

CAPE COD COMMISSION

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DATE: April 27, 1995 TR# 94012

TO: Mr. George McLachlan
Algonquin Gas Transmission Company
1284 Soldiers Field Road
Boston, MA 02135

FROM: Cape Cod Commission

RE: Development of Regional Impact Application
Cape Cod Commission Act, Section 12(i) and 13(b)

APPLICANT: Algonquin Gas Transmission Company

PROJECT: Algonquin Canal Lateral Pipeline Project, Bourne

DECISION OF THE CAPE COD COMMISSION

SUMMARY

The Cape Cod Commission (the Commission) hereby approves with conditions the application of Algonquin Gas Transmission Company for a Development of Regional Impact under Section 12(i) and 13(b) of the Cape Cod Commission Act for the construction of a 4.0 mile 18" gas pipeline in Bourne. The decision is rendered pursuant to the vote of the Commission on April 27, 1995.

PROJECT DESCRIPTION

Algonquin Gas Transmission Company proposes to construct a 4.0 mile, 18" pipeline across the northern portion of Bourne from a point near Route 25 to a point in Sagamore across from the Canal Electric Plant. The project involves

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DRI Decision

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construction of a new meter station under the Sagamore Bridge as well as a valve site on land owned by the town. The project will cross the Herring River and its associated ACEC along an existing right of way, is in proximity to two certified vernal pools, and will be located within roads near residential homes in several areas.

PROCEDURAL HISTORY

The proposed project, the Algonquin Canal Lateral Pipeline Project ("Algonquin") along with the associated Canal Electric Natural Gas Interconnection Project ("Canal"), was reviewed by the Cape Cod Commission in accordance with the CCC/MEPA Joint Review Process.

MEPA issued a scope for this project on June 30, 1994 which was supplemented by a letter from the Cape Cod Commission on September 1, 1994 after a public meeting in the Town of Bourne. The Commission held a public hearing on the Draft EIR on November 30, 1994. The Draft EIR was certified as adequate by MEPA on December 15, 1994. The Commission held a public hearing on the Final EIR on February 23, 1995. The Final EIR was certified by MEPA on March 3, 1995. In addition to the ongoing MEPA/CCC review, the Federal Energy Regulatory Commission (FERC) issued an Environmental Assessment (EA) for the project on January 11, 1995 and issued a certificate in April, 1995 specifying the location of the route and placing conditions on the project.

The Cape Cod Commission conducted a hearing on April 3, 1995 for the purpose of reviewing the project as a Development of Regional Impact (DRI) as required after the completion of the MEPA review process. A final hearing was held on April 27, 1995 before the full Cape Cod Commission.

As a result of the testimony received at the public hearings, first hand site information, application materials submitted by the applicant, and technical information provided by the staff, the Subcommittee voted unanimously to recommend to the full Commission that the proposed project be approved as a DRI with conditions. A draft decision was presented to the full Commission at their public hearing on April 27, 1995. At this meeting the Commission voted to approve the project with the conditions below.

MATERIALS SUBMITTED FOR THE RECORD

The following documents were compiled as part of the Record on the Algonquin Canal Lateral Pipeline Project and the Canal Electric Natural Gas Interconnection Project (TR#94013) and are available for review in the Cape Cod Commission office:

A. Materials submitted by the applicant:

Algonquin Gas Transmission Co. (AGT) General Information	Undated
Algonquin Gas, Environmental Resource Reports (binder)	Undated
Geological Considerations Study	Undated
Canal Crossing Supplemental ENF, pp 1-14	Undated
Large Scale Route Map	Undated
AGT-Answer to Comments of Colonial Gas Company	Undated
Copies of Deed or Certificates Showing Easements	Undated
Mass. Historical Commission Notification Form	Undated
Cape Cod Commission's Schedule of Fees Calculation	Undated
Algonquin letter to Cape Cod Commission re FERC	March 2, 1993
Preliminary Feasibility Study for Canal Crossing (Willbros)	June 18, 1993
Algonquin Gas Spill Control Plan	February 18, 1994
Algonquin ENF (Sections D-H)	March, 1994
Algonquin FERC Application	March 1, 1994
AGT-Abbreviated Application for Certificate of Public Convenience/Necessity	March 2, 1994
J.D. Hair & Assoc. Canal Crossing Assessment	March 14, 1994
AGT-Letter to MEPA Requesting Separate Review of Projects	March 22, 1994
Canal Lateral Project ENF/Exhibits A,C	March 31, 1994
Algonquin Letter to J. Lacy transmitting FERC information	April 13, 1994
VHB Letter Transmitting Spill Control Plan	April 29, 1994
Letter from Algonquin re: Colonial information requests	April 29, 1994
Letter from Canal Electric re: Colonial information requests	April 29, 1994
Canal Electric: Supplemental Information (text only)	May, 1994
Canal Electric: Supplemental Information for project (figures)	May, 1994
Phase 1 Archaeological Survey	May 17, 1994
Wetland #1 Construction and Restoration Plan	May 17, 1994
VHB Letter to Bourne Con Comm.	May 18, 1994
Algonquin Gas response to MEPA Comments	May 25, 1994
VHB Response to Colonial Comments	May 26, 1994
Algonquin Response to Colonial Comments	May 27, 1994
Response of Canal/Montaup to Colonial Comments	May 31, 1994
Algonquin Gas response to MEPA Comments	June 10, 1994
Algonquin Gas response to MEPA Comments w/ Appendix	June 23, 1994
Algonquin Waiver Request	June 27, 1994
Letter from Algonquin withdrawing NOI	July 6, 1994
Letter from ComElectric withdrawing NOI	July 6, 1994
Algonquin Response to FERC Questions	July 18, 1994

Letter from Gary Kotara regarding response to Colonial	July 25, 1994
ComElectric-Letter to Army Corps Requesting Easements	August 9, 1994
ComElectric-Letter to DEM Requesting Easements	August 9, 1994
DEIR/MEPA Submittal and Appendices	August 11, 1994
Briefing Fact Sheets, Maps, Plans for Cape Cod Commission	August 15, 1994
ComElectric-Request to Coordinate Project Reviews	August 24, 1994
AGT-Request to Coordinate Project Reviews	August 25, 1994
VHB-Letter on Wetland #1 and Vernal Pools	August 25, 1994
Letters and Memos Showing Receipt of Project by Local Permit Granting Agencies (for DRI)	August 26, 1994
AGT-Letter to MEPA Requesting Waiver	August 27, 1994
Vinson and Elkins-Transmittal of Algonquin's Supplemental Comments on the Colonial Gas Alternative Route	August 29, 1994
Canal Electric-Supplemental Comments on the Colonial Gas Alternative route	August 29, 1994
AGT-Letter on Public Archeology Lab work	September 9, 1994
Letter and Certified Abutters List	October 26, 1994
AGT-Letter on Army Corps and Routing Issues	October 28, 1994
ComElectric-Letter on Army Corps	November 2, 1994
AGT-Letter on Army Corps	November 16, 1994
AGT-Letter on Mass. Historical	December 13, 1994
AGT-Letter on MEPA Certification	December 27, 1994
AGT-Comments on the Canal Lateral EA	February 9, 1995
Joint comments on Canal Lateral EA	February 13, 1995
Final EIR/DRI Submittal	February 20, 1995
AGT - Supplemental Information to FERC	February 23, 1995
VHB - Letter and draft Memo re: outstanding issues	March 10, 1995
AGT - Letter to Bourne Selectmen	March 13, 1995
VHB - Response to MEPA Comments w/attachments	March 28, 1995
Canal Electric - Comments to FERC	April 7, 1995
AGT-Letter re Jurisdiction w/ attachments	April 7, 1995

B. Materials Submitted by Federal, State and Local Agencies:

Natural Heritage Program MEPA Comments	Undated
Letter from Army Corps of Engineers	January 13, 1994
Energy Facilities Siting Board, Notice of Hearing	March 18, 1994
Mass. Historical Commission MEPA Comments	March 22, 1994
Notice of Intent to Prepare Env. Assessment (FERC)	April 1, 1994
MEPA-Notice of Scoping Session on Projects	April 7, 1994
Letter from Mass. Historical Commission	April 12, 1994
Mass. Historical Commission MEPA Comments	April 13, 1994
Natural Heritage Program MEPA Comments	April 28, 1994
Mass. DEP Memo on Air Pollution Control	April 28, 1994
Energy Facilities Siting Board MEPA Comments	April 29, 1994
Department of Environmental Protection MEPA Comments	April 28, 1994
Mass. Coastal Zone Management MEPA Comments	May 2, 1994

Sandwich Harbormaster MEPA Comments	May 6, 1994
CZM-Comments to MEPA	May 9, 1994
Letter from Bourne Con. Comm. regarding review assistance	May 10, 1994
Bourne Conservation Commission MEPA Comments	May 11, 1994
Sandwich Planning Board MEPA Comments	May 20, 1994
Bourne Conservation Commission MEPA Comments	May 24, 1994
Mass. Dept. of Environmental Management MEPA Comments	May 25, 1994
Bourne Board of Selectmen MEPA Comments	May 26, 1994
Mass. Coastal Zone Management MEPA Comments	June 6, 1994
Letter from Bourne Conservation Commission regarding NOI	June 20, 1994
Bourne Cons. Comm.-Letter Informing Applicant of Extension	June 21, 1994
Bourne Conservation Commission MEPA Comments	June 18, 1994
MEPA Certificate - Algonquin Canal Lateral	June 30, 1994
MEPA Certificate - Natural Gas Interconnection	June 30, 1994
Letter from FERC with information requests	July 7, 1994
Letter from Bourne Conservation Commission re: referral	July 12, 1994
Sandwich-Certified Abutters' List	July 19, 1994
MHC-Review of Findings of Public Archeology Lab Work	August 19, 1994
Bourne DPW-Letter on DEIR	December 7, 1994
FERC-Response on Army Corps	December 13, 1994
MEPA-Certificate on the DEIR	December 15, 1994
Federal Energy Regulatory Commission-EA on Canal Lateral	January 10, 1995
Bourne Board of Selectmen MEPA Comments	February 24, 1995
MEPA Certificate	March 3, 1995

Materials Submitted by the Public:

Information on Directional Drilling	Undated
Information on Shared Rights of Way (Allen and Bowdoin)	May, 1991
Information on Shared Rights of Way (Pipeline & Gas Journal)	March, 1994
Relative Benefits Analysis of Alignments	March 14, 1994
Environmental Review/Feas. Study for Colonial Route (Ogden)	April, 1994
Letters from Colonial re: information request	April 21, 1994
Comments of Colonial Gas to FERC	May 2, 1994
Public Archeology Laboratory Assessment	May 16, 1994
Letter from Virginia Anderson commenting on the "Colonial Gas alternative" route	May 25, 1994
Mass. Assn. of Conservation Commissions MEPA Comments	May 30, 1994
Colonial Gas Company MEPA Comments	May 31, 1994
Massachusetts Audubon Society MEPA Comments	May 31, 1994
Letter from Colonial re: opportunity to comment	June 2, 1994
Colonial Gas Company Supplemental MEPA Comments	June 23, 1994
Letter from Colonial regarding alternatives analysis	July 5, 1994
Letter from Colonial regarding MEPA scope	July 6, 1994
Letter from Ralph Tucker supporting use of existing ROW	August 20, 1994
Letter from Virginia Anderson questioning route selection	August 22, 1994
Letter from Melvin Peter and Sally Holmes in support of the	

"Colonial Gas alternative" route
 Comments of Colonial Gas Co. to Comments by Algonquin and Canal
 Letter from Michele Lemerre on Interconnect Project
 Mass. Audubon Comments on DEIR

August 25, 1994
 September 1, 1994
 November 23, 1994
 December 8, 1994

The application and notices of the public hearings relative thereto, the Commission's staff reports and exhibits, minutes of all hearings and all submissions received in the course of the proceedings, including materials submitted on file TR 94013 (Canal Electric Natural Gas Interconnection Project) are incorporated into the record by reference.

TESTIMONY

The subcommittee received testimony at the November 30, 1994 public hearing on the Draft EIR/DRI submittal for both projects at Bourne Town Hall.

Mr. Gene Crouch of VHB, Inc., representing the Applicant, gave a presentation on the projects. The Canal Electric portion of the project includes a 1,400-foot crossing of the Cape Cod Canal using horizontal directional drilling techniques. The Algonquin project is about 3.9 miles in length. Approximately 50% of the project would be within existing right of way (ROW). Also, about another 34% of the project route would be on existing roadways.

Mr. Crouch described the process for crossing the Canal using horizontal directional drilling. The Canal crossing would be done first. Crossing the Canal is anticipated to take about 4 weeks. They hope to start the horizontal directional drilling as soon as the permitting is completed and are planning to start construction in July 1995. Crossing the Herring River is limited to the month of August. The applicant is also committed to not working on Scussett Beach Road until after Labor Day to lessen impacts to vacation traffic.

Mr. Crouch discussed the projects' impacts to wetlands. He indicated the projects will cross two wetland areas. The first encompasses two vernal pools within the existing ROW. The second wetland area is associated with the Herring River.

Mr. Crouch described Wetland area Number 1 in detail. He said it includes two certified vernal pools. Pool #553 crosses the ROW; #554 is just south of the ROW. The Applicant proposes to limit wetland impacts by boring under #553. No surface construction would occur in VP #553. In terms of the overall wetland area, the workspace would be reduced to the existing ROW which is 50'. Construction would

involve excavating through the wetland, and assembling the pipeline sections outside the wetland. Pipe sections would either be carried or dragged into place. The area would then be backfilled and restored. Wetland area impacted has been reduced from what was originally proposed to only about .21 acres. Temporary workspace will be restricted to upland areas and not within the Vernal Pools.

Mr. Crouch then described the construction impacts at the Herring River (wetland #2). Mr. Crouch said that about .13 acres of wetland would be temporarily impacted at the crossing [as originally proposed].

In terms of on-going erosion in the areas of the vernal pools, Mr. Crouch indicated that much of the erosion was due to off-road vehicles. He indicated the applicant intends to block the ROW with large boulders to restrict traffic. There will also be a gate. They are also looking at gaining permanent access through Clarissa Joseph Road to allow construction equipment to skirt the wetland areas.

The Staff Report questioned the stockpiling of spoil material. Mr. Crouch said that stockpiling of removed material in the wetland area for the Herring River crossing was necessary because the excavator could only reach so far with its bucket. Moving the stockpile area would result in more equipment working in the wetland area. It would also mean moving soils with very high moisture content. The stockpiling and construction methods proposed for both the Herring River crossing and Wetland #1 have been developed to keep impacts to a minimum.

The Staff Report questioned the discharge of water used to hydrostatically test the pipeline. Mr. Crouch indicated the Applicant had not yet filed with the EPA for a discharge permit. He said the EPA typically required sampling at the midpoint of discharge. Testing parameters generally include screening for total suspended solids, oil and grease, total iron, chemical oxygen demand, dissolved oxygen and pH.

Mr. Crouch indicated that about 7 cu yds of bentonite clay and about 250 cu yds of cuttings would result from the Canal crossing. He indicated the bentonite would be tested prior to its disposal. He said both the Sandwich and Bourne landfills had been contacted and both towns expressed a willingness to take the material.

Mr. Crouch addressed issues regarding hazardous materials and wastes. The hazardous materials relate to diesel fuel and lubricating oils for construction equipment. FERC has rules regarding the use of fuels in and around wetlands which will be followed. He did not expect there would be much waste pipe produced by the

project. Old pipe will be disposed of in accordance with the EPA's general permit.

Steve Wood of Canal Electric addressed air quality issues. He said the main reason for the projects was to realize the air quality benefits of burning gas at the Canal plant. The other key reason was to diversify the fuel supply for the plant. He explained that to estimate the air quality benefits, the amount of natural gas available from an interruptible supply was calculated. This estimate provided the basis for assuming 75 million cubic feet of gas per day over an eight month period would be used. The capacity of Canal Unit Number 2 was also estimated. He said it typically runs at 60%. He also said the Applicant felt these estimated reductions were more conservative than what the final project could achieve.

Ms. Ritchie asked about the river crossing and how long construction activities would occur in the wetland. Mr. Crouch responded that the river crossing would be completed in a day. Gus McLachlan of Algonquin Pipeline said that all construction in the Herring River wetlands would be completed in about two weeks.

Ms. Ritchie asked about the public supply wells and the Zone of Contribution surrounding the G11-A valve site. She questioned what would be taking place in the staging area. Mr. McLachlan responded that the staging area at the existing G11-A valve site is where the new pipeline will be tied in to the old line. A new valve will also be added. He said no fuel would be stored at the G11-A valve site. New pipe will be stored there. Construction equipment will be fueled and lubricated each day. Pipe wrap for welded area, welding rods and pipe coatings are the only other hazardous materials. He indicated the welding material itself is not hazardous. Pipe sections are precoated with nonhazardous, nonleachable material. After pipe sections are welded together, pipe wrap is used. An environmental inspector will be on site at all times. Construction workers will be trained to respond to spills. Spill response plan and cleanup materials will be on site.

Ms. Ritchie asked for clarification of the percent reduction of air pollutants. Mr. Crouch indicated the figures in the DEIR were percent reductions overall. They were reductions achieved by using natural gas to fire Canal Unit # 2 versus the emissions which would have resulted had 100% oil been used. He explained that the actual tons of emission vary. He said that because of this variation, the estimates show the reductions attributable to using natural gas versus using all oil to fire Canal Unit #2. Mr. Wood said that, for example, sulfur oxide emissions would be reduced by the percentage shown in the DEIR because gas and not oil was burned for 8 months as opposed to 12 months of the year.

The Subcommittee discussed the distance to public supply wells from the construction area. Mr. Crouch indicated the closest well was on the opposite side of Bournedale Road, about 500 feet away from the project area. He also said that trenching and laying of pipeline would only be down about five or six feet.

Mr. Kaufman asked how cuttings resulting from directional drilling would be handled and disposed of. Mr. Crouch said the bentonite slurry helps cut the rock and lubricate the bore hole. Bentonite slurry comes out the bore hole under its own pressure. It is handled by "mud handling" equipment which then pumps it back into the drill hole. The waste bentonite and cuttings would be tested prior to disposal. It is not anticipated that contamination or plumes will be encountered.

Mr. Silverman asked if directional drilling was a standard method used for crossing large waterbodies like the Canal. Mr. Crouch indicated that it is a standard practice adapted from oil drilling technology. It is used to cross large rivers.

Mr. Silverman asked what sort of maintenance was anticipated for the ROW. Mr. Crouch explained the ROW is generally mowed on a 3 year basis as needed. This allows for inspection from the air on a weekly basis. Walkovers of the ROW are done annually. In wetland areas, FERC has reduced the amount of area which can be mowed to a 10-foot strip over the pipeline itself.

Mr. Riley asked what the expected lifespan of the pipeline would be. A member of the Applicant's consultant team responded that it is indefinite. The pipeline is protected from corrosion by active and passive cathodic protection systems. Mr. Kaufman questioned whether the lifespan of the pipeline would indeed be indefinite given it was being constructed in wet soils. A member of the Applicant's consultant team responded the cathodic protection system would slow down corrosion, and wet conditions actually increase the efficiency of such systems.

Vicky Bebout questioned why the hydrostatic test water was being tested after half had already been discharged to the Canal. Mr. McLachlan indicated that the testing procedure was dictated by the EPA. Algonquin would send a letter requesting a National Pollutant Discharge Elimination System (NPDES) permit be granted to the projects. EPA will generally state in the letter it recognizes the activity does not need a permit, but that a sample be required to be drawn at the midpoint of discharge.

Mr. Near asked if there were any recent test borings done at the other alternative crossing locations. Mr. Wood indicated data was available from borings done for construction of the Canal Electric plant, Sagamore Bridge (1930s) and the record developed during the digging of the Cape Cod Canal. There is recent data from limited borings taken in 1993 in area #1.

Representative Cahir of the third Barnstable District, chair of the Canal Plant Monitoring Committee explained a Committee had been formed to address some of the concerns of neighborhood residents. He expressed support for the project.

Richard Prince, Cape Cod Commission member from Bourne, noted on page 6 of the DEIR that Canal Electric plans to flush the pipeline with fresh water. He asked what the source of the fresh water was. A representative of the Applicant indicated the fresh water would be taken from wells on the Canal Electric property which supply plant makeup water. He also indicated that if additional water was needed from fire hydrants, the necessary permits would be obtained from the town of Bourne. The test water would be discharged to on-site catch basins.

Mr. Prince also said the Herring River ACEC had been established with the purpose of controlling the development in the area. He also directed the Commission Subcommittee to the Odgen Report which discusses crossings, saying there was a disagreement about the feasibility of the different alternatives. He said the Odgen Report indicates crossings in area 1 are feasible.

Neil Andres, Superintendent of Public Works for Bourne, said the Applicant had not discussed with him the need for road permits. Mr. Crouch indicated the Applicant was aware permits were needed. Mr. Andres also indicated there was also a cost to the closing of roads to resident traffic, and that the Subcommittee should consider these costs in reviewing the benefits/detriments of this project.

Ron Anderson of 120 Herring Pond Road, Bourne, said he was concerned about the proximity of the pipeline to his historic house. He suggested that the river be crossed at the existing right of way.

Ms. Ritchie asked if the Applicant could guarantee a time limit when roads would be closed. She also asked about vibration caused by pipeline construction. Mr. Catullo felt the vibration would be minimal based on their experience. Mr. Grasso said Algonquin would do home inspections, both before and after construction.

Mr. Silverman asked if a risk assessment been done for having a gas pipeline in proximity to a residence and been factored into routing decisions. Mr. Crouch responded this issue was part of the FERC review. He said FERC would take into account wetlands impacts, safety, social economics and engineering concerns.

Bob Gray asked why horizontal directional drilling could not be used for the Herring River crossing. Mr. McLachlan indicated the severe terrain would limit the staging area. He also said a directional drill next to an existing live gas line was not advised.

Bob Gray questioned why Algonquin felt a directional drill had to be done next to the existing line. He said Algonquin was already deviating from the existing ROW to cross the Herring River at a narrower location. He suggested Algonquin could similarly acquire an additional easement next to the existing ROW which could provide the necessary margin of safety needed for horizontal directional drilling. Ginny Anderson of Sagamore Beach expressed concern about ROW maintenance. She said the ROW is used for illegal dumping. Mr. McLachlan said that any area disturbed by construction has to be regraded and restored. Ms. Anderson said the ComElectric powerlines were also used for dumping, and that an unlocked gate allowed access to the gas line ROW.

Don Quinn seconded the comments made by Ms. Anderson. He said he was concerned about off-road vehicles, erosion and the need for better maintenance on the ROW. He also said he was opposed to Alternative 1C. He said studies showed there are risks associated with running a pipeline in proximity to electric lines.

Melvin Holmes expressed concern over air quality and emissions. He said the plant could burn gas part of the year and then burn dirtier and cheaper oil and still keep its overall emissions to a set standard. He felt all the alignments should be looked at regardless of cost. He cautioned that the proposed route opens more of the ACEC to off-road vehicles and clear-cutting. He felt crossing the River using horizontal directional drilling might cost more, but it could be done.

Brian Ahern of Chamber Rock Road was concerned about off-road vehicles and damage to the ACEC.

Mr. Prince said he had seen directional drilling be used by Algonquin to cross Glen Shalley Lake in Wareham. He felt the staging area for this project was small. He asked if directional drilling required more staging area than trenching activities.

Bob Gray commented on the wetland regulations pertaining to coastal and inland ACECs. He felt the impacts were not temporary, particularly since the area is an ACEC. He also felt that directional drilling would eliminate all wetland impacts.

The subcommittee received testimony at the February 23, 1995 public hearing on this project in the Bourne Community Center.

Gus McLachlan, representing the Applicant, made a brief presentation discussing changes to the projects since January. He said on January 11, 1995, the Federal Energy Regulatory Commission issued an Environmental Assessment on the projects. He said FERC did consider alternative routes, and found there was no preferable route alternative. He said FERC recommended the route using the existing Right of Way across the Herring River, designated as Route A.

He briefly discussed how the Herring River will be crossed. The River is a total of 450' wide, with a channel of approximately 10' wide. The Applicant is not proposing to take any additional temporary workspace. All work done in preparation to cross the Herring River will be done in upland areas. The crossing will be done from west to east, with an excavator supported on swamp mats. The pipeline will be floated into place and sunk. An excavator will then backfill soils over the pipe. FERC requires the River crossing be completed in 24 hours. The Applicant had met with the Division of Marine Fisheries, the Bourne Conservation Commission and representatives of the Massachusetts Fish and Wildlife office. He said the FERC requires the wetland contours and hydrology be restored.

Steve Wood with Canal Electric said Canal Unit #2 as it exists today is in full compliance with the Clean Air Act. He said installation of gas as a fuel to the unit is completely voluntary. It is also an effort to further reduce the emissions from the Unit in response to some of the concerns of local citizens. He said that Canal Electric is currently operating under an Approval by DEP to burn "compliance fuel" which is fuel having 1% sulfur content. He said that Canal Electric has no plans to use a fuel with a sulfur content above 1%.

Robert Parady, Chairman of Bourne Selectmen, said the Town is supportive of the conversion of the Canal Electric plant to natural gas. He said the Town through the Selectmen is an intervenor in the FERC process. The Town is supportive of the "Colonial Gas alternative route". He said he felt this route was environmentally preferable. He said the Town would support revegetation of the Herring River.

Cornelius Andres, Bourne Public Works Superintendent, said the DPWs main concern was that the route being discussed would impact 1.4 miles of Town road and expressed concerns about the impact on Hunters Brook Road drainage. He felt the "Colonial Gas alternative" was preferable because it would not impact Town roads.

Robert Parady commented that the routing issue was important. He said the impacts of the "Colonial Gas alternative route" as listed in the EA are less than other routes. He felt the risks or cost to the developer were not at issue in reviewing the projects.

Lloyd Raymond of Buzzards Bay commented that there were more than 10 homes potentially affected by the pipeline. He also said there were two private wells on Hunters Brook Road which are 15 feet from the edge of the road. He felt that the pipeline would negatively affect property values.

Virginia Anderson of Buzzards Bay asked about the new proposed access on Chamber Rock Road. She said Chamber Rock Road was a private road. She was concerned about the potential for damage to the road by heavy equipment.

Representatives of the Applicant said that negotiations with affected property owners for road access had not begun. Any damage to the road would be repaired. Also, there would be no permanent access ROW sought on Chamber Rock Road.

Dale Hatt of Sagamore asked what assurance was there that the crossing of the River would be completed in 24 hours or less. Gus McLachlan responded that FERC requires this work be completed in 24 hours. He asked if Canal Electric had considered bringing in natural gas on tanker ships as opposed to a pipeline.

Robert Parady expressed concern about the future natural gas needs of Cape Cod. He felt that the proposed route only services Canal Electric.

The subcommittee received additional public testimony at the April 3, 1995 continued public hearing held at the Bourne Community Center.

Gene Crouch of VHB said that approximately 66% of the proposed route is within existing Right-of-Way and 34% would be in roadways, primarily Hunter's Brook Road and Scussett Beach Road.

Greg Silverman asked about potential damage to trees on Hunters Brook Road. Mr. Crouch said that Algonquin has installed pipelines under similar conditions. He said it was Algonquin's experience that tree roots will grow away from the roadway area so that damage to them during construction would be minimized.

Gus McLachlan of Algonquin said alternatives to the proposed route had been looked at. He said the proposed route was preferred for geotechnical reasons. He indicated FERC had done field investigations regarding route determinations. He said a variety of factors were weighed by FERC including environmental, economic, social, residential impacts and engineering concerns. FERC determined that the route proposed is the environmentally preferred route.

Neil Andres stated the EA provides shows the Colonial Gas Alternative route is shorter, does not cross the Herring River, impacts less ACEC area, is not to be built in roads and passes fewer homes. He felt the project had few benefits.

Don Near asked if FERC had considered the Colonial Gas Alternative route. Mr. Crouch indicated they had. He said the risk of failure for the crossing at that location was too great to make that route feasible.

Mr. McLachlan read from the EA: "We have concluded that the use of the proposed route with the Herring River Variation will result in substantially less environmental impact than the use of the Sagamore Bridge Alternative or the Colonial Gas Alternative. Therefore, based on environmental factors we recommend the adoption of the proposed route and that of the Herring River variation be adopted as part of the route in Canal Lateral."

Elaine Swift Kelly said she was concerned the project would result in higher taxes. She felt the safety standards were only minimums and the Applicant's commitment to this area should be strengthened.

Mr. Tony Giorgi said the pipeline would be designed and tested to a maximum pressure of 750 pounds. He stated the proposed operating pressure of the pipeline would be between 250 and 300 pounds of pressure.

Edward Koskella felt that the Commission should focus on the impacts to the residents. He felt the proposed route impacted more people than would an alternative route along the Canal Service Road. He felt the route being proposed was only to favor the Canal crossing and to the benefit of Canal Electric.

Mr. Giorgi representing the Applicant indicated the Service Road routes had been studied. They were not found to be constructable because of the narrow 12-15 foot width of the Service Road. He said the construction would require disturbance of the side slopes. He also indicated that approximately 6,500 feet of existing trees would have to be removed if construction occurred along a route using the Service Road. He said construction would occur on Hunters Brook Road for approximately 10 to 15 days. He said other concerns the Applicant had with using the Service Road were the expense, impacts to the view and difficulty in stabilizing the sandy soils.

Don Near asked if the Army Corps of Engineers commented on the Service Road route. Mr. McLachlan stated the Army Corp did not think use of the Service Road was a good idea.

Mr. Koskella commented that he felt the Service Road was wider than as described by Algonquin. He felt if the Applicant had the ability to place a pipeline along Hunters Brook Road with its existing utility lines than the same techniques would allow construction along the Service Road.

Mr. Giorgi indicated use of the Service Road was also hampered by the presence of overhead utility lines and limited access. He also said restoration of the sandy slope would be difficult.

Mrs. Swift felt that Algonquin could use a route along the south side by the Sagamore Bridge. She felt this would be a more direct and cheaper route.

Virginia Anderson questioned why Algonquin had not considered use of Meeting House Rd and Scussett Beach Rd. She was concerned about the visual impact to Hunters Brook Road. She also indicated concern for damage to Chamber Rock Road, revegetation and impacts to the vernal pools.

Greg Silverman felt human impacts, particularly safety issues, were important. He also felt that these concerns had to be taken in perspective with the many miles of pipeline installed versus the number of accidents. He also felt that if there was a route which minimizes the number of residents living within 50 feet pipeline that, all other things being equal, this route should be preferred. He did not feel a strong case had been made to this point that the human impacts are so extreme and dangerous as to undermine approval of the proposed route.

Mr. Koskella indicated he was concerned about impacts resulting from both the construction phase and safety after construction. He felt Algonquin was incorrect in characterizing the Service Road route as infeasible.

Mr. Ralph Tucker commented that people should have provided comments concerning use of Hunters Brook Rd earlier. He also said there was an instance of a boat sinking in the Canal which caused a significant washout of the embankments. He felt that if something similar occurred, it would affect a pipeline laid along the Service Road.

Don Near commented the Canal Electric plant was currently burning 1% sulfur oil and that because of this, the project should result in an overall improvement in air quality.

Mrs. Swift asked if the pipeline would incorporate safety valves. A representative of the Applicant indicated some of the valve stations include relief valves similar to those found on a home boiler. He also said there are other mechanisms to insure the pipeline's safety. The National Transportation Safety Board and Department of Transportation have done studies which show the transportation of natural gas via pipeline is the safest form of transportation.

The Cape Cod Commission received additional public testimony at the April 27, 1995 continued public hearing held at the Assembly of Delegates Chamber in Barnstable, MA. At this hearing the Commission discussed with the applicant and staff recommended modifications to the draft decision. Virginia Anderson, a resident of Bournedale, expressed her concerns about the use of off-road vehicles along the pipeline right of way and her willingness to allow the applicant to implement measures to reduce such illegal use of the right of way. The Commission closed the public hearing and record following this discussion.

JURISDICTION

The proposed project qualifies as a Development of Regional Impact under Section 12(i) and 13(b) of the Cape Cod Commission Act, because the preparation of an Environmental Impact Report was required under the Massachusetts Environmental Policy Act (MEPA).

FINDINGS

The Commission has considered the Development of Regional Impact application of Algonquin Gas Transmission Company, to construct a 4.0 mile 18" natural gas pipeline in Bourne. Based on consideration of such application, the information presented, and subcommittee and staff recommendations, the Commission makes the following findings pursuant to Sections 12(b) and 13(i) of the Act:

1. The proposed pipeline will increase the availability of natural gas to the Canal Electric Station which in turn serves Cape Cod's energy needs.
2. ComElectric's Canal Unit No. 2 is already in full compliance with all air emissions standards, and the proposed conversion to dual fuel of Unit No. 2 will permit Canal Electric to implement its plan to voluntarily reduce air emissions. Partial conversion to natural gas is expected to reduce emissions of carbon dioxide, sulfur dioxide and nitrogen oxides.
3. The Massachusetts Historical Commission has determined that construction of this project will not adversely affect nearby cultural resources if the proper mitigation is provided.
4. The project has been reviewed by the Federal Energy Regulatory Committee (FERC). The Cape Cod Commission is an intervenor in these proceedings. FERC has sole jurisdiction over the proposed routing of the pipeline. FERC's staff has issued an opinion (Environmental Assessment) that recommends adoption by FERC of the proposed route and recommends 21 conditions be placed on the project.
5. The proposed project crosses the Herring River Area of Critical Environmental Concern (ACEC) as well as the Herring River, an anadromous fish run.
6. The Massachusetts Natural Heritage and Endangered Species Program has determined that the project passes through the habitat of the spotted turtle and Eastern box turtle, both species of special concern under the Massachusetts Endangered Species Act and the Division of Marine Fisheries has determined that the proposed crossing of the Herring River should be accomplished during the month of August.
7. The route proposed by Algonquin will make use of the existing G-11A 8-inch natural gas pipeline Right-of-Way for the crossing of the Herring River, and the

vernal pools and associated wetlands (hereinafter referred to as Wetland #1). This route will temporarily alter approximately 0.44 acres or 19,166 square feet of wetland for the river crossing, .21 acres or 9280 square feet for the crossing of Wetland #1, and will alter the 100' wetland buffer in several locations.

8. As conditioned below, the proposed project is in compliance with Regional Policy Plan Minimum Performance Standard 2.3.1.3. which requires that "Disturbance of wetlands and buffer area for operation and maintenance of underground...utility lines... may occur. Installation of new utility lines through these areas may occur where the permitting authority finds that the proposed route is the best environmental alternative for locating such facilities. In all instances, disturbance of wetland and buffer areas shall be minimized and surface vegetation, topography and water flow shall be restored substantially to the original conditions."

9. As conditioned below, the project furthers Development Review Policy 2.3.1.5. which states that "measures to restore altered or degraded inland . . . wetlands . . . should be encouraged." The proposed project will take measures to restore existing right of way areas that have been degraded by off-road vehicle use and will also take measures to discourage such further use.

10. The project is located in proximity to two certified vernal pools (#553 & #554) east of Chamber Rock Road. MPS 2.4.1.2. states that "Development shall be prohibited in vernal pools and within a minimum 100' buffer around these areas...."

11. The project will be constructed utilizing a boring technique to avoid impacts to the first vernal pool (#553). In addition, no construction workspace is being utilized in the area surrounding the vernal pools to avoid any direct construction impacts to the vernal pools.

12. The project as conditioned is consistent with Minimum Performance Standard 2.4.1.1.B.2. which states that "Clearing of vegetation and alteration of natural topography shall be minimized, with appropriate vegetation planted as needed to enhance or restore wildlife habitat." The project will result in alteration of approximately 11 acres of upland. Approximately 7.5 acres of this total consists of temporary construction workspace. The project will include active revegetation of upland areas needed for construction activities and wetland buffer areas.

13. The proposed development is located near several public supply wells. Three public supply wells are located near the existing G-11A valve site and are within a DEP approved zone of contribution. Another well is surrounded by an interim zone of contribution near Black Pond and is operated by the North Sagamore Water District.

14. In 1981, the EPA found the pipeline system of Algonquin Gas Transmission Company, along with 13 other interstate gas companies, had PCB contamination resulting from inadvertent leakage of compressor oils into the pipeline. Construction of the Canal Lateral project will involve the removal of an approximately 8-foot length of pipe currently in use at the G-111A valve site. Algonquin Pipeline will handle and dispose of any removed pipe in accordance with an EPA permit.

15. The project, as conditioned, is in compliance with RPP Minimum Performance Standards 2.1.1.A.2 and 4.2.2.3. Construction of the pipeline will involve the use of hazardous materials for both construction equipment and construction-related activities. The Applicant has stated that restricting the fueling and servicing of equipment to a single designated area for each project would require extensive relocation of machinery and would cause a severe hardship. As an alternative, the project has been conditioned to limit the amount of hazardous materials stored at the staging areas for both projects to 275 gallons.

16. The Applicant has provided test results of discharged hydrostatic test water from five different gas transmission projects in Massachusetts. The source of this test water will be the Canal and hydrants located on the Canal Electric property. A 1994 joint letter from the EPA and Massachusetts DEP indicates this type of discharge "...does not contain significant amounts of pollutants...".

17. The Applicant has prepared a standard Spill Control and Countermeasures Plan (SPCC plan). It provides direction for construction equipment maintenance and fuel storage. Algonquin will also require training of contractor personnel in spill prevention. The projects will also be constructed in compliance with OSHA regulations.

18. Pipeline welds will be inspected with X-rays to insure integrity. The Applicant has provided information which states this work will be done in conformance with accepted safety techniques. Workers performing the X-ray testing will be issued badges to record daily exposure levels. The work will also be supervised by a trained

inspector and measures will be taken to insure the safety of other construction workers.

19. Pipeline construction will generate waste drilling fluids and spoil. This material will be composed of subsurface soils and bentonite, a clay commonly used in landfill liners. The Applicant has stated that any waste soil or bentonite will be dewatered and tested for contamination prior to disposal.

20. One permanent access road is proposed west of Chamber Rock Road at the existing pipeline right-of-way. A copy of an aerial plan map was submitted which illustrates the location of the proposed access road.

21. The Commission finds that the project, as conditioned, will not have an adverse impact on land use, traffic or water quality and therefore is consistent with RPP Minimum Performance Standard 4.3.1.2.

22. The pipeline route will follow the north side of Scussett Beach Road due to the placement of existing utilities.

23. The Bourne Department of Public Works has expressed concern about possible construction impacts to Hunter's Brook Road, including disturbance of existing utilities, drainage systems, pavement damage and destruction of tree roots. The Applicant has committed to repaving the existing width of Hunter's Brook Road, repairing damage to any utilities impaired during construction, paying for the Town's inspection costs and submitting detailed plans to the Town in conjunction with a road opening permit.

24. The Applicant has submitted information describing the phases of pipeline construction which indicates this project will not proceed until the pipeline crossing of the Cape Cod Canal proposed in TR #94013 is in place.

CONDITIONS

1. The applicant shall meet the following conditions prior to the issuance of a Certificate of Compliance. These conditions shall apply to the applicant, its successors or assigns and all subcontractors.

2. The applicant shall obtain all necessary federal, state and local permits for the project. Nothing in these conditions shall be construed to limit the imposition of more stringent conditions by any other permitting authority.
3. As conditions of this approval, the Cape Cod Commission herein incorporates the following conditions from the Environmental Assessment, dated January 1995 and issued by FERC:
 - a. Condition #12 regarding tree removal;
 - b. Condition #13 regarding traffic control plans; and
 - c. Condition #17 regarding in placement of the Canal crossing prior to commencement of this project.
4. All relevant final submissions, designs, plans and written representations by the applicant shall, by reference hereto, be incorporated as conditions of approval.
5. The applicant shall provide the Cape Cod Commission with the following documents:
 - a. The name(s) and telephone number(s) of the person(s) charged with monitoring and compliance with these conditions during pipeline construction.
 - b. A copy of each biweekly status report filed with FERC as specified in Condition #8 of the Environmental Assessment. This will also include copies of any reports filed in the event of a spill or release of hazardous materials or waste.
 - c. A copy of all work schedules required by Condition #11 of the Environmental Assessment.
 - d. A copy of any reports which describe the manner of final disposal of the 8-foot length of currently in-service pipeline which is scheduled to be removed as part of the Canal Lateral project.
 - e. A copy of the final NPDES Authorizations when they become available.
 - f. A copy of FERC's Certificate on the proposed project.
6. The applicant shall collect baseline information on existing conditions at the vernal pools and the Herring River crossing prior to construction. This information shall be provided to the Cape Cod Commission prior to commencing construction.
7. Construction, site restoration, and monitoring in the vicinity of the vernal pools and Wetland #1 shall occur as specified in VHB's August 24, 1994 memo entitled

"Wetland #1: Construction, Mitigation and Restoration Procedures." Any deviations from these procedures shall be approved in advance by the Cape Cod Commission or its designee. The Cape Cod Commission shall be provided with annual monitoring reports on the progress of restoration of this area for a minimum of three growing seasons or until restoration is completed (if longer).

8. No stockpiling of soils excavated during construction shall occur in wetland areas beyond the tree line associated with Wetland #1.

9. The applicant shall obtain permission from necessary landowners and take affirmative measures to deter off-road vehicle access including, but not limited to, placement of two staggered rows of boulders across the existing right-of-way on either side of the vernal pool area and along the western edge of Wetland #1 near Clarissa Joseph Road. Following construction, the applicant shall also implement mitigation measures as proposed to reduce ongoing erosion in the existing right of way in the vicinity of the vernal pools.

10. Crossing of the Herring River shall be completed during a low-flow period during the month of August as specified by the Division of Marine Fisheries and the Bourne Conservation Commission. If construction is not completed in August, the applicant shall provide the Cape Cod Commission with written authorization from the Division of Marine Fisheries and Bourne Conservation Commission allowing construction during another month.

11. Construction, site restoration, and monitoring in the vicinity of the Herring River and its associated wetlands shall occur as specified in the Final Environmental Impact Report. Any deviations from these procedures shall be approved in advance by the Cape Cod Commission or its designee. The Cape Cod Commission shall be provided with annual monitoring reports on the progress of restoration of this area for a minimum of three growing seasons or until restoration is completed (if longer).

12. As an exception to Condition #6, the following shall be required at the Herring River crossing:

- a. The applicant shall segregate organic soils and plant materials during excavation of the trench.
- b. To the maximum extent feasible, the applicant shall place excavated soils and plant materials on the upland "island" west of the Herring River to minimize placement of excavated materials within wetland areas.

c. Following completion of pipeline installation, the trench shall be backfilled by machine, supplemented by the use of hand tools to remove spoils from wetland areas, as necessary. Plant materials shall be returned to the surface and supplemented by the planting of appropriate wetland materials, to be specified by the Bourne Conservation Commission. The area shall be monitored following completion of construction and if the replaced plant materials do not re-establish, active revegetation should occur as specified by the Bourne Conservation Commission.

13. In upland areas, all trees and shrubs within the temporary construction workspace shall be cut flush to the ground with their roots remaining in place in order to allow for regeneration.

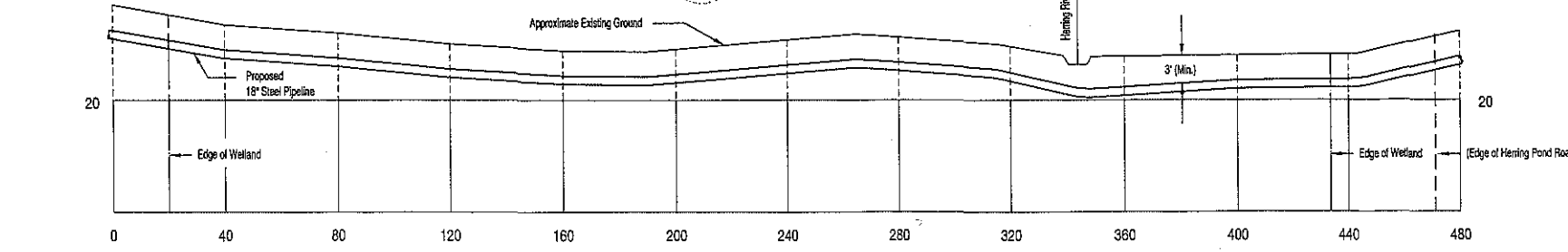
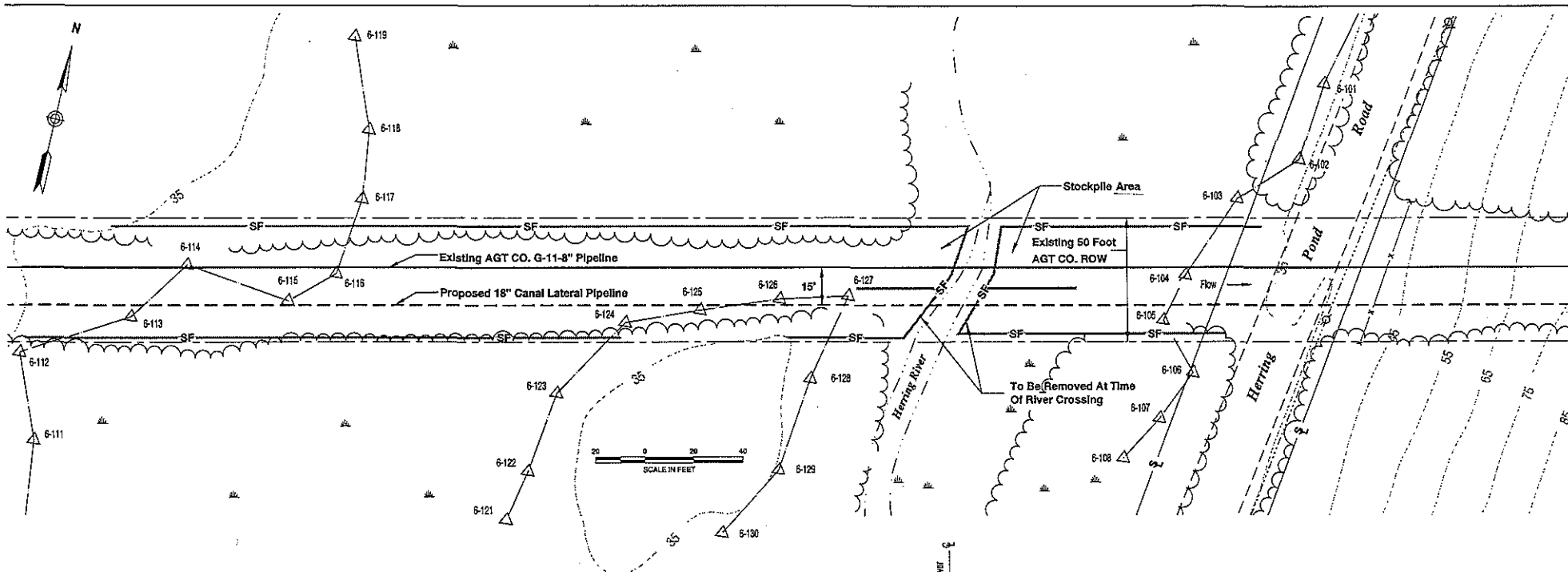
14. The applicant shall replant disturbed upland areas (temporary construction workspace) and wetland buffer areas with a mix of pine and oak seedlings (approximately 7700 seedlings total). The seedlings shall be monitored and replaced if they die within the first two growing seasons.

15. The amount of hazardous materials and wastes stored at the staging areas within Approved or Interim Zones of Contribution or Zone IIs to Public Supply Wells will be no more than 275 liquid gallons, or its equivalent, at any one time.

16. The applicant shall complete all of the obligations specified in the letter dated March 13, 1995 from Algonquin to the Town of Bourne.

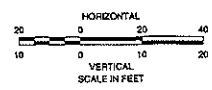
17. The applicant shall provide the Cape Cod Commission with a copy of all town and state approved traffic control plans for work on public ways in the town of Bourne.

18. The Cape Cod Commission hereby designates Kathy Sferra and/or Andrea Adams as the point of contact between the applicant (or its contractors) and the Cape Cod Commission. In case of emergency they can be contacted at 362-3828.



- Legend**
- Side Line of Road
 - Erosion Controls
 - Proposed Gas Pipeline
 - Existing Gas Pipeline
 - Existing ROW
 - Flagged Wetland Line
 - Wetland Flag Number
 - Wetland Symbol
 - Existing Contour
 - Edge of River
 - Edge of Pavement
 - Tree Line

Note:
Erosion Controls Will Consist of Either Silt Fence or Hay Bales or a Combination of Both, Which Will Be Determined Based on Existing Hydrologic Conditions at the Time of Construction



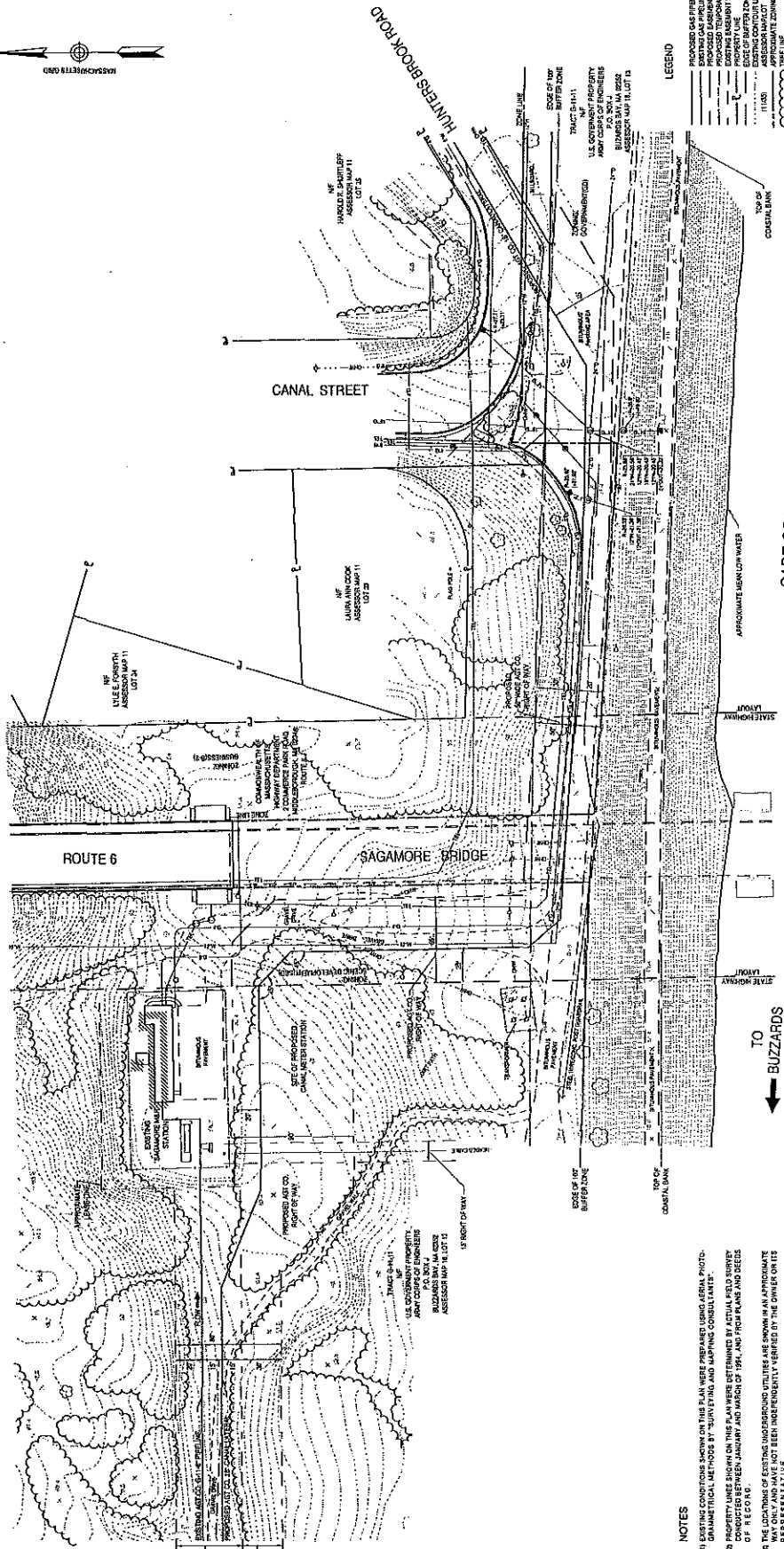
Source:
Alignment Sheet G-11A, August 12, 1986
1924 County Layout of Herring Pond Road
Plan of Land of Herring, February 26, 1959 (Book 146, Page 139)
Herring Run Development, May 14, 1985 (Book 400, Page 139)
Conveyancing Plan Monument Realty, December 31, 1987 (Book 443, Page 42)
AGT Right of Way Across Anderson, August 12, 1964 L-3619EE
AGT Right of Way Across Beal, January 13, 1965 L-3665A
Town of Bourne Planning Studies, Zoning 1986, Revised May 15, 1989

Vanasse Hangen Brustlin, Inc.

Figure 4
Route A
Crossing of Herring River

January, 1995

BARNSTABLE COUNTY, MASSACHUSETTS
TOWN OF BOURNE



NOTES

- EXISTING CONDITIONS SHOWN ON THIS PLAN WERE PREPARED USING AERIAL PHOTOGRAMMETRIC METHODS BY SURVEYING AND MAPPING CONSULTANTS.
- PROPERTY LINES SHOWN ON THIS PLAN WERE DETERMINED BY ACTUAL FIELD SURVEY CONDUCTED BETWEEN JANUARY AND MARCH OF 1991, AND FROM PLANS AND DEEDS OF RECORD.
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION. THEY HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE ENGINEER ON THIS PROJECT.
- INSET DATA READS CLOCKWISE FROM OUTLET, OUTLET INVERT IS LETTER LIST.

CERTIFICATION

I HEREBY CERTIFY THAT THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE THE RESULT OF A FIELD SURVEY CONDUCTED BY SURVEYING AND MAPPING CONSULTANTS, INC. IN APRIL OF 1991.

10-31-94
DATE
Mark D. [Signature]
#26119
MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER

- LEGEND**
- MASSACHUSETTS PIPELINE EXISTING GAS PIPELINE
 - PROPOSED GAS PIPELINE
 - EXISTING EASEMENT LINE
 - PROPOSED EASEMENT LINE
 - PROPERTY LINE
 - EXISTING CENTERLINE
 - PROPOSED CENTERLINE
 - APPROXIMATE SOILS BOUNDARY
 - TREE LINE

CAPE COD CANAL
TO BUZZARDS BAY

CAPE COD CANALSAGAMORE BRIDGE
ALCONQUIN GAS TRANSMISSION COMPANY
A UNIT OF PANHANDLE EASTERN CORP.
BARNSTABLE COUNTY, MASSACHUSETTS

VHB
Vermont Hengon Buehler, Inc.
100 W. Main Street
Barnstable, MA 02531
Tel: 508/548-1151 Fax: 508/548-1152

WETLANDS LOCATION PLAN
FOR PROPOSED 18" CANAL
LATERAL PIPELINE
BOURNE, MASSACHUSETTS

NO.	DATE	REVISION
1	10/31/94	ISSUED FOR PERMITTING

PLAN REFERENCES

ALCONQUIN SHEET G-11-A, AUGUST 14, 1988
LUBA-A 100' X 150' METERS SURVEY, MARCH 4, 1985
CAPE COD CANAL, LATERAL PIPELINE, AUGUST 14, 1989
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL AFFAIRS
18" CANAL, LATERAL PIPELINE, AUGUST 14, 1989
TOP OF BOURNE PLANNING TABLE, CANAL 18" LATERAL PIPELINE, 1989



SCALE IN FEET