 3S)
8.450	65	Brush, Good, HSG C (2S, 2SA, 3S, 3SB, 4S)
6.270	70	Stone equipment areas (3S, 3SA, 3SB)
1.590	70	Stone equipment pads (2S, 2SB)
55.380	70	Woods, Good, HSG C (1S, 2S, 2SA, 3S, 4S)
11.460	74	>75% Grass cover, Good, HSG C (1S, 2S, 2SA, 2SB, 3S, 3SB, 4S)
0.110	77	Brush, Poor, HSG C (2SB)
2.380	89	Gravel roads, HSG C (1S, 2S, 3S, 4S)
4.470	98	Paved roads w/curbs & sewers, HSG C (1S, 2S, 2SA, 2SB, 3S, 3SB, 4S)
0.150	98	Roof (2SB)
1.910	98	Roofs, HSG C (1S, 2S, 2SA, 3S, 3SA, 3SB, 4S)
93.060		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
84.160	HSG C	1S, 2S, 2SA, 2SB, 3S, 3SA, 3SB, 4S
0.000	HSG D	
8.900	Other	2S, 2SB, 3S, 3SA, 3SB
93.060		**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)
1	1P	73.50	70.20	88.0	0.0375	0.012	24.0	0.0
2	2P	9.90	8.40	105.0	0.0143	0.025	36.0	0.0
3	3P	15.00	13.10	105.0	0.0181	0.025	24.0	0.0
4	4P	19.40	15.60	100.0	0.0380	0.025	18.0	0.0
5	5P	60.50	50.00	320.0	0.0328	0.012	24.0	0.0
6	11P	60.50	51.00	91.0	0.1044	0.012	15.0	0.0
7	12P	29.50	20.00	75.0	0.1267	0.012	15.0	0.0
8	14P	57.50	57.00	38.0	0.0132	0.012	15.0	0.0
9	17P	32.50	32.00	70.0	0.0071	0.012	18.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth>0.65"
Tc=120.2 min CN=71 Runoff=6.15 cfs 2.062 af

Subcatchment 2S: (Watershed 2S) Runoff Area=16.840 ac 4.22% Impervious Runoff Depth=0.65"
Tc=60.3 min CN=71 Runoff=4.29 cfs 0.910 af

Subcatchment 2SA: (Watershed 2SA) Runoff Area=4.250 ac 21.88% Impervious Runoff Depth=0.93"
Tc=43.7 min CN=77 Runoff=2.08 cfs 0.331 af

Subcatchment 2SB: (Watershed 2SB) Runoff Area=3.060 ac 29.74% Impervious Runoff Depth=1.04"
Tc=5.0 min CN=79 Runoff=3.66 cfs 0.266 af

Subcatchment 3S: (Watershed 3S) Runoff Area=6.010 ac 8.99% Impervious Runoff Depth=0.69"
Tc=50.4 min CN=72 Runoff=1.86 cfs 0.346 af

Subcatchment 3SA: (Propane Tank Runoff Area=5.520 ac 15.76% Impervious Runoff Depth=0.78"
Tc=5.0 min CN=74 Runoff=4.69 cfs 0.361 af

Subcatchment 3SB: (Watershed 3SB) Runoff Area=1.590 ac 38.36% Impervious Runoff Depth=1.10"
Tc=5.0 min CN=80 Runoff=2.02 cfs 0.146 af

Subcatchment 4S: (Watershed 4S) Runoff Area=17.610 ac 7.44% Impervious Runoff Depth=0.74"
Tc=103.0 min CN=73 Runoff=3.73 cfs 1.082 af

Reach 1R: (Bndy) Inflow=9.10 cfs 3.299 af
Outflow=9.10 cfs 3.299 af

Reach 2R: (Bndy) Inflow=1.83 cfs 0.403 af
Outflow=1.83 cfs 0.403 af

Reach 3R: (Bndy) Inflow=3.73 cfs 1.082 af
Outflow=3.73 cfs 1.082 af

Reach 4R: Reach through 2S Avg. Depth=0.21' Max Vel=2.73 fps Inflow=6.15 cfs 2.062 af
n=0.040 L=200.0' S=0.0485 '/' Capacity=2,953.72 cfs Outflow=6.15 cfs 2.062 af

Reach 5R: (Containment Perimeter Swale) Avg. Depth=0.28' Max Vel=2.34 fps Inflow=1.88 cfs 0.404 af
n=0.030 L=1,055.0' S=0.0180 '/' Capacity=112.80 cfs Outflow=1.83 cfs 0.403 af

Reach 6R: Lower stream section Avg. Depth=0.22' Max Vel=2.93 fps Inflow=9.11 cfs 3.300 af
n=0.040 L=360.0' S=0.0531 '/' Capacity=4,414.65 cfs Outflow=9.10 cfs 3.299 af

Reach 7R: Relocated stream Avg. Depth=0.32' Max Vel=3.04 fps Inflow=9.08 cfs 3.216 af
n=0.040 L=640.0' S=0.0328 '/' Capacity=1,386.95 cfs Outflow=9.07 cfs 3.215 af

Pond 1P: (Exist 24" RCP) Peak Elev=74.45' Inflow=6.15 cfs 2.062 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=6.15 cfs 2.062 af

Pond 2P: (Exist 36" CMP) Peak Elev=11.23' Storage=219 cf Inflow=9.10 cfs 3.299 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=9.10 cfs 3.299 af

Pond 3P: (Exist 24" CMP) Peak Elev=38.17' Inflow=1.83 cfs 0.403 af
Outflow=1.83 cfs 0.403 af

Pond 4P: (Exist 18" CMP) Peak Elev=20.47' Inflow=3.73 cfs 1.082 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=3.73 cfs 1.082 af

Pond 5P: (C-6 - 24" RCP) Peak Elev=61.58' Inflow=6.15 cfs 2.062 af
24.0" Round Culvert n=0.012 L=320.0' S=0.0328 '/' Outflow=6.15 cfs 2.062 af

Pond 11P: (WQ #1/Overflow Weir #1) Peak Elev=64.33' Storage=6,131 cf Inflow=2.08 cfs 0.331 af
Primary=0.06 cfs 0.068 af Secondary=0.60 cfs 0.175 af Outflow=0.66 cfs 0.244 af

Pond 12P: (WQ#3/Overflow Weir #3) Peak Elev=32.98' Storage=9,053 cf Inflow=3.64 cfs 0.266 af
Primary=0.05 cfs 0.069 af Secondary=0.03 cfs 0.016 af Outflow=0.08 cfs 0.085 af

Pond 14P: (WQ#2/Overflow Weir #2) Peak Elev=60.72' Storage=4,629 cf Inflow=2.02 cfs 0.146 af
Primary=0.03 cfs 0.040 af Secondary=0.04 cfs 0.018 af Outflow=0.07 cfs 0.058 af

Pond 17P: (C-5 - 18" RCP) Peak Elev=33.47' Storage=144 cf Inflow=3.66 cfs 0.266 af
18.0" Round Culvert n=0.012 L=70.0' S=0.0071 '/' Outflow=3.64 cfs 0.266 af

Total Runoff Area = 93.060 ac Runoff Volume = 5.504 af Average Runoff Depth = 0.71"
92.98% Pervious = 86.530 ac 7.02% Impervious = 6.530 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 4.29 cfs @ 12.93 hrs, Volume= 0.910 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	4.450	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.860	74	>75% Grass cover, Good, HSG C
	0.940	89	Gravel roads, HSG C
	0.530	98	Paved roads w/curbs & sewers, HSG C
*	0.500	55	Railbed
*	0.120	70	Stone equipment pads
	6.260	70	Woods, Good, HSG C
	16.840	71	Weighted Average
	16.130		95.78% Pervious Area
	0.710		4.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
60.3					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SA: (Watershed 2SA)

Runoff = 2.08 cfs @ 12.65 hrs, Volume= 0.331 af, Depth= 0.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
0.310	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.940	74	>75% Grass cover, Good, HSG C
0.780	98	Paved roads w/curbs & sewers, HSG C
2.070	70	Woods, Good, HSG C
4.250	77	Weighted Average
3.320		78.12% Pervious Area
0.930		21.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.7					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SB: (Watershed 2SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.66 cfs @ 12.08 hrs, Volume= 0.266 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	0.110	77	Brush, Poor, HSG C
*	0.150	98	Roof
	0.570	74	>75% Grass cover, Good, HSG C
	0.760	98	Paved roads w/curbs & sewers, HSG C
*	1.470	70	Stone equipment pads
	3.060	79	Weighted Average
	2.150		70.26% Pervious Area
	0.910		29.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 1.86 cfs @ 12.77 hrs, Volume= 0.346 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	1.880	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	0.170	74	>75% Grass cover, Good, HSG C
	0.470	89	Gravel roads, HSG C
	0.360	98	Paved roads w/curbs & sewers, HSG C
*	0.390	55	Railbed
*	1.310	70	Stone equipment areas
	1.250	70	Woods, Good, HSG C
	6.010	72	Weighted Average
	5.470		91.01% Pervious Area
	0.540		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.4					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3SA: (Propane Tank Containment - 0.53 cfs 25yr/24hr)

Tank Containment volume (0.36 acre/feet during a 2 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.18 CFS or 81.5 gallons per minute.

0.36 ac-ft = 15,682 cubic feet
15,682 cubic feet discharged over 24 hrs
15,682/24 = 653 cubic feet per hour
653/60 = 10.9 cubic feet per minute
10.9/60 = 0.18 cubic feet per second
10.9 cubic feet per minute *7.48 = 81.5 gal/min.

Tank Containment volume (0.84 acre/feet during a 10 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.42 CFS or 190 gallons per minute.

0.84 ac-ft = 36,590 cubic feet
36,590 cubic feet discharged over 24 hrs
36,590/24 = 1,525 cubic feet per hour
1,525/60 = 25.4 cubic feet per minute
25.4/60 = 0.42 cubic feet per second
25.4 cubic feet per minute *7.48 = 190 gal/min.

Tank Containment volume (1.05 acre/feet during a 25 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.53 CFS or 237.6 gallons per minute.

1.05 ac-ft = 45,738 cubic feet
45,738 cubic feet discharged over 24 hrs
45,738/24 = 1905.75 cubic feet per hour
1905.75/60 = 31.76 cubic feet per minute
31.76/60 = 0.53 cubic feet per second
31.76 cubic feet per minute *7.48 = 237.6 gal/min.

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[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.69 cfs @ 12.09 hrs, Volume= 0.361 af, Depth= 0.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	0.870	98	Roofs, HSG C
*	4.650	70	Stone equipment areas
	5.520	74	Weighted Average
	4.650		84.24% Pervious Area
	0.870		15.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 3SB: (Watershed 3SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.02 cfs @ 12.08 hrs, Volume= 0.146 af, Depth= 1.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

	Area (ac)	CN	Description
	0.430	65	Brush, Good, HSG C
	0.040	98	Roofs, HSG C
	0.240	74	>75% Grass cover, Good, HSG C
	0.570	98	Paved roads w/curbs & sewers, HSG C
*	0.310	70	Stone equipment areas
	1.590	80	Weighted Average
	0.980		61.64% Pervious Area
	0.610		38.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 3.73 cfs @ 13.51 hrs, Volume= 1.082 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Waldo County Rainfall=2.80"

Area (ac)	CN	Description
1.380	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.230	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
10.740	70	Woods, Good, HSG C
17.610	73	Weighted Average
16.300		92.56% Pervious Area
1.310		7.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 0.64" for 2-yr Waldo County event
Inflow = 9.10 cfs @ 13.60 hrs, Volume= 3.299 af
Outflow = 9.10 cfs @ 13.60 hrs, Volume= 3.299 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 0.64" for 2-yr Waldo County event
Inflow = 1.83 cfs @ 12.87 hrs, Volume= 0.403 af
Outflow = 1.83 cfs @ 12.87 hrs, Volume= 0.403 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.610 ac, 7.44% Impervious, Inflow Depth = 0.74" for 2-yr Waldo County event
Inflow = 3.73 cfs @ 13.51 hrs, Volume= 1.082 af
Outflow = 3.73 cfs @ 13.51 hrs, Volume= 1.082 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

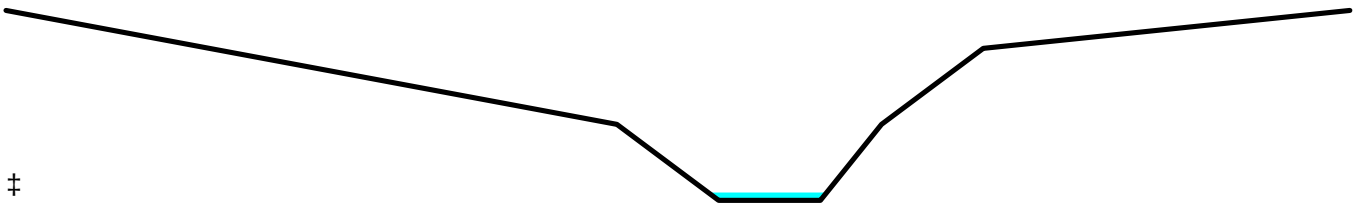
Summary for Reach 4R: Reach through 2S

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 0.65" for 2-yr Waldo County event
Inflow = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af
Outflow = 6.15 cfs @ 13.80 hrs, Volume= 2.062 af, Atten= 0%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.73 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.49 fps, Avg. Travel Time= 2.2 min

Peak Storage= 450 cf @ 13.80 hrs, Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,953.72 cfs

Custom cross-section, Length= 200.0' Slope= 0.0485 '/'
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 60.50'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	73.00	0.00
20.00	72.00	1.00
60.00	70.00	3.00
70.00	68.00	5.00
80.00	68.00	5.00
86.00	70.00	3.00
96.00	72.00	1.00
132.00	73.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	10.0	0	0.00
2.00	36.0	26.5	7,200	361.07
4.00	138.0	76.8	27,600	1,669.16
5.00	242.0	132.8	48,400	2,953.72

Summary for Reach 5R: (Containment Perimeter Swale)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 0.64" for 2-yr Waldo County event
Inflow = 1.88 cfs @ 12.77 hrs, Volume= 0.404 af
Outflow = 1.83 cfs @ 12.87 hrs, Volume= 0.403 af, Atten= 3%, Lag= 5.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.34 fps, Min. Travel Time= 7.5 min
Avg. Velocity = 1.04 fps, Avg. Travel Time= 16.9 min

Peak Storage= 826 cf @ 12.87 hrs, Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 112.80 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,055.0' Slope= 0.0180 '/'
Inlet Invert= 57.00', Outlet Invert= 38.00'

Summary for Reach 6R: Lower stream section

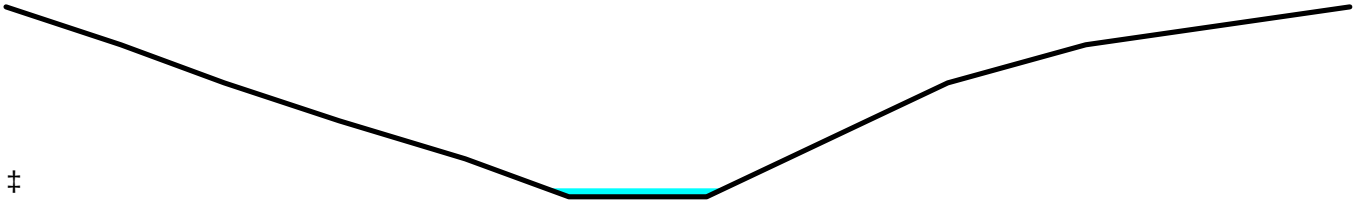
[61] Hint: Exceeded Reach 7R outlet invert by 0.22' @ 13.60 hrs

Inflow Area =	62.330 ac,	5.13% Impervious,	Inflow Depth >	0.64"	for 2-yr Waldo County event
Inflow =	9.11 cfs @	13.56 hrs,	Volume=	3.300 af	
Outflow =	9.10 cfs @	13.58 hrs,	Volume=	3.299 af,	Atten= 0%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.93 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 3.7 min

Peak Storage= 1,118 cf @ 13.58 hrs, Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 4,414.65 cfs

Custom cross-section, Length= 360.0' Slope= 0.0531 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 29.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	7,200	136.34
2.00	57.0	46.2	20,520	560.73
3.00	111.5	63.4	40,140	1,390.66
4.00	185.0	84.5	66,600	2,669.97
5.00	285.5	117.5	102,780	4,414.65

Summary for Reach 7R: Relocated stream

Inflow Area = 59.270 ac, 3.86% Impervious, Inflow Depth > 0.65" for 2-yr Waldo County event
Inflow = 9.08 cfs @ 13.52 hrs, Volume= 3.216 af
Outflow = 9.07 cfs @ 13.56 hrs, Volume= 3.215 af, Atten= 0%, Lag= 2.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.04 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 6.7 min

Peak Storage= 1,911 cf @ 13.56 hrs, Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 6.00', Capacity at Bank-Full= 1,386.95 cfs

9.00' x 6.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 640.0' Slope= 0.0328 '/'
Inlet Invert= 50.00', Outlet Invert= 29.00'

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 0.65" for 2-yr Waldo County event
Inflow = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af
Outflow = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af, Atten= 0%, Lag= 0.0 min
Primary = 6.15 cfs @ 13.77 hrs, Volume= 2.062 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 74.45' @ 13.77 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=6.14 cfs @ 13.77 hrs HW=74.45' TW=70.41' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 6.14 cfs @ 4.16 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 6R OUTLET depth by 1.11' @ 13.60 hrs

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 0.64" for 2-yr Waldo County event
Inflow = 9.10 cfs @ 13.58 hrs, Volume= 3.299 af
Outflow = 9.10 cfs @ 13.60 hrs, Volume= 3.299 af, Atten= 0%, Lag= 1.3 min
Primary = 9.10 cfs @ 13.60 hrs, Volume= 3.299 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 11.23' @ 13.60 hrs Surf.Area= 928 sf Storage= 219 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 0.4 min calculated for 3.294 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (993.6 - 993.3)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert**

L= 105.0' CMP, projecting, no headwall, Ke= 0.900
Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900
n= 0.025 Corrugated metal

Primary OutFlow Max=9.10 cfs @ 13.60 hrs HW=11.23' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 9.10 cfs @ 4.41 fps)

Summary for Pond 3P: (Exist 24" CMP)

[61] Hint: Exceeded Reach 5R outlet invert by 0.17' @ 12.85 hrs

Inflow Area =	7.600 ac,	15.13% Impervious,	Inflow Depth >	0.64"	for 2-yr Waldo County event
Inflow =	1.83 cfs @	12.87 hrs,	Volume=	0.403 af	
Outflow =	1.83 cfs @	12.87 hrs,	Volume=	0.403 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.83 cfs @	12.87 hrs,	Volume=	0.403 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 38.17' @ 12.87 hrs
Flood Elev= 40.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Device 1	38.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.83 cfs @ 12.87 hrs HW=38.17' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.83 cfs of 46.64 cfs potential flow)
└─**2=Orifice/Grate** (Weir Controls 1.83 cfs @ 1.35 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.610 ac,	7.44% Impervious,	Inflow Depth =	0.74"	for 2-yr Waldo County event
Inflow =	3.73 cfs @	13.51 hrs,	Volume=	1.082 af	
Outflow =	3.73 cfs @	13.51 hrs,	Volume=	1.082 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.73 cfs @	13.51 hrs,	Volume=	1.082 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 20.47' @ 13.51 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=3.73 cfs @ 13.51 hrs HW=20.47' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.73 cfs @ 2.78 fps)

Summary for Pond 5P: (C-6 - 24" RCP)

[62] Warning: Exceeded Reach 4R OUTLET depth by 0.87' @ 13.80 hrs

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth >	0.65"	for 2-yr Waldo County event
Inflow =	6.15 cfs @	13.80 hrs,	Volume=	2.062 af	
Outflow =	6.15 cfs @	13.80 hrs,	Volume=	2.062 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.15 cfs @	13.80 hrs,	Volume=	2.062 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 61.58' @ 13.80 hrs
Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	**24.0" Round Culvert** L= 320.0' RCP, square edge headwall, Ke= 0.500 Outlet Invert= 50.00' S= 0.0328 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=6.15 cfs @ 13.80 hrs HW=61.58' TW=50.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.15 cfs @ 3.54 fps)

Summary for Pond 11P: (WQ #1/Overflow Weir #1)

Inflow Area =	4.250 ac,	21.88% Impervious,	Inflow Depth =	0.93"	for 2-yr Waldo County event
Inflow =	2.08 cfs @	12.65 hrs,	Volume=	0.331 af	
Outflow =	0.66 cfs @	13.58 hrs,	Volume=	0.244 af,	Atten= 68%, Lag= 56.0 min
Primary =	0.06 cfs @	13.58 hrs,	Volume=	0.068 af	
Secondary =	0.60 cfs @	13.58 hrs,	Volume=	0.175 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 64.33' @ 13.58 hrs Surf.Area= 5,453 sf Storage= 6,131 cf
Flood Elev= 66.00' Surf.Area= 7,560 sf Storage= 17,010 cf

Plug-Flow detention time= 248.1 min calculated for 0.243 af (74% of inflow)
Center-of-Mass det. time= 152.2 min (1,047.5 - 895.2)

Volume	Invert	Avail.Storage	Storage Description
#1	63.00'	17,010 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.00	3,780	0	0
64.00	5,040	4,410	4,410
65.00	6,300	5,670	10,080
66.00	7,560	6,930	17,010

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	**1.500 in/hr Exfiltration over Surface area above 63.00'** Excluded Surface area = 3,780 sf
#2	Secondary	60.50'	**15.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 51.00' S= 0.1044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	64.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	65.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 13.58 hrs HW=64.33' TW=50.32' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Secondary OutFlow Max=0.60 cfs @ 13.58 hrs HW=64.33' TW=50.32' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.60 cfs of 8.35 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.60 cfs @ 1.84 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 12P: (WQ#3/Overflow Weir #3)

Inflow Area =	3.060 ac, 29.74% Impervious, Inflow Depth > 1.04"			for 2-yr Waldo County event
Inflow =	3.64 cfs @	12.10 hrs, Volume=	0.266 af	
Outflow =	0.08 cfs @	20.18 hrs, Volume=	0.085 af, Atten= 98%, Lag= 485.2 min	
Primary =	0.05 cfs @	20.18 hrs, Volume=	0.069 af	
Secondary =	0.03 cfs @	20.18 hrs, Volume=	0.016 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 32.98' @ 20.18 hrs Surf.Area= 9,968 sf Storage= 9,053 cf
Flood Elev= 34.00' Surf.Area= 11,237 sf Storage= 19,874 cf

Plug-Flow detention time= 552.7 min calculated for 0.085 af (32% of inflow)
Center-of-Mass det. time= 416.4 min (1,270.2 - 853.8)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	19,874 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	8,515	0	0
33.00	9,998	9,257	9,257
34.00	11,237	10,618	19,874

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	**1.500 in/hr Exfiltration over Surface area above 32.00'** Excluded Surface area = 8,515 sf
#2	Secondary	29.50'	**15.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 20.00' S= 0.1267 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	32.92'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.230
#4	Device 2	33.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600

Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 20.18 hrs HW=32.98' TW=29.08' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Secondary OutFlow Max=0.03 cfs @ 20.18 hrs HW=32.98' TW=29.08' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.03 cfs of 7.88 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.03 cfs @ 0.30 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 14P: (WQ#2/Overflow Weir #2)

Inflow Area =	1.590 ac, 38.36% Impervious, Inflow Depth = 1.10" for 2-yr Waldo County event				
Inflow =	2.02 cfs @	12.08 hrs,	Volume=	0.146 af	
Outflow =	0.07 cfs @	17.06 hrs,	Volume=	0.058 af,	Atten= 97%, Lag= 298.8 min
Primary =	0.03 cfs @	17.06 hrs,	Volume=	0.040 af	
Secondary =	0.04 cfs @	17.06 hrs,	Volume=	0.018 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 60.72' @ 17.06 hrs Surf.Area= 6,847 sf Storage= 4,629 cf
Flood Elev= 66.00' Surf.Area= 8,424 sf Storage= 14,388 cf

Plug-Flow detention time= 504.4 min calculated for 0.058 af (40% of inflow)
Center-of-Mass det. time= 373.5 min (1,222.5 - 849.0)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	14,388 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	6,000	0	0
61.00	7,176	6,588	6,588
62.00	8,424	7,800	14,388

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**1.500 in/hr Exfiltration over Surface area above 60.00'** Excluded Surface area = 6,000 sf
#2	Secondary	57.50'	**15.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 57.00' S= 0.0132 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	60.67'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	61.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 17.06 hrs HW=60.72' TW=57.10' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Secondary OutFlow Max=0.04 cfs @ 17.06 hrs HW=60.72' TW=57.10' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.04 cfs of 7.52 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.04 cfs @ 0.72 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 17P: (C-5 - 18" RCP)

Inflow Area = 3.060 ac, 29.74% Impervious, Inflow Depth = 1.04" for 2-yr Waldo County event
Inflow = 3.66 cfs @ 12.08 hrs, Volume= 0.266 af
Outflow = 3.64 cfs @ 12.10 hrs, Volume= 0.266 af, Atten= 0%, Lag= 0.9 min
Primary = 3.64 cfs @ 12.10 hrs, Volume= 0.266 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 33.47' @ 12.10 hrs Surf.Area= 287 sf Storage= 144 cf
Flood Elev= 35.00' Surf.Area= 935 sf Storage= 1,021 cf

Plug-Flow detention time= 2.3 min calculated for 0.265 af (100% of inflow)
Center-of-Mass det. time= 1.4 min (853.8 - 852.4)

Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	1,021 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	10	0	0
34.00	437	335	335
35.00	935	686	1,021

Device	Routing	Invert	Outlet Devices
#1	Primary	32.50'	**18.0" Round Culvert** L= 70.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 32.00' S= 0.0071 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=3.63 cfs @ 12.10 hrs HW=33.47' TW=32.29' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 3.63 cfs @ 4.27 fps)

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth>1.60"
Tc=120.2 min CN=71 Runoff=17.03 cfs 5.101 af

Subcatchment 2S: (Watershed 2S) Runoff Area=16.840 ac 4.22% Impervious Runoff Depth=1.60"
Tc=60.3 min CN=71 Runoff=11.94 cfs 2.250 af

Subcatchment 2SA: (Watershed 2SA) Runoff Area=4.250 ac 21.88% Impervious Runoff Depth=2.05"
Tc=43.7 min CN=77 Runoff=4.77 cfs 0.726 af

Subcatchment 2SB: (Watershed 2SB) Runoff Area=3.060 ac 29.74% Impervious Runoff Depth=2.21"
Tc=5.0 min CN=79 Runoff=7.93 cfs 0.563 af

Subcatchment 3S: (Watershed 3S) Runoff Area=6.010 ac 8.99% Impervious Runoff Depth=1.67"
Tc=50.4 min CN=72 Runoff=4.99 cfs 0.838 af

Subcatchment 3SA: (Propane Tank Runoff Area=5.520 ac 15.76% Impervious Runoff Depth=1.82"
Tc=5.0 min CN=74 Runoff=11.65 cfs 0.837 af

Subcatchment 3SB: (Watershed 3SB) Runoff Area=1.590 ac 38.36% Impervious Runoff Depth=2.29"
Tc=5.0 min CN=80 Runoff=4.28 cfs 0.304 af

Subcatchment 4S: (Watershed 4S) Runoff Area=17.610 ac 7.44% Impervious Runoff Depth=1.75"
Tc=103.0 min CN=73 Runoff=9.73 cfs 2.563 af

Reach 1R: (Bndy) Inflow=26.35 cfs 8.359 af
Outflow=26.35 cfs 8.359 af

Reach 2R: (Bndy) Inflow=5.53 cfs 1.051 af
Outflow=5.53 cfs 1.051 af

Reach 3R: (Bndy) Inflow=9.73 cfs 2.563 af
Outflow=9.73 cfs 2.563 af

Reach 4R: Reach through 2S Avg. Depth=0.38' Max Vel=3.92 fps Inflow=17.03 cfs 5.101 af
n=0.040 L=200.0' S=0.0485 '/' Capacity=2,953.72 cfs Outflow=17.02 cfs 5.101 af

Reach 5R: (Containment Perimeter Swale) Avg. Depth=0.49' Max Vel=3.21 fps Inflow=5.62 cfs 1.052 af
n=0.030 L=1,055.0' S=0.0180 '/' Capacity=112.80 cfs Outflow=5.53 cfs 1.051 af

Reach 6R: Lower stream section Avg. Depth=0.41' Max Vel=4.17 fps Inflow=26.44 cfs 8.360 af
n=0.040 L=360.0' S=0.0531 '/' Capacity=4,414.65 cfs Outflow=26.43 cfs 8.359 af

Reach 7R: Relocated stream Avg. Depth=0.60' Max Vel=4.46 fps Inflow=25.77 cfs 7.987 af
n=0.040 L=640.0' S=0.0328 '/' Capacity=1,386.95 cfs Outflow=25.77 cfs 7.986 af

Pond 1P: (Exist 24" RCP) Peak Elev=75.30' Inflow=17.03 cfs 5.101 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=17.03 cfs 5.101 af

Pond 2P: (Exist 36" CMP) Peak Elev=12.41' Storage=3,708 cf Inflow=26.43 cfs 8.359 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=26.35 cfs 8.359 af

Pond 3P: (Exist 24" CMP) Peak Elev=38.36' Inflow=5.53 cfs 1.051 af
Outflow=5.53 cfs 1.051 af

Pond 4P: (Exist 18" CMP) Peak Elev=22.25' Inflow=9.73 cfs 2.563 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=9.73 cfs 2.563 af

Pond 5P: (C-6 - 24" RCP) Peak Elev=62.77' Inflow=17.02 cfs 5.101 af
24.0" Round Culvert n=0.012 L=320.0' S=0.0328 '/' Outflow=17.02 cfs 5.101 af

Pond 11P: (WQ #1/Overflow Weir #1) Peak Elev=65.11' Storage=10,805 cf Inflow=4.77 cfs 0.726 af
Primary=0.09 cfs 0.079 af Secondary=2.23 cfs 0.558 af Outflow=2.32 cfs 0.636 af

Pond 12P: (WQ#3/Overflow Weir #3) Peak Elev=33.39' Storage=13,268 cf Inflow=7.72 cfs 0.563 af
Primary=0.07 cfs 0.085 af Secondary=0.60 cfs 0.289 af Outflow=0.67 cfs 0.374 af

Pond 14P: (WQ#2/Overflow Weir #2) Peak Elev=60.99' Storage=6,551 cf Inflow=4.28 cfs 0.304 af
Primary=0.04 cfs 0.047 af Secondary=0.59 cfs 0.167 af Outflow=0.63 cfs 0.213 af

Pond 17P: (C-5 - 18" RCP) Peak Elev=34.13' Storage=398 cf Inflow=7.93 cfs 0.563 af
18.0" Round Culvert n=0.012 L=70.0' S=0.0071 '/' Outflow=7.72 cfs 0.563 af

Total Runoff Area = 93.060 ac Runoff Volume = 13.181 af Average Runoff Depth = 1.70"
92.98% Pervious = 86.530 ac 7.02% Impervious = 6.530 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 11.94 cfs @ 12.85 hrs, Volume= 2.250 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	4.450	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.860	74	>75% Grass cover, Good, HSG C
	0.940	89	Gravel roads, HSG C
	0.530	98	Paved roads w/curbs & sewers, HSG C
*	0.500	55	Railbed
*	0.120	70	Stone equipment pads
	6.260	70	Woods, Good, HSG C
	16.840	71	Weighted Average
	16.130		95.78% Pervious Area
	0.710		4.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
60.3					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SA: (Watershed 2SA)

Runoff = 4.77 cfs @ 12.62 hrs, Volume= 0.726 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
0.310	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.940	74	>75% Grass cover, Good, HSG C
0.780	98	Paved roads w/curbs & sewers, HSG C
2.070	70	Woods, Good, HSG C
4.250	77	Weighted Average
3.320		78.12% Pervious Area
0.930		21.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.7					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SB: (Watershed 2SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 7.93 cfs @ 12.08 hrs, Volume= 0.563 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	0.110	77	Brush, Poor, HSG C
*	0.150	98	Roof
	0.570	74	>75% Grass cover, Good, HSG C
	0.760	98	Paved roads w/curbs & sewers, HSG C
*	1.470	70	Stone equipment pads
	3.060	79	Weighted Average
	2.150		70.26% Pervious Area
	0.910		29.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 4.99 cfs @ 12.72 hrs, Volume= 0.838 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	1.880	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	0.170	74	>75% Grass cover, Good, HSG C
	0.470	89	Gravel roads, HSG C
	0.360	98	Paved roads w/curbs & sewers, HSG C
*	0.390	55	Railbed
*	1.310	70	Stone equipment areas
	1.250	70	Woods, Good, HSG C
	6.010	72	Weighted Average
	5.470		91.01% Pervious Area
	0.540		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.4					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3SA: (Propane Tank Containment - 0.53 cfs 25yr/24hr)

Tank Containment volume (0.36 acre/feet during a 2 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.18 CFS or 81.5 gallons per minute.

0.36 ac-ft = 15,682 cubic feet
15,682 cubic feet discharged over 24 hrs
15,682/24 = 653 cubic feet per hour
653/60 = 10.9 cubic feet per minute
10.9/60 = 0.18 cubic feet per second
10.9 cubic feet per minute *7.48 = 81.5 gal/min.

Tank Containment volume (0.84 acre/feet during a 10 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.42 CFS or 190 gallons per minute.

0.84 ac-ft = 36,590 cubic feet
36,590 cubic feet discharged over 24 hrs
36,590/24 = 1,525 cubic feet per hour
1,525/60 = 25.4 cubic feet per minute
25.4/60 = 0.42 cubic feet per second
25.4 cubic feet per minute *7.48 = 190 gal/min.

Tank Containment volume (1.05 acre/feet during a 25 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.53 CFS or 237.6 gallons per minute.

1.05 ac-ft = 45,738 cubic feet
45,738 cubic feet discharged over 24 hrs
45,738/24 = 1905.75 cubic feet per hour
1905.75/60 = 31.76 cubic feet per minute
31.76/60 = 0.53 cubic feet per second
31.76 cubic feet per minute *7.48 = 237.6 gal/min.

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[49] Hint: Tc<2dt may require smaller dt

Runoff = 11.65 cfs @ 12.08 hrs, Volume= 0.837 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	0.870	98	Roofs, HSG C
*	4.650	70	Stone equipment areas
	5.520	74	Weighted Average
	4.650		84.24% Pervious Area
	0.870		15.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 3SB: (Watershed 3SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.28 cfs @ 12.08 hrs, Volume= 0.304 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

	Area (ac)	CN	Description
	0.430	65	Brush, Good, HSG C
	0.040	98	Roofs, HSG C
	0.240	74	>75% Grass cover, Good, HSG C
	0.570	98	Paved roads w/curbs & sewers, HSG C
*	0.310	70	Stone equipment areas
	1.590	80	Weighted Average
	0.980		61.64% Pervious Area
	0.610		38.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 9.73 cfs @ 13.41 hrs, Volume= 2.563 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Waldo County Rainfall=4.30"

Area (ac)	CN	Description
1.380	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.230	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
10.740	70	Woods, Good, HSG C
17.610	73	Weighted Average
16.300		92.56% Pervious Area
1.310		7.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 1.61" for 10-yr Waldo County event
Inflow = 26.35 cfs @ 13.44 hrs, Volume= 8.359 af
Outflow = 26.35 cfs @ 13.44 hrs, Volume= 8.359 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 1.66" for 10-yr Waldo County event
Inflow = 5.53 cfs @ 12.79 hrs, Volume= 1.051 af
Outflow = 5.53 cfs @ 12.79 hrs, Volume= 1.051 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.610 ac, 7.44% Impervious, Inflow Depth = 1.75" for 10-yr Waldo County event
Inflow = 9.73 cfs @ 13.41 hrs, Volume= 2.563 af
Outflow = 9.73 cfs @ 13.41 hrs, Volume= 2.563 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

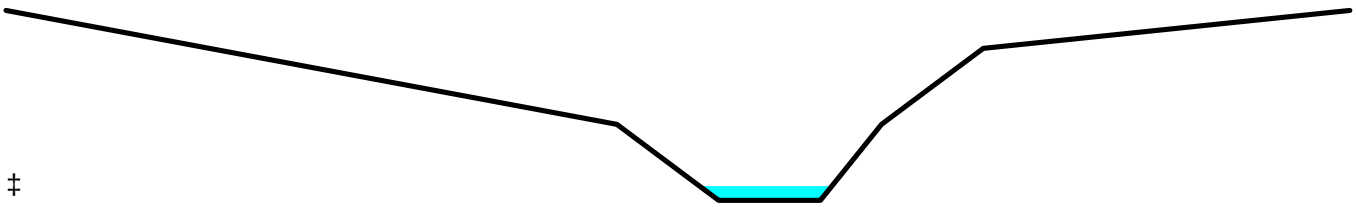
Summary for Reach 4R: Reach through 2S

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 1.60" for 10-yr Waldo County event
Inflow = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af
Outflow = 17.02 cfs @ 13.73 hrs, Volume= 5.101 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.92 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.86 fps, Avg. Travel Time= 1.8 min

Peak Storage= 868 cf @ 13.73 hrs, Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,953.72 cfs

Custom cross-section, Length= 200.0' Slope= 0.0485 '/'
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 60.50'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	73.00	0.00
20.00	72.00	1.00
60.00	70.00	3.00
70.00	68.00	5.00
80.00	68.00	5.00
86.00	70.00	3.00
96.00	72.00	1.00
132.00	73.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	10.0	0	0.00
2.00	36.0	26.5	7,200	361.07
4.00	138.0	76.8	27,600	1,669.16
5.00	242.0	132.8	48,400	2,953.72

Summary for Reach 5R: (Containment Perimeter Swale)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 1.66" for 10-yr Waldo County event
Inflow = 5.62 cfs @ 12.72 hrs, Volume= 1.052 af
Outflow = 5.53 cfs @ 12.79 hrs, Volume= 1.051 af, Atten= 1%, Lag= 4.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.21 fps, Min. Travel Time= 5.5 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 13.7 min

Peak Storage= 1,817 cf @ 12.79 hrs, Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 112.80 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,055.0' Slope= 0.0180 '/'
Inlet Invert= 57.00', Outlet Invert= 38.00'

Summary for Reach 6R: Lower stream section

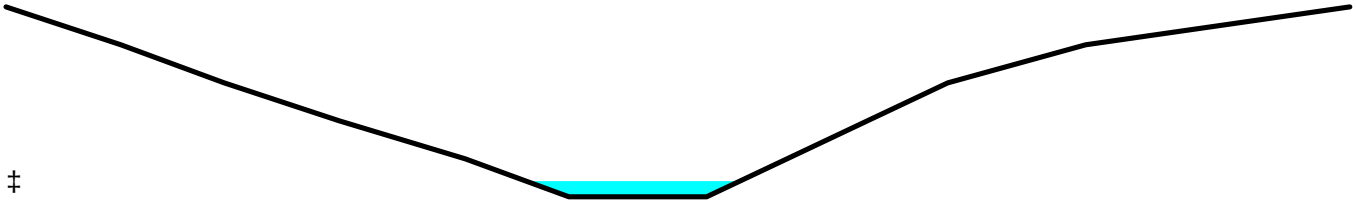
[61] Hint: Exceeded Reach 7R outlet invert by 0.41' @ 13.35 hrs

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 1.61" for 10-yr Waldo County event
Inflow = 26.44 cfs @ 13.32 hrs, Volume= 8.360 af
Outflow = 26.43 cfs @ 13.34 hrs, Volume= 8.359 af, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.17 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 3.0 min

Peak Storage= 2,282 cf @ 13.34 hrs, Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 4,414.65 cfs

Custom cross-section, Length= 360.0' Slope= 0.0531 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 29.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	7,200	136.34
2.00	57.0	46.2	20,520	560.73
3.00	111.5	63.4	40,140	1,390.66
4.00	185.0	84.5	66,600	2,669.97
5.00	285.5	117.5	102,780	4,414.65

Summary for Reach 7R: Relocated stream

[90] Warning: Qout>Qin may require Finer Routing or smaller dt

Inflow Area = 59.270 ac, 3.86% Impervious, Inflow Depth > 1.62" for 10-yr Waldo County event
Inflow = 25.77 cfs @ 13.25 hrs, Volume= 7.987 af
Outflow = 25.77 cfs @ 13.32 hrs, Volume= 7.986 af, Atten= 0%, Lag= 4.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.46 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 2.00 fps, Avg. Travel Time= 5.3 min

Peak Storage= 3,697 cf @ 13.32 hrs, Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 6.00', Capacity at Bank-Full= 1,386.95 cfs

9.00' x 6.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 640.0' Slope= 0.0328 '/'
Inlet Invert= 50.00', Outlet Invert= 29.00'

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth > 1.60" for 10-yr Waldo County event
Inflow = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af
Outflow = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af, Atten= 0%, Lag= 0.0 min
Primary = 17.03 cfs @ 13.73 hrs, Volume= 5.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 75.30' @ 13.73 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=17.01 cfs @ 13.73 hrs HW=75.30' TW=70.58' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 17.01 cfs @ 5.71 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 6R OUTLET depth by 2.09' @ 13.45 hrs

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 1.61" for 10-yr Waldo County event
Inflow = 26.43 cfs @ 13.34 hrs, Volume= 8.359 af
Outflow = 26.35 cfs @ 13.44 hrs, Volume= 8.359 af, Atten= 0%, Lag= 6.3 min
Primary = 26.35 cfs @ 13.44 hrs, Volume= 8.359 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 12.41' @ 13.44 hrs Surf.Area= 5,047 sf Storage= 3,708 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 1.2 min calculated for 8.345 af (100% of inflow)
Center-of-Mass det. time= 1.1 min (955.1 - 953.9)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert**

L= 105.0' CMP, projecting, no headwall, Ke= 0.900
Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900
n= 0.025 Corrugated metal

Primary OutFlow Max=26.35 cfs @ 13.44 hrs HW=12.41' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 26.35 cfs @ 5.65 fps)

Summary for Pond 3P: (Exist 24" CMP)

[61] Hint: Exceeded Reach 5R outlet invert by 0.35' @ 12.80 hrs

Inflow Area =	7.600 ac,	15.13% Impervious,	Inflow Depth >	1.66"	for 10-yr Waldo County event
Inflow =	5.53 cfs @	12.79 hrs,	Volume=	1.051 af	
Outflow =	5.53 cfs @	12.79 hrs,	Volume=	1.051 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.53 cfs @	12.79 hrs,	Volume=	1.051 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 38.36' @ 12.79 hrs
Flood Elev= 40.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Device 1	38.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.53 cfs @ 12.79 hrs HW=38.35' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 5.53 cfs of 46.83 cfs potential flow)
└─**2=Orifice/Grate** (Weir Controls 5.53 cfs @ 1.95 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.610 ac,	7.44% Impervious,	Inflow Depth =	1.75"	for 10-yr Waldo County event
Inflow =	9.73 cfs @	13.41 hrs,	Volume=	2.563 af	
Outflow =	9.73 cfs @	13.41 hrs,	Volume=	2.563 af,	Atten= 0%, Lag= 0.0 min
Primary =	9.73 cfs @	13.41 hrs,	Volume=	2.563 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 22.25' @ 13.41 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=9.72 cfs @ 13.41 hrs HW=22.24' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.72 cfs @ 5.50 fps)

Summary for Pond 5P: (C-6 - 24" RCP)

[62] Warning: Exceeded Reach 4R OUTLET depth by 1.89' @ 13.75 hrs

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth >	1.60"	for 10-yr Waldo County event
Inflow =	17.02 cfs @	13.73 hrs,	Volume=	5.101 af	
Outflow =	17.02 cfs @	13.73 hrs,	Volume=	5.101 af,	Atten= 0%, Lag= 0.0 min
Primary =	17.02 cfs @	13.73 hrs,	Volume=	5.101 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 62.77' @ 13.73 hrs
Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	**24.0" Round Culvert** L= 320.0' RCP, square edge headwall, Ke= 0.500 Outlet Invert= 50.00' S= 0.0328 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=17.01 cfs @ 13.73 hrs HW=62.76' TW=50.58' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 17.01 cfs @ 5.41 fps)

Summary for Pond 11P: (WQ #1/Overflow Weir #1)

Inflow Area =	4.250 ac,	21.88% Impervious,	Inflow Depth =	2.05"	for 10-yr Waldo County event
Inflow =	4.77 cfs @	12.62 hrs,	Volume=	0.726 af	
Outflow =	2.32 cfs @	13.18 hrs,	Volume=	0.636 af,	Atten= 51%, Lag= 33.7 min
Primary =	0.09 cfs @	13.18 hrs,	Volume=	0.079 af	
Secondary =	2.23 cfs @	13.18 hrs,	Volume=	0.558 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 65.11' @ 13.18 hrs Surf.Area= 6,443 sf Storage= 10,805 cf
Flood Elev= 66.00' Surf.Area= 7,560 sf Storage= 17,010 cf

Plug-Flow detention time= 141.6 min calculated for 0.636 af (88% of inflow)
Center-of-Mass det. time= 84.5 min (956.3 - 871.8)

Volume	Invert	Avail.Storage	Storage Description
#1	63.00'	17,010 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.00	3,780	0	0
64.00	5,040	4,410	4,410
65.00	6,300	5,670	10,080
66.00	7,560	6,930	17,010

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	**1.500 in/hr Exfiltration over Surface area above 63.00'** Excluded Surface area = 3,780 sf
#2	Secondary	60.50'	**15.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 51.00' S= 0.1044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	64.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	65.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 13.18 hrs HW=65.11' TW=50.60' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Secondary OutFlow Max=2.23 cfs @ 13.18 hrs HW=65.11' TW=50.60' (Dynamic Tailwater)
└─**2=Culvert** (Passes 2.23 cfs of 9.32 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 2.23 cfs @ 4.46 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 12P: (WQ#3/Overflow Weir #3)

Inflow Area = 3.060 ac, 29.74% Impervious, Inflow Depth > 2.21" for 10-yr Waldo County event
Inflow = 7.72 cfs @ 12.10 hrs, Volume= 0.563 af
Outflow = 0.67 cfs @ 13.37 hrs, Volume= 0.374 af, Atten= 91%, Lag= 76.5 min
Primary = 0.07 cfs @ 13.37 hrs, Volume= 0.085 af
Secondary = 0.60 cfs @ 13.37 hrs, Volume= 0.289 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 33.39' @ 13.37 hrs Surf.Area= 10,483 sf Storage= 13,268 cf
Flood Elev= 34.00' Surf.Area= 11,237 sf Storage= 19,874 cf

Plug-Flow detention time= 312.6 min calculated for 0.373 af (66% of inflow)
Center-of-Mass det. time= 210.0 min (1,042.5 - 832.5)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	19,874 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	8,515	0	0
33.00	9,998	9,257	9,257
34.00	11,237	10,618	19,874

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	**1.500 in/hr Exfiltration over Surface area above 32.00'** Excluded Surface area = 8,515 sf
#2	Secondary	29.50'	**15.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 20.00' S= 0.1267 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	32.92'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.230
#4	Device 2	33.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600

Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 13.37 hrs HW=33.39' TW=29.41' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Secondary OutFlow Max=0.60 cfs @ 13.37 hrs HW=33.39' TW=29.41' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.60 cfs of 8.43 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.60 cfs @ 0.85 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 14P: (WQ#2/Overflow Weir #2)

Inflow Area =	1.590 ac,	38.36% Impervious,	Inflow Depth =	2.29"	for 10-yr Waldo County event
Inflow =	4.28 cfs @	12.08 hrs,	Volume=	0.304 af	
Outflow =	0.63 cfs @	12.61 hrs,	Volume=	0.213 af,	Atten= 85%, Lag= 32.1 min
Primary =	0.04 cfs @	12.61 hrs,	Volume=	0.047 af	
Secondary =	0.59 cfs @	12.61 hrs,	Volume=	0.167 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 60.99' @ 12.61 hrs Surf.Area= 7,170 sf Storage= 6,551 cf
Flood Elev= 66.00' Surf.Area= 8,424 sf Storage= 14,388 cf

Plug-Flow detention time= 257.0 min calculated for 0.213 af (70% of inflow)
Center-of-Mass det. time= 161.7 min (989.2 - 827.6)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	14,388 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	6,000	0	0
61.00	7,176	6,588	6,588
62.00	8,424	7,800	14,388

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**1.500 in/hr Exfiltration over Surface area above 60.00'** Excluded Surface area = 6,000 sf
#2	Secondary	57.50'	**15.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 57.00' S= 0.0132 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	60.67'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	61.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 12.61 hrs HW=60.99' TW=57.47' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.04 cfs)

Secondary OutFlow Max=0.59 cfs @ 12.61 hrs HW=60.99' TW=57.47' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.59 cfs of 7.90 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.59 cfs @ 1.83 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 17P: (C-5 - 18" RCP)

Inflow Area = 3.060 ac, 29.74% Impervious, Inflow Depth = 2.21" for 10-yr Waldo County event
Inflow = 7.93 cfs @ 12.08 hrs, Volume= 0.563 af
Outflow = 7.72 cfs @ 12.10 hrs, Volume= 0.563 af, Atten= 3%, Lag= 1.3 min
Primary = 7.72 cfs @ 12.10 hrs, Volume= 0.563 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 34.13' @ 12.10 hrs Surf.Area= 503 sf Storage= 398 cf
Flood Elev= 35.00' Surf.Area= 935 sf Storage= 1,021 cf

Plug-Flow detention time= 3.0 min calculated for 0.563 af (100% of inflow)
Center-of-Mass det. time= 2.1 min (832.5 - 830.4)

Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	1,021 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	10	0	0
34.00	437	335	335
35.00	935	686	1,021

Device	Routing	Invert	Outlet Devices
#1	Primary	32.50'	**18.0" Round Culvert** L= 70.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 32.00' S= 0.0071 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=7.72 cfs @ 12.10 hrs HW=34.13' TW=32.77' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 7.72 cfs @ 5.00 fps)

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (Watershed 1S) Runoff Area=38.180 ac 1.70% Impervious Runoff Depth=2.04"
Tc=120.2 min CN=71 Runoff=22.03 cfs 6.494 af

Subcatchment 2S: (Watershed 2S) Runoff Area=16.840 ac 4.22% Impervious Runoff Depth=2.04"
Tc=60.3 min CN=71 Runoff=15.45 cfs 2.864 af

Subcatchment 2SA: (Watershed 2SA) Runoff Area=4.250 ac 21.88% Impervious Runoff Depth=2.54"
Tc=43.7 min CN=77 Runoff=5.93 cfs 0.899 af

Subcatchment 2SB: (Watershed 2SB) Runoff Area=3.060 ac 29.74% Impervious Runoff Depth=2.72"
Tc=5.0 min CN=79 Runoff=9.75 cfs 0.693 af

Subcatchment 3S: (Watershed 3S) Runoff Area=6.010 ac 8.99% Impervious Runoff Depth=2.12"
Tc=50.4 min CN=72 Runoff=6.40 cfs 1.062 af

Subcatchment 3SA: (Propane Tank Runoff Area=5.520 ac 15.76% Impervious Runoff Depth=2.28"
Tc=5.0 min CN=74 Runoff=14.74 cfs 1.051 af

Subcatchment 3SB: (Watershed 3SB) Runoff Area=1.590 ac 38.36% Impervious Runoff Depth=2.81"
Tc=5.0 min CN=80 Runoff=5.23 cfs 0.372 af

Subcatchment 4S: (Watershed 4S) Runoff Area=17.610 ac 7.44% Impervious Runoff Depth=2.20"
Tc=103.0 min CN=73 Runoff=12.44 cfs 3.232 af

Reach 1R: (Bndy) Inflow=33.86 cfs 10.668 af
Outflow=33.86 cfs 10.668 af

Reach 2R: (Bndy) Inflow=7.33 cfs 1.342 af
Outflow=7.33 cfs 1.342 af

Reach 3R: (Bndy) Inflow=12.44 cfs 3.232 af
Outflow=12.44 cfs 3.232 af

Reach 4R: Reach through 2S Avg. Depth=0.44' Max Vel=4.28 fps Inflow=22.03 cfs 6.494 af
n=0.040 L=200.0' S=0.0485 '/' Capacity=2,953.72 cfs Outflow=22.04 cfs 6.494 af

Reach 5R: (Containment Perimeter Swale) Avg. Depth=0.57' Max Vel=3.47 fps Inflow=7.42 cfs 1.343 af
n=0.030 L=1,055.0' S=0.0180 '/' Capacity=112.80 cfs Outflow=7.33 cfs 1.342 af

Reach 6R: Lower stream section Avg. Depth=0.48' Max Vel=4.53 fps Inflow=34.34 cfs 10.669 af
n=0.040 L=360.0' S=0.0531 '/' Capacity=4,414.65 cfs Outflow=34.33 cfs 10.668 af

Reach 7R: Relocated stream Avg. Depth=0.70' Max Vel=4.89 fps Inflow=33.31 cfs 10.168 af
n=0.040 L=640.0' S=0.0328 '/' Capacity=1,386.95 cfs Outflow=33.29 cfs 10.168 af

Pond 1P: (Exist 24" RCP) Peak Elev=75.86' Inflow=22.03 cfs 6.494 af
24.0" Round Culvert n=0.012 L=88.0' S=0.0375 '/' Outflow=22.03 cfs 6.494 af

Pond 2P: (Exist 36" CMP) Peak Elev=12.99' Storage=7,252 cf Inflow=34.33 cfs 10.668 af
36.0" Round Culvert n=0.025 L=105.0' S=0.0143 '/' Outflow=33.86 cfs 10.668 af

Pond 3P: (Exist 24" CMP) Peak Elev=38.43' Inflow=7.33 cfs 1.342 af
Outflow=7.33 cfs 1.342 af

Pond 4P: (Exist 18" CMP) Peak Elev=23.76' Inflow=12.44 cfs 3.232 af
18.0" Round Culvert n=0.025 L=100.0' S=0.0380 '/' Outflow=12.44 cfs 3.232 af

Pond 5P: (C-6 - 24" RCP) Peak Elev=63.62' Inflow=22.04 cfs 6.494 af
24.0" Round Culvert n=0.012 L=320.0' S=0.0328 '/' Outflow=22.04 cfs 6.494 af

Pond 11P: (WQ #1/Overflow Weir #1) Peak Elev=65.50' Storage=13,418 cf Inflow=5.93 cfs 0.899 af
Primary=0.11 cfs 0.084 af Secondary=2.70 cfs 0.726 af Outflow=2.81 cfs 0.810 af

Pond 12P: (WQ#3/Overflow Weir #3) Peak Elev=33.58' Storage=15,270 cf Inflow=8.97 cfs 0.692 af
Primary=0.08 cfs 0.089 af Secondary=1.27 cfs 0.413 af Outflow=1.35 cfs 0.501 af

Pond 14P: (WQ#2/Overflow Weir #2) Peak Elev=61.14' Storage=7,635 cf Inflow=5.23 cfs 0.372 af
Primary=0.05 cfs 0.048 af Secondary=1.05 cfs 0.233 af Outflow=1.09 cfs 0.281 af

Pond 17P: (C-5 - 18" RCP) Peak Elev=34.48' Storage=605 cf Inflow=9.75 cfs 0.693 af
18.0" Round Culvert n=0.012 L=70.0' S=0.0071 '/' Outflow=8.97 cfs 0.692 af

Total Runoff Area = 93.060 ac Runoff Volume = 16.668 af Average Runoff Depth = 2.15"
92.98% Pervious = 86.530 ac 7.02% Impervious = 6.530 ac

Summary for Subcatchment 1S: (Watershed 1S)

Runoff = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.150	98	Roofs, HSG C
2.450	74	>75% Grass cover, Good, HSG C
0.020	89	Gravel roads, HSG C
0.500	98	Paved roads w/curbs & sewers, HSG C
35.060	70	Woods, Good, HSG C
38.180	71	Weighted Average
37.530		98.30% Pervious Area
0.650		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
120.2					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2S: (Watershed 2S)

Runoff = 15.45 cfs @ 12.84 hrs, Volume= 2.864 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	4.450	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	3.860	74	>75% Grass cover, Good, HSG C
	0.940	89	Gravel roads, HSG C
	0.530	98	Paved roads w/curbs & sewers, HSG C
*	0.500	55	Railbed
*	0.120	70	Stone equipment pads
	6.260	70	Woods, Good, HSG C
	16.840	71	Weighted Average
	16.130		95.78% Pervious Area
	0.710		4.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
60.3					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SA: (Watershed 2SA)

Runoff = 5.93 cfs @ 12.61 hrs, Volume= 0.899 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.310	65	Brush, Good, HSG C
0.150	98	Roofs, HSG C
0.940	74	>75% Grass cover, Good, HSG C
0.780	98	Paved roads w/curbs & sewers, HSG C
2.070	70	Woods, Good, HSG C
4.250	77	Weighted Average
3.320		78.12% Pervious Area
0.930		21.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.7					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 2SB: (Watershed 2SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 9.75 cfs @ 12.08 hrs, Volume= 0.693 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	0.110	77	Brush, Poor, HSG C
*	0.150	98	Roof
	0.570	74	>75% Grass cover, Good, HSG C
	0.760	98	Paved roads w/curbs & sewers, HSG C
*	1.470	70	Stone equipment pads
	3.060	79	Weighted Average
	2.150		70.26% Pervious Area
	0.910		29.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3S: (Watershed 3S)

Runoff = 6.40 cfs @ 12.71 hrs, Volume= 1.062 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	1.880	65	Brush, Good, HSG C
	0.180	98	Roofs, HSG C
	0.170	74	>75% Grass cover, Good, HSG C
	0.470	89	Gravel roads, HSG C
	0.360	98	Paved roads w/curbs & sewers, HSG C
*	0.390	55	Railbed
*	1.310	70	Stone equipment areas
	1.250	70	Woods, Good, HSG C
	6.010	72	Weighted Average
	5.470		91.01% Pervious Area
	0.540		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.4					**Direct Entry, See Spreadsheet**

Summary for Subcatchment 3SA: (Propane Tank Containment - 0.53 cfs 25yr/24hr)

Tank Containment volume (0.36 acre/feet during a 2 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.18 CFS or 81.5 gallons per minute.

0.36 ac-ft = 15,682 cubic feet
15,682 cubic feet discharged over 24 hrs
15,682/24 = 653 cubic feet per hour
653/60 = 10.9 cubic feet per minute
10.9/60 = 0.18 cubic feet per second
10.9 cubic feet per minute *7.48 = 81.5 gal/min.

Tank Containment volume (0.84 acre/feet during a 10 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.42 CFS or 190 gallons per minute.

0.84 ac-ft = 36,590 cubic feet
36,590 cubic feet discharged over 24 hrs
36,590/24 = 1,525 cubic feet per hour
1,525/60 = 25.4 cubic feet per minute
25.4/60 = 0.42 cubic feet per second
25.4 cubic feet per minute *7.48 = 190 gal/min.

Tank Containment volume (1.05 acre/feet during a 25 yr/24 hour storm event) is pumped out over a 24 hour period of time. This equates to a rate of 0.53 CFS or 237.6 gallons per minute.

1.05 ac-ft = 45,738 cubic feet
45,738 cubic feet discharged over 24 hrs
45,738/24 = 1905.75 cubic feet per hour
1905.75/60 = 31.76 cubic feet per minute
31.76/60 = 0.53 cubic feet per second
31.76 cubic feet per minute *7.48 = 237.6 gal/min.

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[49] Hint: Tc<2dt may require smaller dt

Runoff = 14.74 cfs @ 12.08 hrs, Volume= 1.051 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	0.870	98	Roofs, HSG C
*	4.650	70	Stone equipment areas
	5.520	74	Weighted Average
	4.650		84.24% Pervious Area
	0.870		15.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 3SB: (Watershed 3SB)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.23 cfs @ 12.08 hrs, Volume= 0.372 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

	Area (ac)	CN	Description
	0.430	65	Brush, Good, HSG C
	0.040	98	Roofs, HSG C
	0.240	74	>75% Grass cover, Good, HSG C
	0.570	98	Paved roads w/curbs & sewers, HSG C
*	0.310	70	Stone equipment areas
	1.590	80	Weighted Average
	0.980		61.64% Pervious Area
	0.610		38.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Subcatchment 4S: (Watershed 4S)

Runoff = 12.44 cfs @ 13.40 hrs, Volume= 3.232 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
1.380	65	Brush, Good, HSG C
0.340	98	Roofs, HSG C
3.230	74	>75% Grass cover, Good, HSG C
0.950	89	Gravel roads, HSG C
0.970	98	Paved roads w/curbs & sewers, HSG C
10.740	70	Woods, Good, HSG C
17.610	73	Weighted Average
16.300		92.56% Pervious Area
1.310		7.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
103.0					**Direct Entry, See Spreadsheet**

Summary for Reach 1R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 2.05" for 25-yr Waldo County event
Inflow = 33.86 cfs @ 13.49 hrs, Volume= 10.668 af
Outflow = 33.86 cfs @ 13.49 hrs, Volume= 10.668 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 2.12" for 25-yr Waldo County event
Inflow = 7.33 cfs @ 12.77 hrs, Volume= 1.342 af
Outflow = 7.33 cfs @ 12.77 hrs, Volume= 1.342 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: (Bndy)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.610 ac, 7.44% Impervious, Inflow Depth = 2.20" for 25-yr Waldo County event
Inflow = 12.44 cfs @ 13.40 hrs, Volume= 3.232 af
Outflow = 12.44 cfs @ 13.40 hrs, Volume= 3.232 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 4R: Reach through 2S

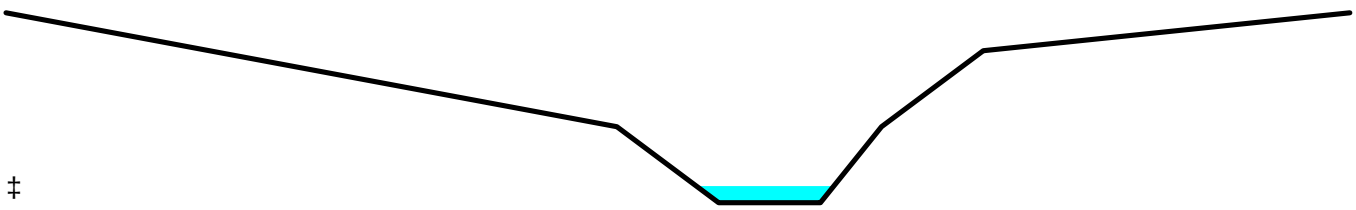
[90] Warning: Qout>Qin may require Finer Routing or smaller dt

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth = 2.04" for 25-yr Waldo County event
Inflow = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af
Outflow = 22.04 cfs @ 13.67 hrs, Volume= 6.494 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.28 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.97 fps, Avg. Travel Time= 1.7 min

Peak Storage= 1,029 cf @ 13.67 hrs, Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,953.72 cfs

Custom cross-section, Length= 200.0' Slope= 0.0485 '/'
Constant n= 0.040 Winding stream, pools & shoals
Inlet Invert= 70.20', Outlet Invert= 60.50'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	73.00	0.00
20.00	72.00	1.00
60.00	70.00	3.00
70.00	68.00	5.00
80.00	68.00	5.00
86.00	70.00	3.00
96.00	72.00	1.00
132.00	73.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	10.0	0	0.00
2.00	36.0	26.5	7,200	361.07
4.00	138.0	76.8	27,600	1,669.16
5.00	242.0	132.8	48,400	2,953.72

Summary for Reach 5R: (Containment Perimeter Swale)

Inflow Area = 7.600 ac, 15.13% Impervious, Inflow Depth > 2.12" for 25-yr Waldo County event
Inflow = 7.42 cfs @ 12.70 hrs, Volume= 1.343 af
Outflow = 7.33 cfs @ 12.77 hrs, Volume= 1.342 af, Atten= 1%, Lag= 3.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.47 fps, Min. Travel Time= 5.1 min
Avg. Velocity = 1.36 fps, Avg. Travel Time= 13.0 min

Peak Storage= 2,228 cf @ 12.77 hrs, Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 112.80 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,055.0' Slope= 0.0180 '/'
Inlet Invert= 57.00', Outlet Invert= 38.00'

Summary for Reach 6R: Lower stream section

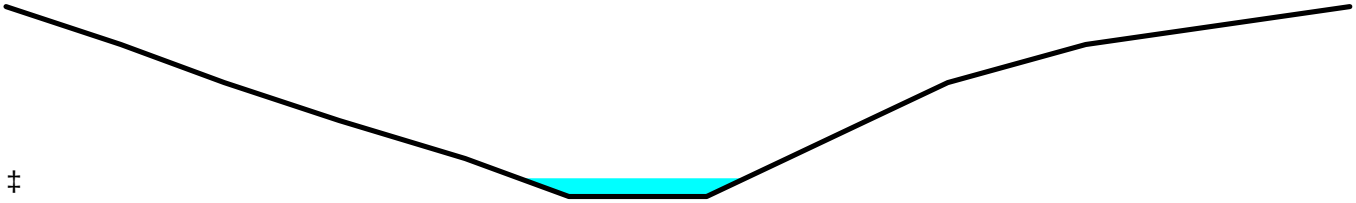
[61] Hint: Exceeded Reach 7R outlet invert by 0.48' @ 13.30 hrs

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 2.05" for 25-yr Waldo County event
Inflow = 34.34 cfs @ 13.27 hrs, Volume= 10.669 af
Outflow = 34.33 cfs @ 13.29 hrs, Volume= 10.668 af, Atten= 0%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.53 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 2.10 fps, Avg. Travel Time= 2.9 min

Peak Storage= 2,729 cf @ 13.29 hrs, Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 4,414.65 cfs

Custom cross-section, Length= 360.0' Slope= 0.0531 '/'
Constant n= 0.040 Earth, cobble bottom, clean sides
Inlet Invert= 29.00', Outlet Invert= 9.90'



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Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	31.00	0.00
10.00	30.00	1.00
19.00	29.00	2.00
29.00	28.00	3.00
40.00	27.00	4.00
49.00	26.00	5.00
61.00	26.00	5.00
68.00	27.00	4.00
75.00	28.00	3.00
82.00	29.00	2.00
94.00	30.00	1.00
117.00	31.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	12.0	0	0.00
1.00	20.0	28.1	7,200	136.34
2.00	57.0	46.2	20,520	560.73
3.00	111.5	63.4	40,140	1,390.66
4.00	185.0	84.5	66,600	2,669.97
5.00	285.5	117.5	102,780	4,414.65

Summary for Reach 7R: Relocated stream

Inflow Area = 59.270 ac, 3.86% Impervious, Inflow Depth > 2.06" for 25-yr Waldo County event
Inflow = 33.31 cfs @ 13.25 hrs, Volume= 10.168 af
Outflow = 33.29 cfs @ 13.28 hrs, Volume= 10.168 af, Atten= 0%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.89 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 2.13 fps, Avg. Travel Time= 5.0 min

Peak Storage= 4,354 cf @ 13.28 hrs, Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 6.00', Capacity at Bank-Full= 1,386.95 cfs

9.00' x 6.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 640.0' Slope= 0.0328 '/'
Inlet Invert= 50.00', Outlet Invert= 29.00'

Summary for Pond 1P: (Exist 24" RCP)

Inflow Area = 38.180 ac, 1.70% Impervious, Inflow Depth = 2.04" for 25-yr Waldo County event
Inflow = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af
Outflow = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af, Atten= 0%, Lag= 0.0 min
Primary = 22.03 cfs @ 13.66 hrs, Volume= 6.494 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 75.86' @ 13.66 hrs
Flood Elev= 80.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**24.0" Round Culvert** L= 88.0' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 70.20' S= 0.0375 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=22.03 cfs @ 13.66 hrs HW=75.86' TW=70.64' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 22.03 cfs @ 7.01 fps)

Summary for Pond 2P: (Exist 36" CMP)

[62] Warning: Exceeded Reach 6R OUTLET depth by 2.61' @ 13.50 hrs

Inflow Area = 62.330 ac, 5.13% Impervious, Inflow Depth > 2.05" for 25-yr Waldo County event
Inflow = 34.33 cfs @ 13.29 hrs, Volume= 10.668 af
Outflow = 33.86 cfs @ 13.49 hrs, Volume= 10.668 af, Atten= 1%, Lag= 12.5 min
Primary = 33.86 cfs @ 13.49 hrs, Volume= 10.668 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 12.99' @ 13.49 hrs Surf.Area= 7,123 sf Storage= 7,252 cf
Flood Elev= 26.20' Surf.Area= 14,232 sf Storage= 28,760 cf

Plug-Flow detention time= 1.7 min calculated for 10.651 af (100% of inflow)
Center-of-Mass det. time= 1.7 min (946.4 - 944.7)

Volume	Invert	Avail.Storage	Storage Description
#1	9.90'	28,760 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
9.90	25	0	0
10.00	72	5	5
11.00	112	92	97
12.00	3,600	1,856	1,953
13.00	7,164	5,382	7,335
14.00	10,727	8,946	16,280
15.00	14,232	12,480	28,760

Device	Routing	Invert	Outlet Devices
#1	Primary	9.90'	**36.0" Round Culvert**

L= 105.0' CMP, projecting, no headwall, Ke= 0.900
Outlet Invert= 8.40' S= 0.0143 '/' Cc= 0.900
n= 0.025 Corrugated metal

Primary OutFlow Max=33.86 cfs @ 13.49 hrs HW=12.99' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 33.86 cfs @ 4.79 fps)

Summary for Pond 3P: (Exist 24" CMP)

[61] Hint: Exceeded Reach 5R outlet invert by 0.43' @ 12.75 hrs

Inflow Area =	7.600 ac,	15.13% Impervious,	Inflow Depth >	2.12"	for 25-yr Waldo County event
Inflow =	7.33 cfs @	12.77 hrs,	Volume=	1.342 af	
Outflow =	7.33 cfs @	12.77 hrs,	Volume=	1.342 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.33 cfs @	12.77 hrs,	Volume=	1.342 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 38.43' @ 12.77 hrs
Flood Elev= 40.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.00'	**24.0" Round Culvert** L= 105.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 13.10' S= 0.0181 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Device 1	38.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.31 cfs @ 12.77 hrs HW=38.43' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 7.31 cfs of 46.90 cfs potential flow)
└─**2=Orifice/Grate** (Weir Controls 7.31 cfs @ 2.14 fps)

Summary for Pond 4P: (Exist 18" CMP)

Inflow Area =	17.610 ac,	7.44% Impervious,	Inflow Depth =	2.20"	for 25-yr Waldo County event
Inflow =	12.44 cfs @	13.40 hrs,	Volume=	3.232 af	
Outflow =	12.44 cfs @	13.40 hrs,	Volume=	3.232 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.44 cfs @	13.40 hrs,	Volume=	3.232 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 23.76' @ 13.40 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.40'	**18.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Outlet Invert= 15.60' S= 0.0380 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=12.43 cfs @ 13.40 hrs HW=23.76' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 12.43 cfs @ 7.04 fps)

Summary for Pond 5P: (C-6 - 24" RCP)

[62] Warning: Exceeded Reach 4R OUTLET depth by 2.68' @ 13.65 hrs

Inflow Area =	38.180 ac,	1.70% Impervious,	Inflow Depth >	2.04"	for 25-yr Waldo County event
Inflow =	22.04 cfs @	13.67 hrs,	Volume=	6.494 af	
Outflow =	22.04 cfs @	13.67 hrs,	Volume=	6.494 af,	Atten= 0%, Lag= 0.0 min
Primary =	22.04 cfs @	13.67 hrs,	Volume=	6.494 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 63.62' @ 13.67 hrs
Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	**24.0" Round Culvert** L= 320.0' RCP, square edge headwall, Ke= 0.500 Outlet Invert= 50.00' S= 0.0328 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=22.03 cfs @ 13.67 hrs HW=63.62' TW=50.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 22.03 cfs @ 7.01 fps)

Summary for Pond 11P: (WQ #1/Overflow Weir #1)

Inflow Area =	4.250 ac,	21.88% Impervious,	Inflow Depth =	2.54"	for 25-yr Waldo County event
Inflow =	5.93 cfs @	12.61 hrs,	Volume=	0.899 af	
Outflow =	2.81 cfs @	13.19 hrs,	Volume=	0.810 af,	Atten= 53%, Lag= 34.6 min
Primary =	0.11 cfs @	13.18 hrs,	Volume=	0.084 af	
Secondary =	2.70 cfs @	13.19 hrs,	Volume=	0.726 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 65.50' @ 13.18 hrs Surf.Area= 6,936 sf Storage= 13,418 cf
Flood Elev= 66.00' Surf.Area= 7,560 sf Storage= 17,010 cf

Plug-Flow detention time= 127.8 min calculated for 0.810 af (90% of inflow)
Center-of-Mass det. time= 79.1 min (944.7 - 865.6)

Volume	Invert	Avail.Storage	Storage Description
#1	63.00'	17,010 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.00	3,780	0	0
64.00	5,040	4,410	4,410
65.00	6,300	5,670	10,080
66.00	7,560	6,930	17,010

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	**1.500 in/hr Exfiltration over Surface area above 63.00'** Excluded Surface area = 3,780 sf
#2	Secondary	60.50'	**15.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 51.00' S= 0.1044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	64.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	65.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 13.18 hrs HW=65.50' TW=50.70' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=2.70 cfs @ 13.19 hrs HW=65.50' TW=50.70' (Dynamic Tailwater)
└─**2=Culvert** (Passes 2.70 cfs of 9.76 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 2.69 cfs @ 5.38 fps)
  └─**4=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.20 fps)

Summary for Pond 12P: (WQ#3/Overflow Weir #3)

Inflow Area =	3.060 ac, 29.74% Impervious, Inflow Depth > 2.71" for 25-yr Waldo County event				
Inflow =	8.97 cfs @	12.11 hrs,	Volume=	0.692 af	
Outflow =	1.35 cfs @	12.65 hrs,	Volume=	0.501 af,	Atten= 85%, Lag= 32.4 min
Primary =	0.08 cfs @	12.65 hrs,	Volume=	0.089 af	
Secondary =	1.27 cfs @	12.65 hrs,	Volume=	0.413 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 33.58' @ 12.65 hrs Surf.Area= 10,717 sf Storage= 15,270 cf
Flood Elev= 34.00' Surf.Area= 11,237 sf Storage= 19,874 cf

Plug-Flow detention time= 271.7 min calculated for 0.500 af (72% of inflow)
Center-of-Mass det. time= 179.5 min (1,006.2 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	19,874 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	8,515	0	0
33.00	9,998	9,257	9,257
34.00	11,237	10,618	19,874

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	**1.500 in/hr Exfiltration over Surface area above 32.00'** Excluded Surface area = 8,515 sf
#2	Secondary	29.50'	**15.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 20.00' S= 0.1267 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	32.92'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.230
#4	Device 2	33.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600

Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 12.65 hrs HW=33.58' TW=29.38' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Secondary OutFlow Max=1.27 cfs @ 12.65 hrs HW=33.58' TW=29.38' (Dynamic Tailwater)
└─**2=Culvert** (Passes 1.27 cfs of 8.67 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.87 cfs @ 1.16 fps)
  └─**4=Orifice/Grate** (Weir Controls 0.40 cfs @ 0.93 fps)

Summary for Pond 14P: (WQ#2/Overflow Weir #2)

Inflow Area =	1.590 ac, 38.36% Impervious, Inflow Depth = 2.81" for 25-yr Waldo County event			
Inflow =	5.23 cfs @	12.08 hrs, Volume=	0.372 af	
Outflow =	1.09 cfs @	12.51 hrs, Volume=	0.281 af, Atten= 79%, Lag= 26.1 min	
Primary =	0.05 cfs @	12.51 hrs, Volume=	0.048 af	
Secondary =	1.05 cfs @	12.51 hrs, Volume=	0.233 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 61.14' @ 12.51 hrs Surf.Area= 7,356 sf Storage= 7,635 cf
Flood Elev= 66.00' Surf.Area= 8,424 sf Storage= 14,388 cf

Plug-Flow detention time= 222.9 min calculated for 0.281 af (76% of inflow)
Center-of-Mass det. time= 136.4 min (958.1 - 821.7)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	14,388 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	6,000	0	0
61.00	7,176	6,588	6,588
62.00	8,424	7,800	14,388

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**1.500 in/hr Exfiltration over Surface area above 60.00'** Excluded Surface area = 6,000 sf
#2	Secondary	57.50'	**15.0" Round Culvert** L= 38.0' CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 57.00' S= 0.0132 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#3	Device 2	60.67'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	61.50'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 12.51 hrs HW=61.14' TW=57.51' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Secondary OutFlow Max=1.05 cfs @ 12.51 hrs HW=61.14' TW=57.51' (Dynamic Tailwater)
└─**2=Culvert** (Passes 1.05 cfs of 8.10 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 1.05 cfs @ 2.21 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 17P: (C-5 - 18" RCP)

Inflow Area = 3.060 ac, 29.74% Impervious, Inflow Depth = 2.72" for 25-yr Waldo County event
Inflow = 9.75 cfs @ 12.08 hrs, Volume= 0.693 af
Outflow = 8.97 cfs @ 12.11 hrs, Volume= 0.692 af, Atten= 8%, Lag= 2.1 min
Primary = 8.97 cfs @ 12.11 hrs, Volume= 0.692 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 34.48' @ 12.11 hrs Surf.Area= 678 sf Storage= 605 cf
Flood Elev= 35.00' Surf.Area= 935 sf Storage= 1,021 cf

Plug-Flow detention time= 2.7 min calculated for 0.691 af (100% of inflow)
Center-of-Mass det. time= 2.2 min (826.6 - 824.4)

Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	1,021 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	10	0	0
34.00	437	335	335
35.00	935	686	1,021

Device	Routing	Invert	Outlet Devices
#1	Primary	32.50'	**18.0" Round Culvert** L= 70.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 32.00' S= 0.0071 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=8.93 cfs @ 12.11 hrs HW=34.44' TW=33.02' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 8.93 cfs @ 5.09 fps)

Worksheet for Swale around containment 1.7 percent slope

Project Description

Manning Formula

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.01724	ft/ft
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	2.00	ft/ft (H:V)
Bottom Width	2.00	ft
Discharge	7.05	ft^3/s

Results

Normal Depth	0.58	ft
Flow Area	2.02	ft^2
Wetted Perimeter	5.15	ft
Top Width	4.92	ft
Critical Depth	0.57	ft
Critical Slope	0.01887	ft/ft
Velocity	3.49	ft/s > 3.0 FT/S RIP RAP REQD.
Velocity Head	0.19	ft
Specific Energy	0.77	ft
Froude Number	0.96	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.58	ft
Critical Depth	0.57	ft
Channel Slope	0.01724	ft/ft
Critical Slope	0.01887	ft/ft

Worksheet for Crane access road swale 8 percent slope

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.08696	ft/ft
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	2.00	ft
Discharge	6.70	ft^3/s

Results

Normal Depth	0.36	ft
Flow Area	1.12	ft^2
Wetted Perimeter	4.30	ft
Top Width	4.18	ft
Critical Depth	0.54	ft
Critical Slope	0.01906	ft/ft
Velocity	5.97	ft/s > 3.0 FT/S RIPRAP REQD.
Velocity Head	0.55	ft
Specific Energy	0.92	ft
Froude Number	2.03	
Flow Type	Supercritical	

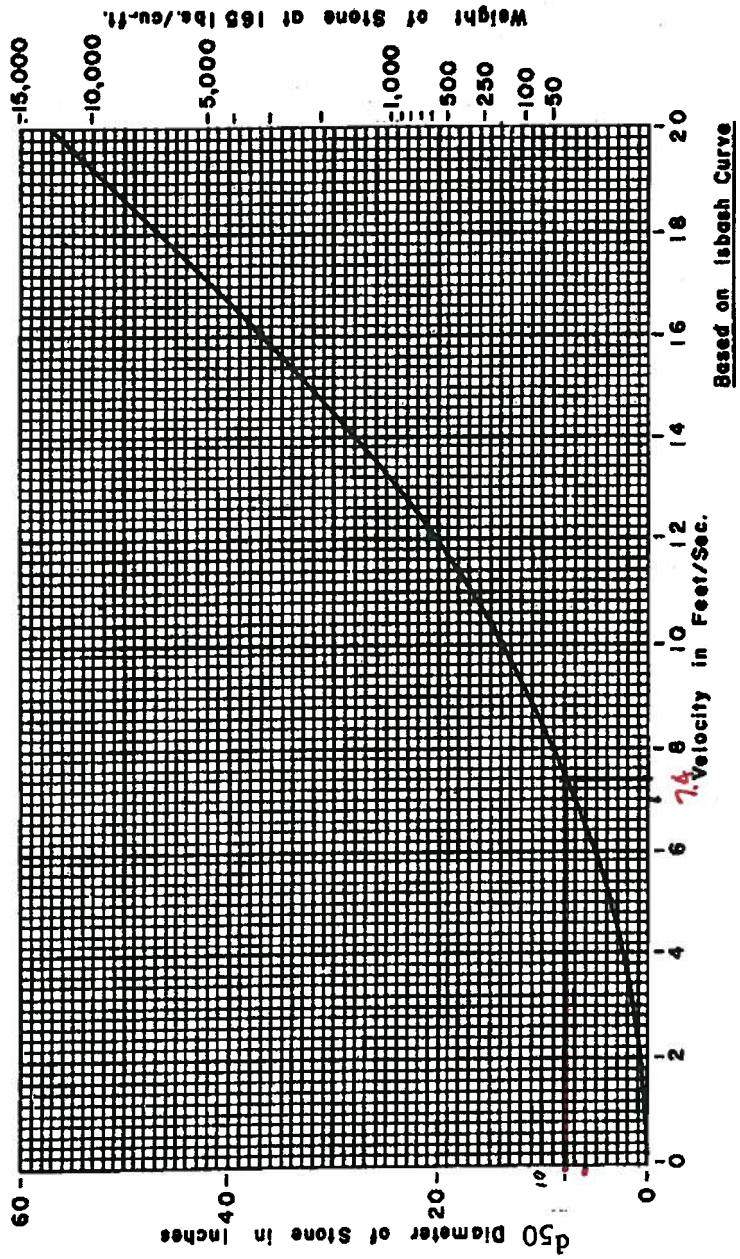
GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.36	ft
Critical Depth	0.54	ft
Channel Slope	0.08696	ft/ft
Critical Slope	0.01906	ft/ft

Figure 70.1 STONE SIZE FOR RIPRAP (USDA Soil Conservation Service)



STONE DIA	VELOCITY
D50 = 8"	7.4 FT/SEC
D50 = 6"	6.4 FT/SEC

USE FOR STREAM

USE FOR SWALES

PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**C-2 (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7				
SHEET FLOW											
Manning's No.	0.011	0.41	0.8	0.8							
Length, ft	10	18	50	72							
P2 , in	2.8	2.8	2.8	2.8							
Slope, ft/ft	0.02	0.1111111	0.08	0.05833333							
T_t[1], hr	0.003	0.050	0.220	0.334							0.6068
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft						260					
Slope, ft/ft						0.045384615					
Velocity[5], ft/sec						1.0652					
T_t[3], hr						0.068					0.0678
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft							40				
Slope, ft/ft							0.0625				
Velocity[6], ft/sec							3.750				
T_t, hr							0.003				0.0030
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

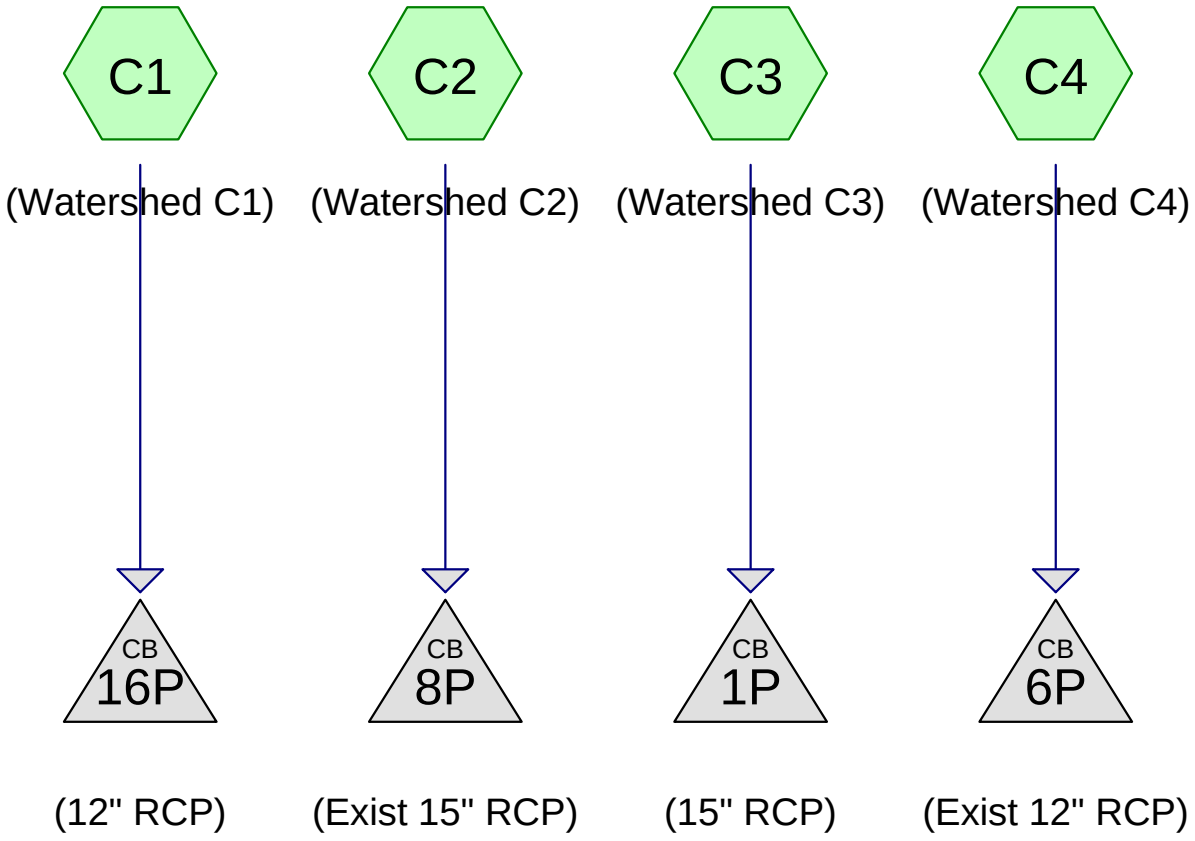
HR	0.678
Min	**40.66**

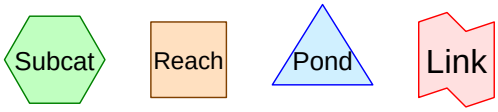
PROJECT:	**DCP Searsport**	**Calculated By:**	PGT
	Propane Termimal	**Checked By:**	PMM
Proj:	**179023.0000.0001**	**Date:**	June 10, 2011
Watershed:	**C-3 (Post development)**	**Revised:**	

Time of Concentration Determination Worksheet, SCS Methods

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7				
SHEET FLOW											
Manning's No.	0.011	0.41	0.8	0.8	0.8						
Length, ft	12	18	30	50	40						
P2 , in	2.8	2.8	2.8	2.8	2.8						
Slope, ft/ft	0.02	0.0944444	0.066666667	0.04	0.111111111						
T_t[1], hr	li	0.053	0.157	0.290	0.161						0.6614
SHALLOW CONCENTRATED FLOW											
Paved											
Length, ft											
Slope, ft/ft											
Velocity[2], ft/sec											
T_t[3], hr											0.0000
Short Grass Pasture											
Length, ft											
Slope, ft/ft											
Velocity[4], ft/sec											
T_t[3], hr											0.0000
Woodland											
Length, ft						230					
Slope, ft/ft						0.04173913					
Velocity[5], ft/sec						1.0215					
T_t[3], hr						0.063					0.0625
CHANNEL FLOW											
Waterways & Swamps, No Channels											
Length, ft											
Slope, ft/ft											
Velocity[5], ft/sec											
T_t[3], hr											0.0000
Grassed Waterways/Roadside Ditches											
Length, ft							40				
Slope, ft/ft							0.0625				
Velocity[6], ft/sec							3.750				
T_t, hr							0.003				0.0030
Small Tributary & Swamp w/Channels											
Length, ft											
Slope, ft/ft											
Velocity[7], ft/sec											
T_t, hr											0.0000
Large Tributary											
Length, ft											
Slope, ft/ft											
Velocity[8], ft/sec											
T_t, hr											0.0000
Main River											
Length, ft											
Slope, ft/ft											
Velocity[9], ft/sec											
T_t, hr											0.0000
Culvert											
Diameter, ft											
Area, ft^2											
Wetted Perimeter, ft											
Hydraulic Radius, R, ft											
Slope, ft/ft											
Manning's No.											
Velocity[10], ft/sec											
Length, L, ft											
T_t, hr											0.0000

HR	0.727
Min	**43.62**





Drainage Diagram for Searsport - Culvert sizing
Prepared by TRC Environmental Corp, Printed 6/10/2011
HydroCAD® 9.00 s/n 01824 © 2009 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.140	65	Brush, Good, HSG C (C1)
1.530	72	Woods/grass comb., Good, HSG C (C2)
0.220	74	>75% Grass cover, Good, HSG C (C3, C4)
0.740	98	Paved roads w/curbs & sewers, HSG C (C1, C2, C3, C4)
2.630		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.630	HSG C	C1, C2, C3, C4
0.000	HSG D	
0.000	Other	
2.630		**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)
1	1P	63.50	63.00	80.0	0.0063	0.025	15.0	0.0
2	6P	49.00	48.00	25.0	0.0400	0.025	12.0	0.0
3	8P	64.00	63.00	80.0	0.0125	0.025	15.0	0.0
4	16P	70.00	67.00	115.0	0.0261	0.013	12.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: (Watershed C1) Runoff Area=0.240 ac 41.67% Impervious Runoff Depth=2.72"
Tc=5.0 min CN=79 Runoff=0.76 cfs 0.054 af

Subcatchment C2: (Watershed C2) Runoff Area=1.750 ac 12.57% Impervious Runoff Depth=2.37"
Tc=40.7 min CN=75 Runoff=2.36 cfs 0.345 af

Subcatchment C3: (Watershed C3) Runoff Area=0.320 ac 65.63% Impervious Runoff Depth=3.78"
Tc=43.6 min CN=90 Runoff=0.65 cfs 0.101 af

Subcatchment C4: (Watershed C4) Runoff Area=0.320 ac 65.63% Impervious Runoff Depth=3.78"
Tc=5.0 min CN=90 Runoff=1.38 cfs 0.101 af

Pond 1P: (15" RCP) Peak Elev=64.05' Inflow=0.65 cfs 0.101 af
15.0" Round Culvert n=0.025 L=80.0' S=0.0063 '/' Outflow=0.65 cfs 0.101 af

Pond 6P: (Exist 12" RCP) Peak Elev=49.62' Inflow=1.38 cfs 0.101 af
12.0" Round Culvert n=0.025 L=25.0' S=0.0400 '/' Outflow=1.38 cfs 0.101 af

Pond 8P: (Exist 15" RCP) Peak Elev=64.96' Inflow=2.36 cfs 0.345 af
15.0" Round Culvert n=0.025 L=80.0' S=0.0125 '/' Outflow=2.36 cfs 0.345 af

Pond 16P: (12" RCP) Peak Elev=70.44' Inflow=0.76 cfs 0.054 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0261 '/' Outflow=0.76 cfs 0.054 af

Total Runoff Area = 2.630 ac Runoff Volume = 0.601 af Average Runoff Depth = 2.74"
71.86% Pervious = 1.890 ac 28.14% Impervious = 0.740 ac

Summary for Subcatchment C1: (Watershed C1)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.76 cfs @ 12.08 hrs, Volume= 0.054 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.100	98	Paved roads w/curbs & sewers, HSG C
0.140	65	Brush, Good, HSG C
0.240	79	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minmimum**

Summary for Subcatchment C2: (Watershed C2)

Runoff = 2.36 cfs @ 12.57 hrs, Volume= 0.345 af, Depth= 2.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.220	98	Paved roads w/curbs & sewers, HSG C
1.530	72	Woods/grass comb., Good, HSG C
1.750	75	Weighted Average
1.530		87.43% Pervious Area
0.220		12.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.7					**Direct Entry, See Spreadsheet**

Summary for Subcatchment C3: (Watershed C3)

Runoff = 0.65 cfs @ 12.57 hrs, Volume= 0.101 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.210	98	Paved roads w/curbs & sewers, HSG C
0.110	74	>75% Grass cover, Good, HSG C
0.320	90	Weighted Average
0.110		34.38% Pervious Area
0.210		65.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.6					**Direct Entry, See Spreadsheet**

Summary for Subcatchment C4: (Watershed C4)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.38 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Waldo County Rainfall=4.90"

Area (ac)	CN	Description
0.210	98	Paved roads w/curbs & sewers, HSG C
0.110	74	>75% Grass cover, Good, HSG C
0.320	90	Weighted Average
0.110		34.38% Pervious Area
0.210		65.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum**

Summary for Pond 1P: (15" RCP)

[58] Hint: Peaked 37.85' above defined flood level

Inflow Area = 0.320 ac, 65.63% Impervious, Inflow Depth = 3.78" for 25-yr Waldo County event
Inflow = 0.65 cfs @ 12.57 hrs, Volume= 0.101 af
Outflow = 0.65 cfs @ 12.57 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 0.65 cfs @ 12.57 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 64.05' @ 12.57 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	**15.0" Round Culvert** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 63.00' S= 0.0063 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=0.65 cfs @ 12.57 hrs HW=64.05' (Free Discharge)
└─**1=Culvert** (Barrel Controls 0.65 cfs @ 1.86 fps)

Summary for Pond 6P: (Exist 12" RCP)

[58] Hint: Peaked 23.42' above defined flood level

Inflow Area =	0.320 ac,	65.63% Impervious,	Inflow Depth =	3.78"	for 25-yr Waldo County event
Inflow =	1.38 cfs @	12.07 hrs,	Volume=	0.101 af	
Outflow =	1.38 cfs @	12.07 hrs,	Volume=	0.101 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.38 cfs @	12.07 hrs,	Volume=	0.101 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 49.62' @ 12.07 hrs
Flood Elev= 26.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	**12.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 48.00' S= 0.0400 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=1.33 cfs @ 12.07 hrs HW=49.61' (Free Discharge)
└─**1=Culvert** (Inlet Controls 1.33 cfs @ 2.65 fps)

Summary for Pond 8P: (Exist 15" RCP)

Inflow Area =	1.750 ac,	12.57% Impervious,	Inflow Depth =	2.37"	for 25-yr Waldo County event
Inflow =	2.36 cfs @	12.57 hrs,	Volume=	0.345 af	
Outflow =	2.36 cfs @	12.57 hrs,	Volume=	0.345 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.36 cfs @	12.57 hrs,	Volume=	0.345 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 64.96' @ 12.57 hrs
Flood Elev= 66.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	**15.0" Round Culvert** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 63.00' S= 0.0125 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=2.35 cfs @ 12.57 hrs HW=64.96' (Free Discharge)
└─**1=Culvert** (Barrel Controls 2.35 cfs @ 3.22 fps)

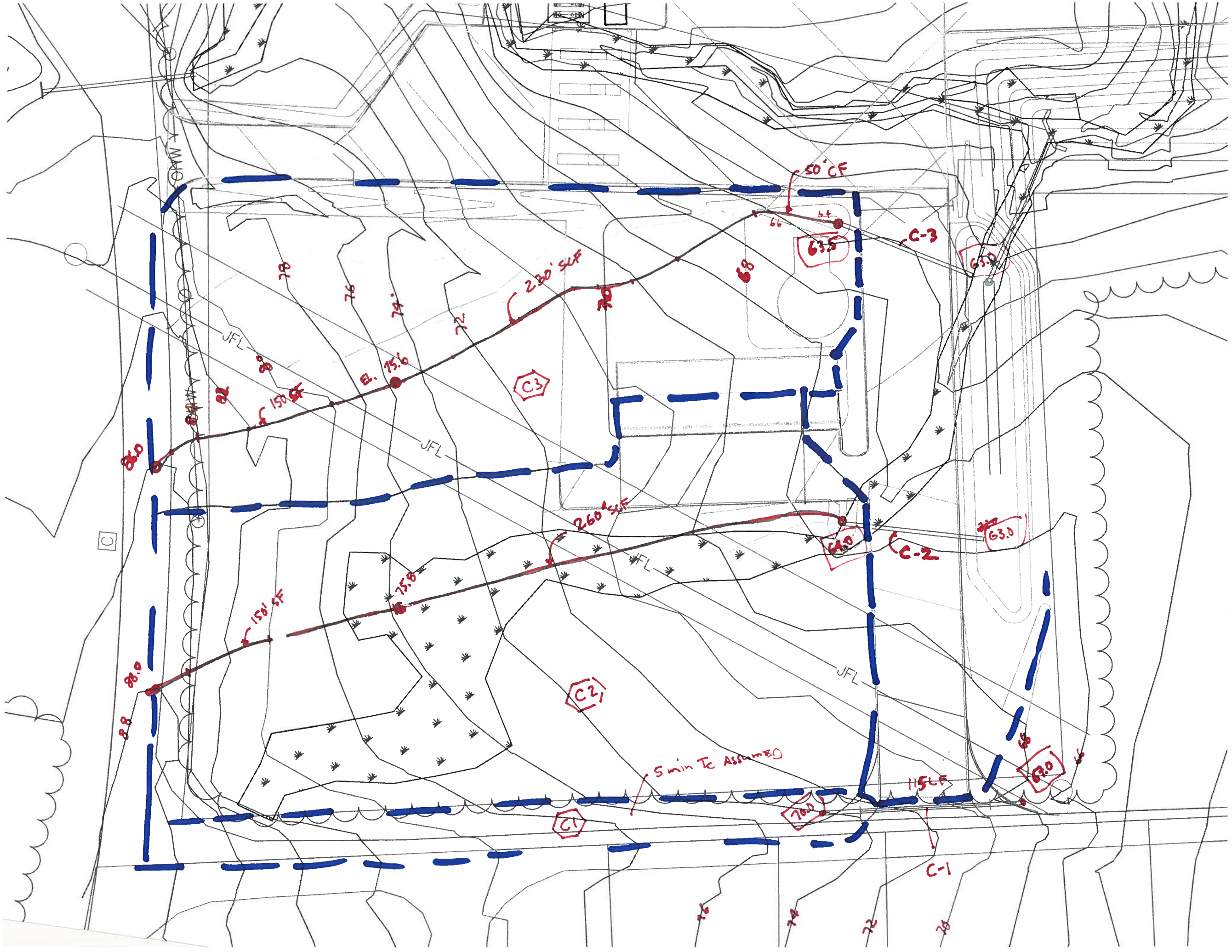
Summary for Pond 16P: (12" RCP)

Inflow Area = 0.240 ac, 41.67% Impervious, Inflow Depth = 2.72" for 25-yr Waldo County event
Inflow = 0.76 cfs @ 12.08 hrs, Volume= 0.054 af
Outflow = 0.76 cfs @ 12.08 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.76 cfs @ 12.08 hrs, Volume= 0.054 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 70.44' @ 12.08 hrs
Flood Elev= 71.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	70.00'	**12.0" Round Culvert** L= 115.0' RCP, square edge headwall, Ke= 0.500 Outlet Invert= 67.00' S= 0.0261 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

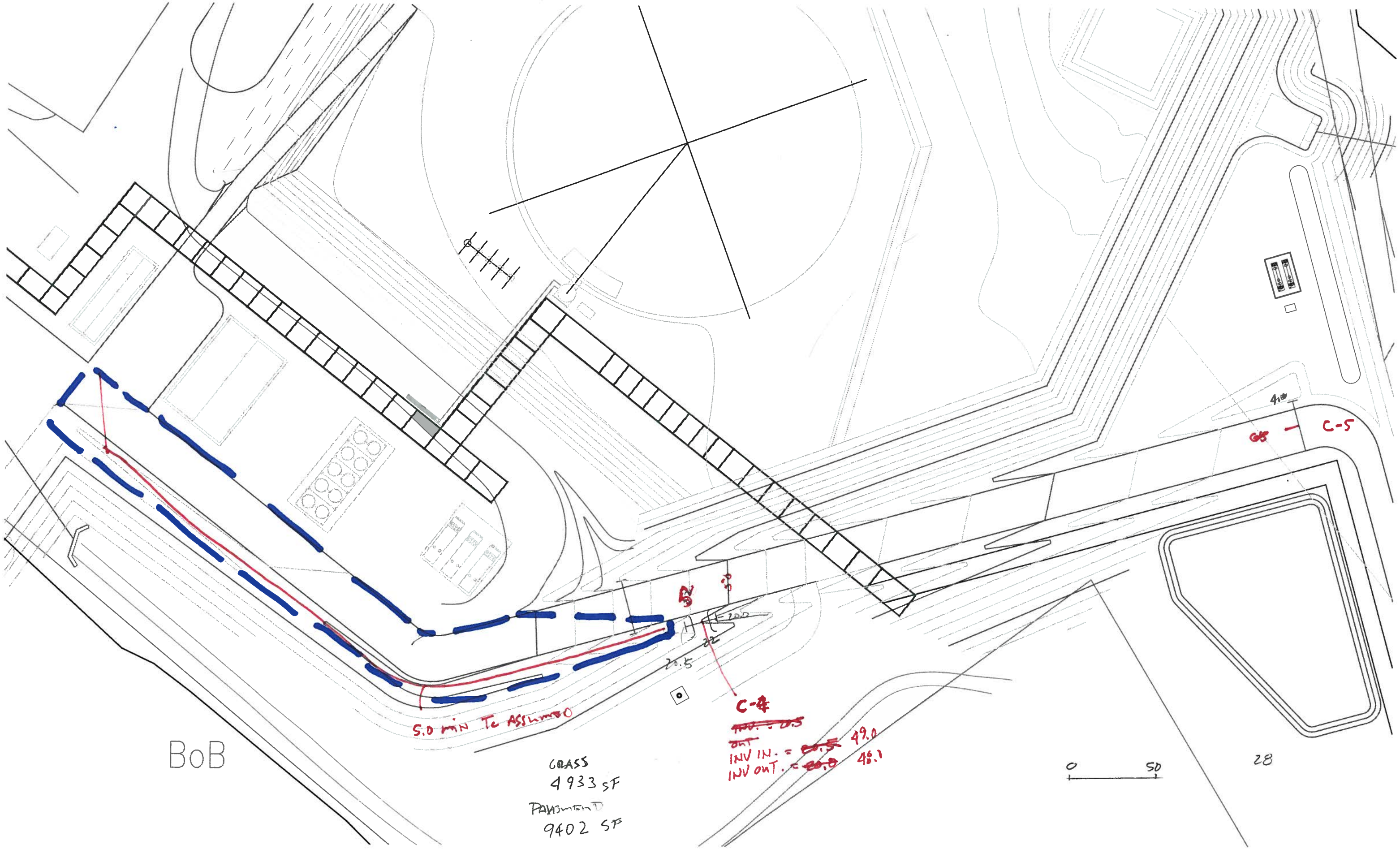
Primary OutFlow Max=0.74 cfs @ 12.08 hrs HW=70.44' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.74 cfs @ 2.25 fps)



380 x 175 = 66,500

170 x 10 = 1700
105 x 60 = 6300
35x35 / 2 = 613
35x25 = 1225
9838 SF

0 50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GRASS
4933 SF
PAVEMENT
9402 SF
5.0 min To Assumed
C-4
~~INV. = 0.5~~
OUT
INV IN. = ~~20.5~~ 49.0
INV OUT. = ~~20.0~~ 48.1
20.0
22
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C-5
4.0
0
50
28

PROJECT:	**DCP Propane Terminal**			**Calculated By:**	PGT
				Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase**	**4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

WQ#1

Impervious and Landscaped Contributing Area:

Landscaped Areas (Grass) (SF)	21,706
Impervious Areas (Gravel Drive) (SF)	40,511

Treatment Volume (TV):

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 1. Treatment Volume

TV= [(30,390 SF X 1.0") + (21,706 SF X 0.4")] / (12"/1 Ft.)

TV= **4,099 CF (Required)**

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 3. System Size

Area of Filter (AF):

The surface area of filter must be no less than the sum of 5% of the impervious area and 2% on the landscaped area draining to the filter.

AF= (30,390 SF X 5%) + (21,706 SF X 2%)

AF= **2,460 SF (Minimum)**

Filter Design:

Use a 18 Ft. Wide X 137 Ft. Long filter bed. Area = 2,466 ft^2

2,466 SF > 2,460 SF Minimum Required

Allowable Infiltration Rate:

An allowable rate of 1.5 in/hr per DEP design criteria for a soil filter

Soil filter area = 2,466 ft^2

1.5 inches = 0.125 ft/hr x 2,466 ft^2 = 308 ft^3/hour

308 ft^3/hour x (1 hour/60 min.) x (1 min./60 sec.) = **0.08 Cubic Feet/Second**

0.08 CFS will be used in the Hydrocad model for the Exfiltration rate.

PROJECT:	**DCP Propane Terminal**		**Calculated By:**	PGT
			Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase 4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

Impoundment Depth:

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 2. Impoundment Depth

Storage Volume Available (SV):

Elevation	Area (SF)	Volume (CF)	
63	3,780	0	
64	5,040	4,410	
64		**4,057**	**(Volume at 12" depth)**

TV= 4,099	**<**	**SV= 4,057**

Therefore, Water Quality Treament Volume provided exceeds the required; OK.

PROJECT:	**DCP Propane Terminal**			**Calculated By:**	PGT
				Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase**	**4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

WQ#2

Impervious and Landscaped Contributing Area:

Landscaped Areas (Grass) (SF)	10,454
Impervious Areas (Gravel Drive) (SF)	40,075

Treatment Volume (TV):

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 1. Treatment Volume

TV= [(40,075 SF X 1.0") + (10,454 SF X 0.4")] / (12"/1 Ft.)

TV= **3,688 CF (Required)**

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 3. System Size

Area of Filter (AF):

The surface area of filter must be no less than the sum of 5% of the impervious area and 2% on the landscaped area draining to the filter.

AF= (40,075 SF X 5%) + (10,454 SF X 2%)

AF= **2,213 SF (Minimum)**

Filter Design:

Use a 40 Ft. Wide X 72 Ft. Long filter bed. Area = 2,880 ft^2

2,880 SF > 2,213 SF Minimum Required

Allowable Infiltration Rate:

An allowable rate of 1.5 in/hr per DEP design criteria for a soil filter

Soil filter area = 2,880 ft^2

1.5 inches = 0.125 ft/hr x 2,880 ft^2 = 360 ft^3/hour

360 ft^3/hour x (1 hour/60 min.) x (1 min./60 sec.) = **0.10 Cubic Feet/Second**

0.10 CFS will be used in the Hydrocad model for the Exfiltration rate.

PROJECT:	**DCP Propane Terminal**		**Calculated By:**	PGT
			Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase 4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

Impoundment Depth:

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 2. Impoundment Depth

Storage Volume Available (SV):

Elevation	Area (SF)	Volume (CF)	
60	6,000	0	
61	7,176	6,588	(Volume at 1' depth)
60.67		**4,414**	**(Volume at 8" depth)**

TV= 3,688	**<**	**SV= 4,414**

Therefore, Water Quality Treament Volume provided exceeds the required; OK.

PROJECT:	**DCP Propane Terminal**			**Calculated By:**	PGT
				Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase**	**4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

WQ#3

Impervious and Landscaped Contributing Area:

Landscaped Areas (Grass) (SF)	24,829
Impervious Areas (Gravel Drive) (SF)	84,617

Treatment Volume (TV):

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 1. Treatment Volume

TV= [(84,617 SF X 1.0") + (10,982 SF X 0.4")] / (12"/1 Ft.)

TV= **7,879 CF (Required)**

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 3. System Size

Area of Filter (AF):

The surface area of filter must be no less than the sum of 5% of the impervious area and 2% on the landscaped area draining to the filter.

AF= (99,294 SF X 5%) + (10,982 SF X 2%)

AF= **4,727 SF (Minimum)**

Filter Design:

Use a 43 Ft. Wide X 110 Ft. Long filter bed. Area = 4,730 ft^2

4,730 SF > 4,727 SF Minimum Required

Allowable Infiltration Rate:

An allowable rate of 1.5 in/hr per DEP design criteria for a soil filter

Soil filter area = 4,730 ft^2

1.5 inches = 0.125 ft/hr x 4,730 ft^2 = 591 ft^3/hour

591 ft^3/hour x (1 hour/60 min.) x (1 min./60 sec.) = **0.16 Cubic Feet/Second**

0.16 CFS will be used in the Hydrocad model for the Exfiltration rate.

PROJECT:	**DCP Propane Terminal**		**Calculated By:**	PGT
			Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase 4**	**Date:**	June 10, 2011

UNDERDRAINED SOIL FILTER CALCULATIONS

Impoundment Depth:

Based on "Volume III: BMPs Technical Design Manual" Pg.7-8 Section 7.2.2. General Design and Construction Criteria Part 2. Impoundment Depth

Storage Volume Available (SV):

Elevation	Area (SF)	Volume (CF)	
32	8,552	0	
33	9,354	8,953	(Volume at 1' depth)
32.92		**8,210**	**(Volume at 11" depth)**

TV= 7,879	**<**	**SV= 8,210**

Therefore, Water Quality Treament Volume provided exceeds the required; OK.

FORM F Rev. 11/09

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
DCP LPG Terminal	DCP Searsport, LLC	Searsport

Exploration Symbol # WQ-1 ☒ Test Pit ☐ Boring

0 " Organic horizon thickness — Ground surface elev. 60' +/-

27 " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			10YR 3/3	
6	silt loam	friable	2.5Y 4/4	none
12		firm	2.5Y 5/4	common
18			5Y 6/3	
24	silty clay loam	very firm		
30		Limit of Evaluation		
36				
42				
48				
54				
60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification		Slope	Limiting Factor	
9	D	5	10 "	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock
Profile	Condition	Percent	Depth	

Soil series/phase name: ☐ Hydric ☐ Non-hydric — Hydrologic Soil Group

Exploration Symbol # WQ-2 ☒ Test Pit ☐ Boring

0 " Organic horizon thickness — Ground surface elev. 61'+/-

24 " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			10YR 3/3	
6	v. fine sandy loam	friable	2.5Y 5/4	none
12	silt loam	firm		common
18	silty clay loam		2.5Y 6/3	
24		Limit of Evaluation		
30				
36				
42				
48				
54				
60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification		Slope	Limiting Factor	
9	E	5	8 "	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock
Profile	Condition	Percent	Depth	

Soil series/phase name: ☐ Hydric ☐ Non-hydric — Hydrologic Soil Group

Exploration Symbol # WQ-3 ☒ Test Pit ☐ Boring

1 " Organic horizon thickness — Ground surface elev. 30'+/-

24 " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	silt loam		10YR 4/3	
6		friable	10YR 5/6	none
12			2.5Y 5/4	few
18	silty clay loam	firm	2.5Y 6/3	common
24		Limit of Evaluation		
30				
36				
42				
48				
54				
60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification		Slope	Limiting Factor	
9	D	5	10 "	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock
Profile	Condition	Percent	Depth	

Soil series/phase name: ☐ Hydric ☐ Non-hydric — Hydrologic Soil Group

Exploration Symbol # _____ ☐ Test Pit ☐ Boring

_____ " Organic horizon thickness — Ground surface elev. _____

_____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				
54				
60				

Soil Details by S.E. ▸▸ / S.S. ▸▸

Soil Classification		Slope	Limiting Factor	
			"	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
Profile	Condition	Percent	Depth	

Soil series/phase name: ☐ Hydric ☐ Non-hydric — Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Sean W. Donohue	Date: June 6, 2011
Name Printed/typed: Sean W. Donohue	Cert/Lic/Reg. #: S356

Title: ☒ Licensed Site Evaluator ☐ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

STATE OF MAINE — SEAN DONOHUE No. 356 — LICENSED SITE EVALUATOR

FORM E 4/09

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
DCP LPG Terminal	DCP Searsport, LLC	Searsport

Lot No.	Exploration Symbol (TP 1, B 2, etc.)	✓ or ✗ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition (if by S.E.), ● Soil series name (if by C.S.S.), or by ● Geologic unit (if by C.G.)	Depths to (inches): Mottling (seasonal watertable)	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)
NA	WQ-1	☐	9D	10"	>46"	14"	27"	5%
NA	WQ-2	☐	9E	8"	>46"	12"	24"	5%
NA	WQ-3	☐	9D	10"	>46"	14"	24"	5%
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INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Sean W. Donohue	Date: June 6, 2011
Name Printed/typed: Sean W. Donohue	Cert/Lic/Reg. # S356

Title: ☒ Licensed Site Evaluator ☐ Certified Soil Scientist ☐ Certified Geologist ☐ Other:

STATE OF MAINE
SEAN DONOHUE
No. 356
LICENSED SITE EVALUATOR
affix professional seal

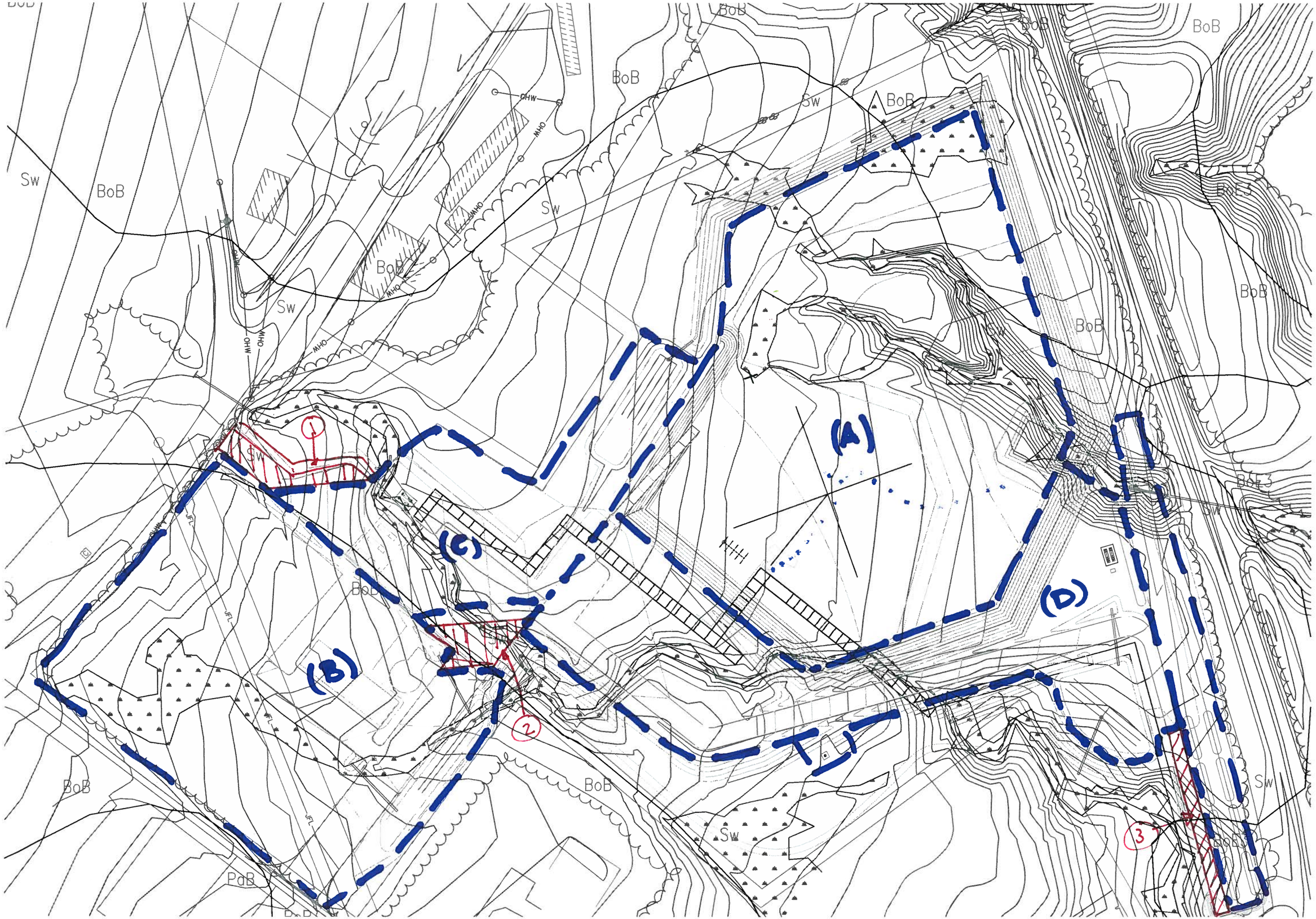
PROJECT:	**DCP Searsport Propane Terminal**		**Calculated By:**	PGT
			Checked By:	PMM
TRC Proj:	**179023.0000.0000**	**Phase 4**	**Date:**	June 10, 2011
			Revised:	

GENERAL BMP WATER QUALITY STANDARDS CALCULATIONS SUMMARY

Description	New Impervious Area	Percent of Total Impervious Area Treated	New Developed Area	Percent of Total Developed Area Treated	Comments
(A)Propane Tank Containment	5.54	53%	5.54	48%	"Self-treating"
(B) Roads and parking Area	0.70	7%	1.23	11%	"Underdrained Soil Filter #1"
(C)Roads and Equipment Area	1.18	11%	1.44	12%	"Underdrained Soil Filter #2"
(D)Roads and Equipment Area	1.94	19%	2.19	19%	"Underdrained Soil Filter #3"
Propane Flare Area	0.06	1%	0.06	1%	"Self-treating"
Train spur area	0.72	7%	0.72	6%	"Self-treating"
(1) Route 1 entrance	0.10	0%	0.16	0%	Untreated
(2) Pavement area (north)	0.10	0%	0.10	0%	Untreated
(3) Pavement area (south)	0.10	0%	0.10	0%	Untreated
Total Site Area	**10.44**	**97%**	**11.54**	**97%**	

Site Treatment Summary		
	Treatment Provided	Required Treatment
Percent of Total Impervious Area Treated	**97%**	**95%**
Percent of Total Developed Area Treated	**97%**	**80%**

* Grassed areas on the south side of the train access road will not be mowed more than twice per year, therefore, new grassed areas on the south side of the access road are not considered new developed area.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APPENDIX 12C

Stormwater Inspection and Maintenance Log

DCP Searsport, LLC, Searsport, Maine					
Quarterly Stormwater Management System Monitoring, Inspection, & Maintenance Log					
Inspection Date:	**Inspector Name:**			**Inspector or Supervisor Signature:**	**Date of Signature:**
	Yes	**No**	**NA**	**Inspector Comments**	**Corrective Action**
Vegetated Areas: Inspect all vegetated areas, including slopes and embankments					
Is there any evidence of erosion damage					
Are there bare areas or areas with sparse growth					
Drainage Conveyance Systems: Inspect ditches and swales for evidence of erosion, debris, woody growth, and excessive sediment					
Are there any obstructions and accumulated sediments or debris					
Is there any vegetated growth and woody vegetation					
Is there any evidence of erosion of the ditch lining					
Is the vegetation in the ditches more than 1 foot tall					
Is there any woody vegetation growing through riprap					
Are any of the side slopes slumping					
Culverts: Inspect culvert and inlet/outlet structure					
Is there any accumulated sediments and debris at the inlet, at the outlet, and within the conduit					
Is there any evidence of erosion damage at the culvert's inlet and outlet					

DCP Searsport Propane Terminal, Searsport, Maine					
Stormwater Management System Monitoring Inspection & Maintenance Log					
	Yes	**No**	**NA**	**Inspector Comments**	**Corrective Action**
Roadway Surfaces: Inspect Road Surfaces and Shoulders					
Is there any excess sand on the roads					
Is there any evidence of erosion of the gravel roads and gravel shoulders.					
Do roads or shoulders need grading					
Catch Basin Systems: Inspect Catch Basins					
Is there any accumulation of sediments and/or debris in the bottom of the basin					
Is there any accumulation of sediments and/or debris in the inflow channels to the basin or in the pipes between basins					
Are the inlet grates in good shape and free of debris					
Is there any evidence of oils or other chemicals					
Vegetated Underdrain Soil Filter Field:					
Inspect field for existing or developing blockage of flow (pooling of water), trash, or build up of sediment.					
Clean out excessive sediment and other debris that accumulates within the filtration field.					
Replace topsoil and reseed where underlying filter fabric or underdrain gravel is showing.					
Mow vegetation on top of the field and interior embankment slopes.					
If infiltration basin fails to drain within 72 hours after a storm event, the floor of the basin must be tilled and revegetated or the material excavated, replaced, and revegetated.					
Additional Remarks (*Use back of page if more space is necessary*):					

SECTION 13. URBAN IMPAIRED STREAM SUBMISSIONS

The proposed DCP Terminal is not located within the watershed of an urban impaired stream.

SECTION 14. BASIC STANDARDS SUBMISSIONS

Construction of the DCP Terminal will involve approximately 19.7 acres of land disturbance on DCP property, including clearing and grading activities, and up to an additional 4.4 acres of disturbance to install the transfer pipeline. Most of this area will remain permanently developed following construction. Without the proper precautions and implementation of best management practices ("BMPs"), the potential for erosion and offsite sediment transport would exist.

DCP has incorporated the proper erosion and sedimentation control measures into its facility design and construction plans to minimize potential impacts. These measures include both temporary and permanent devices that will control runoff and minimize potential non-point source pollution. As described in Section 12: Stormwater Management, DCP will also implement a stormwater management plan that will treat stormwater runoff after construction and final stabilization are completed.

DCP will train all of its construction personnel prior to construction and maintain a training program for new construction personnel throughout the construction process to insure the erosion and sedimentation control measures are installed and maintained as necessary. In addition, DCP's chief inspector, will play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction.

The following Erosion and Sedimentation Control Plan (E&S Plan) has been developed to provide a strategy for controlling erosion and sedimentation that may result from the construction of the DCP Terminal, and to ensure all disturbed areas remain stabilized following construction. The primary goals of DCP's E&S Plan are to preserve the integrity of environmentally sensitive areas and to maintain existing water quality. Implementation of the following objectives is required to achieve those goals:

- Minimize the extent and duration of disturbance,
- Protect exposed soil by stabilizing and/or diverting runoff to stabilized areas,
- Install temporary and permanent erosion control measures, and
- Establish an effective inspection and maintenance program.

The E&S Plan is based upon sound conservation practices such as those outlined in the MDEP *Maine Erosion and Sediment Control Best Management Practices* (BMPs), dated March 2003, and general construction experience on other projects. For detailed, site-specific information please refer to the Post-Development Drainage Plans, Erosion Control and Construction Detail Drawings located in Appendix 12A of this application.

This document, together with the illustrations and drawing set, will supply contractors, DCP's chief inspector, and agency inspectors with a complete, cohesive set of erosion control specifications for the project. These documents are designed to provide specifications for the installation and implementation of soil erosion and sedimentation control measures while allowing adequate flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. Bid packages and contracts for work to be performed for the project will include these specific guidelines to ensure the work is completed in an environmentally sensitive manner. DCP personnel and their representatives will ensure that the procedures contained in this E&S Plan are followed by regularly inspecting all work and requiring corrective action when necessary.

14.A Site Erosion and Sedimentation Potential

The Soil Survey of Waldo County, Maine, and other soil information published by the USDA-NRCS was reviewed for the project site. The site's soil characteristics relative to parent materials, drainage class, texture, consistence, and hydric soil status have been further evaluated as part of the on-site wetland delineations and stormwater design.

Soils on the site are principally silty textured glacio-marine deposits, but fill materials are also present along previously developed or altered areas such as the existing railroad right-of-way vicinity and the unpaved parking area located to the north of Station Avenue and west of the railroad tracks. The topography of the upper parcels slopes from U.S. Route 1 towards Penobscot Bay to the southeast, with a number of drainage dissections containing wetland and stream components formed in the silty textured surficial deposits. Existing elevations range downward from approximately 80 to 12 feet above mean sea level. Within the area comprising the proposed LPG storage tank, truck loading, and office facility, slopes are generally less than 8%, although short, steep slopes exist along the drainage gullies that run across the site in a general northwest to southeast orientation. Slopes are generally flat along the proposed pipeline route near the existing railroad bed. The soils on the site have a seasonal high water table that generally ranges from 0 to 24 inches from the surface, depending on location. The natural soils mapped by the USDA-NRCS on the site (Boothbay and Swanville Series) are in Hydrologic Soil Group C. Areas mapped by the USDA-NRCS as Udorthents (filled and disturbed soils) are generally variable in their characteristics and have no assigned Hydrologic Soil Group. Soils at the project site are discussed in further detail in Section 11 of this application.

The soils at the DCP Terminal are suitable for the proposed development with the implementation of construction BMP's and appropriate design measures. The gently to moderately sloping silty soils have a moderate erosion potential, which may be mitigated by implementation of construction erosion and sediment control BMP's, as discussed below. Areas with silty soils and steeper slopes (e.g. drainage gullies), and areas adjacent to waterbodies or wetlands pose a higher risk of erosion and sedimentation, and will need to be addressed accordingly during construction. Shallow subsurface groundwater management and/or diversion may need to be addressed during the winter and spring construction.

14.B Construction Schedule, Sequence, and Procedures

The general construction procedures for the DCP Terminal will consist of clearing and grading the site; installation of foundations; construction of the bulk storage tank and other structures and equipment; transfer pipeline construction; start-up and testing; and final clean up and stabilization of the site. Each stage of construction presents potential erosion and sediment issues that will require BMPs to mitigate. Construction of the DCP Terminal is expected to occur sequentially, beginning in November 2011 and ending in August 2013, when the facility is expected to be placed into operation using LPG distribution by truck. A preliminary construction schedule is presented below.

14.B.1 Proposed Construction Schedule

<u>November 2011 through February 2012:</u>
Construction workspace limits and protected natural resources will be surveyed and marked in the field with flagging tape. The upper parcel will be cleared of existing trees and woody vegetation. Stabilized construction entrances will be installed, and double rows of perimeter erosion and sedimentation control measures will be put in place concurrent with stumping and initial grading activities. The first phase of site grading will commence and will include completion of the stream culvert and relocation work to divert this source of surface water flow to the perimeter of the construction area. The stream will be relocated and any grading or fill areas, plunge pools, etc. associated with this work will be stabilized in

accordance with the DCP Terminal overwinter stabilization measures described in Section 14.D.3 of this application. Rough grading of the remainder of the site will follow, focused primarily on the bulk storage tank containment area and berm. Foundation holes may also be excavated during the second phase of the site grading with the intent that, should any blasting be required, it will be completed during the "off-season" for tourism. Prior to the end of February the site will be stabilized for the remainder of the winter in accordance with Section 14.D.3. Erosion and sedimentation controls will be inspected weekly and repaired and enhanced, as needed, throughout this period.

March, 2012:
No earth moving activities are planned. Other activities to prepare for the next phase of construction may occur. Erosion and sedimentation controls will be inspected monthly during frozen ground conditions, and repaired or enhanced as needed. More frequent inspections will be made depending on ground conditions and snow cover.

April, 2012 through November, 2012:
Once the ground has thawed and saturated ground conditions begin to subside, foundation excavations will be cleaned up and pouring of foundations will commence, again focused initially on installation of the bulk storage tank. Installation of other terminal facility buildings, structures and equipment will get underway. Construction of the transfer pipeline from the pier to the bulk storage tank is expected to begin later in the summer. Work over the water would from above and below the pier and/or a jack-up barge or floating work boat tied off alongside the pier. Weekly erosion and sedimentation control inspection and maintenance will continue throughout this period. Final site grading, stabilization, and revegetation will be conducted as site work is completed in an area. During November, areas of disturbed ground that have not been stabilized previously and which are not expected to be subject to ongoing disturbance during the winter will be stabilized in accordance with Section 14.D.3.

December, 2012 through March, 2013:
Installation of terminal facility tanks, buildings, equipment and other structures, and the transfer pipeline will be ongoing. Electrical and internal piping work will be underway. Any disturbed areas brought to final grade will be heavily mulched for the remainder of the winter period, although major earth moving during this period is not expected to be required. Erosion and sedimentation control inspection and maintenance will be conducted on a monthly basis, with more frequent inspections if ongoing soil disturbance is required or frozen ground or significant snow cover are not present.

April, 2013 through August, 2013:
Final installation of terminal buildings and ancillary facilities will be completed. Construction of the gulk storage tank containment berm and transfer pipeline will be completed, as needed. Final site grading, stabilization, and revegetation will be conducted throughout the period as work in areas of the site is completed. Hydrostatic testing will be completed; electrical and computer systems will be tested. Final site inspection and clean-up will occur, and the DCP Terminal will be commissioned and placed into operation. If any temporary construction erosion and sediment control measures remain in-place they will be removed unless unstable areas are identified. Unstable areas will be addressed accordingly and monitored post-construction until they are stable or revegetated.

14.B.2 Identification of Construction Limits and Resource Areas

Prior to the initiation of construction activities, a survey crew will locate the construction workspace limits in accordance with the project drawings. The construction workspace limits are shown on the Post-Development Site and Drainage Plans, located in Section 12: Stormwater Management, Appendix 12A. The construction limits will be clearly marked with flagging and maintained as needed. All construction

activity, including material and equipment storage will be contained within the approved construction workspace.

In addition, prior to commencement of construction activities, the stream and wetland resource flagging will be "freshened" as necessary to clearly demarcate these resource areas. This flagging will be maintained through each stage of the construction process, as necessary, until final site stabilization is completed.

14.B.3 Erosion and Sedimentation Control Measure Installation

Installation of various erosion and sedimentation controls will begin immediately following the clearing phase and will be completed concurrently with stump removal and site grading. These control measures will be installed and maintained in accordance with the specifications provided in this section and as shown on the Erosion Control Detail drawings (Appendix 12A). All erosion and sedimentation controls installed will be reviewed by the chief inspector to insure their proper location and function prior to commencement of grading activities.

The general sequencing of erosion and sedimentation control installation that will be utilized for construction will be as follows:

1. Concurrent with the initiation of site clearing, construct and stabilize the construction entrance(s) and maintain until final paving is completed.

2. Install and maintain perimeter erosion control (sediment) barriers such as silt fencing, erosion control mix (ECM), and/or other erosion control barriers along the downhill limit of work, as shown on the Post-Development Drainage Plan and Erosion Control Detail drawings. Double rows of sediment barriers must be used during the winter construction period (November 1 through April 15). Sediment barrier locations may be adjusted in the field based on site conditions as determined by the chief inspector. Where silt fence cannot be toed-in properly due to tree roots, rocks or frozen ground, hay bales or an erosion control mix berm must be substituted. Erosion control barriers will be installed after clearing but concurrent with initial grubbing and grading activities. Any erosion issues developed during clearing will be temporarily stabilized with mulch, tree limbs or rock as necessary.

3. Stabilize construction access surface, parking areas, and equipment storage and laydown areas with matting and a gravel sub-base as necessary to minimize rutting and avoid ponding. These measures should be gauged based on the intended equipment and anticipated frequency of usage.

4. Concurrent with initiation of site grading, construct and stabilize temporary drainage swales, diversion berms, check dams, temporary sediment basins, and culverts with temporary inlet and outlet structures, as needed, to minimize sediment in site runoff during the construction of the facility.

5. Install check dams in temporary drainage swales within 24 hours of shaping swale and prior to final stabilization of permanent channels. Swales or channels constructed during the winter construction period must be rip rapped immediately upon completion and check dams installed.

6. Minimize the amount of disturbance at any one time by staging construction as much as practical for efficient construction of the facility. Existing vegetative ground cover should be left in place, where feasible, to aid in sediment retention and reduce erosion potential.

7. Stabilize any exposed slopes greater than eight percent and newly constructed drainage swales with anchored erosion control blankets or other approved mulching techniques.

8. Dust control methods will be employed after grading and prior to final stabilization to prevent the blowing and movement of dust through the application of water and/or calcium chloride to reduce wind erosion. Repetitive treatment will be applied as needed to accomplish control.

9. Apply temporary seed and mulch to any exposed areas where activity is not anticipated for 30 days or more, or where activity has not occurred within 30 days. Temporarily mulch any exposed areas within 100 feet of a wetland where activity is not anticipated or has not occurred in 7 days.

10. Unless clear water is present, any dewatering, such as the excavations for foundations, must be done through a geotextile-lined sediment-containment structure or through a filter bag that discharges to a vegetated area. Control and direct runoff from the excavation areas to the stabilized site drainage system using stabilized water bars, berms and/or hay bales. The structure or filter bag will be sized appropriately to accommodate the pumping rate and volumes. Sediment traps will be cleaned out and/or replaced as needed to prevent exceeding their capacity and effectiveness.

11. Remove excess spoils from the site that will not be used for the final design and stabilization. Stockpiled soils that remain undisturbed for 48 hours or more will be contained with sediment barriers such as silt fence, hay bales or equivalent. The sediment barriers shall be adequately located and reinforced to handle a significant rain event and the potential slumping of the pile. Between April 15 and October 1, apply temporary seed and mulch to a stockpile that is not expected to be disturbed within 30 days. Apply anchored mulch daily, as needed, during the winter construction period.

14.B.4 Clearing, Grading, and Foundation Excavation

The first construction activity to take place will be to clear the existing trees and woody vegetation and establish construction access to the site for construction equipment. Only the area required for construction workspace to construct, install and maintain facility structures and equipment will be cleared. Stabilized construction entrance(s) from paved public roads will be installed in accordance with the Post-Development Drainage and Construction Detail drawings (Appendix 12A). Stumps will be removed and either ground for use as ECM, or hauled off-site to an approved location for re-use as ECM or disposal (see Section 18: Solid waste). A limited number of stumps may be disposed of on-site in accordance with MDEP Solid Waste regulations. The cleared areas of the site will then be graded, as necessary, to approximate final grade and to provide level surfaces for work areas. Large rocks dislodged during grading or other excavation will be properly disposed of on-site or hauled off-site for disposal in an approved area (see Section 18). Although blasting is not expected to be necessary, if blasting is required the contractor will follow the necessary the standards and specifications, as noted in Section 20.

Initial grading work will be in the vicinity of the stream channel, a portion of which is to be relocated and a portion culverted. Completing this work first will direct the existing channelized surface drainage to the perimeter of the site, and will facilitate work in the middle of the site. The second phase of intial grading will involve the remainder of the upper parcel. Foundation holes may also be excavated at this time.

The site clearing, initial grading and foundation excavation is scheduled to occur during the winter construction period of 2011/2012 to take advantage of frozen ground conditions. Winter construction measures and overwinter stabilization measures are discussed in more detail in Section 14.D.3: Winter Construction Plan. The clearing, grading and foundation excavation phase is expected to be completed by the end of February 2012 and the site stabilized for the remainder of the winter construction period.

14.B.5 Foundation Installation

Once the site has been cleared and graded the building and tank foundations will be poured and allowed to set. The foundations for the bulk LPG and fire water storage tanks and the compressor building require a significant mass of reinforced concrete to provide a stable support. Forms and reinforcing bars will be installed and high strength concrete will be poured to the appropriate levels. Rigid controls on concrete quality and installation procedures will ensure a suitable foundation is obtained.

14.B.6 Construction of Structures, Storage Tanks, Pipeline and other Facility Equipment Installation

As the various foundations are completed and cured sufficiently, construction of tanks, buildings and other structures will begin, focused initially on the bulk storage tank. As structures are completed and facility equipment installed, electrical wiring will be installed for power and instrumentation, piping related to the truck loading station and other facilities will be installed and connected, and plumbing will be installed in the administration building. Commercial power and telephone will be established at the site as soon as possible. Town water and sewer will be connected to the administration building as those hook-ups are completed.

Very little additional clearing, grading or ground disturbance will be needed in order to construct the proposed transfer pipeline. The pipeline will be attached to the existing Dry Cargo Pier at the Sprague facility. Once over land, piling style foundations for the new pipe rack will be set, sections of pipe will be strung along the proposed pipeline route, the pipe will be welded, x-rayed, coated, painted and installed on the pipe racks. The portions of the pipeline that must cross railroad tracks and existing roads will be installed underground.

14.B.7 Final Stabilization and Revegetation

Final stabilization and revegetation of the DCP Terminal construction site will be an ongoing process throughout construction. Sections of the work area will be final graded, loamed, fertilized, seeded, and mulched as work is completed. Other areas will be paved or covered with crushed stone. Permanent erosion and stormwater management controls will be installed sequentially as well. Final stabilization of some areas may be feasible by September 2012. Other inactive work areas that are unable to be brought to final grade will be stabilized for the 2012-2013 winter season in accordance with Section 14.B.3. All remaining disturbed areas will be permanently stabilized as soon as possible before August 2013. The general sequence of the final stabilization and revegetation measures that will be utilized during the growing season is as follows:

1. Complete final grading and stabilization of earthen structures such as steep banks and containment walls, and diversion berms and swales that will control runoff.

2. Finish grade and replace topsoil or loam in all disturbed areas to be revegtated. Seed and mulch disturbed areas within two weeks of final grading, weather permitting.

3. Maintain all temporary erosion controls and sediment barriers until vegetation has been established over 85-90 percent of the area to be revegetated. Reseed sparsely vegetated areas.

14.B.8 Start-up and Testing

As the various systems and subsystems of the DCP Terminal are completed they will be tested and calibrated for proper operation. The transfer pipeline, storage tanks that are constructed on-site, and other components that will contain propane will be pressure tested to ensure their integrity. Typically the testing is accomplished by pressurizing with water (hydrostatic testing); however, pneumatic testing may also be used for smaller components (see Sections 16 and 17). Commissioning and start-up of the DCP Terminal will commence once the new facilities are tested, cleaned and prepared for use, and an initial LPG delivery by truck is made to the site.

14.B.9 Final Inspection and Clean-up

When construction is completed the site will be inspected, and any areas in need of remedial measures will be cleaned-up, stabilized, and monitored until the site is stable and revegetated. If any temporary construction erosion and sediment control measures remain in-place they will be removed unless unstable areas are identified. Unstable areas will be addressed accordingly and monitored post-construction until they are stable and revegetated.

14.C Erosion and Sedimentation Control Plan Drawings

The Post-Development Drainage Plan, Construction and Erosion Control Detail drawings provided in Appendix 12A include additional detailed information regarding the sequencing, applicability, installation and maintenance of the erosion and sedimentation control devices to be used. The information provided on these plans includes:

- Protected natural resources;
- Limits of disturbance;
- Construction entrance/exit stabilization details;
- General erosion and sedimentation implementation schedule;
- Temporary erosion and sedimentation control details, locations and installation specifications;
- Location and construction detail drawings of permanent structural erosion and sedimentation control measures such as culverts, plunge pools and swales;
- Pre- and post-development contours;
- Final ground cover type;
- Seed mix specifications and application rates;
- Mulching specifications and application rates;
- Winter construction specifications; and
- Inspection and maintenance requirements.

Adherence to this E&S Plan and associated drawings and specifications will insure the successful implementation of erosion and sediment control measures during the construction of the DCP Terminal. Each contractor and inspector on the Project site will have the E&S Plan and drawings available for reference on-site at all times.

14.D BMPs – Erosion and Sediment Control Guidelines

DCP is proposing to employ the methods described in the *Maine Erosion and Sediment Control BMPs*, or equivalent measures based on prior construction experience, to minimize erosion of disturbed soils and transportation of sediment into sensitive resource areas (streams, wetlands). The erosion and sedimentation control measures that DCP will utilize include both temporary and permanent nonstructural measures such as mulching, seeding, vegetated buffers, as well as temporary and permanent structural

measures such as geotextile filter fabrics, ECM, sediment traps, water diversion berms and sedimentation basins.

14.D.1 Non-Structural Measures

Nonstructural measures are temporary or permanent methods used to cover exposed soil areas to minimize erosion and the transport of sediment. Their purpose is to cover exposed soil to prevent initial erosion of soil from a construction site. Examples of nonstructural measures include mulch, ECM, erosion control matting, and/or seeding. Temporary measures are typically used during construction, while permanent measures are usually applied during the final restoration phase when construction is completed.

14.D.1.1 Mulching

If permanent stabilization has not been established on the construction area, temporary mulching must take place within 100 feet of the edge of all wetlands at any time when no activity is anticipated or occurs for more than a 7 day period, or prior to a severe storm event when erosion is likely to occur. For areas located more than 100 feet from the edge of waterbodies and wetlands, temporary mulch will be applied to all exposed areas if no activity occurs within 30 days. The contractor will apply mulch sooner than 30 days when it can be anticipated that activity is not going to occur within 30 days.

The determination of a severe storm event should be based on observation of the current weather and on reports by the National Weather Service for the relevant geographical area. The likelihood of erosion during a storm event (i.e., the definition of a severe storm event) should be based on anticipated total rainfall in excess of 1.0 inch within a 24-hour period, as predicted by the National Weather Service's advisory reports.

The selection of mulching materials will be based on the season, soil and site conditions. Mulching measures will be employed on all disturbed areas and as needed in wetlands. Mulch materials will be spread uniformly by hand or machine. Application rates, conditions, mulch type, and timing for both temporary and permanent mulch requirements are summarized in Table 14-1.

On slopes greater than 8 percent, hay or straw mulch will be firmly anchored into the soil utilizing one of the following methods:

- Crimping with a straight or notched mulch crimping tool (farm discs will not be allowed);
- Track walking with deep-cleated equipment operating up and down the slope (mulch crimped perpendicular to the slope) on slopes <25 percent;
- Application of mulch netting;
- Application of 500 lb./acre of wood fiber mulch over straw/hay mulch; and
- Commercially available tackifiers (except within 100 feet of waterbodies or wetlands).

Table 14-1 Summary Of Temporary And Permanent Mulch Application Requirements			
Condition	**Timing**	**Mulch Type[1,2]**	**Application Rates[3]**
Temporary			
Within 100 feet of wetlands	If no activity in exposed areas for 7 days, or prior to a storm event	Hay/straw mulch ECM or Wood fiber mulch	2 tons/acre 2000 lb./acre
All disturbed areas of the construction workspace	Apply mulch to all exposed areas if no activity occurs within 30 days. Apply mulch and temporary seeding sooner when it can be anticipated that activity is not going to occur within 30 days.	Hay/straw mulch ECM or Wood fiber mulch	2 tons/acre 2000 lb./acre
All inactive, exposed work areas exposed are to be mulched immediately upon completion of disturbance and following subsequent disturbance	November 1 – April 15	Hay/straw mulch ECM or Wood fiber mulch	3 tons/acre 2000 lb./acre
Permanent			
On all exposed areas after seeding to stabilize the soil surface	Permanent grass and/or legume seeding covered by hay or straw mulch on all areas that have been restored to final grade. This does not apply to areas stabilized by other means such as jute matting or permanent erosion control mix.	Crimped hay/straw mulch or Paper mulch or Wood fiber mulch	2 tons/acre 1500 lbs./acre[4] 2000 lbs./acre
Wood chip application areas	Permanent grass and/or legume seeding covered by hay or straw mulch on all areas that have been restored to final grade. This does not apply to areas stabilized by other means such as jute matting or permanent erosion control mix.	Crimped hay/straw mulch or Paper mulch or Wood fiber mulch	2 tons / acre 1500 lbs./acre[4] 2000 lbs./acre

Notes:
1. Straw and hay mulch may be used interchangeably, except in wetland areas where straw mulch will be required.
2. Double rate of wood fiber mulch when used in critical areas.
3. Straw, hay, or hydromulch (wood fiber or paper mulch as appropriate) will provide 90 percent ground coverage. See ECM application rates in Section 14.D.1.3.
4. Paper mulch is acceptable for use during the growing season. On slopes >30 percent and in areas where vegetation has not established well, additional hay mulch will be added as a winterizing measure.

14.D.1.2 Erosion Control Matting

Erosion control blankets or matting is a loosely woven burlap type material or other biodegradable plant fiber material. In lieu of anchored mulch, erosion control matting may be installed in drainage swales following final seeding, as needed, to prevent erosion prior to revegetation. In addition, erosion control blankets may be installed on slopes greater than 3:1 (3 feet horizontal to 1 foot vertical).

Curlex or jute matting will be placed on areas of high wind exposure, steep slopes (steeper than eight percent grade), unstable soils, and stream bank restoration areas. Matting is typically anchored with large staples, as recommended by the manufacturer. Although this type of material is usually used during final restoration, it is considered a temporary measure because it generally deteriorates within two years and is eventually replaced by vegetation which serves as the permanent measure in the end. A detail drawing showing the proper installation of erosion control mats and blankets is provided on the Erosion Control Detail drawings in Appendix 12A.

Matting or blankets lining channels and slopes will be properly anchored and the fabric inspected for tears. Damaged matting will be replaced where necessary and the channel cleared of debris and obstructions. The disturbed area shall be free of brush, stumps and other debris that could damage the fabric. Inlet and outlet areas should be checked for scour and repaired until vegetation is established.

14.D.1.3 ECM

ECM can be used as slope reinforcement or mulch on slopes that are 2:1 or less, on frozen ground or forested areas, and at the edge of gravel parking areas and active construction areas. ECM used as mulch is applied at different thicknesses depending on the slope and slope length.

- For slopes of 3:1 or less, apply erosion control mix 2 inches thick plus an additional 1/2 inch per 20 feet of slope up to 100 feet (e.g., 3 inches thick for 60 feet of slope; 4 inches thick for 100 feet of slope).

- For slopes between 3:1 and 2:1, apply erosion control mix 4 inches thick plus an additional 1/2 inch per 20 feet of slope up to 100 feet (e.g., 5 inches thick for 60 feet of slope; 6 inches thick for 100 feet of slope).

When the ECM is used as mulch, it must be spread evenly and must provide 100 percent soil coverage. The erosion control mix will not support grass, but will support clover and other legumes and woody vegetation. Vegetation can be promoted by seeding, or it can be left to occur naturally.

14.D.1.4 Vegetative Stabilization

Proper vegetative stabilization is dependent on the selection of the appropriate seed for upland and wetland areas. Seed mixtures are generally composed of perennial and annual species. Perennials do not produce much top growth or seed the first year. Perennials develop a strong sturdy root structure that generally inhibits the growth of native vegetation. Annuals however, reproduce only from seed rather than roots, therefore they produce good top growth and seed the same year planted. Annual species are more suitable as a temporary vegetative measure and generally allow native vegetation to recolonize the disturbed area.

Depending on the area in which the seed is planted and whether temporary or permanent vegetation is desired will determine the best seed mix suitable for that area. Upland areas will be generally planted with a mix of perennial species during the growing season to establish permanent vegetative stabilization. Upland areas are generally suitable for supporting the growth of perennial species with strong rootstock since revegetation for permanent stabilization is the primary concern. Typically, annual ryegrass is the only vegetative measure used to stabilize restored wetlands, unless the native soils used for restoration don't provide a sufficient wetland seedbed for regrowth of wetland species.

Temporary Seeding

Planting of fast-growing grasses provides rapid stabilization of disturbed surfaces that will experience further disturbance or construction activity at a later date. Temporarily seeded surfaces will have greater resistance to storm water runoff and/or wind erosion. Disturbed areas on the site where further disturbance temporarily ceases for at least 30 days shall be stabilized with temporary seed and/or mulch. Temporary seeding is restricted to the period April 15 through October 1. Compacted soils will be loosened to a depth of four inches prior to seeding.

Permanent Seeding

Permanent seeding shall be used on graded and loamed surfaces with a mixture of fast growing and permanent species suitable to the site and regional conditions. Surfaces to be permanently seeded shall be properly prepared as a seed bed and treated with fertilizer as appropriate. Compacted soils will be

loosened to a depth of 4 inches or topdress upland areas with 6 inches of topsoil, as needed. Seeded surfaces shall be mulched, and then watered and maintained until an adequate and permanent vegetative cover is established over 85 – 90 percent of the area. All disturbed areas are to receive permanent seeding within two weeks of final grading, weather permitting. Seed mix specifications are provided in Table 14-2 and a seeding requirements summary is provided in Table 14-3.

Seeding with the permanent upland seed mix will be allowed until October 1. After October 1, 120 pounds per acre of winter rye will be added to the permanent seed mix. Between October 15 and April 1, seeding and mulching at winter application rates can occur until final seeding can be applied outside of this window. Depending on weather conditions, supplemental winter rye may be added as early as September 15 (if freezing weather occurs early in the year). The supplemented seeding mixture will be applied to the construction area, weather permitting, until snow accumulation restricts the seeding operations. No seeding will take place if snow cover exceeds 1 inch. Dormant seeding may be performed after the first killing frost and before the first snow fall.

The construction area will be evaluated in the spring following the completion of construction. Areas where vegetation has not successfully established over 75 percent of the area will be re-seeded and mulched as soon as soil conditions are suitable.

Table 14-2

Seed Mix Specifications

Seed Mix Name	Seed Mix Components	lb./acre [1]
Permanent Upland Seed Mix	Redtop	4
	Creeping Red Fescue	40
	Tall Fescue	40
	Birdsfoot Trefoil	16
Wood Chip Application Seed Mix	Creeping Red Fescue	20
	Redtop	4
	Tall Fescue	30
	Crownvetch	30
Wetland Seed Mix	Annual Ryegrass	40
Winter rye [2]	Winter Ryegrass	120

Notes:
1. Increase seeding rates 10% when hydroseeding
2. Winter rye will be added to Permanent Upland Mix at a rate of 120 lb. /acre after October 1.

Table 14-3

Summary of Seeding Requirements

Permanent Seeding		
Condition	**Timing[1,2]**	**Seed Mix**
Upland portions of the construction area	Disturbed area will be seeded within two weeks of final grading, weather permitting	Permanent Upland mix
Slopes >3:1	Disturbed area will be seeded immediately after seedbed preparation	Permanent Upland mix
Wetlands	Disturbed wetlands will be seeded within 6 days of final grading, weather permitting	Annual Ryegrass
Wood chip application areas	Disturbed area will be seeded within two weeks of final grading, weather permitting	Wood chip application seed mix

Notes:
1. Weather conditions permitting
2. Areas that do not successfully revegetate within the appropriate period of time will be reseeded as necessary.

Fertilizer and Limestone Requirements

In general, fertilizer and lime application rates will follow the guidelines identified below, if needed, or unless site specific soil tests identify the need for alternative fertilizer/lime application rates. Fertilizer will be applied to upland areas prior to seeding at a rate of 800 pounds per acre using 10-20-20 (N-P205-K20) or equivalent. Ground limestone (equivalent to 50 percent calcium plus magnesium oxide) will be applied at a rate of 3 tons per acre. An equivalent mixture of fertilizer and lime may be applied using the hydroseeding method. No lime or fertilizer will be applied to wetlands.

Hydroseeding

Hydraulic application (hydroseeding) is an alternative method of revegetation, and is a suitable method for use. Hydroseeding combines the seed, fertilizer and lime, and may include paper mulch, wood fiber or straw, mixed with water that is sown in one application. Hydroseeding is generally limited to upland areas on slopes less than 2:1. This type of seeding application is recommended for use during the growing season, weather, accessibility, local restriction, and conditions permitting. Seeding rates will typically increase 10 percent when hydroseeding. Hydroseeding with mulch and annual rye seed only will be allowed in wetland areas.

Paper mulch and wood fiber mulch are normally used in hydroseeding applications. Paper mulch is generally comprised of recycled newspaper and wood fiber mulch is generally comprised of thin strands of wood fiber. Wood fiber mulch is more durable and more resistant to decomposition than paper mulch. Paper mulch typically decomposes within 30 days following application leaving the soil surface without adequate protection against erosion.

If hydroseeding methods are used for revegetation purposes, paper mulch will only be allowed for use during the growing season and will be spread at a minimum rate of 1,500 pounds per acre. If paper mulch is used on slopes greater than 30 percent, or vegetation has not become well established prior to the onset of winter, additional hay mulch will be spread as a winterizing measure on all surfaces treated with paper mulch to insulate and stabilize the exposed soil. If wood fiber mulch is used, it will be spread at a minimum rate of 1,500 pounds per acre during the growing season.

If it is anticipated that vegetation will not become established prior to the onset of winter, wood fiber mulch can be used as a winterizing measure and will be applied at a rate of 2,000 pounds per acre and will not require additional hay mulch. The contractor and the chief inspector will determine the most appropriate method of revegetation to be used based on existing conditions at the time of application.

14.D.1.5 Stabilized Construction Entrance/ Exit

A construction entrance will consist of a stone pad, mud rack, or other materials used to reduce the tracking or flowing of sediment off the construction site. Where entrances cross poorly drained locations or drainage ditches, a subsurface drain will be installed prior to constructing the stabilized entrance.

The entrance will be maintained in a condition that will reduce tracking of sediment off the construction site. Periodic top dressing with additional stone or replacement with clean stone will be accomplished as needed. Roads adjacent to the construction site will be cleaned at the end of each day, as needed. The entrance will be removed following the completion of construction.

The disturbed area created for the access pad shall be free of brush, stumps and other objectionable material. Stone will be course aggregate with a minimum 2 inch size. Pad dimensions will be 50 feet

long, 25 feet wide and 6 inches thick. A construction detail drawing of the stabilized construction entrance is provided in Appendix 12A.

14.D.1.6 Dust Control

Dust control methods will be employed to prevent the blowing and movement of dust through the application of temporary measures that are designed to reduce wind erosion. Construction roads, access points, and exposed soil surfaces will be moistened as needed with water and/or treated with calcium chloride. Repetitive treatment will be applied as needed to accomplish control. Maintain dust control measures through dry weather periods until all disturbed areas are stabilized. Avoid erosive quantities of water.

The use of temporary mulch will reduce the need for dust control in areas that will remain disturbed for longer than 30 days.

14.D.2 Structural Measures

Structural measures are temporary or permanent methods used to control erosion and sedimentation at a construction site and range from temporary hay bale structures to permanent vegetated swales and ponds. Temporary earthen structures such as diversion berms, dikes, swales and sediment basins may be constructed to control off-site sedimentation. Structural measures that will be used for stormwater control can also play an effective role in erosion and sedimentation control. Permanent structures that are part of the stormwater management plan that will be established for the site are discussed in Section 12: Stormwater Management, and shown on the Construction Detail drawings in Appendix 12A.

14.D.2.1 Temporary Sediment Barriers

Temporary structural sediment barriers include silt fence, hay/straw bale and ECM barriers that are constructed on-site to contain sediments carried by runoff.

Silt Fence

Silt fence is a temporary sediment filter device consisting of a barrier of geotextile fabric used to intercept sediment laden runoff from small drainage areas. Sedimentation control is accomplished by reducing runoff velocity and trapping transported sediment at the outlet end of newly constructed level spreaders, ditch turnouts, diversion berms and along the construction limits where the land slopes downward from the disturbed area. Silt fence also provides a visual and physical barrier defining construction limits.

Silt fence will be placed in a single row, parallel with the land contour, or along the limits of the work area. Silt fence should be placed approximately 6 feet beyond the toe of the slope to allow for sediment accumulation; between disturbed areas and down gradient environmental resource areas; at the base of all slopes adjacent to wetland resource areas; and the inlet and outlet of open drainage structures. Silt fence may be installed backed with straw/hay bales for additional control of erosion and sedimentation.

Inspection will occur weekly in areas of active construction and following a major storm event. Repair or replacement will be made, as needed, to retain proper functioning. Accumulated sediment will be removed when it exceeds approximately one-third of the height of the barrier. Following construction, silt fence will be maintained until revegetation is complete (upslope areas have a healthy catch of vegetation over 85 – 90 percent of the area). Additional silt fence will be kept on site for replacement purposes.

The fabric will be securely fastened to wooden posts with wire or staples. Posts will be spaced a maximum of 10 feet apart. Spacing will be reduced, if necessary, to prevent sagging of the fence. Joints will overlap a minimum of 6 inches. A trench will be excavated approximately 6 inches wide and 6 inches deep along the post line with 8 inches of fabric placed in the trench and backfilled (see the Erosion Control Detail sheet in Appendix 12A). In areas where conditions prohibit trenching due to ledge, rocky soil, or many large tree roots within the top 4 inches of soil, sandbags or backfilling may be used to secure the bottom of the fence. The American Society of Testing Materials ("ASTM") has specified minimum standards for geotextile fabric used for sediment control. The fabric shall conform to the following standards:

SILT FENCE CRITERIA

Property	Requirement
Grab Strength	100 lbs.
Elongation	15% Min. to 50% Max.
Permissivity	0.2 sec. -1
A.O.S. (Apparent Opening Size)	30-80 (coarse soils)* 50-80 (Fine soils)
Ultraviolet Resistance	70% Minimum

* Coarse soils with less than 50 percent of the particles passing through a #200 sieve, fine soils with greater than 50 percent of the particles passing through a #200 sieve.

Straw/Hay Bales

The use of silt fence or silt fence in combination with hay or straw bales is preferred over the use of hay/straw bales alone. However, in many instances, straw/hay bale sediment barriers are effective temporary sediment filter devices used to provide for sediment retention at stormwater drain inlets, settling basin and diversion berm outlets, and as drainage swale check dams. A temporary barrier of hay or straw bales can be used to intercept sediment laden runoff from small drainage areas exhibiting disturbed soil conditions. Sedimentation control is accomplished by reducing runoff velocity and trapping transported sediment. Hay/straw bales also provide a visual and physical barrier defining construction limits.

Bales may be placed in a single row, parallel with the land contour, or along the limits of the work area with ends tightly abutting. Hay bales should be placed approximately 6 feet beyond the toe of a slope to allow for sediment accumulation; between disturbed areas and down gradient environmental resource areas; at the base of all slopes adjacent to wetland resource areas; and the inlet and outlet of open drainage structures. Hay bales used as check dams in drainage swales shall be limited to drainage areas of 1/2 acre or less.

Inspection and maintenance of hay and straw bale sediment barriers is the same as for silt fence, keeping in mind that the bales may deteriorate more rapidly from exposure to the weather.

Bales should be bound around the sides with string oriented horizontally to prevent contact with the ground and deterioration of the bindings. Bales will be entrenched unless the ground surface consists of rocky soils or ledge, or there are many large tree roots within the top 4 inches of soil. In those situations, the upslope side must be backfilled. As subsurface conditions allow, the bales will be securely anchored with two wooden stakes driven flush with the top of the bale (see the Erosion Control Detail sheet in Appendix 12A). Gaps should be chinked (filled with loose straw or hay). Hay bales must be removed upon successful completion of permanent revegetation.

ECM

ECM berms are often most effective for areas where the installation of silt fence and/or haybales is not practical due to frozen soils, shallow roots, or rock. The proper installation of ECM berms is shown on the Erosion Control Detail sheet in Appendix 12A. ECM consists primarily of organic materials such as shredded bark, stump grindings, composted bark, or similar materials. Wood and bark chips, ground construction debris, or reprocessed wood products are not acceptable for use in ECM. It can be manufactured on or off site, and will contain a well-graded mix of particle sizes and may contain rocks up to 4 inches in diameter. The following specifications are provided for ECM:

- organic matter content between 80 and 100 percent (dry weight),
- 100 percent of particles passing a 6-inch screen,
- between 70 and 85 percent passing a 0.75-inch screen,
- the organic portion will be fibrous and elongated,
- only small proportions will be silts, clays, or fine sands,
- soluble salts content will be <4.0 mmhos/cm, and
- pH will be between 5.0 and 8.0.

As with other barriers, to be most effective these berms must be placed along the contour of the slope. It will be necessary to cut tall grasses or woody vegetation to avoid creating voids and bridges that may enable runoff and sediment to wash under the barrier. For ECM berms, on slopes less than five percent or at the bottom of steeper slopes (<2:1) up to 20 feet long, the barrier must be a minimum of 12 inches high and a minimum of 2 feet wide. On longer or steeper slopes, the barrier must be wider to accommodate additional runoff. ECM berms should be inspected weekly in areas of active construction and following a major storm event, and replenished or reshaped as needed.

ECM berms will not be used at low points of concentrated runoff, below culvert outlet aprons, around catch basins and closed storm systems, and at the bottom of steep perimeter slopes that have large watersheds.

A continuous contained berm (or filter sock) is a fabric sock that is filled with ECM. It is also an effective barrier in areas that cannot be effectively trenched for installation of silt fence or hay bales. It is especially suited for use on pavement, since it can be driven over without adversely affecting its effectiveness. The netting holds the organic mix together and keeps it from being displaced.

14.D.2.2 Slope Breakers/Diversion Berms

Temporary or permanent slope breaker/diversion berms are useful for the management of surface water flow and are to be installed on disturbed areas as necessary to avoid excessive erosion. Berms can be placed depending on the slope in order to trap and divert sheet flow off the construction site to a stable area or settling basin.

Slope breakers/diversion berms are typically constructed of compacted earth and rock but are sometimes constructed with earth filled sacks and/or staked hay bales or other functionally equivalent material where appropriate. On long slopes, a series of berms can be used. Runoff water will be filtered at the outlet end by discharging into a well vegetated area, energy dissipating device typically constructed of a haybale and/or silt fence filter or into a settling basin. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction workspace to effectively drain water off of the disturbed area.

During and following construction, slope breaker/diversion berms will be inspected to insure proper functioning and repairs will be made as necessary. The channel will be kept cleared of debris and obstructions.

The berm shall be free of brush and stumps and other debris. Each berm will have a minimum height of 18 inches after compaction and a minimum width of 36 inches to ensure structural integrity and to allow easy passage of construction equipment.

Fill shall be compacted as needed to prevent unequal settlement. Following construction, if the berm will remain as a permanent water diversion structure, it will be seeded and mulched accordingly. Slope breakers must have a 2 to 8 percent outslope and be located so that they will outlet to a vegetated area without causing water to pool or erode behind the breaker. However, if no vegetation is present within a reasonable distance of where a slope breaker must be located to properly function, then an energy dissipating device, typically consisting of haybales, sandbags, silt fence, and or crushed stone, must be constructed at the outlet. With the preceding comments accounted for, breakers will be constructed and maintained at the following typical spacing:

SPACING OF SLOPE BREAKERS	
SLOPE	***SPACING***
5 - 15%	300 feet
15 - 30%	200 feet
> 30%	100 feet

Note: The spacing of slope breakers may be reduced as directed by the chief inspector.

14.D.2.3 Stone Check Dams

Temporary check dams are small temporary dams constructed across a swale or drainage ditch. Their purpose is to reduce the velocity of concentrated stormwater flows, thereby reducing the erosion of the swale or ditch and associated sediment transport. The use of check dams is limited to small open channels that drain 10 acres or less. Check dams are typically constructed of clean, 2- to 3-inch crushed stone but, for very low flows, hay or straw bales can be used.

The maximum height of a check dam should be 2 feet and the center of the dam must be at least 6 inches lower than the outer edges to help prevent water movement around the ends of the dam. The proper installation of a stone check dam is shown on the Erosion Control Detail plan (Appendix 12A). Installation of hay bales is discussed in Section 14.D.2.1, and also shown on the Erosion Control Detail sheet.

Inspection of check dams will occur weekly in areas of active construction and following a major storm event. Repair or replacement will be made, as needed, to retain proper functioning. Accumulated sediment will be removed when it exceeds approximately one-third of the height of the barrier. Following construction, check dams will be removed, provided that revegetation or other final stabilization of the site and drainage channel is completed.

14.D.2.4 Dewatering

Dewatering of excavated areas may be required periodically. The discharge from dewatering will be directed to the on-site drainage system, or, alternatively, sediment laden discharge will be passed through a non-woven filter bag or sediment trap (such as a hay bale/filter fabric structure). Filter bag or sediment

trap dewatering structures may at times be located outside of the marked workspace/disturbance limits to take advantage of vegetated areas.

Filter bags or the sediment trap will be placed as far away from waterbodies and wetlands as practical, keeping in mind that they need to be accessible for removal after construction. The discharge point must be well-vegetated (i.e. not impervious surface or exposed soil) to the maximum extent practicable; be at least 25 feet from the edge of a wetland or waterbody; and be on a slope of less than 20 percent. When a filter bag is placed within 250 feet of a waterbody (not wetland), the bag must be surrounded with secondary containment. In the case of wetlands, the discharge must meet the same criteria if the water can be easily pumped outside of the wetland. However, if the wetland is very large and it is not practical to discharge outside of the wetland, then the water should be pumped through a filter bag or sediment trap, as described, before discharging into the wetland.

Filter Bags

Non-woven filter bags, can be used as an effective filter medium to contain sand, silt and fines when dewatering excavated areas. The filter bag contains these sediment materials while allowing the water to flow through the fabric. Filter bags are constructed of non-woven geotextile fabric. A maximum of one 6-inch discharge hose will be allowed per filter bag. Bag capacity will not be exceeded beyond 2,000 gallons per minute. Typical bag dimensions are 15 feet by 13.25 feet.

To insure proper installation, filter bags will be placed on relatively flat terrain free of brush and stumps to avoid ruptures and punctures. To help prevent punctures, geotextile fabric may be placed beneath the filter bag when used in areas where wood debris or stones cannot be avoided. Proper installation requires cutting a small hole in the corner of the bag, inserting the pump discharge hose, and then securing the discharge hose to the bag with a hose clamp (no wire or string). Prior to removing a bag from the hose, the bag will be tied off below the end of the hose allowing the bag to drain. Drainage will not be allowed through the inlet hole. To avoid rupture, the bags will be attended and pumping rates monitored. Once the bag is inflated to a height of 4 feet, pumping will stop to avoid rupture. Filter bags used during construction will be bundled and removed for proper disposal.

14.D.3 Winter Construction Plan

The winter construction period defined by the MDEP BMPs runs from November 1 through April 15th. DCP will implement specific measures for erosion and sediment control during this period, and will also implement specific overwinter stabilization measures as necessary. The proposed winter construction erosion and sedimentation control measures and overwinter stabilization measures are discussed below and are based on a reasonable application of Section A-3 of the MDEP BMP's.

14.D.3.1 Winter Construction Erosion and Sediment Control Measures

As summarized in the preliminary construction schedule, DCP anticipates an approximately three- to four-month period of winter construction related to site clearing and initial grading activities beginning in November of 2011 and ending as soon as possible in February 2012, when special winter construction measures will be implemented. Completing these construction phases during this time is proposed to take advantage of frozen ground conditions for clearing and the major earth moving work and, in response to local concerns, to confine these activities, including any blasting that may be needed, to a time period when tourist activities in Searsport are at a minimum. DCP does not anticipate the need for significant earth moving or blasting during the winter construction period from November 1, 2012 to April 15, 2013. However, final site stabilization is not likely to be completed over the entire site by November 1, 2012, so

winter construction measures will be implemented, as needed, during the 2012/2013 winter construction period as well.

Winter construction erosion and sediment control measures will be applied to any open disturbed areas where final stabilization has not occurred. More frequent and heavier applications of temporary mulch, increased dormant seeding rates, the substitution or additional use of ECM berms in erosion control barriers, and other supplemental erosion controls will be used as discussed below. Erosion and sedimentation risks during periods of winter construction, or at open soil areas where final site stabilization has not been completed prior to November 1, will be managed by implementing the following winter construction measures.

14.D.3.1.1 Winter Construction Sequencing

- The acreage of exposed soil at any given time will be minimized to the extent practical by strategically sequencing grading operations;
    - First, the stream segment will be culverted and relocated to maintain this drainage around the construction site perimeter, and the associated earthwork and stream channel will be stabilized;
    - Grading and excavation will then commence on the remainder of the terminal area;
- Exposed areas will be limited to those areas in which major earth work is needed to bring the terminal area to rough final grades and excavate for building and tank foundations;
- Exposed soil surfaces will be mulched for over winter conditions or otherwise stabilized as soon as initial earthwork in a given area is completed;

14.D.3.1.2 Winter Construction Mulching

- The hay or straw mulch application rate during the winter shall be increased from 2 tons/ acre to 3 tons/ acre and properly anchored;
- If ECM is applied as a mulch material, the minimum thickness will be 4 inches;
- If there is snow over exposed soil that is not stabilized by mulch, the snow will be removed down to approximately a one-inch depth before mulch is applied;
- All hay or straw mulch will be anchored by either mulch netting, chemical non-petroleum tackifier, tracking, or wood cellulose fiber;
- When final grading is completed in an area and no further disturbance is required during the winter construction period, the area will be stabilized within 24 hours with anchored hay or straw, ECM, or erosion control matting, weather or other site conditions permitting;
- Soil stockpiles will be at least 100 feet from a protected natural resource, and will be mulched with hay or straw at twice the normal rate, or with a four-inch layer of ECM within 24 hours of stockpiling or new disturbance.

14.D.3.1.3 Winter Construction Structural Erosion and Sedimentation Controls

- A double row of sediment barriers (i.e. silt fence backed with hay bales or ECM) will be placed around the down slope perimeter of the construction area, and between the disturbed area and any protected natural resource within 100 feet of the disturbed area;
- Stockpiled soils that are to remain in place over the winter will be contained with sediment barriers in addition to mulching as required above;

14.D.3.1.4 Winter Construction Channel and Swale Stabilization

- Open channels and swales designed to carry and/or divert surface runoff, including the relocated stream segment, will be rip rapped immediately upon completion of the channel and temporary check dams installed before flow is allowed through the channel.

14.D.3.1.5 Winter Construction Slope Stabilization

- By November 15 or the completion of construction for the winter, whichever is later, all stone covered slopes greater than 15% will be constructed and stabilized;
- Depending on the slope grade and the timing of construction completion, all slopes greater than 15% that are to be vegetated will be stabilized for the winter using one of the following measures:
    - By October 1, slopes will be stabilized with temporary vegetation (seeded with winter rye at a rate of 3 pounds per 1,000 square feet) and anchored with erosion control mats, or;
    - By October 1, slopes will be stabilized with wire-pinned sod, or;
    - By November 15 or the completion of construction for the winter, whichever is later, slopes will be stabilized with erosion control mix to a depth of four inches, or;
    - By November 15 or the completion of construction for the winter, whichever is later, slopes will be stabilized with stone riprap.

14.D.3.1.6 Winter Construction Seeding

- Prior to October 1, temporary seeding will be used where feasible to limit the amount of exposed soil and temporarily stabilize exposed soils with vegetation. Temporary seeding will consist of seeding with winter rye at a rate of 3 pounds per 1,000 square feet, lightly mulching with hay or straw at 75 pounds per 1,000 square feet, and anchoring with plastic netting. It is unlikely this will be implemented during the first year of construction (2011), because initial site disturbance is not expected until after October 1. It is possible that temporary seeding will be applied to disturbed areas prior to the start of the 2012/2013 winter construction season if areas of open soil have not been permanently stabilized and seeded at that time. Temporary seeding for overwinter stabilization is not effective after October 1. Winter mulching or other winter stabilization measures must be used after that date.
- Between October 15 and April 1, loam or seed is not required.
- If permanent seeding is conducted after October 1, 120 pounds per acre of winter rye will be added to the permanent seed mix.
- Dormant seeding can be applied after final grading during winter construction and prior to the application of mulch, provided there is less than 1 inch of snow covering final grade and the area has been covered with four inches of loam. Areas where dormant seed is applied shall be monitored during the next growing season, and reseeding will take place where vegetation is less than 75 percent established.
- If dormant seeding is not used, all disturbed areas brought to final grade will be revegetated in the spring.

Before construction is completed for the winter, the site will be inspected to ensure that it is adequately stabilized. Areas in need of remedial measures to ensure that the site remains stable over the winter will be addressed as necessary.

14.D.4 Training

Environmental training will be given to both DCP and contractor personnel whose activities could impact the environment during construction. The level of training will be commensurate with the duties of the personnel. The training will be given prior to the start of construction and throughout the construction process, as needed. The training program will cover this E&S Plan; procedures for handling and storing petroleum products and hazardous materials; relevant conditions and requirements related to Site Law, Natural Resources Protection Act, and municipal permits; company policies; and any other pertinent information related to the job. In addition to the chief inspector, all other construction personnel are expected to play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction.

14.D.5 Supervision and Inspection

To effectively mitigate construction impacts, the E&S Plan must be properly implemented. The chief inspector, employed by DCP, will be trained and responsible for inspecting the site on a weekly basis during active construction and will supervise environmental compliance aspects of construction activities. The chief inspector will have the authority to stop activities that violate the environmental conditions, or other permits and authorizations, and to order corrective action. The chief inspector will have construction inspection experience and/or training, be experienced in erosion control techniques and have an understanding of the wetland and waterbody resources required to be protected.

Responsibilities of the chief inspector will include working with the contractors and DCP to ensure project compliance with the erosion control measures described in this Section, and environmental permits and conditions. Specific duties will include: verifying that all authorized construction work areas are marked before clearing, the proper installation and maintenance of erosion control devices, ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, working with construction contractors and DCP to ensure compliance with environmental permit conditions, verifying the proper implementation of dewatering and hydrostatic test water discharge procedures, documentation of temporary and permanent revegetation programs, ensuring restoration of contours and topsoil, coordination with environmental regulatory agencies, ensuring the contractor's appropriate implementation of the Construction Spill Plan, inspecting contractor activities to ensure implementation and function of stormwater control measures, determining corrective action and implementation of additional measures deemed necessary based on field or weather conditions, and identifying areas that should be given special attention to ensure stabilization and restoration following construction. Field decisions may sometimes be required regarding the timing of placement of erosion controls, dewatering, revegetation and other construction related items.

The chief inspector will meet with the construction contractor to review the sequence of construction and the placement of erosion control measures to be employed. He/she will conduct detailed inspections of erosion controls at least once a week during active construction and restoration, and following major storm events generating greater than 1.0 inch of rainfall within a 24-hour period. Following completion of final restoration, inspections will occur once per month until the site is considered to be stabilized and any remaining temporary erosion controls are removed. The chief inspector will keep records of any non-compliance with environmental permit conditions and the mitigation measures proposed by DCP in its applications submitted to the federal and state environmental permitting agencies. The inspector will also participate in periodic coordination meetings with the construction superintendent and contractor personnel during construction, and will advise the construction superintendent when conditions make it advisable to restrict construction activities to avoid and minimize rutting and erosion.

DCP will require the on-site contractor(s) to identify a qualified individual from their workforce(s) to be responsible for environmental compliance support such as observing the presence and effectiveness of erosion control measures and site conditions on a daily basis during active construction. The contractor's environmental coordinator will immediately report any areas of non-compliance or other concerns to the DCP chief inspector. The inspection and maintenance schedule of individual erosion and sedimentation control measures is included in Sections 14.D.1 and 14.D.2 with the description of each measure that may be employed.

SECTION 15. GROUNDWATER

This section provides information regarding the occurrence of significant quantities of groundwater in the Project area, potential threats to existing groundwater resources, and measures proposed to prevent adverse impacts.

15.A Narrative and Report

A memorandum prepared by a geologist certified in Maine that provides an assessment of the groundwater conditions in the project vicinity and the hydrogeologic data used to make the assessment is provided as Appendix 15A.

15.B Potential Sources of Contamination

15.B.1 During Construction

A potential source of contamination that could occur from construction of the proposed terminal would be the fuel or lubricating oil used by construction equipment. Procedures for handling this material and preventing spills are discussed below and provided in Appendix 15B of this section. Stumps, wood chips, and rock generated from clearing the site are the only solid waste materials that may be disposed of on site. Details of construction waste removal and disposal are presented in Section 17: Solid Waste.

Water from dewatering of excavations will be discharged into surrounding vegetated areas to mitigate erosion and sedimentation of streams and wetland resources. Where discharge water carries a high sediment load, it will be passed through a filter bag or other sediment trap reduce entrained sediment prior to discharge. Dewatering procedures and requirements are provided in Section 14: Basic Standards Submissions.

15.B.2 During Operation

Routine operation and maintenance of an LPG terminal involves the use of common lubricants and petroleum products in on-site equipment and mobile equipment located on-site. Only very small quantities of oil will be stored and/or used at the facility. A description of the type, amount, storage and use of petroleum during routine operation is provided below and in Appendix 15C of this section.

If any floor drains are required in any of the terminal buildings, the floor drains will be designed to drain to a sealed tank or vault. Liquids collected in the floor drains will be pumped out and removed for proper disposal by an appropriately licensed waste material hauler.

15.C Measures to Prevent Degradation

15.C.1 During Construction

The measures to be used to prevent groundwater degradation during construction of the DCP Terminal are included in the DCP Contractor and Subcontractor Environmental Control Requirements for Oil and Hazardous Material (Construction Spill Plan) located in Appendix 15B. These requirements establish minimum standards that must be met by DCP Terminal construction contractors to protect surface and groundwater resources. The Construction Spill Plan includes procedures developed from DCP's experience with similar construction projects. The procedures incorporated into the Construction Spill Plan have proven successful for preventing spills and for addressing spills if they occur. Adherence to the

Construction Spill Plan will be the responsibility of each construction contractor working at the DCP Terminal, and will be supervised and enforced by the chief inspector.

15.C.2 During Operation

The DCP Terminal will not be subject to the SPCC requirements of 40 CFR Part 112 because the facility will not have an aggregate aboveground storage capacity of greater than 1320 gallons of oil, and will have no underground storage of oil. LPG is not considered "oil" under 40 CFR Part 112. Therefore, a formal Spill Prevention, Control, and Countermeasure Plan is not necessary for the project. As a standard practice, however, DCP does maintain a comprehensive spill prevention plan for operation of all of its facilities, and this will be the case at the DCP Terminal in Searsport.

The methods, plans, and procedures to prevent groundwater degradation during operation of the DCP Terminal are specified in the Spill Prevention Plan for the Searsport Propane Terminal (Spill Prevention Plan) located in Appendix 15C. The DCP operations Spill Prevention Plan incorporates procedures developed and improved from operating experience at numerous facilities. The procedures incorporated into the plan have proven successful for both preventing spills and for addressing spills if they occur. All operations personnel will receive regular training on the procedures for preventing and responding to spills.

15.D Groundwater Protection and Monitoring Plan

The DCP Terminal will not significantly alter existing surface water drainage characteristics in the area, as provided by the stormwater management plan for the facility (Section 12). Therefore, groundwater recharge characteristics will not be permanently affected by operation of the facility. Temporary impacts to surface water drainage will be encountered during construction. The use of petroleum and other hydrocarbon products during construction and operation represent a potential threat to groundwater quality. Measures to be utilized to address potential impacts are included in the Construction Spill Plan and the operations Spill Prevention Plan. Implementation of these plans and adherence to the design and procedural features they contain represent the groundwater protection and monitoring plans for the DCP Terminal. Accordingly, construction or operation of the DCP Terminal is not expected to adversely affect groundwater resources.

APPENDIX 15A

Groundwater Assessment

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Memorandum

To: Steve Wallace

From: Colen R. Peters, Maine Certified Geologist #220

Subject: **Groundwater Assessment – Searsport, Maine**

Date: April 20, 2011 **Project No.**: 179023.0000

Cc: Sean Donohue, TRC

Summarized below are hydrogeologic data that have been assembled to address the requirements of Section 15: Groundwater, of the Maine Site Location of Development (38 M.R.S.A §§ 481-490) permit application being submitted by DCP Midstream Partners, LP (DCP) for a new LPG terminal to be located at the intersection of US Route 1 and Station Avenue in Searsport, Maine. The location of the proposed terminal is shown on an excerpt from a USGS quadrangle map provided as Figure 1-1 of the Site Law application. A variety of data resources published by the Maine Geological Survey (MGS) have been reviewed to evaluate the groundwater conditions in the vicinity of the proposed LPG terminal. Geotechnical borings described in Section 11 of this application also provide direct observation of depth to groundwater beneath the site.

The terminal will be served by the Searsport Water District for potable water as well as for other purposes such as 450,000 fire water storage tank. A water main to service the site now exists in US Route 1. Therefore groundwater will not be withdrawn from beneath the site for operation of the terminal. Additional discussion of water supply appears in Section 16 of this application.

Surficial unconsolidated or overburden deposits overlying bedrock in the vicinity of the proposed LPG terminal are primarily fine-grained glaciomarine deposits (Figure 15-1, Thompson and Borns, 1985). These sediments were deposited during late glacial marine submergence when most of coastal Maine was inundated by the Atlantic Ocean. This surficial geologic mapping is consistent with soil mapping of the area completed by the U.S. Department of Agriculture Soil Conservation Service (USDA SCS, 1978) which indicates soils beneath the site are silty loams of Swanville and Boothbay series that formed from a parent material of low-permeability, water-deposited marine sediments.

The proposed LPG terminal occurs on the Searsport Quadrangle, Maine Significant Sand and Gravel Aquifer map (Figure 15-2, MGS Open-File Report Nos. 00-12). No water supply wells drawing from these overburden deposits are shown to occur on the map within 2.5 miles of the proposed terminal and the nearest is up-gradient and within a different surface water drainage basin than the project site. Therefore, groundwater in overburden beneath the site would not be in contact with the area from which the displayed overburden water supply well draws groundwater.

Hydraulic conductivity of the fine-grained glaciomarine deposits that are prevalent in the vicinity of the proposed LPG terminal tends to be lower than those of sand and gravel deposits, resulting in the relatively lower water supply yields identified to be less than 10 gallons per minute. In such areas where the surficial deposits are comprised of till or glaciomarine deposits, water supply wells are typically drilled into the underlying bedrock. Pore space, weathering, fractures, joints and/or faults serve as conduits and reservoirs for bedrock water supply wells. Beneath the proposed terminal site and the surrounding area, bedrock is mapped as the Ordovician-Cambrian age Penobscot Formation (OCp) which is a sulfidic carbonaceous calcareous mudstone (Figure 15-3, Osberg et al. (1985).

Bedrock Ground-Water Resources Maps prepared by MGS provide information about depth, overburden thickness and estimated yield of bedrock wells in the nearby area (Figures 15-4, 15-5, 15-6, MGS Open-File Report Nos. 10-31, 10-32, 10-33). On these maps, MGS compiled well yield rates from more than 3,000 bedrock wells within the Bar Harbor, Maine 30 x 60 minute quadrangle. Bedrock well information on these MGS maps indicates the nearest well is located at a commercial property approximately 0.5 mile to the southwest on the north side of the Trundy Road leading to the Mack Point terminal. The well is reported to have been drilled to a total depth of less than 50 feet to provide a yield of between 15-20 gallons per minute (gpm). The next nearest bedrock wells are on the opposite side of Long Cove, a tidal appendage of the mouth of the Penobscot River.

Bedrock well yield is generally evaluated against the proposed use and the storage capacity of the well. Storage capacity is a function of well depth, with deeper wells having a higher water storage capacity than shallow wells. For wells serving typical residential and other comparable uses, the Maine Division of Environmental Health Drinking Water Program recommends bedrock well recovery rates ranging from ½ gpm for a 420-foot deep well to 5 gpm for a 75-foot deep well. Provided that the individual water supply well at the commercial property off Trundy Road is pumped and operated at the typical rate of 20 gallons per day per employee estimated by the Maine Subsurface Waste Disposal Rules (10 CMR 241 Table 501.2), distances appear to be sufficient to prevent interference with the well on the commercial property and activities at the proposed LPG terminal.

The Construction Contractor Environmental Control Requirements for Oil and Hazardous Materials and the Spill Prevention Plan for operation of the proposed terminal prepared by DCP that accompanies Section 15 of this application discuss additional measures to be implemented to protect groundwater at the DCP Terminal. These documents are provided in Appendix 15B and 15C, respectively.

References Cited

Maine Geological Survey, 2000, Significant Sand and Gravel Aquifers in the Searsport Quadrangle, Maine Open-File Report No. 00-19.

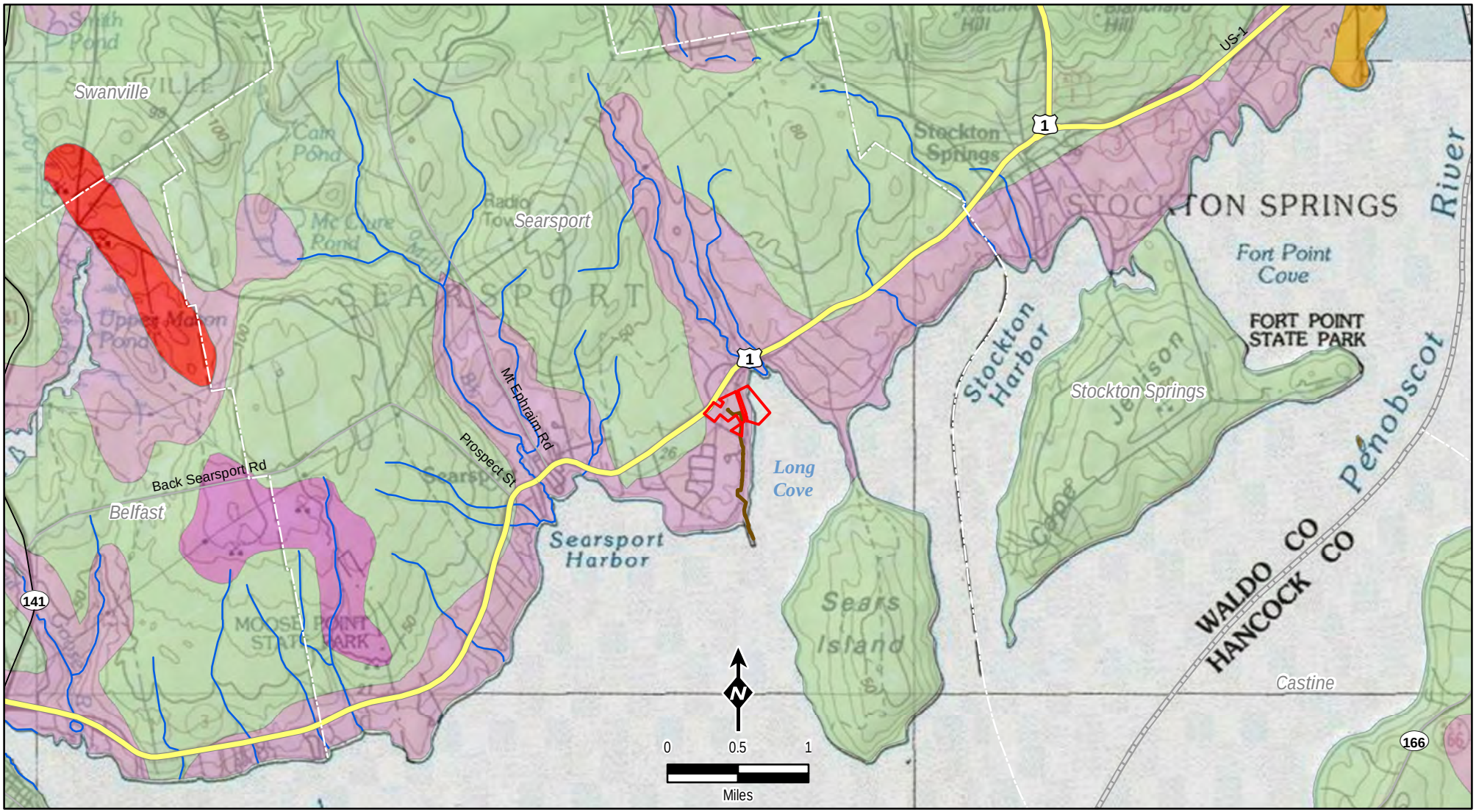
Maine Geological Survey, 2010, Bedrock Ground Water Resources Maps – Well Depth, Estimated Overburden Thickness and Well Yield in the Bar Harbor 30 x 60 minute Quadrangle Open-File Report Nos. 10-31, 10-32, and 10-33.

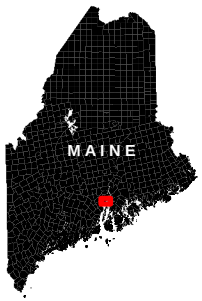
Osberg, P.H., Hussey, A.M., II, and Boone, G.M., 1985, Bedrock Geologic Map of Maine: Maine Geologic Survey, scale 1:500,000.

Thompson, W.B., and Borns, H.W. 1985, Surficial Geologic Map of Maine: Maine Geologic Survey, scale 1:500,000.

United States Department of Agriculture – Soil Conservation Service, 1984. Soil Survey of Waldo County, Maine.

[Insert Figures 15-1 thru 15-6]





LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary
- Hydrography

Surficial Geology

- Ice Contact Deposits
- Eskers
- Unknown (mostly islands)
- Glaciomarine Deposits (fine grained)
- Glaciomarine Deposits (medium grained)
- Till

Data Sources: Maine Office of GIS (MEGIS), ESRI, United States Geological Survey (USGS), TRC Companies, Inc. (TRC)

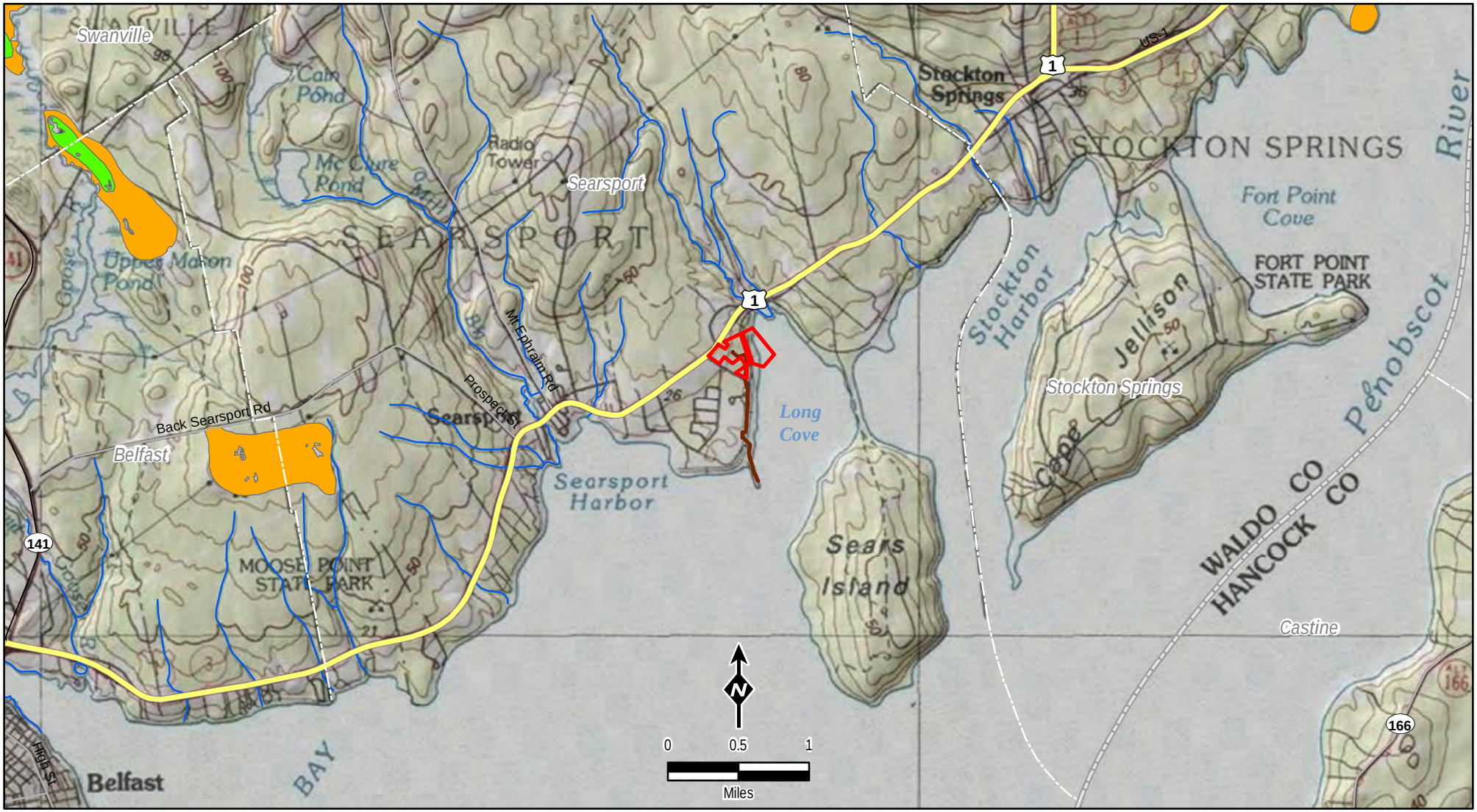
Projection: NAD83, Maine State Plane East, Grid North.

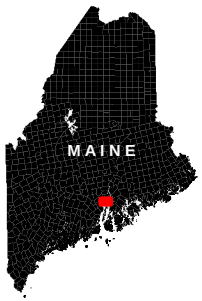
DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, ME

Figure 15-1:
Surficial Geology Map

Created by: TRC 5/4/2011





LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary
- Hydrography

Sand and Gravel Aquifers

- 10-50 Gallons per Minute
- Greater than 50 Gallons per Minute

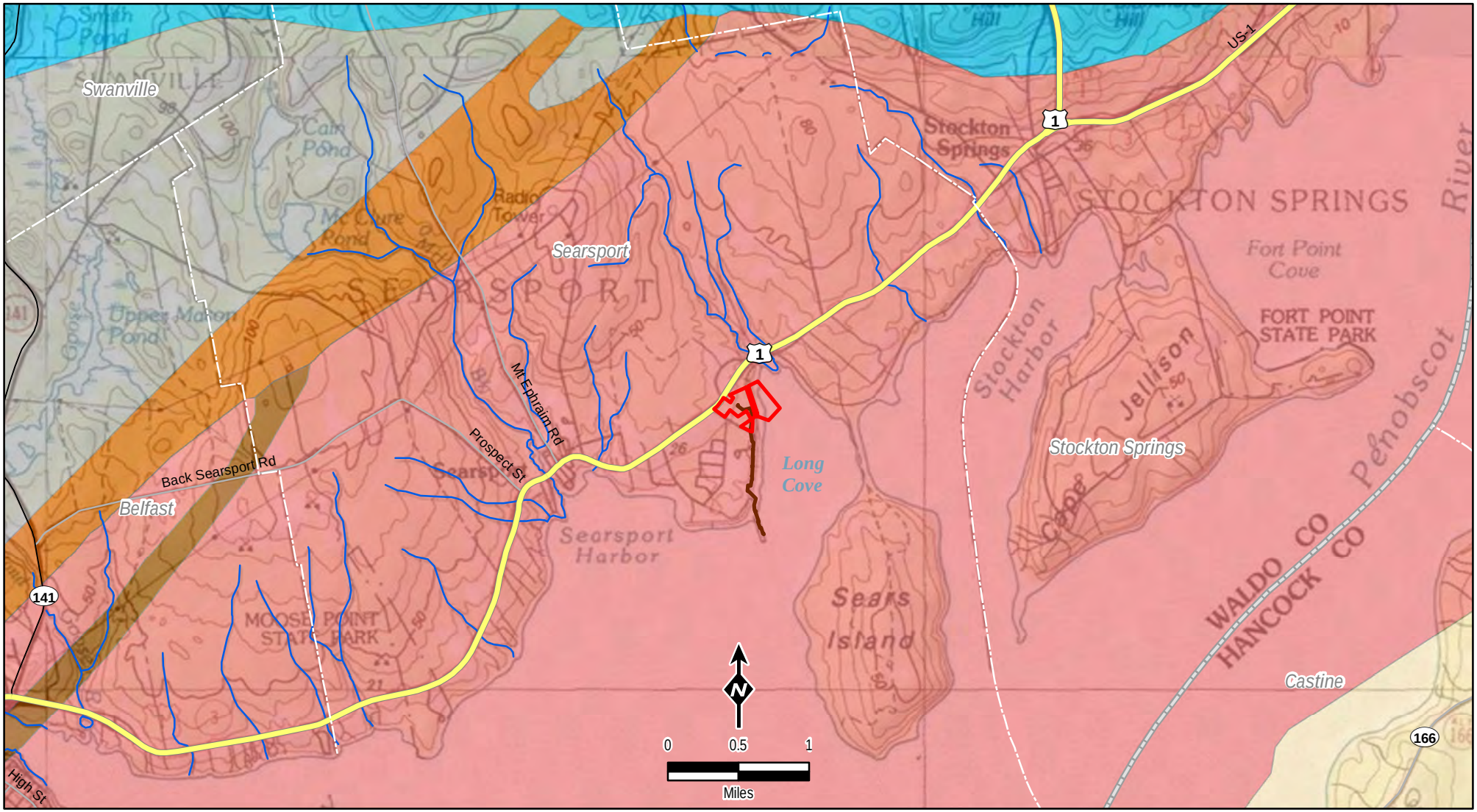
Data Sources: Maine Office of GIS (MEGIS), ESRI, Maine Geological Survey, United States Geological Survey (USGS), TRC Companies, Inc. (TRC)
Projection: NAD83, Maine State Plane East, Grid North.

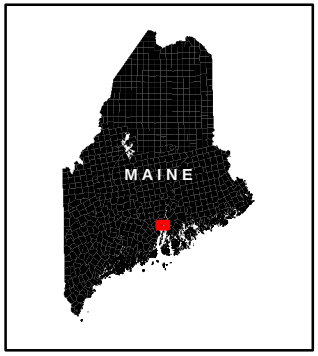
DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, ME

Figure 15-2:
Sand and Gravel Aquifer Map

Created by: TRC 5/4/2011





LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary
- Hydrography

Bedrock Geology

Devonian

- D1 - Granite
- DOb - Ordovician Bucksport Formation
- DZar - Precambrian Z Appleton Ridge Formation

Ordovician

- OCAp - Cambrian Penobscot Formation
- OCApg - Cambrian Penobscot Formation basalt member
- OZe - Precambrian Z Ellsworth Formation

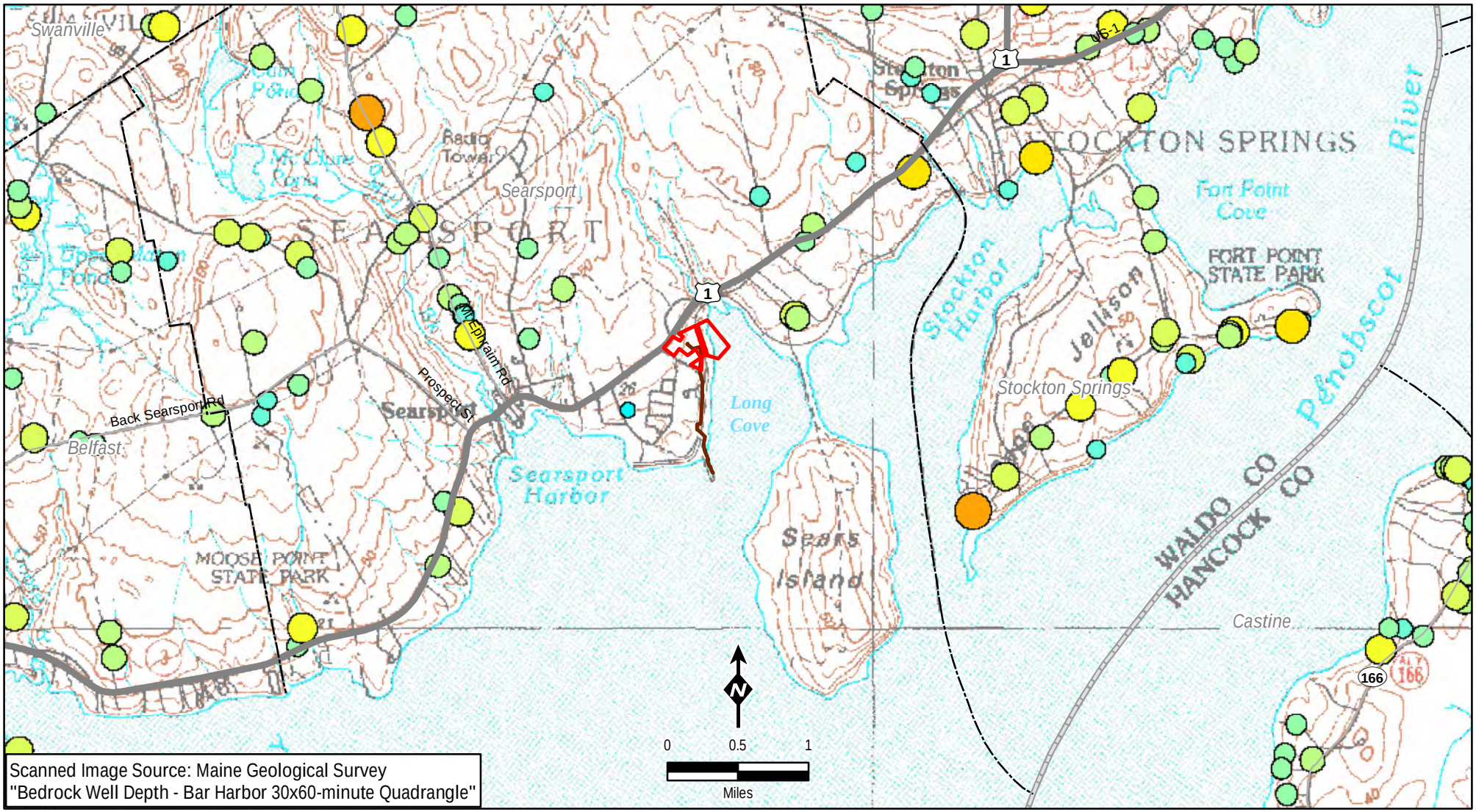
Data Sources: Maine Office of GIS (MEGIS), ESRI, United States Geological Survey (USGS), TRC Companies, Inc. (TRC) Projection: NAD83, Maine State Plane East, Grid North.

DCP Midstream Partners, LP

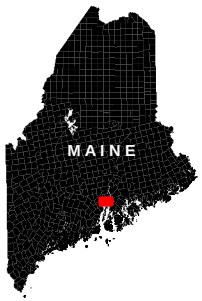
DCP Searsport Propane Terminal
Searsport, ME

Figure 15-3:
Bedrock Geology Map

Created by: TRC 5/4/2011



Scanned Image Source: Maine Geological Survey
"Bedrock Well Depth - Bar Harbor 30x60-minute Quadrangle"



LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary

Well depth in feet

0-50 feet	300-400 feet
50-100 feet	400-500 feet
100-150 feet	500-600 feet
150-200 feet	600-800 feet
200-250 feet	800-1000 feet
250-300 feet	>1000 feet

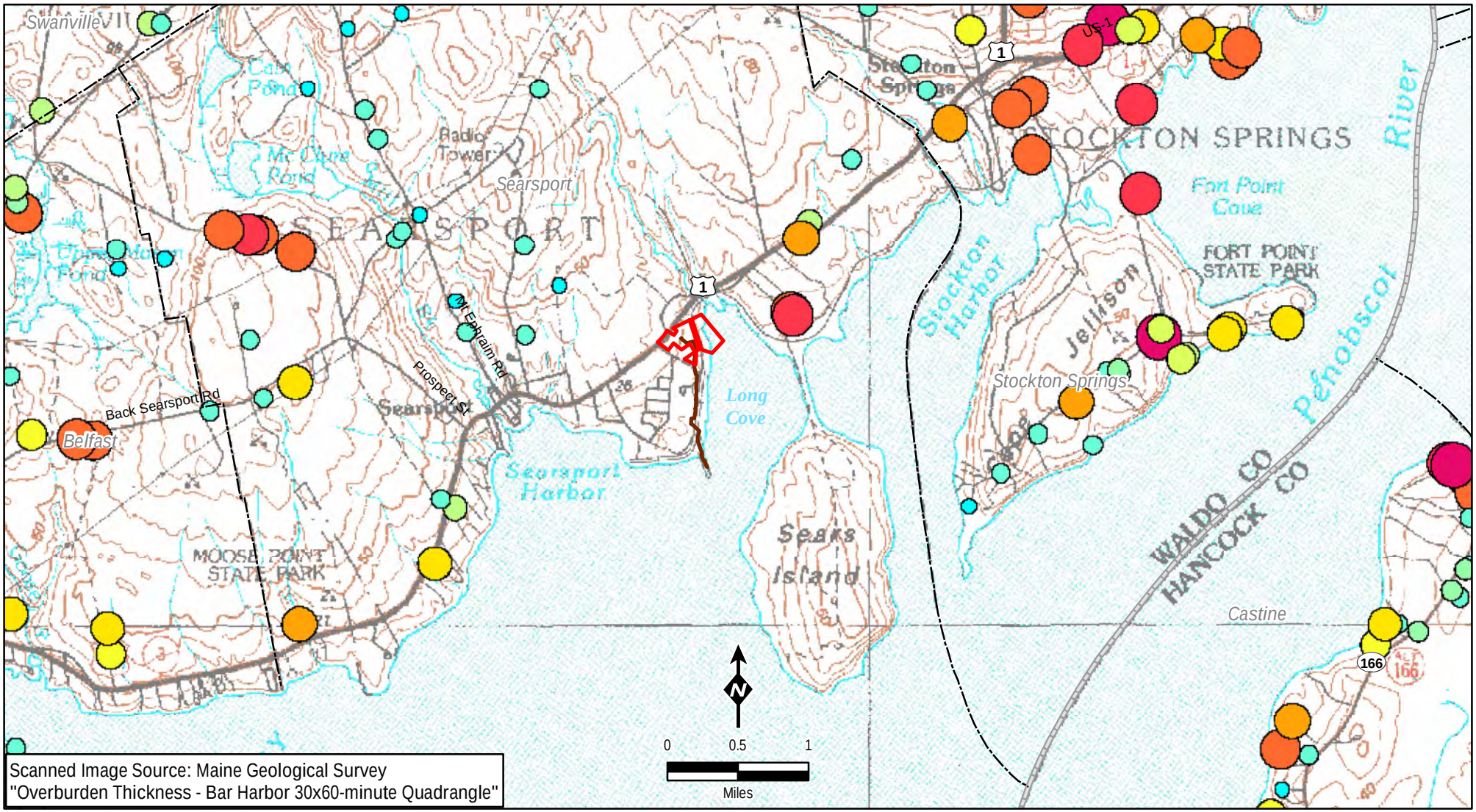
DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, ME

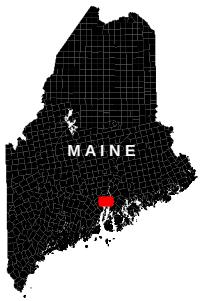
Figure 15-4:
Bedrock Well Depth Map

Created by: TRC 5/4/2011

Data Sources: Maine Office of GIS (MEGIS), ESRI, Maine Geological Survey, United States Geological Survey (USGS), TRC Companies, Inc. (TRC) Projection: NAD83, Maine State Plane East, Grid North.



Scanned Image Source: Maine Geological Survey
"Overburden Thickness - Bar Harbor 30x60-minute Quadrangle"



LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary

Overburden thickness in feet

0-5 feet	30-40 feet
5-10 feet	40-50 feet
10-15 feet	50-75 feet
15-20 feet	75-100 feet
20-25 feet	100-200 feet
25-30 feet	>200 feet

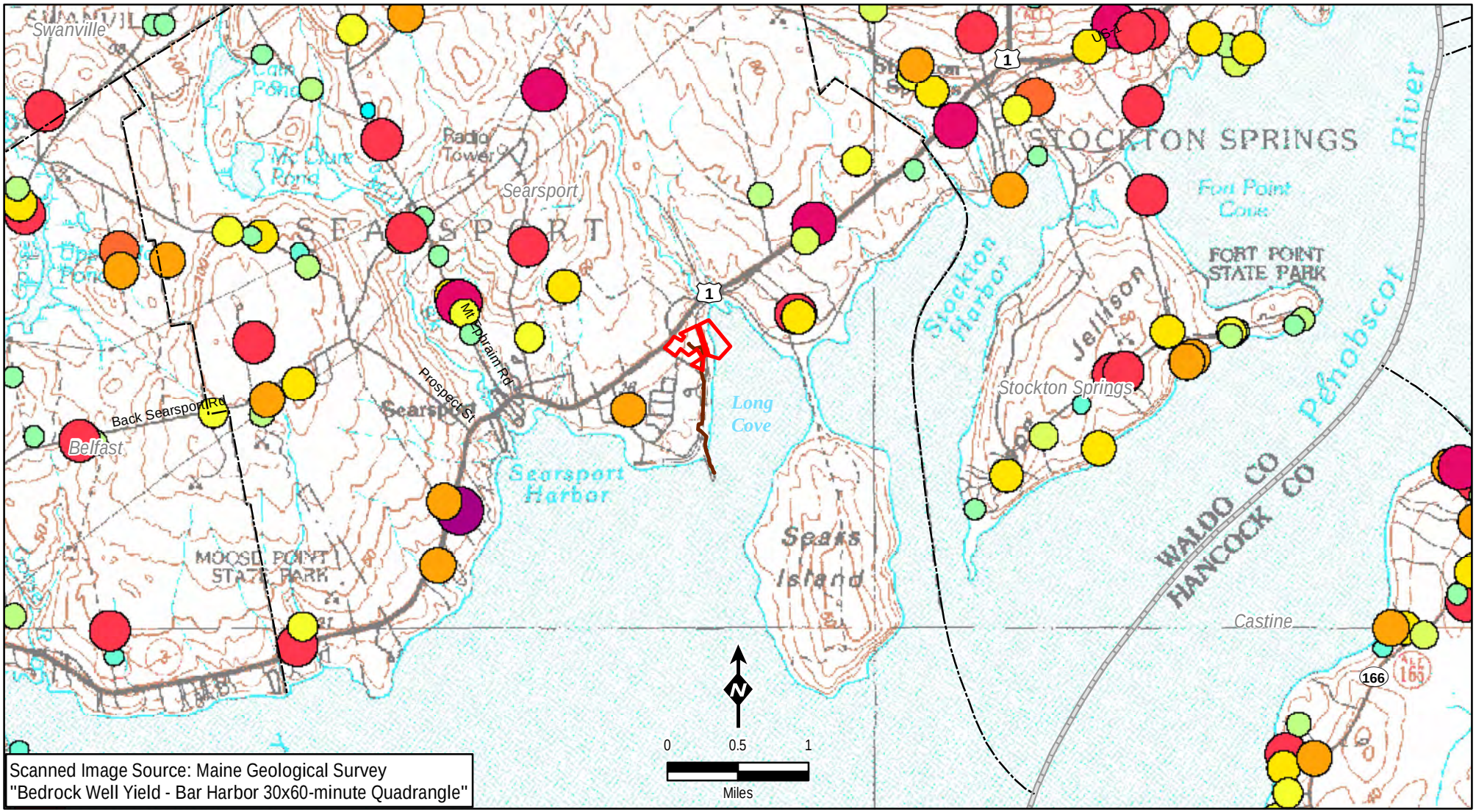
DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, ME

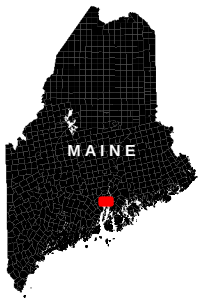
Figure 15-5:
Overburden Map

Created by: TRC 5/4/2011

Data Sources: Maine Office of GIS (MEGIS), ESRI, Maine Geological Survey, United States Geological Survey (USGS), TRC Companies, Inc. (TRC) Projection: NAD83, Maine State Plane East, Grid North.



Scanned Image Source: Maine Geological Survey
"Bedrock Well Yield - Bar Harbor 30x60-minute Quadrangle"



LEGEND

- Site Boundary
- Transfer Pipeline
- County Boundary
- Town Boundary

Well yield in gallons per minute

0-1 gpm	10-15 gpm
1-2 gpm	15-20 gpm
2-4 gpm	20-25 gpm
4-6 gpm	25-50 gpm
6-8 gpm	50-100 gpm
8-10 gpm	>100 gpm

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, ME

Figure 15-6:
Bedrock Well Yield Map

Created by: TRC 5/4/2011

Data Sources: Maine Office of GIS (MEGIS), ESRI, Maine Geological Survey, United States Geological Survey (USGS), TRC Companies, Inc. (TRC) Projection: NAD83, Maine State Plane East, Grid North.

APPENDIX 15B

Construction Spill Plan

DCP CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR ENVIRONMENTAL CONTROL REQUIREMENTS OIL AND HAZARDOUS MATERIAL

The following criteria are the requirements for oil and hazardous material use and compliance by construction contractors and subcontractors of DCP Midstream. All contractors and subcontractors are required to comply with these requirements while working for or on behalf of DCP.

General Requirements:

- Contractors/subcontractors will store, transport, and use oil, hazardous materials and wastes in accordance with all applicable local, state, and federal regulations and these requirements.

- At a minimum, contractors/subcontractors will follow best management practices when storing, transporting or using oil, hazardous materials, and wastes.

- Contractors/subcontractors, at all times, will take care not to cause an uncontrolled spill or release of oil or hazardous materials to the environment.

- Contractors/subcontractors will provide and maintain on-site sufficient spill cleanup and containment supplies (absorbent pads, containment booms, protective clothing, debris containers, etc.) to control releases of oil, hazardous materials or wastes.

- Contractors/subcontractors will remove all oils, hazardous materials, wastes and unused materials from the work site at the completion of the job and dispose of same in accordance with Maine law and regulation as noted below. This includes full and partially full containers of waste material such as, but not limited to, rags, gloves, trash, scrap material, and empty containers.

  NOTE: *If large quantities of oil or hazardous materials are involved, written agreements with emergency response contractors may be required.*

Storage and Handling Requirements:

- Contractors/subcontractors will store only the minimal amount of material necessary to complete the work.

- Materials will be stored in D.O.T. approved containers or approved tanks in areas not considered to be environmentally sensitive.

- Containers will be kept closed unless material is being transferred.

- Contractors/subcontractors will ensure that all transferring operations are monitored and not left unattended.

- Containers (55 gallons capacity or smaller) will not be stored on the ground, but will be stored in cabinets or on a firm working surface such as a portable trailer bed or other secure decking. Overnight storage of containers must have secondary containment as noted below. All gasoline and fuel storage tanks (greater than 55 gallons capacity) must have secondary containment constructed of an impervious material and be capable of holding 110% of tank capacity.

- If at any time a contractor/subcontractor needs to store oil including, but not limited to, fuel oil, petroleum products, sludge, and oil refuse in excess of an aggregate amount of 1,320 gallons (excluding 55-gallon or less containers) that is located near a pathway to navigable waters, the Federal requirements for oil pollution prevention (40 CFR Part 112) must be met. Contractor/ subcontractor Spill Prevention Control and Countermeasure (SPCC) plans will be approved by a licensed, professional engineer and a copy will be sent to DCP no later than one week prior to the commencement of the oil storage activities.

- Storage and handling of flammable and combustible liquids including gasoline and diesel fuel will be in accordance with rules developed under Title 25 M.R.S.A. Section 2441 (Fire Prevention and Fire Protection), as amended (See also Code of Maine Rules 16-219 Chapter 317). These regulations include, but are not limited to, bonding and grounding during transfer operations, fire protection requirements, storage quantity limitations, and spacing and location requirements.

- Handling and disposal of hazardous wastes will be in accordance with Maine Department of Environmental Protection (DEP) Hazardous Waste Management rules (06-096 Chapters 853 through 857) developed pursuant to Title 38 M.R.S.A., Section 1301 et. Seq. and U.S. Environmental Protection Agency regulations (40 CFR 260 through 272). Handling and disposal of waste oil will be in accordance with Maine Department of Environmental Protection Waste Oil Management Rules (06-096 Chapter 860) and U.S. Environmental Protection Agency regulations (40 CFR 279).

Spill Reporting Requirements:

It is the responsibility of the contractor/ subcontractor to report all spills directly to DCP. DCP will report spills to the necessary regulatory agencies, as described below.

As required by Title 38 M.R.S.A., Section 543 and Department of Environmental Protection regulations (06-096 Chapters 600 4.B and 8004.1), spills of oil or hazardous materials in any amount and under any circumstances must be reported to the Department within two hours from the time the spill was discovered at 1-800-482-0777.

As required by the Federal Clean Water Act (40 CFR Part 110.4), a discharge of oil “which causes a sheen upon the surface of the water or adjoining shore line or oily sludge deposits beneath the surface of the water” must be reported within 24 hours to the National Response Center at 1-800-424-8802.

The need to report spills to the National Response Center of hazardous materials other than oil will be determined by the contractor/subcontractor by consulting the CERCLA list of hazardous substances and reportable quantities (40 CFR Table 302.4). Any spills that involve a reportable quantity of any hazardous substance must be reported to the National Response Center by the contractor/subcontractor. The contractor/subcontractor must also report all spills immediately to DCP.

Setbacks:

The following setbacks will be used by the contractor unless the contractor can demonstrate that, due to special circumstances at specified locations, these setbacks are impractical at those locations and the MDEP approves the modification to the plan.

a. No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 100 feet of a protected wetland or other waterbody, including Long Cove
b. No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 200 feet of a private water supply, if applicable
c. No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 400 feet of a public water supply, if applicable

Spill Cleanup Requirements:

It is the contractor's/subcontractor's responsibility to ensure and oversee immediate and complete cleanup of all spills involving oil or hazardous materials. The contractor/subcontractor is also responsible for all health and safety issues related to the cleanup of oil or hazardous materials. The contractor/subcontractor is also responsible for expediting the disposal of spill debris waste and restoring the site to its original condition.

Special Exceptions:

The 100-foot buffer restriction for refueling near sensitive environmental resources, such as wetlands and streams may be waived by the MDEP on a case-specific basis only. It is anticipated the vast majority of approved waivers will be for refueling adjacent to an existing asphalt or concrete topped road. In those instances where a waiver is granted the following protocol will be used.

> Refueling activity – During refueling of equipment within the 100-foot buffer, the fueling nozzle will be wrapped with an absorbent pad (also commonly referred to as a spill diaper) and placed in an appropriate container with handle to transport the nozzle to the equipment being fueled. Prior to refueling, a secondary containment basin must be placed under the equipment and beneath the filler spout. Examples of typical secondary containment range from plastic wading pools to more specifically designed collapsible berms. Absorbent pads will be placed in the floor of the secondary containment to contain any spilled fuel. After fueling, the nozzle will again be wrapped in an absorbent pad and placed in an appropriate container with handle for transport back to the fuel truck.

Vehicles involved in the refueling, such as the fuel truck and equipment fueled, will vacate the area immediately on cessation of fueling activities.

Clean-up activity – If any fuel is released to the ground during fueling it must be cleaned immediately and reported to the DEP. At the cessation of fueling the secondary containment will be cleaned so that no material may be released by moving the containment. All soiled material from the fueling operation will be placed in a sealed container and disposed of at an appropriate and approved receiving facility.

APPENDIX 15C

Spill Prevention Plan for Operations

SPILL PREVENTION PLAN

SEARSPORT PROPANE TERMINAL

April 2011

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1.0 GENERAL FACILITY INFORMATION

1.1 Description of Facility

The facility is a marine propane terminal facility consisting of aboveground storage tanks, a truck loading rack and a rail loading rack. Propane is transferred to storage tanks via flow lines from a ship moored at the Sprague Dock. Propane is loaded into trucks and/or railcars at the appropriate loading rack. Ethyl Mercaptan is delivered and/or removed by truck and used to odorize all outbound propane.

The facility is located in the town of Searsport, Waldo County, Maine, south of US Route 1, northeast of Station Avenue. The station coordinates are 44° 27’ 42” N, 68° 53’49” W. The general topography of the site slopes toward Long Cove.

1.2 Applicability of 40 CFR Part 112

The Searsport Propane Terminal is not subject to the SPCC requirements of 40 CFR Part 112 for the following reason:

- The facility does not include an aggregate aboveground storage capacity of > 1320 gallons of oil. Only oil containers that are not permanently closed with a capacity of ≥ 55 gallons are counted. This also includes the storage capacity in operating equipment.

Oil includes petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. Oils typically found at DCP Midstream, LP facilities include, but are not limited to, lubricating oils, condensate, produced water that could reasonably produce a sheen on water, and solvents.

1.3 Designated Person Accountable for Spill Prevention and Implementing this Plan:

Mr. Jeff Hurteau Office Phone: (518) 453-9331
Asset Director Mobile Phone: (518) 526-8054

1.4 Potential Spill Sources and Spill Prevention Information

Potential discharges of chemicals include container overfills, container ruptures, pipe ruptures, pipe leaks, and loadout accidents. The following lists the types of chemicals on site and spill prevention methods.

Unique Field Name	Contents	Spill Prevention Methods	Container Type Compatible with Material Stored?
BULK CONTAINERS			
Propane Storage Tank (540,000 bbl)	Propane	Secondary Containment – Earthen and Concrete Berm	Yes
Propane Bullet (90,000 gal)	Propane	Sealed pressure vessel	Yes
Emergency Generator Diesel Tank (640 gal)	Diesel	Double-walled Tank	Yes
Emergency Fire Pump Diesel Tank (280 gal)	Diesel	Secondary Containment or Double-walled Tank	Yes
Mercaptan Storage Tanks (4) (1000 gal each)	Methyl Mercaptan	No Liquids	Yes
TRUCK AND RAIL LOADING			
Truck Loading Rack (3)	Propane	No Liquids	Yes
Rail Loading Rack	Propane	No Liquids	Yes

2.0 SPILL PREVENTION

2.1 Containment and/or Diversionary Structures

Appropriate containment and/or diversionary structures or equipment to prevent a release of oil or other chemicals from reaching navigable waters are implemented for all storage containers and equipment that can contain $\geq$ 55 gallons and that are not permanently closed. The containment and/or diversionary structures or equipment are designed and constructed to ensure that they are sufficiently impervious to contain the oil or chemical to allow time for discovery and cleanup of a spill to prevent discharges to a navigable water.

Some of the containment structures at the facility are equipped with valves. Drainage from containment structures equipped with valves is restrained by manually activated valves. Containment areas are not equipped with flapper-type drain valves. Drain valves are kept closed when not in use for draining.

Rainwater collected inside containment structures is lost through evaporation, or emptied by automatically activated pumps, through drain plugs, or manually activated valves.

Prior to draining rainwater from containment structures to the environment, the retained rainwater is inspected to confirm the absence of a sheen. The draining of rainwater occurs under responsible supervision of trained DCP Midstream personnel. A log sheet to document the drainage of rainwater from containment structures to the outside of the containment structures is located in the Appendix. The manual draining event must be recorded on the log sheet and signed by the inspector or supervisor.

2.2 Bulk Storage Containers

The number and type of bulk storage containers located at the site are listed in Section 1.4. Each container installation is engineered or updated in accordance with good engineering practice to avoid release of chemicals. Containers are constructed of steel, fiberglass, or plastic and are compatible with the material stored and conditions of storage, such as temperature and pressure.

Methods used to prevent overflow of the tanks include the following:

- High liquid level alarms with an audible and/or visual signal at a constantly attended operation or surveillance station are provided;
- High liquid level pump cutoff devices set to stop flow at a predetermined container content level are provided; and/or
- A fast response system for determining the liquid level of each bulk storage container by means of direct vision gauges is provided. For containers equipped with only direct vision gauges, a person is present at all times to monitor gauges and the overall filling of the bulk storage containers.

Liquid level sensing devices are regularly tested annually in to ensure proper operation.

2.3 Facility Truck and Rail Loading and Unloading

Propane is unloaded from the storage containers via pipelines to the truck or rail loading racks. Containment systems consisting of catchment basins, sumps, and aboveground storage tanks are provided and designed to hold at least the maximum capacity of any single compartment of a tank truck or rail car. Facility containment systems for facility truck loading racks are listed in Section 1.4.

Drivers must observe loading and unloading operations at all times to prevent releases. Drains and outlets on trucks and rail cars are inspected before and after loading and unloading for evidence of leaks and if necessary, they are tightened, adjusted, or replaced to prevent a release during transit.

Warning signs are posted to prevent vehicular departure before complete disconnection from flexible or fixed transfer lines.

Wheel chocks are provided to prevent vehicular departure before complete disconnection from flexible or fixed transfer lines.

Truck ignition keys must be placed over the end of one loading hose before hose connection.

2.4 Inspections, Tests, and Records

A "Tank (Container), Equipment and Berm Annual Inspection Checklist" is located in the Appendix. Visible leaks from container seams, gaskets, rivets and bolts that cause an accumulation of oil will be promptly corrected and any accumulation of oil in the containment areas are removed promptly. Records of tank, equipment and berm inspections are maintained with the Spill Plan for a minimum of three years.

2.5 Employee Training and Discharge Prevention Procedures

All personnel handling chemicals for the facility are instructed on job responsibilities and duties for facility operations, operations and maintenance of spill prevention equipment, spill response procedures, applicable pollution control laws, rules, and regulations, and the contents of this Spill Plan. Spill prevention training is conducted annually to assure adequate understanding of the facility's Spill Plan, spill prevention regulations, and review known spill events and equipment failures, manufacturing equipment, and recently developed precautionary measures. Records of spill related training are maintained with the Spill Plan for a minimum of three years.

3.0 SPILL RESPONSE

To reduce the likelihood of a chemical released by container or equipment failures from reaching navigable waters, a spill response procedure is in practice. Spill response materials, such as absorbent materials and shovels, are maintained at the facility to control and contain releases.

The first on site responder will notify the Terminal Supervisor who will take immediate action to isolate the source of the spill and minimize additional releases. The Terminal Supervisor will contact emergency responders and hazardous materials responders for containment and cleanup, if necessary. The response team will initiate, support, or completely implement the spill response activities. The degree of involvement from internal personnel will depend on the magnitude of the release.

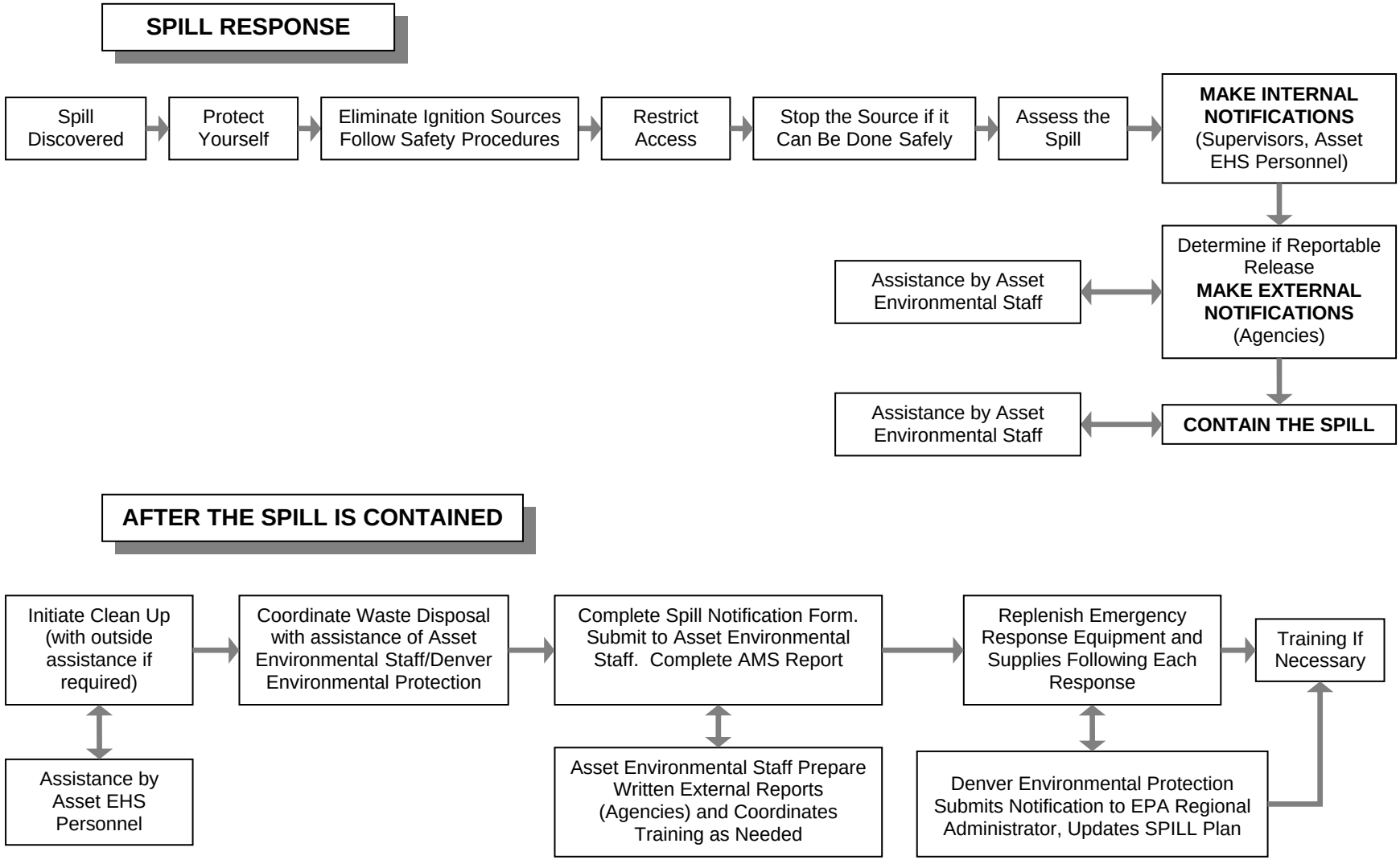
The appropriate outside parties will be notified in the event of a release. These parties include, but are not limited to, Federal, State, and local government agencies, as well as public safety personnel, listed in Section 3.2. The assistance of these personnel can be used to minimize public exposure to the hazard, evacuate the public, control traffic, assist in fire control, and provide emergency medical care.

After the spill source has been isolated, the Terminal Supervisor will contact the Asset Environmental Coordinator. The Asset Environmental Coordinator will help evaluate the situation and establish the personnel, materials, and equipment required for cleaning the release area. The spill will also be reported to the appropriate government agencies if the Asset Environmental Coordinator verifies that a release of a reportable quantity or any quantity has reached a waterway. A spill notification form is located in Section 3.3.

The media impacted by the release and other related factors will be evaluated to determine the appropriate method of disposal of recovered materials from a chemical release in accordance with applicable Federal, State, and local regulations. The following disposal methods for recovered materials are typically used by DCP Midstream, LP:

- Off site recycling or disposal for recovered liquids;
- On site bioremediation, off site bioremediation, or off site disposal for contaminated soils;
- Off site disposal for liquids and surface water recovered from impacted surface waters; and
- Wastes generated from recovery activities are disposed off site.

3.1 Spill Response Flowchart



3.2 Spill Notification Contact Information

Local Emergency Personnel & DCP Midstream, LP Management

Agencies

National Response Center	(800) 424-8802
Maine DEP Oil Spills	(800) 482-0777
Maine DEP Hazardous Materials	(800) 452-4664

Fire, Police, and Ambulance

Emergency Dispatch (All Services)	**911**
Non-Emergency	(207) 548-2304
Waldo County Sherriff Department	(207) 338-6786
Waldo County Emergency Management	(207) 338-3870
Searsport Ambulance	(207) 548-2302

Hospital

Waldo County Hospital 118 Northport Ave. Belfast, ME 04915	(207) 338-2500

Terminal Supervisor

TBD
Office:
Mobile:

Asset Director

Mr. Jeff D. Hurteau
Office: (518) 453-9331
Mobile: (518) 526-8054

Asset Environmental Coordinator

Mr. Stephen Ondak
Office: (303) 605-2009
Mobile: (303) 718-7821

Asset Environmental Manager

TBD
Office:
Mobile:

Corporate Environmental Protection Department

Office: (303) 595-3331
Administrative Assistant: (303) 605-1839
Environmental Fax: (303) 605-1957

VP Northern Operations

Mr. Joe Kuchinski
Office: (970) 378-6345
Cell: (970) 539-1932

3.3 Spill Notification - Data Sheet

DCP MIDSTREAM, LP - SPILL NOTIFICATION FORM

This form serves as a tool for DCP Midstream, LP personnel to collect spill information for regulatory agency reporting purposes and entering spill information into the DCP Midstream, LP Asset Management System (AMS) and does not replace the DCP Midstream, LP AMS Incident Reporting Requirement.

REPORTING PARTY						
Last Name:		First Name:				
Company:		Title:				
Address:		City, State, Zip:				
Phone 1:	Type *(Circle One)*: Primary Alternate Cellular On-Scene Pager Other					
Phone 2:	Type *(Circle One)*: Primary Alternate Cellular On-Scene Pager Other					
Phone 3:	Type *(Circle One)*: Primary Alternate Cellular On-Scene Pager Other					
LOCATION OF RELEASE						
Facility/Location Name:		County:		State:		
System:	Region:	Division:	Phone:			
Address or Location of Facility:						
Nearest City:		Distance From City:		Direction:		
Latitude:		Longitude:				
DESCRIPTION OF RELEASE						
Source and Cause:						
Immediate Actions Taken:						
Date of Release:		Time of Release:				
EQUIPMENT DETAILS						
Equipment Type:		Aboveground or Below Ground:				

Equipment Capacity:	Equipment Manufacturer:	Serial Number:
MATERIAL RELEASED		
Material:	Estimated Quantity of Release (include units; e.g. bbl, gal):	
CAS Number of Material Released:	Reportable Quantity (RQ) for Material Released:	RQ Exceeded?
MATERIAL IN WATER & SHEEN INFORMATION		
Amount in Water:	Body of Water Affected:	
River Mile Marker:	Tributary of:	
Sheen Length:	Sheen Width:	
Color:	Direction of Movement:	Odor Description:
IMPACT INFORMATION		
Medium Affected:	Material Released Off Site?	
Fire?	Fire Extinguished?	
Injuries?	Number of Injuries?	
Fatalities?	Number of Fatalities?	
Evacuations?	Number of Evacuations?	
Damages?	Damage in Dollars:	
Road Closed?	Road:	
Waterway Closed?	Waterway:	
Community Impact Due to Material?		
WEATHER INFORMATION		
Weather Conditions *(Circle all that apply):* Clear Foggy Overcast Partly Cloudy Rainy Sleeting Snowing Sunny Other Unknown		
Wind Speed:	Wind Direction:	
Weather Forecast *(Circle all that apply):* Clear Foggy Overcast Partly Cloudy Rainy Sleeting Snowing Sunny Other Unknown		
REMEDIAL ACTIONS		
Remedial Actions Taken:		

Release Secured?	Duration of Release:

REGULATORY NOTIFICATIONS					
Regulatory Agency	**Type of Report**	**Date/Time**	**Person Making Call**	**Person Taking Call**	**Incident #/ Miscellaneous**
National Response Center 1-800-424-8802	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
EPA Region Office:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
State Environmental Agency:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
Oil and Gas Conservation Commission:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
District Office:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
SERC	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
LEPC	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
Dept. of Transportation	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
Other:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
Other:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				
Other:	☐ None ☐ Initial ☐ Follow-up ☐ Courtesy				

ADDITIONAL INFORMATION

4.0 APPENDIX

4.1 Tank (Container), Equiment and Berm Annual Inspection Procedure & Checklist

Instructions

Annual inspections of chemical containing storage tanks (containers), secondary containments (berms) and piping shall be performed and documented by qualified personnel. A master checklist is provided on the following page listing all areas that must be inspected. On each checklist use tank (container) or berm name from the Spill Plan and answer all questions for oil and chemical container and berm.

Photocopy this blank master checklist and complete one form for each tank (container) and berm. When inspecting multiple storage tanks inside one common berm; *either* complete the berm section of the form below only once with the first tank, then complete one form for each of the remaining tanks *OR* complete one form for all tanks within one berm by listing all tank IDs and specifying specific tank ID in "Comments" column when any questions are answered "yes". Inspect and document the overall berm condition. Each tank (container) must be inspected on all sides noting general condition and signs of corrosion, pitting, damaged or cracked seams, damaged bolts, paint condition, etc. **If any of the questions listed on the checklist are answered "YES" a corrective action must be performed to correct the deficiency.**

Each checklist must be signed by the inspector or supervisor. File each annual inspection checklist and documentation of any corrective actions taken with the Spill Plan. All inspection records must be kept for a period of three years from the date of inspection.

Tank (Container), Equipment and Berm Annual Inspection Checklist

Facility Name	Searsport Propane Terminal	**Berm ID**	
Inspection Date		**Tank (Container) ID**	
Inspector Name		**Contents**	
Inspector or Supervisor Signature:		**Capacity (bbl)**	
Date of Signature:			

TANK (CONTAINER) INSPECTION	**Yes**	**No**	**NA**	**Comments/Description**	**Corrective Action Taken/Date**
Exterior surface shows signs of leakage or staining (e.g., drip marks, tank discoloration, puddles of spilled/leaked material).					
External coating is bubbled, cracked, corroded or damaged.					
Tank (container) is corroded, pitted, or damaged.					
Bolts, rivets, or seams are damaged, cracked, or corroded.					
Tank (container) foundation has eroded, settled, gaps between tank and foundation, damage by vegetation roots or shows signs of leakage (e.g., discoloration, puddles of spilled/leaked material).					
Overfill protection system is not working.					
Tank (container) bottoms have accumulated rust, scale, microorganisms, or foreign material.					
Vents and pressure release devices are obstructed.					
External stairways/walkways are unsound or obstructed or have low spots where water can accumulate.					
Level controls are inoperable.					
Tank (container) roof drains are blocked, or damaged.					
DOUBLE-WALLED TANK INSPECTION	**Yes**	**No**	**NA**	**Comments/Description**	**Corrective Action Taken/Date**
Liquids are present in the interstitial space of the double-walled tank or sump.					
Leak detection system (if provided) for double-walled tank or sump is inoperable.					
PIPING, VALVES, PUMPS, GAUGES	**Yes**	**No**	**NA**	**Comments/Description**	**Corrective Action Taken/Date**
Equipment is in **poor** working condition (e.g., corrosion, bowing of pipe between supports). (If in good working condition check "No").					
Equipment is leaking (e.g., droplets of stored material, discoloration, localized dead vegetation, evidence of stored material seepage from valves or seals, stained soil below equipment).					
BERM INSPECTION	**Yes**	**No**	**NA**	**Comments/Description**	**Corrective Action Taken/Date**
Berm drainage valve is **open** and **un**locked. (If closed/locked mark "No").					
Berm shows indications of erosion or disrepair or high sand content.					
Berm has holes, cracks, or other breaches that could result in leaks.					
Vegetation with large root systems (trees, bushes) is present in berm area.					
Ramps or other structures associated with spill control are damaged.					
Containment area has accumulated water.					
Sheen or oil observed on accumulated water.					
Pooled oil or stained soil is present.					
Drainage pipe or structures are clogged or have accumulated debris.					
Berm drainage outfall shows signs of erosion or disrepair.					

Additional Remarks ***(Use back of page if more space is necessary)*:**

4.2 Log Sheet: Drainage of Rainwater from Containment Structures

SPILL PROGRAM

Log Sheet for Drainage of Rainwater
From Containment Structure in Maine

Facility Name: Searsport Propane Terminal
Discharge Location:_____

Procedure for draining water from containment after a rain event:

1. Drain lines must have a manual valve and a lock. Drains must be locked in the closed position when not in use.
2. Prior to draining the containment, the water must be inspected for the absence of sheen.
3. The draining event must be recorded on the log sheet below and signed by the inspector or supervisor.
4. When discharge is complete the drain must be closed and locked. Keep this record for three years with the Spill Plan.

Discharge Date	Time		Sheen: Y/N	Signature Inspector or Supervisor
	Opened	Closed		

SECTION 16. WATER SUPPLY

This section identifies the primary use and sources of water during construction and operation of the DCP Terminal.

16.A Water Supply During Construction

During construction, the only significant use of water will be for hydrostatic testing the facility. Once the pipeline, storage tank and other vessels that will contain propane are constructed, they will be tested hydrostatically in accordance with U.S. Department of Transportation requirements to ensure integrity, although pneumatic testing may also be used for some smaller components. During hydrostatic testing, water is used to pressurize the vessel above its design operating pressure, and loss of pressure over a period of time indicates a potential leak or leaks that must be found and repaired before the component can be placed into service. Water use will be minimized to the extent practicable; however, approximately 21 million gallons of water will be required for the hydrostatic testing of the bulk storage tank. DCP is presently exploring options for obtaining the water that will be necessary to complete hydrostatic testing, and will provide additional information regarding the source(s) of water to be used as soon as it is available. Following testing, the test water is expected to be discharged to Penobscot Bay, as described further in Section 17: Wastewater Disposal.

Additional, but very small, amounts of water may be needed during construction for dust control and for hydroseeding during restoration. Water for dust control and hydroseeding will be provided by the applicable subcontractors, using local water supply sources.

16.B Water Supply During Operation

During operation of the DCP Terminal, the only routine use of water will be to supply faucets and toilets at the administration building. A source of water for fire protection will also be needed. Water to supply the administration building will be provided by the municipal water utility. As described in the letter sent to the Searsport Water District, the daily water requirement has been estimated to be approximately 1,000 gallons per day during peak periods of activity at the DCP Terminal. The Searsport Water District responded that they are willing and able to provide the day to day potable water needs for the facility.

Water for emergency fire protection is currently expected to be stored on-site in an approximately 450,000-gallon fire water tank. DCP has also requested that the Searsport Water District evaluate its capacity to provide the water needed to fill the fire water tank, as well as a portion of the water needed for hydrostatic testing. The Searsport Water District responded that it may be able to provide the fire water and hydrostatic test water needs for the facility, depending on the completion of upgrades to its distribution system. Some of those upgrades are expected to be installed beginning in July 2011. Additional upgrades would be needed however to supply all of the terminal facility's needs. Additional discussions between DCP and the water district are planned to evaluate how those supplemental upgrades might be accomplished. A copy of the written correspondence with the Searsport Water District to date is provided in Appendix 16A.

16.C Subsurface Wastewater Disposal

Not applicable. No subsurface wastewater disposal systems are proposed.

APPENDIX 16A

Searsport Water District Correspondence

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

April 7, 2011

Mr. Herbert Kronholm
Searsport Water District
P.O. Box 289
Searsport, ME 04974

Re: Water Supply
Searsport LPG Facility
DCP Searsport, LLC

Dear Mr. Kronholm:

On behalf of DCP Searsport, LLC (DCP), I am contacting you regarding water supply needs for the proposed Searsport Liquefied Propane Gas (LPG) Facility, which is proposed to be located adjacent to the Sprague and Irving Oil receiving terminals at Mack Point in Searsport, ME. The proposed Searsport LPG Facility is a project by DCP, and includes a marine LPG receiving terminal, LPG storage tank, and facilities for overland LPG distribution via truck and rail. My understanding is that David Graham, the DCP Project Manager, has recently contacted the Searsport Water District (the District) and spoken with you regarding the proposed facility's water supply needs. This letter serves to follow up on those consultations.

The proposed Searsport LPG Facility will include an office building that will require a water supply, and DCP would like the building's water supply needs to be served by the District. Typically there will be approximately six employees working in the office during daytime business hours, although the facility will be staffed 24 hours a day. A total of approximately 12-14 employees are expected to be on-site during the course of a typical 24 hour period. In addition, the office could have approximately six truck drivers per hour utilizing the office facilities while loading LPG for overland delivery during periods of peak distribution activity.

In order to estimate the office building water usage, DCP has used the standards of the State of Maine Subsurface Wastewater Disposal Rules (August 1, 2009) (the Wastewater Rules) for places of employment and visitors centers. The Wastewater Rules specifies water usage for places of employment without shower facilities at 15 gallons of wastewater per day, per employee. Water usage for visitors centers specified in the Wastewater Rules (6 gallons per day, per visitor) were used to estimate water usage from truck driver visits. Applying these assumptions, DCP estimates that the daily water usage during peak periods may be approximately 1,059 gallons per day. This is a conservative (high) estimate, as it assumes

six truck driver visits per hour, 24 hours a day. In reality, the number of truck driver visits per hour will be less at night, and also during seasons when heating demand is low.

My understanding is that you have spoken with Mr. Graham regarding the proposed facility's other water supply needs, including fire protection water and post-construction hydrostatic testing water. Specifically, the proposed facility will need water to fill an on-site fire protection water storage tank. In addition, the proposed facility will require water to complete a hydrostatic test of the facility tanks and piping before the Searsport LPG Facility is put into operation.

It is also my understanding that during Mr. Graham's consultations with the District, the District has indicated that it has the capacity to provide a sufficient and healthful supply of water to meet the proposed office facility's needs, that the District would work with DCP to provide the necessary supply of water to fill the fire protection water storage tank, and that the District would provide as much of the hydrostatic test water as possible, depending on the volume of water needed and the timing of the hydrostatic test.

If you could provide a written letter confirming that the District is able to meet these needs, it would be greatly appreciated. The letter would be used as documentation of DCP's consultations with the District for the project's Maine Department of Environmental Protection and Searsport Planning Board applications. Alternatively, if you would like to sign the statement at the bottom of this letter and return the signed original letter to me, that would also provide the necessary documentation for our applications. Thank you for your attention to this request.

Sincerely,

Sean Donohue
TRC

Cc: Steve Wallace, TRC
Becky Malloy/ David Graham, DCP

Searsport Water District Statement:
The Searsport Water District has sufficient capacity to provide the ongoing water supply for the proposed office building associated with the DCP Searsport, LLC LPG Facility. The Searsport Water District also has capacity to provide water for fire control purposes and hydrostatic testing, as described in this letter. The Searsport Water District would allow a service connection from the proposed project to the Searsport Water District supply system.

_____

Herbert Kronholm,
Searsport Water District Superintendent

SEARSPORT WATER DISTRICT

Searsport Water District

46 Prospect Street • P.O. Box 289 • Searsport, Maine 04974
Phone (207) 548-2910 • Fax (207) 548-6719
Email: info@searsportwater.org • Web: www.searsportwater.org

June 6, 2011

TRC
Attn: Sean Donohue
400 Southborough Drive
South Portland, ME 04106

RE: Water Supply
Searsport LPG Facility
DCP Searsport, LLC

Dear Mr. Donohue,

After review of your letter dated April 7, 2011 we find that the Searsport Water District has sufficient capacity to meet the ongoing demands of the proposed office building associated with the DCP Searsport, LLC LPG Facility.

With regards to DCP's fire protection and hydrostatic testing requirements the District can meet those requirements providing that necessary upgrades within the Searsport Water District's distribution system are made. Currently the District will be making some of those upgrades, as previously scheduled, beginning in July of 2011. Additional upgrades will be necessary in order to meet all of DCP's needs. We can discuss what additional upgrades will be necessary and how DCP can provide assistance with making those upgrades as soon as DCP is ready to do so. I would strongly recommend that we begin these discussions as soon as possible so that we can adequately prepare for meeting all of DCP's water demand needs.

Please feel free to contact me should you have any further questions or comments regarding this matter.

Sincerely,

Herbert Kronholm

Herbert Kronholm
Searsport Water District Superintendent

cc: Searsport Water District Board of Trustees
Al Hodsdon, A.E. Hodsdon Engineers
Bruce Probert, Town of Searsport Planning Board

SECTION 17. WASTEWATER DISPOSAL

This section identifies the primary sources of wastewater during construction and operation of the DCP Terminal and the proposed means for disposal.

17.A On-site Subsurface Wastewater Disposal Systems

No on-site subsurface wastewater disposal systems are proposed. As a result, a nitrate-nitrogen impact assessment is not required.

17.B Wastewater Disposal During Construction

During construction, the only significant source of wastewater that will be generated will be hydrostatic test water. As mentioned previously in Section 16: Water Supply, options for providing the large amount of water needed for hydrostatic testing are being explored. A clean water source will be identified and there will be no additives needed in the water to complete hydrostatic testing. Following testing, hydrostatic test water is expected to be discharged at a controlled rate to Long Cove/Penobscot Bay using appropriate energy dispersion measures to reduce the discharge velocity and prevent erosion or scouring of bottom sediments. Once the source of hydrostatic test water is identified, DCP will consult with the appropriate state and federal agency personnel to determine potential permitting needs, if any, and address other concerns related to the discharge of hydrostatic test water into Penobscot Bay.
The results of these consultations will be provided as soon as they are available.

17.C Wastewater Disposal During Operation

The only wastewater routinely generated during operation of the DCP Terminal will be domestic-strength sanitary wastewater from the facility bathrooms and sinks. As discussed in Section 16: Water Supply, the total water needs for the operating facility will typically be less than approximately 1,000 gallons per day, which is comparable to a single-family residence. DCP will connect to the municipal wastewater collection and treatment facilities to dispose of this wastewater Correspondence with the Searsport Wastewater Treatment Superintendent demonstrating sufficient collection and treatment capacity to receive wastewater generated during DCP facility operations is provided in Exhibit 17A.

There will be no other discharge of liquid wastes from the project other than stormwater. Stormwater handling and treatment are described in Section 12: Stormwater Management.

APPENDIX 17A

Searsport Wastewater Treatment Superintendent Correspondence

400 Southborough Drive
South Portland, ME 04106

207.879.1930 PHONE
207.879.9293 FAX

www.TRCsolutions.com

January 6, 2011

Mr. Howard Clark
Searsport Wastewater Treatment Superintendent
P.O. Box 499
Searsport, ME 04974

Re: Wastewater Disposal
Searsport LPG Facility
DCP Searsport, LLC

This letter serves to follow up on our December 14, 2010 conversation regarding the proposed Searsport Liquefied Propane Gas (LPG) Facility located adjacent to the Sprague and Irving Oil receiving terminals at Mack Point in Searsport, ME. The proposed Searsport LPG Facility is a project by DCP Searsport, LLC, and includes a marine LPG receiving terminal, LPG storage tank, and facilities for overland LPG distribution via truck and rail. During our telephone conversation we discussed the Sewer District's capacity to serve the wastewater disposal needs of the proposed Searsport LPG Facility.

The proposed Searsport LPG Facility will include an office building that will generate domestic strength wastewater, and DCP Searsport would like to utilize the municipal sewer and wastewater treatment facility to dispose of the wastewater. Typically there will be approximately six employees working in the office during daytime business hours, although the facility will be staffed 24 hours a day. A total of approximately 12-14 employees are expected to be on-site during the course of a typical 24 hour period. In addition, the office could have approximately six truck drivers per hour utilizing the office facilities while loading LPG for overland delivery during periods of peak distribution activity.

In order to estimate the wastewater flows that may be generated by the office building, DCP Searsport, LLC has used the standards of the State of Maine Subsurface Wastewater Disposal Rules (the Wastewater Rules) for places of employment and visitors centers. The Wastewater Rules specify wastewater flows for places of employment without shower facilities at 15 gallons of wastewater per day, per employee. Wastewater flows for visitors centers specified in the Wastewater Rules (6 gallons per day, per visitor) were used to estimate wastewater flows that may be generated by truck driver visits. Applying these assumptions, DCP Searsport, LLC estimates that approximate wastewater volumes generated

by the office facility during peak periods will be approximately 1,059 gallons per day. This is a conservative (high) estimate as it assumes six truck driver visits per hour, 24 hours a day. In reality, the number of truck driver visits per hour will be less when heating demand is low and at night.

During our telephone conversation, you explained that the Searsport wastewater treatment facility has the capacity to treat the wastewater flows that would be generated by the proposed office facility. If you could provide a written letter stating that the municipal wastewater system has sufficient collection and treatment capacity to serve the proposed project, and that the Searsport Wastewater Department would accept wastewater from the proposed project into the municipal collection and treatment system, it would be greatly appreciated. The letter would be used as documentation of our consultations for the project's Maine Department of Environmental Protection and Searsport Planning Board applications. Alternatively, if you would like to sign the statement at the bottom of this letter and return the signed original letter to me, that would also provide the necessary documentation for our applications. Thank you for your attention to this request.

Sincerely,

Sean Donohue
TRC

Cc: Steve Wallace, TRC
Becky Malloy, DCP

Searsport Wastewater Treatment Superintendent's Statement:
The Searsport wastewater system has sufficient collection and treatment capacity to receive wastewater generated by the proposed office building associated with the DCP Searsport, LLC LPG Facility, as described in this letter. The Searsport Wastewater Department would accept wastewater from the proposed project into the municipal collection and treatment system.

Howard M. Clark Jan 11, 2011 HC

Mr. Howard Clark
Searsport Wastewater Treatment Superintendent

SECTION 18. SOLID WASTE

Solid waste generated from construction and operation of the DCP Terminal will be handled as described below. The applicable requirements of the MDEP regulations will be met, which ensures that public health, safety, welfare, or the natural environment will not be adversely affected.

18.A Waste Generation During Construction

Solid waste that may be generated by the construction of the DCP Terminal can be separated into two broad categories:

- land clearing debris generated by clearing and excavating the site (stumps, grubbings, brush, rocks, etc.); and
- construction waste generated by construction of the buildings and installation of the equipment and piping itself (lumber, masonry, building materials, pipe wrapping, welding rods, etc.).

DCP estimates that construction will generate approximately 900 tons of land clearing debris and 100 tons of construction solid waste. Disposal of these materials will be in compliance with applicable regulations, and is discussed in more detail below.

18.A.1 Disposal of Wood Waste or Land Clearing Debris

Trees may be sold for commercial use or chipped. As much as possible, chipped trees and woody brush, excluding stumps, will be brought to nearby mill facilities where they can be used as boiler fuel. Other wood chips may be brought to a landfill or transfer station where they may be remarketed for beneficial use or, as a last resort, incorporated into landfill materials if they are unable to be remarketed.

DCP expects to handle the majority of other residual land clearing debris on site, as much as possible. Stumps may be ground and stockpiled on-site for use as erosion control mix. Small amounts of stumps, brush or tree limbs may be buried on-site during the course of site grading in upland areas and in accordance with Maine regulations. Any remaining land clearing debris may be burned or hauled off-site for beneficial reuse or proper disposal. Any open burning will comply with the *Rules for Open Burning, 06-096 CMR 102*, and will also be in conformance with local regulations. Ash would be incorporated into the topsoil at a rate of 4 parts soil to 1 part ash or hauled off-site for proper disposal. Rocks may be buried on site during site grading, or hauled off-site. No stumps, brush, wood chips, rocks, or other cleared material will be permanently placed within wetlands or other resource areas.

Final details concerning the use and disposal of land clearing debris will be determined by and be the responsibility of the contractor(s), and will conform to 38 M.R.S.A. Sec. 1301 et seq. and all applicable sections of the *Solid Waste Management Rules*.

18.A.2 Off-Site Disposal of Construction Wastes

All other forms of construction wastes will be hauled off site to appropriate disposal or beneficial reuse locations by a licensed solid waste hauler. Within the project vicinity, there are a number of facilities capable of handling the amounts and types of solid waste that will be generated during construction. DCP intends to allow the contractor hired to oversee construction of the facility to subcontract waste hauling and disposal using appropriate firms from the area. Municipal transfer station and waste disposal facilities may be utilized in the disposal of construction debris.

18.A.3 Special or Hazardous Waste

Construction may generate small quantities of special or hazardous waste. The most likely source of hazardous or special waste would be from the use of petroleum products, such as fuel and lubricants, in construction equipment. Any spills of petroleum or hazardous materials will be cleaned up in accordance with DCP's Construction Spill Plan and disposed of off-site at an appropriately licensed facility. DCP's Construction Spill Plan is discussed further in Section 15: Groundwater and is included in Appendix 15B.

18.A.4 Construction Solid Waste Transport and Disposal Facilities

DCP has prepared a list of potential waste handling facilities in the project vicinity that are licensed to receive solid wastes, including land clearing debris and construction debris. The list of facilities is provided in Appendix 18A. Licensed solid waste transporters will be used as appropriate to transport solid waste generated by project construction. The licensed waste transporters will be responsible for utilizing an appropriately licensed facility. A statement from a nearby, major licensed solid waste transport and disposal company demonstrating willingness and capacity to serve the project is included in Appendix 18B.

18.B Waste Generation During Operation

Routine operation of the DCP Terminal will not generate large quantities of solid waste. DCP estimates that wastes generated from routine operation on a monthly basis may include:

Waste Type	Quantity (cubic yards per month)
Office Paper and Cardboard	13 cubic yards per month
Steel and Other Metals	1.5 cubic yards per month
Wood	0.5 cubic yard per month
Plastics	1.0 cubic yard per month
Electrical or Other Wire/Cable	0.5 cubic yard per month

Solid waste generated during operation will be managed as described below.

18.B.1 Commercial Solid Waste Facilities

Routine wastes generated during operation of the DCP Terminal will be disposed of using licensed commercial haulers and licensed facilities. On behalf of DCP, TRC has contacted a licensed solid waste transport and disposal company to confirm they are willing and capable of disposing of the typical amounts of wastes expected to be generated during project operation. A statement from this company is included in Appendix 18B.

18.B.2 Special or Hazardous Waste

Special wastes generated during routine operation of the DCP Terminal may include approximately 500 gallons of used oil every three to four months. Used oil will be collected for recycling by Clean Harbors or another licensed used oil vendor. There will be no routine generation of hazardous waste.

APPENDIX 18A

List of Licensed Solid Waste Disposal Facilities

LIST OF LICENSED DISPOSAL FACILITIES	
LANDFILLS	
Pine Tree & Juniper Ridge Landfills Casella Waste Systems 358 Emerson Mill Road Hampden, ME 04444 Contact: Tom Gilbert (207)862-4200 ext. 24	Friable Asbestos Materials; Construction & Demolition Debris; Wood Fines; Biomass & Fossil Fuel Boiler Ash; Municipal Clean Wood Burn Ash; Wood Boiler Ash; Municipal Waste Incinerator Ash; Biomedical Incinerator Ash; Treated Biomedical Waste; Wastewater Treatment Plant Sludge; Water Treatment Plant Sludge; Pulp & Paper Sludge; Short-Paper Fiber Sludge; Sand Blast Grit; Oil Contaminated Soil; Gasoline Contaminated Soil; Oily Debris; Leather Scraps; Commercial Laundry Sludge; Catch Basin Grit; Front-End Process Residue; Oversized Bulky Wastes; Municipal Solid Waste – Bypass; Non-Hazardous Chemical Wastes; Spoiled Food-Related Wastes; Clean Wood Debris (for beneficial use); Wood Brush & Stumps (for grinding/recycling); Other Special Wastes
Mid-Coast Solid Waste Corp. 90 Union Street Rockport, ME 04856 Contact: Sandy Carey (207) 236-7958 (multi-municipal but accept commercial waste)	Land Clearing Debris (can either landfill or chip and market material); Clean CDD
INCINERATORS	
Penobscot Energy Recovery Company PO Box 96 Orrington, Maine 04474 Contact: Gary Stacey (207) 825-4566	Municipal Solid Waste (MSW)
Old Town Fuel & Fiber Red Shield Acquisition, LLC 24 Portland Street P.O. Box 564 Old Town, Maine 04468-0564 Contact: Everett Deschenes (207) 827-0797	Clean, chipped land clearing debris (no stumps)
Verso Bucksport Mill 2 River Road P.O. Box 1200 Bucksport, ME 04416 Contact: John Paul Lalonde (207) 469-1205	Clean, chipped land clearing debris (no stumps)

APPENDIX 18B

Licensed Solid Waste Transport and Disposal Company Correspondence

PINE TREE
WASTE SERVICES

February 4, 2011

TRC
Attn: Sean Donohue
400 Southborough Drive
South Portland, ME 04106

Re: Capabilities Statement – Searsport Liquefied Propane Gas Facility

Dear Sean,

This letter is to confirm that Pine Tree Waste Services located in Hermon, ME has the capabilities to pick up, truck, and dispose of annual volumes of (CDD) construction demolition debris as well as CDD material generated by proposed construction at the proposed Searsport Liquefied Propane Gas (LPG) Facility in Searsport, ME. During our recent correspondence you indicated that the Searsport LPG Facility may produce an estimated 100 tons of CDD during construction. These materials can be disposed of at the Juniper Ridge Secured Landfill Facility located in West Old Town, ME.

You had also indicated that the proposed Searsport LPG Facility may produce an estimated 900 tons of land clearing debris during construction, and an estimated 16 to 18 cubic yards of solid waste per month once construction ends and the Searsport LPG Facility is in operation. You estimated the monthly solid waste volumes that may be produced during facility operation as 13 cubic yards of office paper and cardboard, 1.5 cubic yards of steel and other metals, 0.5 cubic yards of wood, 1 cubic yard of plastics, and 0.5 cubic yards of electrical or other wire/cable. Pine Tree Waste Services can also transport volumes of non-hazardous MSW (Municipal Solid Waste) to the Penobscot Energy Recovery Corporation facility located in Orrington, ME. We are also prepared to handle all amounts of recycled products that may be generated from this development, as well Universal Waste and Land Clearing Debris.

This letter is not a quote for services. Rather it is a statement of capabilities. The sole purpose of this letter is to communicate the willingness and capabilities that Pine Tree Waste Services has towards providing this services as requested.

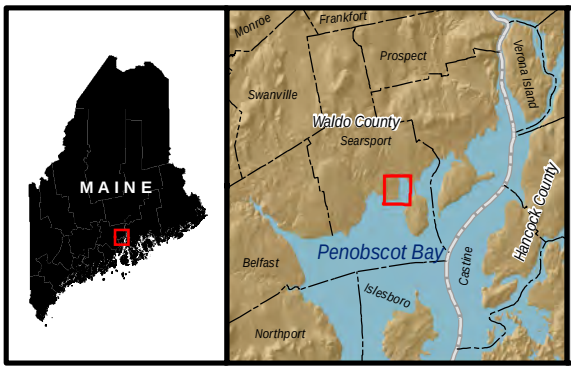
Please feel free to contact me with any future requests. I can be reached at (207) 310-0509.

Sincerely,

Adam Graham
Accounts Manager
Pine Tree Waste Services

SECTION 19. FLOODING

An orthophotograph-based map with the DCP Terminal site boundaries and the FEMA 100 year floodplain and elevation is provided as Figure 19-1. The only component of the proposed facilities that may occur within the 100-year flood zone is the portion of the transfer pipeline located beneath or adjacent to the pier. Project facilities will not affect the 100 year flood elevation, will not cause or increase flooding, and will not cause an unreasonable flood hazard to any structure or off-site property. A stormwater management plan has been completed for the proposed facility, in accordance with Chapter 500 of Department regulations. The stormwater management plan for the DCP Terminal is provided in Section 12: Stormwater Management of this application.



LEGEND

- Site Boundary
- FIRM Zone AE Boundary (14' MSL)
- FIRM Zone VE Boundary
- Transfer Pipeline
- County Boundary (MEGIS)
- Town Boundary (MEGIS)

Data Sources: Maine Office of GIS (MEGIS), Orthophoto Date: 2003.
Floodplain information: FEMA Flood Insurance Rate Maps (FIRM)
Projection: NAD83, UTM Zone 19N, Grid North.

DCP Midstream Partners, LP

DCP Searsport Propane Terminal
Searsport, Maine

Figure 19-1:
FEMA Floodplain Boundary Map

Created by: TRC 5/4/2011

SECTION 20. BLASTING

Based on preliminary review of the geotechnical survey results, blasting is not expected to be required to construct the DCP Terminal. Should an unexpected area of shallow bedrock occur that cannot be removed by means other than blasting, such as use of backhoes, hammering with a backhoe or ripping the rock with a bulldozer, DCP will generally follow the procedures outlined in Title 38 M.R.S.A. § 490-Z(14). Most specifically, the DCP contractor will:

- Complete pre-blast surveys of structures within 500 feet of the blasting activity;
- Control ground vibration and airblast in accordance with Figure B-1 of Appendix B, U.S. Bureau of Mines Report of Investigations 8507 and Chapter 375-10 of MDEP Regulations. Noise and airblast effects will be mitigated by use of proper stemming techniques.
- Prevent the escape of flyrock into off-site properties or resources by using stemming or blasting mats, as appropriate.

SECTION 21. AIR EMISSIONS

This section provides an overview of the air emissions and impacts within the context of the Site Location of Development application requirements. A complete air emission license application for the DCP Terminal is being filed separately with the Bureau of Air Quality (BAQ).

21.A Emission Sources

The DCP Terminal will be a minor source of air emissions typical of any propane combustion source, most notably carbon monoxide (CO), nitrogen oxides (NOx) and Volatile Organic Compounds (VOC). CO results from the incomplete combustion of carbon in the fuel, NOx results from high temperature oxidation of atmospheric nitrogen, and VOC is emitted from incomplete combustion of the fuel and small releases of propane that result when the transfer piping from the ship to the bulk storage tank and fill pipes for truck and rail loading are disconnected. Additional VOC emissions are projected from possible equipment, process safety valves and piping leaks at the facility. All emissions are likely overestimated by a considerable amount from what may actually occur at the facility. Emissions of CO, NOx, sulfur dioxide ("SO_2") and particulate matter ("PM") are effectively controlled through the use of only propane as the fuel for all non-emergency combustion sources at the facility. Volatile organic compounds ("VOC") are controlled through optimizing combustion efficiency, design of the facility to maximize the capture, re-liquefication and return of propane "boil-off" vapors to the bulk storage tank, and use of the flare to combust boil-off emissions from the bulk storage tank during emergency situations such as the loss of commercial power.

Initial estimates of the maximum potential annual criteria pollutant emissions for the facility are summarized in Table 21-1. Annual emissions are based on all fuel burning equipment operating under maximum requested use. More detailed emissions calculations are included in the air emission license application.

Table 21-1

Maximum Potential Total Facility Emissions

Pollutant	Emissions (tons/year)
Nitrogen Oxides	34.3
Carbon Dioxide	22.6
Volatile Organic Compounds	49.0
Particulate Matter	1.9
Sulfur Dioxide	0.3

Non-point sources of air emissions such as fugitive dust will be insignificant and associated primarily with construction of the facility. The construction plan provides for controlling the amount of dust generated by application of water and/or calcium chloride on dry dusty surfaces. Following construction, facility roads and production areas that will receive frequent truck and other traffic will be paved.

21.B Air Emission Licensing

Since the potential atmospheric emissions from the proposed facility would be below major source thresholds, the facility is classified as a minor source for purposes of air emission licensing. All air emission sources at the facility will therefore be reviewed in accordance with the provisions of Chapter

115 of MDEP, as applicable. The granting of an air emission license will demonstrate that the proposed terminal will not have an unreasonable adverse effect on air quality.

SECTION 22. ODORS

The DCP Terminal will not create any significant off-site odors. As discussed in Section 1: Development Description, four pressurized, outdoor 1,000-gallon methyl mercaptan storage tanks will be located on-site. As required by safety regulations, the methyl mercaptan will be used to odorize the propane as it is pumped into trucks or rail cars. This is a 'closed system' process. A small amount of odorized propane can potentially be released when delivery piping is disconnected from trucks or rail cars, but the volume would be so insignificant that the odor would not be noticeable beyond the DCP property line.

SECTION 23. WATER VAPOR

No water vapor producing infrastructure is proposed as part of the project. Therefore, the DCP Terminal will not be a source of water vapor emissions.

SECTION 24. SUNLIGHT

There is no known use of active or passive solar energy systems in the project vicinity.

SECTION 25. NOTICES

Appendix 25A of this section includes the DCP Terminal Public Notice of Intent to File, and also the Public Notice Certification (Form C). A list of project abutters is provided in Appendix 25B.

APPENDIX 25A

Notice of Intent to File and Notice Certification

FORM B 08/08

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that DCP Midstream Partners, LP, with principal offices at 370 17th Street, Suite 2500, Denver, CO 80202, (303) 605-1961, is intending to file Site Location of Development Act and Natural Resources Protection Act permit applications with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 480-A thru 480-BB and §§ 481 thru 490 on or about May 18, 2011. The application is to allow for the construction and operation of the DCP Searsport Propane Terminal that would be located near the corner of U.S. Route 1 and Station Avenue in Searsport, ME.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

For Federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act, 16 U.S.C. § 1456.

The application will be filed for public inspection at the Department of Environmental Protection's offices in Bangor during normal working hours. A copy of the application may also be seen at the municipal offices in Searsport, Maine.

Written public comments may be sent to the MDEP regional office in Bangor at the following address, where the application is filed for public inspection: MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401, Attention: Ms. Robin Clukey.

10
NTALS

Efficiencies 603

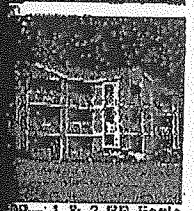
OR - $550 a month, Street, heat and hot included. Call 862-2247.

OR – Center St., 2nd floated. Near Husson. $600. Call 942-2591

OR – effic. apts., all paid, cable TV, from week & up; 942-8759

OR - RIVERVIEW MOTEL wk. on bus rte, 1 mi. EMMC/malls, 947-0125

Furnished 605



OR – 1 & 2 BR Eagle pts., fully furnished. & cable incl. 1 mile EMMC & Mall. No kly & monthly rates. t $245/wk. & $695 o. Call 942-0426

R – 1 BR apt fully furn. uiet, no smoking/pets. heat & utils. 659-7234

– 1BR, 1st flr, W/D, no s. 1st+last mo. dep. 1/2 heat. Call 989-4917

TER – Effic. near UMO, ht, elec. laundry, $600. 478-7235

Unfurnished 610

Management Services

IME TO SPRING NEW HOME? – BR apts. available! mmaculate units within walking dis- hopping areas and

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Wood
ple Street
Perch Street

ower/Hampden
Apartments
ek
ge Condos
Worth
Way Townhouses

ker/Harman
Centre
Perch Street
for more info. or
.com

items deemed advisable for the interest of the Owner.
May 11, 2011 Owner: Town of Greenville, Maine

Legal Notices

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that DCP Midstream Partners, LP, with principal offices at 370 17th Street, Suite 2500, Denver, CO 80202, (303) 605-1961, is intending to file Site Location of Development Act and Natural Resources Protection Act permit applications with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 480-A thru 480-BB and §§ 481 thru 490 on or about May 18, 2011. The application is to allow for the construction and operation of the DCP Searsport Propane Terminal that would be located near the corner of U.S. Route 1 and Station Avenue in Searsport, ME.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

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Written public comments may be sent to the MDEP regional office in Bangor at the following address, where the application is filed for public inspection: MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401, Attention: Ms. Robin Clukey.
May 11, 2011

Apts. Unfurnished 610

BANGOR - 120 Walter St., 2 BR, HT & HW incl it's Sweet, $750/mo. allow clean pets. 1st+Sec+Lease. 991-1422

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
BANGOR - 1, 2 & 3 BR, $675 & up, exc. cond., lease, sec. dep. Call for details, 942-8759

BANGOR – 1,2 & 3 BR, clean, remodeled, $700 & up; 356-1947 www.bangor-maine.com

BANGOR – 1 & 2 BR apts. & efficiencies, The Schoolhouse, starting at $675, no smoking, includes heat & H/W, convenient location, coin-op laundry, security system, no pets; applicant must qualify. Equal Housing Opportunity. For further info, call 947-1271

BANGOR – 15 Elm St., 2 BR townhouse, near EMMC, quiet, ample pkg. Heated. No W/D, no pets. Dep. $725. 862-5737.

Legal Notices

NOTICE OF PUBLIC MEETING

The members of the Board of the Finance Authority of Maine (FAME) will meet at 9:00 a.m. on Thursday, May 19, 2011, at the Finance Authority of Maine, 5 Community Drive, Augusta, Maine. Members of the public are invited to attend. Some items may be considered in executive session. As of May 9, 2011, action items to be considered by the members include (1) Approval of Business Funds Capitalization and Education Funds Capitalization Policies; (2) Approval for Rulemaking - Ch. 324, Innovation Finance Program; (3) Approval of FY 2012 Budget; (4) Adoption of Rule Ch. 101, Amendment 3 - Loan Insurance Program; (5) Adoption of Rule Ch. 311, Amendment 3 - Economic Recovery Program; (6) Adoption of Rule Ch. 312, Amendment 1 - Intermediary Relending Program; (7) Maine College Savings Program - Approval of AIM Distribution; (8) Modifications to NextGen College Investing Plan® Portfolios - BlackRock Investments, Inc. and Allianz Global Investors; (9) Adoption of Rule 314, Amendment 8 - Regional Economic Development Revolving Loan Program; and (10) old and new business. For further information, contact Elizabeth L. Bordowitz, Chief Executive Officer, P.O. Box 949, Augusta, Maine, 04332-0949, (207) 623-3263.
May 11, 2011

beginning at 10:30 a.m., on June 2, 2011, at the mortgaged premises. Bids for Parcel 2 will be accepted beginning at 11:00 a.m., on June 2, 2011, at the mortgaged premises. Bids for Parcel 3 will be accepted beginning at 11:30 a.m., on June 2, 2011, at the mortgaged premises. Bids for Parcel 4 will be accepted beginning at 12:00 p.m., on June 2, 2011, at the mortgaged premises. All bidders will be required to deposit $10,000.00 in cash or certified U.S. funds made payable to Pierce Atwood LLP in order to register to bid (the "Deposit"). The Property will be sold to the highest bidder, who must leave the Deposit as a non-refundable down payment. The highest bidder will also be required to sign a purchase and sale agreement calling for a closing on or before July 2, 2011, at which time the balance of the bid price will be due in immediately available U.S. funds, and Machias Savings Bank, the foreclosing mortgagee, will deliver a duly executed Quitclaim Deed Without Covenant conveying the Property. The Property will be conveyed subject to all matters set forth in the Purchase and Sale Agreement and the additional Terms and Conditions of Sale which are available from the auctioneer prior to the auction. Additional terms may also be announced at the time of the auction. Machias Savings Bank, the foreclosing mortgagee, and its assigns, reserve the right to bid without making the required deposit and, if Machias Savings Bank, or its assigns, is the high bidder, to pay for the Property with a credit against the debt owed to it.

Dated: April 25, 2010

s/Jacob A. Manheimer
Jacob A. Manheimer
Attorney for Machias Savings Bank
PIERCE ATWOOD LLP
One Monument Square
Portland, ME 04101
(207) 791-1100

April 27, May 4, 11, 2011

Legal Notices

STATE OF MAINE
PENOBSCOT, SS.

SUPERIOR COURT
DOCKET NO. RE-11-25

MECHANICS SAVINGS BANK,

Plaintiff

v.

ESTATE OF WENDY LOU CHAMBERLAIN,

Defendant

ORDER GRANTING MOTION FOR SERVICE OF FORECLOSURE COMPLAINT BY PUBLICATION

The Plaintiff's Motion for Service by Publication of Foreclosure Complaint upon Defendant is hereby granted. This Order shall be published once a week for three successive weeks in the *Bangor Daily News*, and a copy of the Order shall be sent to the Defendant's last know address.

The first publication of the summons shall be made within 20 days after this Order is granted. Service by publication shall be considered complete on the 21st day after the first publication. Upon completion of service, Defendant must appear and defend the summons by filing of a written answer to the complaint. You or your attorney must file your answer by delivering it in person or by mail to the office of the Clerk of the Penobscot County Superior Court, 78 Exchange Street, Bangor, ME 04401. On or before the day you file your answer, you or your attorney must mail a copy of your answer to the plaintiff's attorney, whose name and address appear above.

IMPORTANT WARNING: IF YOU FAIL TO FILE AN ANSWER WITHIN THE TIME STATED ABOVE, OR IF, AFTER YOU FILE YOUR ANSWER, YOU FAIL TO APPEAR AT ANY TIME THE COURT NOTIFIES YOU TO DO SO, A JUDGMENT BY DEFAULT MAY BE ENTERED AGAINST YOU IN YOUR ABSENCE FOR THE MONEY DAMAGES OR OTHER RELIEF DEMANDED IN THE COMPLAINT. IF THIS OCCURS, YOUR EMPLOYER MAY BE ORDERED TO PAY PART OF YOUR WAGES TO THE PLAINTIFF OR YOUR PERSONAL PROPERTY, INCLUDING BANK ACCOUNTS AND YOUR REAL ESTATE, MAY BE TAKEN TO SATISFY THE JUDGMENT. IF YOU INTEND TO OPPOSE THIS LAWSUIT, DO NOT FAIL TO ANSWER WITHIN THE REQUIRED TIME.

If you believe the plaintiff is not entitled to the relief requested in the complaint for foreclosure or if you believe you have a claim of your own against the plaintiff, you should talk to a lawyer. If you feel you cannot afford to pay a fee to a lawyer, you may ask the office of the Clerk of the Superior Court at 78 Exchange Street, Bangor, Maine, or any other Clerk of the Court, for information as to places where you may seek legal assistance.

The clerk shall incorporate this order into the docket.

Dated: 4/20/11

Superior Court Justice
Ann M. Murray

April 27, May 4, 11, 2011

2 bedrooms & full bath. 3rd floor has unheated bedroom w/storage. Electric stove & hot water heater. Full basement, im. deck and yard. Baseboard heat. Washer/dryer hookup. Water /sewer and lawn care included in rent. Heat, Snow & trash removal tenants responsibility. Available July 1. 207-236-2736 cheryl@coastalmainere.com

Property Management Complete Property Management Inc. is now offering Professional Property Management Services for apartments, single family houses, and waterfront properties. With 26 years experience, we are your turn key company for repairs, mowing, plowing tenant screening and turnovers rent collection and accounts payable. Huge discounts on flooring, paint, etc. We are fully insured. Please call to check out our VERY competitive rates. Leave message. Will return all calls with in 24 hours. 207-594-7779

ROCKLAND, duplex. Good location, 2BR, w/w, Refrigerator & Stove, No Pets, $600/mo. References and security. 207-594-4878

YEARROUND RENTAL- Camden, 3 Bedroom, 1.5 Bath intown Camden duplex within walking distance to shopping, restaurants, library, etc. Two story living with fully appliianced kitchen, w/w carpet, first floor master and bath and open floor plan. Shared washer/dryer. $950/month Includes heat/lawncare/water/sewer. No Smoking. Pets upon approval. Please call 207-236-7857 for additional information and rental application. (207) 236-7857 rentals@jaretcohn.com :

down town Belfast. $650.00 per month plus utilities. Landlord pays lawn care and water & sewer. References, first/last & sec. dep. required. No smoking. Please call 207-338-2557 or 207-930-5941. bythebayproperty@gmail.com

3BR Home In Searsport Nice, clean, 3 bedroom home on Warren St. Great location in town. Nice yard, partially fenced; quiet area, close to schools. Offers first floor B.R., 2 full baths, 2 car garage with two workshop areas. Large kitchen, W/D hook ups. First, last and sec. deposit required. Lots of storage space available! $850 per month. Pets possible with added deposit. No smoking. Please call 207-338-2557 for more information. bythebayproperty@gmail.com

Belfast Area Property Management Services Full service Property Management Services with 24 Hour On Call Maintenance Person. Reasonable Rates. Contact Alan Wood. 207-323-2283 awood@jaretcohn.com

Camden Very small 4 room 1 bath within walking distance to harbor and town. Non smokers, no pets. $750.00 per month plus heat and utilities . Excellent references. 1st last and security deposit required. 1 yeas lease. 207- 242-3156

Camden 454 Washington St. 3 bedroom/3 bathroom house. $1800 per month. Large kitchen/ family room w/fireplace. Livingroom w/fireplace & sliding door that goes onto a deck w/barbaque. Pantry, dishwasher, gas stove and granite counter tops. Washer and gas dryer. Hot water heat & central A/C. 2 car garage and furnace room storage. Tenant responsible for utilities. Available June 1. 12 month lease.

Cedar Street House Why rent an apartment when you can rent a whole house? This home offers 2/3 bedrooms with additional storage space, dishwasher, washer/dryer hookup. Nice corner lot just a short distance to shopping and the waterfront. $900 per month plus utilities. Please call Melanie for more information and an application 207-596-7863 mbutman@jaretcohn.com :

Homes, Condos, Apts. Belfast Area Hometown Real Estate & Property Management 207-338-3949 sam@hometown.re.org

Hope- Country Duplex Private, quiet location. 2BR, large kitchen/dining space, deck, 1 bay garage. $700+. 1st and security. Please call for application. 207-593-2815

Knox Place Cute one bedroom bungalow! This home offers a light and sunny living room and kitchen with a washer and dryer, fenced yard and storage shed. $750 per month plus utilities. Please call Melanie at 207-596-7863 for additional information and an application. mbutman@jaretcohn.com :

Lincolnville Main St. 3 Bedroom/2 Bathroom House, $975 per month. Kitchen, dining room, TV Room, Livingroom and Summer room. 1 bath and all bedrooms upstairs. All wood floors except carpeting in the livingroom. Washer/dryer hookup. Oil heat, propane hot water. Propane stove, refrigerator and dishwasher. No Pets and no smoking. Garage for storage only. Tenant responsible for heat, plowing, lawn care and garbage 207-236-2736 cheryl@coastalmainere.com

Lincolnville Fabulous remodeled 6BR antique cape farmhouse. See description under houses for sale. 781-259-9124

Monroe, Small house 2 bedroom, wash/dryer, fenced in yard, pets 500.00/mo, sec. deposit, elec heat not included 525-4445

Professional Property Management Complete Property Management Inc. is now offering Professional Property Management Services for apartments, single family houses, and waterfront properties. With 26 years experience, we are your turn key company for repairs, mowing, plowing tenant screening and turnovers rent collection and accounts payable. Huge discounts on flooring, paint, etc. We are fully insured. Please call to check out our VERY competitive rates. Leave message. Will return all calls with in 24 hours. 207-594-7779

Prospect-Haley Drive 3BR, 1.5 bath, Garage and outbuildings. $800/mo. + utilities. Security last month's rent. 852-0847

Rockland Historic 3BR Duplex Spacious rooms, fireplace, parking, beautiful period details. $1100+ . 1st, last, security. Please call for info and application. 207-593-2815

ROCKLAND: Townhouse. 2BR, 2BA, garage, 1000/mo + util. Walk to Samoset. 207-542-4588

Rt 131 Saint George Year round rental: Updated 2 Br 2 bath home. Has a very efficient "Munchkin" propane heating system. Barn for storage available. Please no pets or smokers. Must have good rental references and security deposit. Available immediately $875 plus all utilities. Call Karen for more information. 372-8649 or 691-0315 207-372-8649 kanderson@jaretcohn.com :

SEARSPORT New kitchen & bath, living room 2 BR loft, den. Nice grounds across from Moose Point State Park . $800/mo. 1st and sec no pets. 567-3259

Spruce Head year round waterfront rental Located on a quiet lane, this 2 bedroom, 2.5 bath house is a rare gem! Amazing views, waterfront access and a beautiful lawn. Open floor plan with beautiful natural light and vaulted ceilings. One car garage, washer and dryer. $1,000.00 per month plus utilities. Pets considered. Available end of April. Fletcher@summermaine.com or 207-596-6295 :

Stockton Springs-Highland Ave. 2BR, 2 baths with a 2-car garage. $800/mo.+utilities. Security+last months rent. 852-0847

THOMASTON Very nice 7 room house. Quiet neighborhood. Garage space. W/S, snow, trash removal. $850 monthly plus utilities, security and references. Non-smoking, no pets. 207-372-8410 or 207-452-2426

Thomaston Riverfront Home Sunny, energy efficient, 3+ BR, 2 BA; luxurious master suite; deck overlooking river w. great kayaking/fishing; open living/kitchen, spacious garden; $950/mo. 207-763-3321 vincebaldo@gmail.com :

Warren Riverfront Home Wonderful Center-Chimney cape which has been nicely updated over time. This home is on a quiet dead-end street with rivers views and an amazing yard that leads down to the Saint George river. This home offers 3 bedrooms, 2 baths. $1250 per month plus utilities. Call Melanie @596-7863 mbutman@jaretcohn.com :

UNFURNISHED HOMES

1+ bedroom HOUSE In Owls Head 1+ bedroom in Owls Head, 1 story living, dishwasher, w/d included, snow & lawn care included, $750/mo plus heat, electric, & trash; www.kinneyrentals.com 207-354-0100 amber@kinneyrentals.com :

2 bedroom HOUSE in Rockland 2 bedroom in Rockland, in town location, hardwood flooring, storage space, great condition, $900/mo plus utilities; www.kinneyrentals.com 207-354-0100 amber@kinneyrentals.com :

2 BR Duplex In Belfast Two bedroom apt. 1 bath, kitchen, living dining, W/D hook up. Easy walk to

and located in Thomaston, Maine. Tastefully decorated, many of these private rooms come with a private bath. We also have a large suite with a walk-in closet and includes a very large bathroom with both a shower and soaking tub — Perfect for a couple. Winter is around the corner, you may even come for the winter months...why shovel, or risk slipping on the ice. We offer a lovely home environment, excellent home made food, baked goods, laundry services, medication reminders. Riverside Home in Thomaston Maine...life as it should be! 207-354-6665

THOMASTON - AVAILABLE NOW! CLEAN & BEAUTIFUL ROOMS/BATH IN A HOME ENVIRONMENT Riverside Home, LLC provides a wonderful, clean environment for individuals needing supervision to live safely, or for those no longer wanting to live alone. When you come here you will feel at home almost immediately. It is a home environment. Riverside Home offers: Home-made meals, baked goods, laundry services, medication reminders, Come stay with us long term or short term... relax and watch it snow! Your loved one can "Age In Place" meaning that as needs increase, so do the services, so there wouldn't be a need to move to a higher level of care and that keeps costs down. Respite and Adult DayCare also available. Couples welcome. Call now for more information. 207-354-6665 riversidehome@roadrunner.com :

BUSINESS OPPS.

Transcription Services Do you have transcription needs? Kirsten Transcribes can help! With over 12 years of transcription services, we can transcribe your tapes, digital files or handwritten documents to meet your needs. Offices located in downtown Rockland. For more information call 691-2675 or visit www.kirstentranscribes.com.

CLEANING

AT YOUR SERVICE Offering cleaning, caretaking, and minor maintenance for your home, cottage or rental unit. Mature, Experienced, Reliable and Insured. Serving Knox County and surrounding area. From cleaning to cooking to garden and pet care we are AT YOUR SERVICE. Call Kathi @ 207-557-3511 or Maria 207-832-1063

CAR DETAILING Do you want your car detailed? I'll be cheaper & better than anywhere around, inside and out detailing. Call me for prices and more information 207-312-0921 hunt1938@yahoo.com

Do you need your house cleaned? I have 20 years of experience, excellent work, covering South Thomaston, Spruce Head, Rockland, St George, Tenants Harbor, Owls Head, Thomaston, and Port Clyde areas. Please call Debbie at 596-7083

New Year full of great services: Available to you. Total Property Care; from cleaning the attic to the basement, and great lawncare to home repair. One time or all the time! Opening, closing and periodic inspections. Please call 207-974-7030.

PROFESSIONAL CLEANING. Have Broom Will Travel is a professional cleaning service that has been serving the Mid-Coast for over 20 years. I specialize in Residential and Commercial cleaning. Property Management, Office/Home Organizing. I offer friendly, reliable, trustworthy service. My rates are affordable and my references are excellent. No job too big or to small. Rest assure you are in good hands professionally with some one who cares. Free estimates. Insured. Please contact me at 785-4537 or 542-4537. My email is havebroom53@roadrunnel.com. FM go to www.villagesoup.com and click on Biz search . 785-4537 havebroom53@roadrunner.com :

Spring Cleaning: Vinyl siding and decks washed. Get rid of the mold growing on your house and decks. Call 207-974-7030.

Spring Cleaning: Hot top driveways cleaned, swept and washed off. Call 207-974-7030.

SPRING CLEANING: Will clean yards, attics, garages, etc. with light trucking. Please call 207-974-7030.

Sue's cleaning Service I specialize in one time cleanings. Moving in, moving out, spring cleaning, or maybe you just need help getting caught up with your daily/weekly cleaning. I also open up summer homes and get them ready for your arrival. I'm dependable and insured. This is a division of 24 Hour Property Services. Other services are available as well. Check out my website at 24hrpropertyservices.com 975-5556 propertysvc24hr@aol.com

CHILD CARE

Common Kids Child Care & Preschool Now Has Openings! Common Kids Child Care & Preschool has full and part time openings in our inclusive child care facility. Our low weekly rates are family budget friendly with meals & preschool curriculum included! We are open Monday through Friday 6am to 6pm with weekend & evening care available at no extra charge. Call 790-0318 to inquire further or visit our website www.commonkids.webs.com. You can also find us on FaceBook! We are conveniently located just off the common in Union.

Summer Camp This summer The Playroom is turning up the heat! We are proud to announce we will be offering an action packed, fun filled summer vacation camp with beach days, field trips and home base days at The Playroom. Full Time- $100 week Part Time- $25 day Before & After Care- $25 day One Week Only- $125 week 207-273-3007 maineplayplace@aol.com

CONSTRUCTION

Commercial Superintendant Commerical Superintendant needed for immediate opening. Competitive Salary offered. Must be capable of working in the field if required on a project by project basis. Applicants will not be considered for this position unless they have a minimum 5 years of prior commercial superintendant experience. Clear back ground check's a must. Fax resume to 354-0631 or email to avery@catalanaconstruction.com 207-354-6681

Custom Kitchens & Baths If your in the market for a new kitchen or bathroom don't go through a home center or a general contractor. Save money and get a quality product going directly to the person building the cabinets. Buzzell Hill Woodworking and Design builds high end kitchens and bathrooms using classic mortise and tenon joinery and solid wood which guarantees products to last a lifetime. All construction is done by hand and all finishes are hand rubbed. Buzzell Hill works directly with the customer so that the customer gets exactly what they want. Kitchens and baths are built according to the dimensions of your space which helps to maximize storage. There's always a way to work within your budget. For more information visit www.buzzellhillwoodworking anddesign.com or call (207) 542-9634 207-542-9634 cwell918@yahoo.com :

Earthwork, Homes and Land: Demolition (confidential). Stop paying taxes on that old building. Take down that unsightly and unsafe building. Improve the value and sale

Attention Lincolnville Voters Budget and Town Meeting Dates

May 24, 2011–7PM
Lincolnville Central School
(Special Town Meeting Lincolnville Central School 2011-2012 Budget)

May 31, 2011–8PM
Camden Hills Regional High School
(5 Town Community School District 2011-2012 Budget)

June 14, 2011–9AM to 8PM
Lincolnville Central School
(Regular Voting Election: Town Candidates/LCS Budget Validation/CSD Budget Validation)

June 18, 2011–10AM
Lincolnville Central School
(Annual Town Meeting)

visit www.town.lincolnville.me.us for details

WCAP Annual Meeting Notice

Waldo Community Action Partners (WCAP) will hold its Annual Meeting On Thursday, May 26, 2011 at 6:00 p.m. Searsport Congregational Church 8 Church St, Searsport, ME 04974

Appleton Planning Board Meeting May 23, 2011

The Appleton Planning Board will hold its regular meeting on Monday May 23, 2011 at 7:15 P.M. in the Appleton Town Hall. The agenda for the meeting includes setting a date for a hearing on an amendment to the Shoreland Zoning Ordinance Map which proposes to change the designation of one area from limited residential to resource protection.

Charles Buell
Appleton Planning Board Chair

Knox Cemetery Mowing Bids

Bids for mowing four Knox Cemeteries

Send a bid to the Knox Town Office at 10 Abbott Rd. Knox, Maine 04986 By May 13, 2011

Must show proof of insurance. We have the right to accept or reject all bids without prejudice.

VS Services

ADULT CARE PROVIDER

LOVELY and AFFORDABLE ELDERCARE ROOMS The Riverside Home is licensed

PUBLIC NOTICE
TOWN OF FRIENDSHIP

Friendship Shellfish licenses will go on sale at the Town Office beginning at 9 A.M. ,Thursday , June 2nd, 2011 and will be sold during regular business hours.

Monday, Wednesday, Thursday and Friday 9-3, Tuesday 9-7.

Available are: 35 Resident Commercial Licenses
$100.00 - Diggers 18 years under but over 10
$200.00 - Diggers over 18 and under 65
N/C - Diggers 65 and older, 10 and under

4 Non-Resident Commercial Licenses
$200.00 - Diggers 18 years under but over 10
$400.00 - Diggers over 18 and under 65
$ N/C - 65 and over, 10 and under

Licenses are available on a first come/first serve basis.

Grand fathered licenses may be picked up on Monday, May 16th thru Thursday, June 2nd 8:59 A.M. 2011.

Recreational Licenses will also be available June 2nd to Friendship Residents (12 month residency requirement) and real estate taxpayers (required by ordinance). 10% of Recreational Licenses will be available to Non-Residents (required by State Law).

Resident Recreational
$10.00 - over 10 and under 65
N/C - 65 and over, 10 and under

Non Resident Recreational
$20.00 - over 10 and under 65
N/C - 65 and over, 10 and under

NOTICE OF PUBLIC SALE

By virtue of and in execution of a Judgment of Foreclosure and Sale entered in the Waldo County Superior Court on January 4, 2011, in an action entitled Saco Valley Credit Union vs. Lamb, Docket No. BELSC-RE-10-26, for the foreclosure of a mortgage recorded in the Waldo County Registry of Deeds in Book 3227, Page 229, the statutory 90 day period having elapsed without redemption and the statutory period of redemption having expired, notice is hereby given that there will be sold at public sale at 10:00 a.m. on June 16, 2011, at the office of Central Maine Title Company, 78 Winthrop Street, Augusta, Maine, all and singular the premises described in said mortgage, to which reference is hereby made for a complete description.

The property is located at 207 Rocky Road, Northport, Maine.

Terms of Sale: Premises will be sold to the highest bidder. The mortgage holder reserves the right to bid. The purchase price is payable as follows: Five Thousand Dollars ($5,000.00) in cash, certified check, or cashier's check payable to Jensen Baird Gardner & Henry at the sale as a non-refundable earnest money deposit; the balance in cash, certified check, or cashier's check within thirty (30) days thereafter.

Additional terms will be announced at the sale. The mortgagee's attorney for purposes of this sale is David J. Jones, Esq., Jensen Baird Gardner & Henry, 11 Main Street, Kennebunk, Maine 04043 (207-985-4676).

TOWN OF KNOX
LAND AND BUILDING FOR SALE BY PUBLIC BID

Land "Approx. 3.5 acre" and Building Located on Route 137, Map 3 Parcel #31 Knox Municipal Building

Town Reserves the Right to Accept or Reject Any and All Bids
Deadline May 31, 2011

Send to:
Knox Town Office
10 Abbot Road
Knox, Maine 04986

LEGAL NOTICE

The Town of Camden Registrar of Voters will be in session in preparation for the June 14 and 15, 2011 Annual Town Meeting and MSAD#28/CSD#19 Budget Validation Referendum for the purpose of registering and/or enrolling new voters and for name/address changes during regular Town Office business hours 8:00am - 3:30pm Monday through Friday, and until 4:30 on the First and Third Tuesday of the month. You may also register to vote at the polls on Election Day. A person whose name has been changed by reason of marriage, divorce, or for other legal reasons, should notify the Registrar in writing. Identification and Proof of Camden residency must be presented at time of registration.

Katrina Oakes
Registrar of Voters
(207) 236-3353

NOTICE TO BE PUBLISHED : PETITION FOR TERMINATION OF PARENTAL RIGHTS

STATE OF MAINE — DISTRICT COURT
WALDO, ss — DISTRICT: Fifth
LOCATION OF: Belfast
DOCKET NO: BEL 10 PC 1

LEGAL NOTICE TO Telemachus Watson and any unknown father, whereabouts unknown :

Pursuant to an Order for Service by Publication dated 4/25/11.

NOTICE IS HEREBY GIVEN THAT:

1. a. Pursuant to 22 M.R.S.A. §§4003, et seq., the State of Maine Department of Health & Human Services has petitioned for Termination of Parental Rights regarding the following minor child: ,

HARRIMAN RACHEL L., born 12/10/2005.

b. Pursuant to 22 M.R.S.A. §4034, on February 2, 2010 the Department was awarded custody of the child.

2. a. The legal parents of the child are:

MOOREHEAD KIMBERLY L., whereabouts Sandy Point, ME.

b. Telemachus Watson and any unknown father, whereabouts unknown.

3. A hearing regarding the Petition for Termination of Parental Rights as to Telemachus Watson and any unknown father, will be held at the District V - Belfast , address 103 Church Street Belfast ME , 04915-0082 on July 11, 2011 at 9:30 am for parent and custodians to appear and be heard.

4. Parents and custodians are entitled to legal counsel in these proceedings. If you want an attorney but are unable to afford one, you should contact the Court at the telephone number (207) 338-3107 as soon as possible to request appointed counsel.

5. Failure to appear at the hearing regarding this matter may be determined to indicate an intent to abandon the child pursuant to 22 M.R.S.A. §4002 (1-A).

These proceedings could lead eventually to termination of parental rights under 22 M.R.S.A. §§4051-4057.

6. If you have questions regarding this matter you may contact the Department of Health & Human Services, Division of Child and Family Services at (207) 561-4102.

7. In these proceedings the State of Maine Department of Health & Human Services is represented by the Office of the FOWLES ROSEMARY ESQ.

Dated 4/25/11 at Belfast , Maine.

Attestation : Patricia G Worth
Judge, Maine District Court

PUBLIC NOTICE OF INTENT TO FILE

Please take notice that DCP Midstream Partners, LP, with principal offices at 370 17th Street, Suite 2500, Denver, CO 80202, (303) 605-1961, intends to file a minor source Air Emission License application with the Maine Department of Environmental Protection (DEP or Department) pursuant to the provisions of 38 M.R.S.A., Section 590, and regulations thereunder, on or about May 18, 2011.

The application is to allow for the construction and operation of the DCP Searsport Propane Terminal that would be located near the corner of U.S. Route 1 and Station Avenue in Searsport, Maine. The proposed facility would include three propane-fired heaters, one diesel-fired emergency generator, one diesel-fired emergency fire pump, and one emergency flare. Other equipment proposed for installation includes two propane storage tanks, a vapor collection system, a ship unloading station, a truck loading station, and a railcar loading station.

According to Department regulations, interested parties must be publicly notified, written comments invited, and if justified, an opportunity for public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation will be available for review at the Bureau of Air Quality (BAQ) DEP offices in Augusta, (207) 287-2437, during normal working hours. A copy of the application and supporting documentation will also be available at the municipal office in Searsport, Maine.

Written public comments may be sent to Marc Cone at the Bureau of Air Quality, State House Station #17, Augusta, Maine 04333.

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that DCP Midstream Partners, LP, with principal offices at 370 17th Street, Suite 2500, Denver, CO 80202, (303) 605-1961, is intending to file Site Location of Development Act and Natural Resources Protection Act permit applications with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 480-A thru 480-BB and §§ 481 thru 490 on or about May 18, 2011. The application is to allow for the construction and operation of the DCP Searsport Propane Terminal that would be located near the corner of U.S. Route 1 and Station Avenue in Searsport, ME.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

For Federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act, 16 U.S.C. § 1456.

The application will be filed for public inspection at the Department of Environmental Protection's offices in Bangor during normal working hours. A copy of the application may also be seen at the municipal offices in Searsport, Maine.

Written public comments may be sent to the MDEP regional office in Bangor at the following address, where the application is filed for public inspection: MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401, Attention: Ms. Robin Clukey.

FORM C 08/08

PUBLIC NOTICE FILING AND CERTIFICATION

The DEP Rules, Chapter 2, require an applicant to provide public notice for all Site Location projects with the exception of minor revisions and condition compliance applications. In the notice, the applicant must describe the proposed activity and where it is located. **"Abutter"** for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.

2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

ATTACH a list of the names and addresses of the owners of abutting property.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application;
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. Provided notice of, if required, and held a public informational meeting in accordance with Chapter 2, Rules Concerning the Processing of Applications, Section 14, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The first Public Informational Meeting was held on December 14, 2010.
A second Public Informational Meeting was held on March 2, 2011.

Approximately 33 members of the public attended the December 14 Public Informational Meeting.
Approximately 25 members of the public attended the March 2 Public Informational Meeting.

Michael S. Richards 5-13-2011

Signature of Applicant or authorized agent Date

Notice of December 14, 2010 Public Informational Meeting

Donohue

Legal Notices

PUBLIC NOTICE

BACTS (Bangor Area Comprehensive Transportation System) is responsible for carrying out much of the transportation planning in the greater Bangor urbanized area. BACTS intends to amend the Transit element of the BACTS Transportation Improvement Program (TIP) for FY11, to include Job Access Reverse Commute (JARC) Program funding of public transit.

BACTS is soliciting comments from the public on the proposed changes. Comments shall be made in writing and received on or before 4:00 p.m., December 27, 2010. Copies of the current TIP and the proposed amendment are available for inspection at the BACTS office during normal office hours. Any questions or written comments should be directed to:

Robert Kenerson
BACTS
40 Harlow Street
Bangor, ME 04401
rkenerson@emdc.org
Nov. 26, 2010

Legal Notices

NOTICE OF PUBLIC INFORMATIONAL MEETING

Please take notice that DCP Midstream ("DCP"), 370 17th Street, Suite 2500, Denver, Colorado 80202, (303) 605-1707, intends to hold a public informational meeting at the Searsport Town Hall, 1 Union Street, Searsport, Maine, on Tuesday, December 14, 2010 from 5:00 P.M. to 8:00 P.M.

The purpose of the meeting is to provide the public with information about and an opportunity to comment on DCP's proposed construction and operation of a marine supplied truck/rail loading propane terminal in Searsport, Maine (the "Project"). The Project will include a single steel tank, loading pumps for truck or rail, and an office building.

At the public informational meeting DCP representatives will also be available to discuss the various state, federal and local approvals that will be required in connection with the Project, including DCP's intent to file a Site Location of Development Permit Application and Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481-490 and 38 M.R.S.A. §§ 480-A thru 480-BB, respectively, and the regulations thereunder.

November 26, 2010

Legal Notices

SAVE THE DATE!

Managed MaineCare Initiative Update for Potential Vendors

When
Friday, December 10, 2010
9:00am-12:30pm

Where
Augusta Civic Center, 76 Community Drive,
2nd Floor, Piscataquis/Sagadahoc Room

What
This session will update interested parties on the direction and status of the Managed MaineCare Initiative (MMI) since issuance of the RFI in December 2009. It is designed to help interested parties begin preparing for the anticipated issuance of the MMI RFP in March 2011. Presentation topics will include the proposed inclusion of managed populations and services and the operational model. Interested parties will also have the opportunity to pose questions.

Please send questions or RSVP to
shannon.martin@maine.gov
November 26, 2010

Sage Advice
Janine Pineo monthly in the...
Bangor Daily News

Legal Notices

NOTICE OF PUBLIC SALE OF REAL ESTATE

By virtue of and in execution of a Judgment of Foreclosure and Sale entered in the Waldo County District Court, on August 13, 2010, in Civil Action, Docket No. RE-2010-32 brought by The Bank of New York Mellon Trust Company, National Association as grantor trustee of the Protium Master Grantor Trust against Amy Beth Ring and Peter C. Ring, Jr. for the foreclosure of a mortgage recorded in the Waldo County Registry of Deeds in Book 3055, Page 280, the statutory ninety (90) day period of redemption having expired without redemption, notice is hereby given that there will be a public sale on December 20, 2010 at 01:00 PM at the law office of Douglas F. Johnings, Esquire, located at One Weston Court, Suite 103, Augusta, ME 04330, all and singular, the premises described in said mortgage and being a certain lot of land with the buildings thereon, situated in the town of Liberty, County of Waldo, and State of Maine, described in said mortgage as being located at 21 Boynton Road.

TERMS OF SALE: The property will be sold to the highest bidder at the sale, who shall pay a deposit of Ten Thousand and No/100 Dollars ($10,000.00) in cash, certified check or funds acceptable to mortgagee at the time and place of sale. The successful bidder shall be required to execute a Purchase and Sale Agreement with said The Bank of New York Mellon Trust Company, National Association as grantor trustee of the Protium Master Grantor Trust with the aforesaid Ten Thousand and No/100 Dollars ($10,000.00), as a non-refundable and non-interest bearing deposit thereon providing for a closing within thirty (30) days of the date of the public sale, at which time the balance of the bid price will be due and payable in cash or certified funds payable to The Bank of New York Mellon Trust Company, National Association as grantor trustee of the Protium Master Grantor Trust as aforesaid, which will then deliver a duly executed quitclaim deed. The sale shall be made subject to: (a) any condition which a title search would reveal, (b) any unpaid taxes or assessments due to the Municipality of Liberty, and (c) any facts which an accurate survey of the premises might show. The property shall be sold "as is" and "where is" without any warranties whatsoever expressed, implied or otherwise. Other terms will be announced at the sale.

Dated: November 10, 2010, S/John A. Doonan, Esq., Bar No. 3250, Attorney for The Bank of New York Mellon Trust Company, National Association as grantor trustee of the Protium Master Grantor Trust, Doonan, Graves & Longoria, LLC, 100 Cummings Center, Suite 225D, Beverly, Massachusetts 01915, (978) 921-2670
(2348.48 /Ring)(11-19-10, 11-26-10, 12-03-10)(260847)
November 19, 26, December 3, 2010

Legal Notices

NOTICE TO ALL INTERESTED PERSONS
DETERMINATION OF CATEGORICAL EXCLUSION

TO: All Interested Persons

DATE ISSUED: November 23, 2010

As required by Section 6 of the State of Maine Rules Relating to Drinking Water State Revolving Loan Fund Chapter 230, the Department of Health and Human Services (DHHS) staff prepared a "Justification for Categorical Exclusion" on behalf of Hampden Water District of Hampden, Maine to exempt a proposed project from the formal environmental review requirements.

The proposed action is the replacement of existing water main on Route 1A in Hampden, Maine.

The Drinking Water Program's review of the proposed actions has indicated that it meets the criteria of "Categorical Exclusion" listed in subsection c (II) of Chapter 230. The project is not likely to have significant effects on the quality of the environment. Specifically, the proposed action is to replace existing water mains with new mains in the same general location.

Therefore, a Categorical Exclusion from formal environmental review as provided in Section 6 of the State of Maine Rules Relating to Drinking Water State Revolving Loan Fund Chapter 230 is being granted. This exclusion may be revoked at any time if 1) the project is altered and no longer meets the requirements of a categorical exclusion 2) new evidence shows that serious environmental issues exist or 3) a local, State or Federal law is being or may be violated.

Project documents are on file and are available for public review at the offices of Hampden Water District and the offices of the Drinking Water Program. Comments relative to this decision may be submitted to the Department of Health and Human Services Drinking Water Program.

Terese L. Trott, Environmental Review Coordinator
Drinking Water Program
Division of Environmental Health
Department of Health and Human Services
11 State House Station 286 Water St – 3rd floor Key Plaze
Augusta, Maine 04333-0011
November 26, 2010

meetings are open to the public For additional information, call:A.A. Hotline 1-800-737-6237

ALCOHOLICS ANONYMOUS. ATTITUDE ADJUSTMENT GROUP *Closed Discussion Meeting 7am-8am, Mon-Sat. John St. Methodist Church, Camden *Attendance at closed meetings is limited to those who have a desire to stop drinking.

ALL SMOKED OUT? Need help getting ready to quit or stay quit? Join our smoking cessation group-Nic'Out Time Insurance friendly, some scholarships avail. Certified tobacco treatment specialists. 338-6055 Belfast

BELFAST support group for victims and survivors of domestic violence sponsored by New Hope for Women. Help with child care. For more information, call 338-6569. Collect calls accepted

CARE NET PREGNANCY CONSULTATION CENTER. An unplanned pregnancy can be difficult. You don't have to face it alone. Care Net is prepared to help you in an atmosphere where you can find support and information as you face the difficult decision surrounding your pregnancy. We provide 24-hour help line, free pregnancy tests, information on pregnancy, parenting, abortion alternatives, adoption and post-abortive help. All service is confidential. Care Net PCC 462 Old County Road, Rockland help line (207) 594-1616 1-800-395-4357 Mon-Thurs. 12:30-5:00 Mornings & Evenings by appointment only.

CO-DEPENDENTS ANONYMOUS (CoDA) is a 12 step fellowship of men & women whose common purpose is recovery from codependence and the development & maintenance of healthy relationships. New CoDA meeting, Tues. at 6pm, The Unitarian Universalist Church, 37 Miller St. Belfast. 338-5916

CONCERNED ABOUT BREAST CANCER? All women are at risk. EARLY DETECTION SAVES LIVES! The Breast Cancer Intervention Project provides free breast health education and information about screening and diagnostic services. Call 594-6889

DEBTORS ANONYMOUS MEETING Tuesday, 6:30 pm. Room 3, John Street United Methodist Church, John St. Camden, Maine. BUSINESS DEBTORS ANONYMOUS MEETING, Wednesday, 6:30 pm. Room 3, John Street United Methodist Church, John St. Camden, Maine

Depression & Bipolar Support Meetings Waldoboro: Mondays 7 p.m.-8 p.m. Word of Life Church, 41 Old Route 1. Rockland: Tuesdays 11 a.m.-noon and Thursdays, 7 p.m.-8:30 p.m. at First Universalist Church, 345 Broadway. Belfast: Wednesdays 7 p.m.-8 p.m. at Volunteers of America Bldg. FMI: Heather 691-3599.

FA - Food Addicts Anonymous In Recovery, Tuesday: 6:30 -8pm, Lincoln County Assembly of God 672 Main St., Damariscotta. Contact Joanne 380-2386 Thursday: 6:30-8pm, American Legion Hall, 181 Jefferson St., Waldoboro. Contact Rita, 832-0478 for more info. Saturday: 8:30-10am, Knox Center (back door & downstairs), White St., Rockland. Call Julie, 594-9363 for more info.

FOOD ADDICTS In recovery (SA) Sat. 8:30-10am, Knox Center, Maple St. Rockland, side entrance. Julie

HEALTH CARE SAFETY NET. Need medical care, but have no insurance? The Knox County Health Clinic is open every Wednesday from 6 to 9PM to assist people with medical needs. The clinic is located in the Bok Medical Arts Building at 22 White St. in Rockland. Call for info. 594-6996

HELP FOR CHILDREN BIRTH TO FIVE. Does your child have difficulty doing some things that other children of the same age do? Knox County Child Development Services may be able to help. Please call 594-5933 for information and a screening appointment. Screening is free and confidential. Collect phone calls accepted.

Homeless? Mid Coast Hospitality House provides country home setting in Rockport for emergency shelter. Call 594-1422

KNOX AA BROWN BAG GROUP. 12:15-1:15pm Monday-Saturday Rockland Rec. Center Tower Room Open Discussion Meeting

LA LECHE LEAGUE. For information call 236-6308, 236-9424 or 594-8505

LEARN TO READ Opportunity for adults and teenagers to learn to read.... Books, magazines, labels, signs, job applications, forms, etc., or English as a second language. A one on one arrangement - (student tutor) and it's confidential. CALL TODAY: Mid Coast Affiliate Literacy Volunteers in Maine, Inc. 1-800-322-5455 or 594-5154.

LINCOLN CELEBRATE RECOVERY. Bible-based 12-step program. Thursday Evenings: 6:00 Dinner, 7:00 Large group meeting. 8:00 Men's & Women's small group meeting. First Baptist Church of Waldoboro, Rt. 1 (just North of Moody's Diner) Waldoboro, Maine. For information call 832-7659

MID COAST CHILDREN SERVICES Early intervention services available in the mid-coast area for children ages birth through five. Including: Early school preschool program, parent education and support, family counseling, lending library and Arena transdisciplinary assessments. Please Call 594-8474 for more information

NarAnon DO YOU HAVE A LOVED ONE ADDICTED TO DRUGS? There is help. Every Tuesday night 6:30pm Rockland Public Library, downstairs. Questions? Call 594-2801

NARCOTICS ANONYMOUS New Attitudes Group Meetings. Tuesday 6:30-7:30PM at St. Peters Episcopal Church in Rockland. Cellar/Dwellers, basic text meeting. Friday at 6:30PM at the St. Peters Episcopal Church on Limerock Street. Rockland. This is an open meeting all are welcome. Regulary scheduled So. Thomaston meeting will be held. Saturday, 6:30-7:30PM at Peoples United Methodist Church So. Thomaston . We will read and discuss.

NEED HELP? We may be able to help you... Does your child have a serious unmet need that no one can help you with? You and/or your case manager can call the Waldo County Case Review Committee at 338-2200 Ext. 105 or 338-2295

Northport Family Center Now Open! HARBOR FAMILY SERVICES 1295 Atlantic Highway (Route 1) Northport, ME 04849 Our Family Center in Northport, a fully licensed mental health and substance abuse outpatient clinic, is now open and accepting child and adult patients. Harbor Family Services accepts MaineCare, private insurance and sliding scale fees Services provided: - PSYCHIATRIC ASSESSMENT AND EVALUATION SERVICES - MEDICATION MANAGEMENT (*NO MEDICATIONS ON SITE) - INDIVIDUAL, GROUP AND FAMILY COUNSELING - INTENSIVE IN HOME FAMILY THERAPY - CASE MANAGEMENT www.harborfamilyservices.org For further information or to make a referral please call: 470-7090 mdlarsen@harborfamilyservices.org

Overeaters Anonymous Support Group meeting Fridays in Belfast at 12:00 PM in The Unitarian-Universalist Church, 37 Miller St. If you want help call 382-6446

OVEREATERS ANONYMOUS. St. Peter's Church, White St. Rockland (playground side entrance) Tuesday 6:30-7:30PM Wednesday 12Noon-1PM Saturday 9:15-10:15AM Come and join us! Questions 236-4101

Preserve. Honor. Document. Kirsten Cronin of Kirsten Transcribes is a personal history transcriptionist who helps people document their life experiences. A member of the Association of Personal Historians and the Penobscot Bay Regional Chamber of Commerce, Kirsten has been helping clients preserve, honor and document their lives for more than twelve years. For more information or ideas about how to celebrate a life with a personal history project, please visit Kirsten at www.kirstentranscribes.com or on the Association of Personal Historians site at www.personalhistorians.org.

S.N.A.P. Survivors network for those abused by Priests meets third Friday of month. 1-207-934-1629

STONE SOUP KITCHEN offers a free hot lunch, 11:30AM-1PM, Monday-Saturday, Belfast Center 9 Field Street Belfast.

TAKE CONTROL! FIND OUT YOUR HIV STATUS Anonymous testing available at Family Planning Association of Maine For an appointment call: Rockland: 594-3114 Belfast: 338-3736

TASK FORCE 7 Presents CHRISTMAS GIVEAWAY for FAMILIES IN NEED WE KNOW THAT CHRISTMAS COULD BE DIFFICULT. WE WOULD LIKE TO HELP. STOP BY THE NICKERSON SCHOOL IN SWANVILLE ON DECEMBER 17th, 6:00PM-8:00PM, PICK UP NEW TOYS AND PAJAMAS FOR YOUR CHILDREN. (first-come first-serve basis) TASK FORCE 7 where serving is our task For Info: Contact Frank Godley (207)356-5672 thetaskforce7@gmail.com

TO REACH THE LINCOLN COUNTY DISTRICT NINE 24-hour hotline call 882-1080 or 1-800-255-1060. District nine monthly meetings take place the second Tuesday of the month and are held at the Second Congregational Church in Newcastle at 6:30PM

Waldo Al-Anon Meetings MONDAY: Noon-1PM First Baptist Church Annex 95 High St. Belfast. WEDNESDAY: 7PM Monroe Community Church Basement, 25 West Main St. Monroe. THURSDAY: 7PM St. Francis of Assisi Church Basement, 47 Court St. Belfast. SATURDAY: 10AM St. Margaret's Episcopal Parish House Basement, 95 Court St. Belfast. OVEREATERS ANONYMOUS FRIDAY: Noon Unitarian Universalist Church of Belfast, 37 Miller St. Belfast. SEX & LOVE ADDICTS ANONYMOUS For meeting information, e-mail: mmislaa@fairpoint.net www.211maine.org (click on 211 Directory, then keyword: Augustine fellowship)Phone 211

WEDNESDAY: 12:00PM, Workbook study Group, at Choice Skyward, 22 White St. Rockland, Maine

WIC Women, Infants & Children. If you are pregnant, breast feeding, or have children under age 5 you may qualify for help with free healthy foods and nutrition information. Clinics are held in Rockland, Union, Vinalhaven, Waldoboro & Damariscotta. You can call 594-4329 or 1-866-260-6609 to see if you qualify.

COMPUTER

Computer Repair PC & LAPTOP Computer Repair. Reasonable Rates. 207-691-8110

PUBLIC HEARING & FINAL BUDGET COMMITTEE MEETING FOR WALDO COUNTY 2011 BUDGET

PLACE: Maine District Courtroom
103 Church St., Belfast

DATE: December 17, 2010
TIME: 6:00 p.m.

The Public Hearing will be followed by the final 2011 Waldo County Budget Committee Meeting. The Budget Committee and County Commissioners may hold a joint meeting for Tax Cap L.D. 1 purposes, as needed.

NOTICE OF PUBLIC INFORMATIONAL MEETING

Please take notice that DCP Midstream ("DCP"), 300 17th Street, Suite 2500, Denver, Colorado 80202, (303) 605-1707, intends to hold a public informational meeting at the Searsport Town Hall, 1 Union Street, Searsport, Maine, on Tuesday, December 14, 2010 from 5:00 P.M. to 8:00 P.M.

The purpose of the meeting is to provide the public with information about and an opportunity to comment on DCP's proposed construction and operation of a marine supplied truck/rail loading propane terminal in Searsport, Maine (the "Project"). The Project will include a single steel tank, loading pumps for truck or rail, and an office building.

At the public informational meeting DCP representatives will also be available to discuss the various state, federal and local approvals that will be required in connection with the Project, including DCP's intent to file a Site Location of Development Permit Application and Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481-490 and 38 M.R.S.A. §§ 480-A thru 480-BB, respectively, and the regulations thereunder.

NOTICE OF PUBLIC SALE

Notice is hereby given that in accordance with the Judgment of Foreclosure and Sale entered August 17, 2010 in the action entitled **Ocwen Loan Servicing, LLC v. Robert F Young,** by the Maine District Court, Belfast, Docket No. RE-10-49, wherein the Court adjudged the foreclosure of a mortgage granted by Robert F. Young to Mortgage Electronic Registration Systems, Inc., as nominee for Taylor, Bean & Whitaker Mortgage Corp. dated February 27, 2009 and recorded in the Waldo County Registry of Deeds in Book 3302, Page 89, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on **Thursday, January 6, 2011, commencing at 3:30PM, at the Law Office of Shapiro & Morley, LLC, 707 Sable Oaks Dr., Suite 250, South Portland, Maine 04106.**

The property is located at 21 East Eagle Lane, Swanville, Maine.

The sale will be by public auction. All bidders for the property will be required to make a deposit of $5,000.00 in cash, certified or bank check at the time of the public sale made payable to Shapiro & Morley, LLC, which deposit is non-refundable as to the highest bidder. The balance of the purchase price shall be paid within thirty (30) days of the public sale. In the event a representative of Ocwen Loan Servicing, LLC is not present at the time and place stated in this notice, no sale shall be deemed to have occurred and all rights to reschedule a subsequent sale are reserved. Additional terms will be announced at the public sale.

Ocwen Loan Servicing, LLC, by its attorneys Shapiro & Morley, LLC, Leonard F. Morley, Jr., Esq. and William B. Jordan, Esq., 707 Sable Oaks Dr., Suite 250, South Portland, Maine 04106, (207)-775-6223.

Invitation to Bid

Coastal Trans, Inc. (CTI) will be accepting bids for the following described vehicles:

1999 GMC Savana 15 Passenger Van

A bid proposal will be provided by CTI's Executive Director. To acquire this document, please call 596-6477, or write to Lee Karker at Coastal Trans Inc., 46 Summer Street, Rockland, ME 04841. The vehicle can be seen at Coastal Trans, 46 Summer Street in Rockland between 8:00 AM and 4:00 PM, Monday through Friday.

Bid opening will take place at 1:00 PM on Thursday, December 16, 2010. Bids must be sealed in an envelope which is clearly marked "Vehicle Bid - Do Not Open". All bids must be received prior to the bid opening and must conform to the bid instructions contained in the bid proposal. Non-conforming bids will be rejected.

No one will be discriminated against on the grounds of race, color, sex or national origins in consideration of an award.

Coastal Trans, Inc., reserves the right to accept or reject any or all bids.

NOTICE OF BRIDGE OPENING

Please be advised that the Perkins Bridge in Belfast on Herrick Road over the Little River will be opened to all traffic by December 2, 2010

ATTENTION LOBSTERMEN

Lobster Zone D Council Meeting

December 7, 2010
6:00 p.m.

Rockland Ferry Terminal

Legal Notice

Town of Stockton Springs

The Town of Stockton Springs has an undeveloped property consisting of approximately 8 acres assessed to owner "Unknown" identified on Town of Stockton Springs Tax Maps as Map U3 Lot 001 located off the Harris Road. It soon will be liened for non payment of taxes and the Town will start the process of foreclosure. Research of deeds and surrounding owners has not yielded any information of past or possible current owners.

If you believe you are the owner or have information of who may own this property please contact the Town Office at Town of Stockton Springs P.O. Box 339, Stockton Springs, Me 04981. Phone # 567-3404

NOTICE OF PUBLIC SALE

Notice is hereby given that in accordance with the Judgment of Foreclosure and Sale entered August 25, 2010 in the action entitled **MorEquity, Inc. v. David L. Knight, Jr. and Rose M. Knight, et al.,** by the Maine District Court, Rockland, Docket No. RE-10-45, wherein the Court adjudged the foreclosure of a mortgage granted by David L. Knight Jr. and Rose M. Knight to Mortgage Electronic Registration Systems, Inc., as nominee for Wilmington Finance, Inc. dated June 8, 2006 and recorded in the Knox County Registry of Deeds in Book 3640, Page 283, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on **Thursday, January 6, 2011, commencing at 1:30PM, at the Law Office of Shapiro & Morley, LLC, 707 Sable Oaks Dr., Suite 250, South Portland, Maine 04106.**

The property is located at 6 Owls Head Lane, Owls Head, Maine.

The sale will be by public auction. All bidders for the property will be required to make a deposit of $5,000.00 in cash, certified or bank check at the time of the public sale made payable to Shapiro & Morley, LLC, which deposit is non-refundable as to the highest bidder. The balance of the purchase price shall be paid within thirty (30) days of the public sale. In the event a representative of MorEquity, Inc. is not present at the time and place stated in this notice, no sale shall be deemed to have occurred and all rights to reschedule a subsequent sale are reserved. Additional terms will be announced at the public sale.

MorEquity, Inc., by its attorneys Shapiro & Morley, LLC, Leonard F. Morley, Jr., Esq. and William B. Jordan, Esq., 707 Sable Oaks Dr., Suite 250, South Portland, Maine 04106, (207)-775-6223.

Mortgagee's sale of real estate

By virtue of and in execution of the **Power of Sale** contained in a certain Mortgage Deed given by Leon A. Rancourt, Jr. and Tammy J. Rancourt, Trustees of the Rancourt Real Estate Trust dated July 14, 2010 and recorded in the Waldo County Registry of Deeds, Book 3469, Page 61, of which Mortgage the undersigned is the present holder, for breach of the conditions of said Mortgage and for the purpose of foreclosing the same there will be sold at Public Sale at 10:00 A.M. on the 17th day of December, 2010, at the offices of Eaton Peabody, 80 Exchange Street, Bangor, Maine, all and singular the premises described in said Mortgage. To wit: "The same premises as described in a Warranty Deed from Leon A. Rancourt, Jr. and Tammy J. Rancourt, to the Rancourt Real Estate Trust of even date herewith to be recorded in the Waldo County Registry of Deeds."

Terms of Sale: The sale will be by public auction. All bidders will be required to make a deposit of $3,000 in cash, certified or bank check payable to Eaton Peabody at the time of the sale, which shall be non-refundable as to the highest bidder. The balance of the purchase price shall be paid within thirty (30) days from the date of the public sale. The property will be sold AS IS without any warranties as to its condition, title, compliance with land use regulations, taxes, or any other condition or matter whatsoever that might affect the property. Other terms to be announced at the public sale.

Date: November 15, 2010 Signed:

//s// Raymond Arsenault and Jane Arsenault

Raymond Arsenault and Jane Arsenault

By: David C. Pierson, Their Attorney

City of Rockland Pubic Hearing Notice

The Rockland City Council will hold a public hearing on Monday, December 13, 2010 at 7:00 PM, City Council Chambers, 270 Pleasant St., on a 2011 CDBG Public Infrastructure Grant application for up to $500,000 for the Lindsey Brook Summer Street storm water interceptor. Persons wishing to make comments are invited to attend the hearing. Comments in writing may be submitted in writing to Rodney Lynch, 270 Pleasant St., Rockland, Maine 04841. TTD/TTY users may call 711. If you are physically unable to access any of the City's programs or services, please call Rodney Lynch at 207 594-0306 so that accommodations can be made.

TABLE TENNIS COMING TO BELFAST

Exploratory Meeting
Club / League Activities
Sponsored by Belfast Parks & Recreation

DATE: Wednesday, December 15, 2010

TIME: 6:30pm

PLACE: Belfast City Hall
131 Church Street

PURPOSE (s): This meeting has been scheduled to: Identify others interested in pursuing the development of this growing recreational sport in the Belfast area.

Develop an expanded competitive environment and establish the means for interacting with other local, regional and state-wide clubs and organizations.

For more information contact Belfast Parks & Recreation, 338-3370 ex 27.

NOTICE OF PUBLIC SALE

Notice is hereby given that in accordance with the Judgment of Foreclosure and Sale entered August 27, 2010 in the action entitled Deutsche Bank National Trust Company

NOTICE OF PUBLIC SALE

Notice is hereby given that in accordance with the Judgment of Foreclosure and Sale entered August 13, 2010 in the action entitled Wells Fargo Bank

WALDO COUNTY — STATE OF MAINE — PROBATE COURT

NOTICE TO CREDITORS
18-A M.R.S.A. §3-801

Notice of March 2, 2011
Public Informational Meeting

Village Soup

DCP Midstream, also known as Gas Supply Resources, invites the residents of Searsport, Maine to a community meeting on March 2 at 5:30 p.m. to hear a presentation about DCP Midstream's proposed marine import terminal. After the formal presentation, DCP representatives will be available to meet with residents to answer questions related to the proposed project. Residents are encouraged to attend to learn more about this potential project.

DCP representatives will also be able to address the various state, federal and local approvals that will be required associated with the project, and DCP's intent to file a Site Location of Development Permit Application and Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481-490 and 38 M.R.S.A. §§ 480-A thru 480-BB, respectively, and the regulations thereunder.

The meeting will be held at Union Hall in Searsport.

way speed limits and that both are meant to keep people safe.

"We don't have reasonable and prudent on our street [speed limit] signs," Touhey said.

Police investigate fatal Auburn accident

AUBURN — Police say they're still trying to learn what caused a car crash that killed a 32-year-old Turner woman.

Auburn police said a car driven by Allyson Dunn was traveling north on Center Street on Sunday morning when her vehicle slid into the southbound lane and hit a tractor-trailer truck.

Police say Dunn was removed from the wreckage of her car and taken to Central Maine Medical Center in Lewiston where she later died.

The driver of the truck was not hurt.

Auburn police are being assisted by an accident reconstruction expert from the Maine State Police as well as the state police's Commercial Vehicle Enforcement Unit.

bassist David Chevan for an interfaith Martin Luther King memorial service in 1998, the Afro-Semitic Experience has gone on to share its music at concerts, workshops and worship services across the United States, Canada and Europe, according to the group's website.

The Afro-Semitic Experience performs gospel, klezmer, spirituals, bebop and swing music to deliver a unique musical program that merges band members' distinct cultures and heritages while delivering a positive and meaningful message about Black-Jewish relations, according to information provided by UMA.

The group's music is an intricate tapestry of the distinct cultures and heritages of its members. During concerts, members weave stories and music together as they cele-

who fused their native customs and sounds to the dreams of freedom."

The group's appearances in Maine are being presented by the UMA Cultural Affairs Committee and the UMA Holocaust, Genocide and Human Rights Studies Program.

The free concerts are co-sponsored by congregations Beth El and Beth Israel, both of Bangor, Temple Beth El of Augusta, the Greater Bangor Area NAACP and the Jazz and Contemporary Music programs at the University of Maine Augusta.

For information, call 621-3256.

It's a Draw

George Danby, daily on Editorial

Bangor Daily News

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years old and living in a home. Over time, I have built nest egg for me and my I am looking for ways to my estate so my estate have to pay a large tax when you have any suggestions?

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Bangor Daily News March 1

dcp Midstream℠

DCP Midstream (DCP), also known as Gas Supply Resources, invites the residents of Searsport, Maine to a community meeting on March 2 at 5:30 p.m. to hear a presentation about DCP's proposed marine import terminal. After the formal presentation, DCP representatives will be available to meet with residents to answer questions related to the proposed project. Residents are encouraged to attend to learn more about this potential project.

DCP representatives will also be able to address the various state, federal and local approvals that will be required associated with the project, and DCP's intent to file a Site Location of Development Permit Application and Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481-490 and 38 M.R.S.A. §§ 480-A thru 480-BB, respectively, and the regulations thereunder.

The meeting will be held at Union Hall in Searsport.

47581

the district's economy and public education and improving govern-

attempt to balance the state budget on the backs of state workers

I want to bring Augusta to the people and have town meetings

Icebreaker

Continued from Page B1

Chief Boatswain's Mate Jesse Deery and Petty Officer 1st Class Keith Nichols made it look easy. Under Deery's direction, Nichols steered the Tackle deftly through the water, black as night and littered with sheets of ice, toward the dormant Bridle. The boats met in the middle of the river between Hampden and Brewer, and the guests stepped effortlessly from one vessel to the other.

Michaud, a newly named member of the House Coast Guard and Maritime Transportation Subcommittee, got the full experience Friday.

"I think work like this that falls under the radar is vitally important," Michaud said after he disembarked at the Cianbro manufacturing facility in Brewer.

Nichols even joked that the mechanical problems of the Bridle might have demonstrated to the congressman that the Coast Guard continually needs funding.

Before the Tackle postponed its mission Friday to assist the Bridle, the two cutters spent a couple of hours doing what they were supposed to do. The sturdy steel of the vessels' hulls cut through the fresh ice, rocking the boats from side to side, clearing a path of flowing water that would run all the way to Penobscot Bay.

Maine's ice-breaking season typically runs from late December to mid-March, and it's the primary responsibility for the Bridle and Tackle during those months. The 65-foot cutters are the smallest vessels commissioned by the Coast Guard, and both are nearing their 50th birthday.

Ice-breaking has three primary purposes: to accommodate possible search and rescue missions, to guard against flooding and to facilitate navigation for commerce.

The enlisted Coast Guard personnel who call the cutters home during the winter months take the job seriously, but they have fun, too.

"This is the only place in the Coast Guard where you're allowed to intentionally ram into stuff," Nichols said. "Without repercussions."

Along with Michaud, other guests on Friday included Rear Adm. Daniel Neptun, commander of the First Coast Guard District, U.S. Attorney Thomas Delahanty II and U.S. Marshal Noel March.

As the guests climbed from the Tackle onto the dock at Cianbro, snowflakes began to fall. The boat chugged back down the river, floating with the tide, breaking up the puzzlelike pieces of ice that already had begun to fuse back together.

Bangor Daily News Feb 26-27

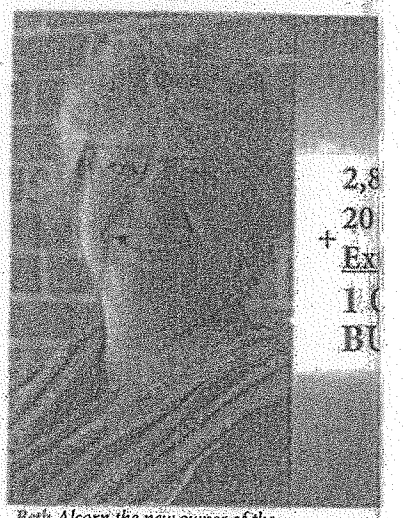
dcp Midstream℠

DCP Midstream (DCP), also known as Gas Supply Resources, invites the residents of Searsport, Maine to a community meeting on March 2 at 5:30 p.m. to hear a presentation about DCP's proposed marine import terminal. After the formal presentation, DCP representatives will be available to meet with residents to answer questions related to the proposed project. Residents are encouraged to attend to learn more about this potential project.

DCP representatives will also be able to address the various state, federal and local approvals that will be required associated with the project, and DCP's intent to file a Site Location of Development Permit Application and Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481-490 and 38 M.R.S.A. §§ 480-A thru 480-BB, respectively, and the regulations thereunder.

The meeting will be held at Union Hall in Searsport.

AGING



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and is fueled by the passion to as
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www.seniorsont
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Maine Founded &

APPENDIX 25B

List of Abutters

DCP Terminal - List of Abutters

Owner	Tax Map	Lot Number	Owner Contact Information			
			Street/P.O.	City/Town	State	Zip Code
Evans, Charles G. & Diana G.	7	35-B	200 E. Main St.	Searsport	ME	04974
Kado, Inc. c/o Victor Bouchard	7	36	PO Box 800	Searsport	ME	04974
Evans, Charles G. & Diana G. D/B/A The Rhumb Line Restaurant	7	37	200 E. Main St.	Searsport	ME	04974
Maine Port Authority C/O Irving Oil Corp ATTN: Cobalt Properties	7	52-B1	55 Union St., Suite 700	Saint John	NB., Canada	E2L-5B7
Montreal, Maine & Atlantic Railway, LTD.	7	54	15 Iron Rd.	Hermon	ME	04401
Montreal, Maine & Atlantic Railway, LTD.	7	54-A	15 Iron Rd.	Hermon	ME	04401
Maine Port Authority C/O John H. Henshaw	7	55	16 State House Station	Augusta	ME	04333
Sprague Energy Corp.	7	56	2 International Dr. Suite 200	Portsmouth	NH	03801
Nickerson, Anna	7	57	24 Station Ave.	Searsport	ME	04974
Nickerson, Mark E.	7	57-A	24 Station Ave.	Searsport	ME	04974
Tymeson, Dorotha C., C/O William Tymeson	7	58	430 Fitzwilliam Rd.	Richmond	NH	03470
Maritime Energy, Maritime Farms	7	59	PO Box 485	Rockland	ME	04841
Ritchie, Keith & Dawn	7	59-B	9 Station Avenue	Searsport	ME	04974
Curtis, Ashley & Alice	7	59-C	PO Box 326	Searsport	ME	04974
Lowe, Robert & Doris	7	59-E	15 Station Avenue	Searsport	ME	04974
Southstreet Development Co., LLC	7	60	15 South Street	Blue Hill	ME	04614
Berrio, William M.	7	60-A	PO Box 833	Searsport	ME	04974
Norvlaan, Beata K.	7	60-C	40 Stargate dr.	Stockton Springs	ME	04981
Hall, Albert, IV, Baits Motel	7	61	64 W. Evergreen Ln.	Swanville	ME	04915
Hall, Albert, IV D/B/A Anglers Restaurant	7	61-A	64 W. Evergreen Ln.	Swanville	ME	04915
Sprague Energy Corp.	7	62	2 International Dr. Suite 200	Portsmouth	NH	03801
Smith, Merrill, Smith Memorials, Inc.	7	63-B	PO Box 500	Searsport	ME	04974
Russell, Jean	7	64	241 E. Main St.	Searsport	ME	04974
Gocze, Thomas E. & Bonnie L.	7	65	PO Box 883	Searsport	ME	04974
Gocze, Thomas E. & Bonnie L.	7	65-A	PO Box 883	Searsport	ME	04974
State of Maine, Department of Transportation	7	80	16 State House Station	Augusta	ME	04333
State of Maine, Department of Transportation	8	1	16 State House Station	Augusta	ME	04333
State of Maine, Department of Transportation	8	1-A	16 State House Station	Augusta	ME	04333
Sprague Energy Corp.	8	4-A	2 International Dr. Suite 200	Portsmouth	NH	03801
Montreal, Maine & Atlantic Railway, LTD.	8	5	15 Iron Rd.	Hermon	ME	04401
Montreal, Maine & Atlantic Railway, LTD.	8	5-A	15 Iron Rd.	Hermon	ME	04401
Montreal, Maine & Atlantic Railway, LTD.	8	5-B	15 Iron Rd.	Hermon	ME	04401
Montreal, Maine & Atlantic Railway, LTD.	8	5-C	15 Iron Rd.	Hermon	ME	04401
Sprague Energy Corp.	8	5-D	2 International Dr. Suite 200	Portsmouth	NH	03801
Maine Port Authority C/O John H. Henshaw	8	5-D1	16 State House Station	Augusta	ME	04333
Sprague Energy Corp.	8	5-E	2 International Dr. Suite 200	Portsmouth	NH	03801