

APPENDIX C
Wetland Photographs

Appendix C – Wetland Photographs



Photograph 1: Wetland 1 (WL1) - Wetland Habitat



Photo 2: Wetland 1 - Wetland Test Pit (WL1-WP1)



Photograph 3: Wetland 1 (WL1) - Upland Habitat



Photograph 4: Wetland 1 (WL1) – Upland Test Pit (WL1-UP1)



Photograph 5: Wetland 2 (WL2) – Wetland Habitat



Photograph 6: Wetland 2 (WL2) – Wetland Test Pit (WL2-WP1)



Photograph 7: Wetland 2 (WL2) – Upland Habitat



Photograph 8: Wetland 2 (WL2) – Upland Test Pit (WL2-UP1)



Photograph 9: Wetland 3 (WL3) – Wetland Habitat



Photograph 10: Wetland 3 (WL3) – Wetland Test Pit (WL3-WP1)



Photograph 11: Wetland 3 (WL3) – Upland Habitat



Photograph 12: Wetland 3 (WL3) – Upland Test Pit (WL3-UP1)



Photograph 13: Wetland 4 (WL4) – Wetland Habitat



Photograph 14: Wetland 4 (WL4) – Wetland Test Pit (WL4-WP1)



Photograph 15: Wetland 4 (WL4) – Upland Habitat



Photograph 16: Wetland 4 (WL4) – Upland Test Pit (WL4-UP1)



Photograph 17: Wetland 5 (WL5) – Wetland Habitat



Photograph 18: Wetland 5 (WL5) – Wetland Test Pit (WL5-WP1)



Photograph 19: Wetland 5 (WL5) – Upland Habitat



Photograph 20: Wetland 5 (WL5) – Upland Test Pit (WL5-UP1)



Photograph 21: Wetland 6 (WL6) – Wetland Habitat



Photograph 22: Wetland 6 (WL6) – Wetland Test Pit (WL6-WP1)



Photograph 23: Wetland 6 (WL6) – Upland Habitat



Photograph 24: Wetland 6 (WL6) – Upland Test Pit (WL6-UP1)



Photograph 25: Wetland 7 (WL7) – Wetland Habitat



Photograph 26: Wetland 7 (WL7) – Wetland Test Pit (WL7-WP1)



Photograph 27: Wetland 7 (WL7) – Upland Habitat



Photograph 28: Wetland 7 (WL7) – Upland Test Pit (WL7-UP1)



Photograph 29: Wetland 8 (WL8) – Wetland Habitat



Photograph 30: Wetland 8 (WL8) – Wetland Test Pit (WL8-WP1)



Photograph 31: Wetland 8 (WL8) – Upland Habitat



Photograph 32: Wetland 8 (WL8) – Upland Test Pit (WL8-UP1)



Photograph 33: Wetland 11 (WL11) – Wetland Habitat



Photograph 34: Wetland 11 (WL11) – Wetland Test Pit (WL11-WP1)



Photograph 35: Wetland 11 (WL11) - Upland Habitat



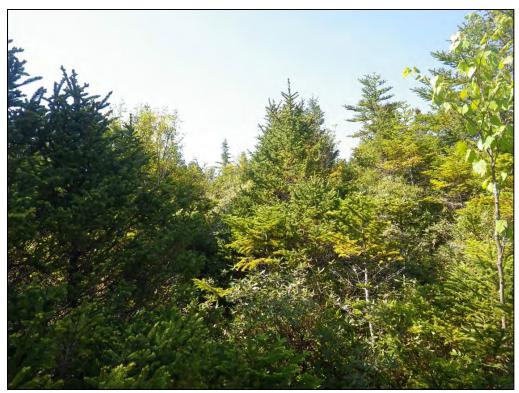
Photograph 36: Wetland 11 (WL11) – Upland Test Pit (WL11-UP1)



Photograph 37: Wetland 12 (WL12) – Wetland Habitat



Photograph 38: Wetland 12 (WL12) – Wetland Test Pit (WL12-WP1)



Photograph 39: Wetland 12 (WL12) – Upland Habitat



Photograph 40: Wetland 12 (WL12) – Upland Test Pit (WL12-UP1)



Photograph 41: Wetland 13 (WL13) – Wetland Habitat



Photograph 42: Wetland 13 (WL13) – Wetland Test Pit (WL13-WP1)



Photograph 44: Wetland 13 (WL13) – Upland Habitat



Photograph 45: Wetland 13 (WL13) – Upland Test Pit (WL13-UP1)



APPENDIX D Wetland Functional Assessment Forms

APPE	NDIX C: WL1 Nova Scotia Wetland Evaluation	Technique Fie	eld Data Sheet (S	eptember 2011	1)						
Proje	t Name: Goldboro LNG	Evaluator: Sc	ott Burley		GPS Coordin	ates:	607504 E	x 5002543 N			
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	unty, NS									
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventory	(Current For	est Data - 2004);	Google Earth (2	2007)						
Evalu	tion Date: 15-Apr-13	Site Visit Dat	e:	Sept. 26, 2013							
Weat	ner Conditions (past 48 hours): Clear and Sunny;										
Seaso	nal Weather Conditions: Typical										
SECTI	ON ONE: WATERSHED CHARACTERISTICS										
1	Watershed Name (tertiary): 1EP-SD	Size: 218	km²								
		For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7 (Gravel Pit,	Landfill, Ind	ustrial
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Preser	it
SF1	Watershed condition	Н	М							•	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L							
SECTI	ON TWO: WETLAND CHARACTERISTICS										
Wetla	nd Type: Bog/Fen/Swamp	WL size: 0.17	7 hectares		Landform: Ba	asin		Landscape Pos	sition: Lotio	-Stream Co	nfined
Wate	flow path: Throughflow	Wetland Orig	gin: Natural			_					
1	Water Regime	PF (SF	TF	SS (PS	RfT	IfT	AF		
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
3	Is WL part of complex	Yes	No								
4	% each wetland type in complex	SM:	BO: 40	FE: 40	FM: 10	FS:	SS: 10	CP:	VP:		
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify			
6	Standing water?	Yes	Avg Dep: 5-20		% Inundated	: 10%	No				
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet								
8	Adjacent Upland Land Use within 100m (%)	For: 90	Nat:	PasHay:	Crop:	UrbCm:	Road: 10	Other Dev:			
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW_x	_, WcS_x_, O/C	,EB,DP,F_	_,M, ES,N	NE,DwP,					
		M,GC,A			D,F,FA	_, other (spec		c mining in area			
10	Hydrology Altered (circle all that apply)?	Ditching		Tiles	Culvert	Well	Diversion	Other Specify:			
SF3	Rate the general wetland condition/integrity	Н (M	L							
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY										
1	Average width of adjacent naturalized buffer	50mete	r								
	,	H >1	M 8-15	(<8)	Road loacted						
3	Widths for wildlife habitat	H >1 0 0	M 15-100	(<15)	Road loacted	d along one s	ide of wetla	nd			·
	, , , , , , , , , , , , , , , , , , , ,	H 90%	M	L 10%							
5		H 90%		L 10%							
		Steep	Mod 20%	Gentle 80%							
		Yes	No	Specify:							
		Yes	No	Specify:							_
	,,,,,,,	\mathcal{H}	M	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	f yes if no	<u> </u>
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5	Is the WL a WSS?	Yes	No								

SF6 Does the WL support commercial/recreational fish/shellfish?	(Yes)	No	Potentially A	merican Eel	(found in lower	reaches o	of stream)		
SF7 Species of concern (Fed/Prov)? Specify. Potentially American Eel	End	Thr -SARA	SpC	Red	Yellow	<i>S</i> 1	<i>S2</i>	53	N/A
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:						
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No							
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:						
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No							
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:						
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY									
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:						
2 Is WL geographically isolated?	Yes	No	Specify:						
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low				
4 Water Storage Depth (list % in each class)	>30cm	15-30cm 10%	up to 15cm 1	0%	No ponding				
5 Signs of surface water retention observed?	SW_30_cm	, WSL, WCD	, WMcm, SM	cm, SD,	, AD, ID, Pl	ΛΤ_x_, Al	, BT, AR	, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High				
7 Disturbance of WL soils	Low		Med		High				
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay bedro	ck)			
9 Capacity of WL to alter/retard flows	High		Med		Low				
10 Roughness coefficient for surface water flow path	High		Med		Low				
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low				
12 Water Source	Natural		Mostly natur	al	Partly alter	ed	Controlle	d	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted		N/A		
14 Coastal storm surge	Yes	No							
SF13 WL hydrologic condition	Natural	Modified		Significan	ntly Modified				
SF14 WL important for maintaining stream flow?	Yes	No							
SF15 WL ability to detain surface water	High	Med	Low						
SECTION SIX: WATER QUALITY									
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low				
2 Nutrients/sediments from surrounding land	High		Med		Low				
3 Significant flood/stormwater attenuation	Yes	(No							
4 Vegetation capacity to settle suspended sediments	High		Med		Low				
5 WL type /landscape position holds/filters runoff?	Yes	No							
SF16 Wetland improves water quality?	Yes	No							
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High						
SF18 WL contributes to water quality in downstream resources	High	Med	Low						
SECTION SEVEN: GROUNDWATER INTERACTIONS									
1 Describe soils in wetland	Recharge		Discharge						
2 Land use / run off in subwatershed upstream	Recharge		Discharge						
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge						
4 Hydroperiod of wetland	Recharge		Discharge						
5 Describe inlet/outlet configuration	Recharge		Discharge						
6 Characterize topographic relief surrounding wetland	Recharge		Discharge						

SF19 WL serves as a recharge site	Yes	(No								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	4m	streamwidth	<4m	WB Exposed	WB Shelte	red	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%					•		
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	М	L	N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Juncus ej	ffusus (30%)/Car	ex sp . (20%)/ A	lnus incana (15%)			•		
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M (L	specify type	(s) below					
5 Disturbance Types	H,ATV	_,G,,M,In	, D/D, lm_	, OAH,	li, Sd,l	,,other				
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes	no	specify:							
SF23 Does the WL contain a diversity of plant communities	H	М	L							
SF24 Rate the overall integrity/quality of plant community?	H	M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	S2	<i>S3</i>	(N/A)	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	M	L							
1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland	н	М	L	N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat	L	M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Dragon flie	s, Passerines	;					
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha		<10h						
11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify: Potent	ially Americ	an Eel (found	in lower re	aches of strean	1)		
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr-SARA	SpC	Red	(Yellow)	<i>5</i> 1	52	S3	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV_x_,CP,	CO,PO,PA_x	_,,AV_x_,GB,	E,HI, W\	/, BO,HU	, PG_x_,	BP_x_,F, E	, R <u></u> , Other	:	
SF29 Rate the wetland's community use/value	Н	M	L							

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent



APP	NDIX C: WL2 Nova Scotia Wetland Evaluation	Technique Fi	eld Data Sheet (S	eptember 201:	1)					
Proje	ct Name: Goldboro LNG	Evaluator: So	cott Burley		GPS Coordin	ates:	607504 E	x 5002543 N		
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	ounty, NS								
Sour	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventor	y (Current For	rest Data - 2004);	Google Earth (2	2007)					
Evalu	ation Date: 15-Apr-13	Site Visit Dat	te:	Sept. 26, 2013						
Weat	her Conditions (past 48 hours): Clear and Sunny;									
Seaso	nal Weather Conditions: Typical									
SECT	ON ONE: WATERSHED CHARACTERISTICS									
1	Watershed Name (tertiary): 1EP-SD	Size: 218	km²							
	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7 (Gravel Pit,	Landfill, Industria
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Present
SF1	Watershed condition	Н	М				•	•	•	•
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L						
SECT	ON TWO: WETLAND CHARACTERISTICS									
Wetl	nd Type: Fen	WL size: 0.20) hectares		Landform: B	asin		Landscape Po	sition: Terr	ene
Wate	r flow path: Outflow	Wetland Ori	gin: Natural			_				
1	Water Regime	PF (SF	TF	ss (PS	RfT	IfT	AF	
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:
3	Is WL part of complex	Yes	No							
	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify		
6	Standing water?	Yes	Avg Dep: 5 cm		% Inundated	: 15%	No			
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet							
8	Adjacent Upland Land Use within 100m (%)	For: 100%	Nat:	PasHay:	Crop:	UrbCm:	Road: 10	Other Dev:		
Ç	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS, O/C,E	B,DP,F,	M, ES,NE	,DwP,				
		M,GC,A	.TV,DG,EA	, R,Rr,U/CI		other (speci				
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify:	:	
SF3	Rate the general wetland condition/integrity	H	М	L						
SECT	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY									
1	Average width of adjacent naturalized buffer	100met	t€							
	Widths for water quality	H >1	M 8-15	L <8						
	Widths for wildlife habitat	H >100	M 15-100	L <15						
	Adjacent area vegetation condition (list % in each category)	H 100%	М	L						
5	Adjacent area diversity and structure (list % in each category)	H 100%	М	L						
	Adjacent Upland Slope (list % in each category)	Steep	Mod 30%	Gentle 70%						
	Adjacent land supports water quality	Yes	No	Specify:						
	Adjacent land supports wildlife habitat	Yes	No	Specify:						
	Rate the overall condition and integrity land adjacent to wetland	\bigcirc	М	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	f yes if no
SECT	ON FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5	Is the WL a WSS?	Yes	(No							

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No	Potentially An	nerican Eel	(found in lower read	ches of strean	n)	
SF7 Species of concern (Fed/Prov)? Specify.Possible American Eel	End	Thr-SARA	SpC	Red	Yellow 51		S3	N/A
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	(No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify: Recie	ves some o	verland flow but str	eam channel	begins at outflov	of wetland
2 Is WL geographically isolated?	Yes	No	Specify:					
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm 30)%	No ponding			
5 Signs of surface water retention observed?	SW_5_cm, \	WSL, WCD	, WMcm, SM	cm, SD,	AD, ID, PMT_x_	, AI, BT,	AR, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natura	I	Partly altered	Cont	trolled	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted	N/A		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	(Med)	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	(No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	(No)						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge					
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge	_	Discharge					

2 % cover of rooted vegetation in shallow water zone 3 Avg yeg WL width b/w shoreline/streambank & 2 m depth contour 4 Prevalence of strong-stemmed emerg, weg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level 6 Shoreline/streambank veg condition upslope of water level 6 Shoreline/streambank veg condition upslope of water level 7 Low Med High Med Low 8 Low Med High Artificial 7 Low Med High Med Low 8 Low Med High Artificial 8 Low Med High Artificial 9 Low Med High Med Low 1 Low Med High Med Low 1 Low Med High Med Low Med High Artificial 9 Low Med High Med Low Med High Artificial 9 Low Med High Med Low Med High Artificial 9 Low Med High Med Low Med Low Med High Med Low Med Low Med High Med Low Med Med Med Low Med Med Med Med Low Med	19 WL serves as a recharge site			
1 Wetland fringing ocean/estuary/lake/pond/river/stream? 2 Cover of rooted vegetation in shallow water zone	20 WL serves as a discharge site Yes No			
2 % cover of rooted vegetation in shallow water zone 3 Avg weg WL width b/w shoreline/streambank & 2 m depth contour 4 Prevalence of strong-stemmed emerg- weg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level 6 Shoreline/streambank veg condition upslope of water level 6 Shoreline/streambank veg condition upslope of water level 7 Low Med High Med Low 8 Low Med High Artificial 7 Wegetation diversity 1 Vegetation diversity 1 Vegetation diversity 1 Vegetation Disturbance 1 H M L Specify Rosa nitida (5%) 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 1 H M M L Specify Rosa nitida (5%) 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 1 H ATV G ,, M In , D/D , Im , OAH , Ii , Sd 7 Vegetative Integrity of plant community 8 E H M L Specify: 5 It stee plant community unique or rare regionally or provincially? 7 Vegetative Integrity of plant communities 8 H ATV G ,, M In , D/D , Im , OAH , II , Sd 7 Vegetative Integrity of plant communities 8 H M L Specify: 5 P522 Is the plant community unique or rare regionally or provincially? 7 Vegetative Integrity of plant communities 8 H M L Specify: 5 P525 Are there any observed rare or endangered plant species? Specify. 5 P625 Are there any observed rare or endangered plant species? Specify. 6 Barriers/restriction between wetland and other habitat 1 Interspersion of open water and vegetation (open water types only) 4 Interspersion of open water and vegetation (open water types only) 5 P626 Red Vellow 8 Connected to permanent water (accessible to fish)? 9 Fish species observed or evidence seen (list) 9 Fish species observed or evidence seen (list) 10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: 12 F626 Does wetland support f	CTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY			
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour 4 Prevalence of strong-stemmed emerg, veg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level Low Med High Med Low 1 W ability to stabilize shoreline expension potential 6 Shoreline/streambank veg condition upslope of water level 1 Low Med High Artificial 6 SF21 WL ability to stabilize shoreline 6 SECTION NINE: PLANT COMMUNITY 1 Vegetation diversity 1 Dominant plant species and % cover in the WL 1 Dominant plant species and % cover in the WL 2 Dominant Non-native or invasive species and % cover 4 Vegetation Disturbance 4 Vegetation Disturbance 4 Vegetation Disturbance 5 Disturbance Types 7 Vegetative Integrity of plant community 8 E H M L 8 M L 8 DD, Imm, OAH Ii Sd 7 Vegetative Integrity of plant communities 8 H ATV G M In M L 8 DO Specify: Second Vegetative Integrity of plant communities 9 H M L 9 SP22 Is the plant community unique or rare regionally or provincially? 9 Yes (no specify: 9 Specify: Second Vegetative Integrity/quality of plant communities 9 H M L 9 L 9 Specify: Second Veglow 9 Specify: 9 Specify: Second Veglow 9 Specify: 9 Specify: Specify: 9 Interspersion of open water and vegetation (open water types only) 9 H M L 9 Interspersion of open water and vegetation (open water types only) 1 Interspersion of other wetlands in vicinity 1 Interspersion of other wetlands in v	1 Wetland fringing ocean/estuary/lake/pond/river/stream? Yes No streamwidth >4m streamwidth<4m	WB Exposed	WB Shelter	ed
4 Prevalence of strong-stemmed emerg, veg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline(streambank veg condition upslope of water level Low Med High Artificial 5F21 WL ability to stabilize shoreline FECTION NINE: PLANT COMMUNITY 1 Vegetation diversity 1 Dominant plant species and % cover in the WL 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 5 Disturbance Types 6 Disturbance Types 7 Vegetative Integrity of plant community 5 ECTION Ten: FISH AND WILDLIFE HABITAT AND INTEGRITY 1 Interspersion of open water and vegetation (open water types only) 1 Med Low 1 Low 2 Specify: % 4 Vegetative Integrity of plant community 5 Let Be H M L 5 Low 5 Disturbance Types 6 L H M L 7 L 7 Vegetative Integrity of plant community 7 Let Be H M L 7 L 7 Vegetative Integrity of plant communities 8 L H M L 8 L 8 L 8 L 8 L 8 L 8 L 8 L 8 L 8 L 8	2 % cover of rooted vegetation in shallow water zone H >50% M 10-50 L <10%			
S Describe shoreline erosion potential High Med Low	3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour H >10m M 3-10 L <3m			
6 Shoreline/streambank veg condition upslope of water level By M L N/A SECTION NINE: PLANT COMMUNITY 1 Vegetation diversity 1 Dominant plant species and % cover in the WL list: Juncus effusus (10%)/Aster radula (5%)/Rosa nitida (5%) 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 4 Vegetation Disturbance 5 Disturbance Types 5 Disturbance Types 7 Vegetative Integrity of plant community 5 E H M L 5 PLA TO COMMUNITY E H M L 5 PLA TO G, M In , D/D , Im , OAH , Ii , Sd 7 Vegetative Integrity of plant community 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 5 FLA Rate the overall integrity/quality of plant community? 6 FLA Rate the overall integrity/quality of plant community? 8 FLA Rate the overall integrity/quality of plant community? 9 FLA Rate the overall integrity/quality of plant community? 1 Interspersion of open water and vegetation (open water types only) 1 Interspersion of open water and vegetation (open water types only) 1 Interspersion of open water wetland in vicinity 1 Interspersion of open water wetland. 1 Interspersion of open water wetland and other habitat 2 Interspersion of other wetlands in vicinity 3 Wetland condition related to detritus 4	4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only) High Med Low			
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1b Dominant plant species and % cover in the WL	CTION NINE: PLANT COMMUNITY			
3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 6 Disturbance Types 7 Vegetative Integrity of plant community 8 E H M L 5F22 Is the plant community unique or rare regionally or provincially? Fest no specify: Fest no specify	1 Vegetation diversity High Med Low			
4 Vegetation Disturbance 5 Disturbance Types HATV _G,MInD/DImOAHIiSd 7 Vegetative Integrity of plant community F22 Is the plant community unique or rare regionally or provincially? F23 Does the WL contain a diversity of plant communities HML F24 Rate the overall integrity/quality of plant communities HML F2523 Are there any observed rare or endangered plant species? Specify. F24 Rate the overall integrity/quality of plant community? HML F2525 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2525 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2645 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2645 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2656 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2656 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2656 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2656 Are there any observed rare or endangered plant species? Specify. End ThirSpCRedYellow F2656 Are there any observed rare or endangered plant species found in the wetland? F266 Are there any observed rare or endangered plant species found in the wetland? F2676 Are or endangered fish/wildlife species found in the wetland? F2677 Rare or endangered fish/wildlife species found in the wetland? F2677 Rare or endangered fish/wildlife species found in the wetland? F2678 Overall fish and wildlife habitat quality HML F2678 Does wetland support fish/fish habitat? F2679 Rare or endangered fish/wildlife species found in the wetland? F2679 Rare or endangered fish/wildlife species found in the wetland? F2679 Rare or endangered fish/wildlife species found in the wetland?	1b Dominant plant species and % cover in the WL list: Juncus effusus (10%)/Aster radula (5%)/ Rosa nitida (5%)			
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7 Vegetative Integrity of plant community FF22 Is the plant community unique or rare regionally or provincially? FF23 Does the WL contain a diversity of plant communities H M L FF24 Rate the overall integrity/quality of plant community? FF25 Are there any observed rare or endangered plant species? Specify. FF26 Are there any observed rare or endangered plant species? Specify. FF27 Are there any observed rare or endangered plant species? Specify. FF28 Are there ony observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF20 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF29 Are there any observed rare or endangered plant species? Specify. FF21 Are there any observed rare or endangered plant species? Specify. FF21 Are there any observed rare or endangered plant species? Specify. FF21 Are there any observed rare or endangered plant species? Specify. FF21 Are there any observed rare or endangered plant species found in the wetland? FF22 Are there any observed rare or are endangered fish/wildlife species found in the wetland? FF22 Are there any observed rare or are endangered fish wildlife habitat quality FF21 Are there any observed rare or are endangered fish wildlife habitat quality FF22 Are there any observed rare or are endangered fish wildlife habitat quality FF23 Are there any observed rare or are endangered fish wildlife species found in the wetland? FF24 Overall fish and wildlife habitat quality FF25 Are there any observed rare or and overall and or are the firsh of the	4 Vegetation Disturbance H M (L) specify type(s) below			
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SF24 Rate the overall integrity/quality of plant community? H M L				
SF25 Are there any observed rare or endangered plant species? Specify. SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY 1 Interspersion of open water and vegetation (open water types only) 1 Interspersion of open water and vegetation verus open water 2 Interspersion that best fits entire wetland 3 Wetland condition related to detritus 4 Interspersion of other wetlands in vicinity 6 Barriers/restriction between wetland and other habitat 7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc) 8 Connected to permanent water (accessible to fish)? 9 Fish species observed or evidence seen (list) 10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: SF26 Does wetland support fish/fish habitat? Feed The SpC Red Yellow Yellow N/A BM L N/A H M L N/A H M H M L N/A Iist: Dragon flies, Black Capped Chicke Exceptional High Med Low N/A Ilist: 10 Wetland part of contiguous upland or wetland: 250ha 25-50ha 10-25ha (10h) Waterfowl Waterfowl Waterfors SF26 Does wetland support fish/fish habitat? Fees No specify:Potentially American Eel (Ifour SF28) Feed Yellow SF27 Rare or endangered fish/wildlife species found in the wetland? Feed The SpC Red Yellow SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE	23 Does the WL contain a diversity of plant communities H M L			
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY 1 Interspersion of open water and vegetation (open water types only) 1 We cover in vegetation verus open water 2 Interspersion that best fits entire wetland 3 Wetland condition related to detritus 4 Interspersion of other wetlands in vicinity 6 Barriers/restriction between wetland and other habitat 7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc) 8 Connected to permanent water (accessible to fish)? 9 Fish species observed or evidence seen (list) 10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: 550ha 550ha 550ha 550ha 550ha 5527 Rare or endangered fish/wildlife species found in the wetland? 5528 Overall fish and wildlife habitat quality 55CTION ELEVEN: COMMUNITY USE/VALUE	24 Rate the overall integrity/quality of plant community? H M L			
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6 Barriers/restriction between wetland and other habitat 7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc) 8 Connected to permanent water (accessible to fish)? 9 Fish species observed or evidence seen (list) 10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: SF26 Does wetland support fish/fish habitat? SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE	3 Wetland condition related to detritus H M L N/A			
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9 Fish species observed or evidence seen (list) 10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: SF26 Does wetland support fish/fish habitat? Reptiles Waterfowl Waterbirds Mamma SF26 Does wetland support fish/fish habitat? Yes No specify:Potentially American Eel (four SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality H M L SECTION ELEVEN: COMMUNITY USE/VALUE	7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc) Yes No list: Dragon flies, Black Capped Chickadee			
10 Wetland part of contiguous upland or wetland: 11 WL provides habitat for: SF26 Does wetland support fish/fish habitat? SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE SECTION WETLAND SPORT	8 Connected to permanent water (accessible to fish)? Exceptional High Med Low N/A			
11 WL provides habitat for: SF26 Does wetland support fish/fish habitat? SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE Materfowl Waterbirds Mamma Septiles Waterfowl Waterbirds Mamma Specify:Potentially American Eel (four fine wetland) End Thr-SARA SpC Red Yellow L SECTION ELEVEN: COMMUNITY USE/VALUE	9 Fish species observed or evidence seen (list) Yes No list:			
SF26 Does wetland support fish/fish habitat? SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE				
SF27 Rare or endangered fish/wildlife species found in the wetland? SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE	11 WL provides habitat for: Amphibians Reptiles Waterfowl Waterbirds Mammals Fish	R/E species		
SF28 Overall fish and wildlife habitat quality SECTION ELEVEN: COMMUNITY USE/VALUE	26 Does wetland support fish/fish habitat? (Yes) No specify:Potentially American Eel (found in lower	reaches of strean	1)	
SECTION ELEVEN: COMMUNITY USE/VALUE	27 Rare or endangered fish/wildlife species found in the wetland? End Thr-SARA SpC Red Yellow S1	S2	S3	N/A
·	28 Overall fish and wildlife habitat quality H M L			
1 Describe communityuse	CTION ELEVEN: COMMUNITY USE/VALUE			
Tipescribe confiniting use	1 Describe community use VVCP,COPO,PAAV_x_,GBE,HI, WV, BO,HU, PG_x_,	BP_x_,F, E, F	, Other:	
SF29 Rate the wetland's community use/value H M L				
	Overall fish and wildlife habitat quality CTION ELEVEN: COMMUNITY USE/VALUE 1 Describe community use VVCPCOPOPAAV_x_GBE,HI, WV,BO,HU,PG_x			

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent



APPENDIX C: WL3 Nova Scotia Wetland Evaluation	Technique Fi	eld Data Sheet (S	September 20:	11)					
Project Name: Goldboro LNG	Evaluator: So	cott Burley		GPS Coordin	nates:	607504 E	x 5002543 N		
PID:35066158 Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	ounty, NS								
Sources and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventor	y (Current For	est Data - 2004);	Google Earth (2	2007)					
Evaluation Date: 15-Apr-13	Site Visit Dat	te:	Sept. 26, 2013						
Weather Conditions (past 48 hours): Clear and Sunny;									
Seasonal Weather Conditions: Typical									
SECTION ONE: WATERSHED CHARACTERISTICS									
1 Watershed Name (tertiary): 1EP-SD	Size: 218	km²							
2 % Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7	(Gravel Pit,	Landfill, Industrial
3 % Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Present
SF1 Watershed condition	Н	М	L					•	
SF2 Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L						
SECTION TWO: WETLAND CHARACTERISTICS									
Wetland Type: Fen/Bog/Marsh	WL size: 0.19	9 hectares		Landform: B	asin		Landscape Po	sition: Terr	ene Pond
Water flow path: Outflow	Wetland Ori	gin: Natural			_				
1 Water Regime	PF	SF	TF	ss (PS	RfT	IfT	AF	
2 # WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:
3 Is WL part of complex	Yes	No							
4 % each wetland type in complex	SM:	BO: 30%	FE: 60%	FM: 10%	FS:	SS:	CP:	VP:	
5 Is WL bordering or associated with a lake or pond?	b ordering)	within 100m		N/A		specify WL su	rrounds a s	mall pond
6 Standing water?	Yes	Avg Dep: 40 cm		% Inundated	d: 15%	No			
7 Inlet or Outlet (circle all that apply)?	Inlet	Outle):							
8 Adjacent Upland Land Use within 100m (%)	For: 100%	Nat:	PasHay:	Crop:	UrbCm:	Road: 10	Other Dev:		
9 Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS, O/C,I	B,DP,F,	M, ES,NE	,DwP,	•	•		
		.TV,DG,EA				fy): historic	mining - old ta	ilings prese	nt W/I WL
10 Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	:	
SF3 Rate the general wetland condition/integrity	H	М	L						
SECTION THREE: ADJACENT LAND CONDITION AND INTEGRITY									
1 Average width of adjacent naturalized buffer	100m								
2 Widths for water quality	H >1	M 8-15	L <8						
3 Widths for wildlife habitat	H >100	M 15-100	L <15						
4 Adjacent area vegetation condition (list % in each category)	H 100%	М	L						
5 Adjacent area diversity and structure (list % in each category)	H 100%	М	L						
6 Adjacent Upland Slope (list % in each category)	Steep	Mod 30%	Gentle 70%						
7 Adjacent land supports water quality	Yes	No	Specify:						
8 Adjacent land supports wildlife habitat	Yes	No	Specify:						_
SF4 Rate the overall condition and integrity land adjacent to wetland	H	М	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	f yes if no
SECTION FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5 Is the WL a WSS?	Yes	(No							

SF6		Yes	No	Potentially An	nerican Eel (fo	ound in lower r	eaches of	stream)		
	Species of concern (Fed/Prov)? Specify Eriophorum variegatum and American									
SF7	Eel	End	Thr-SARA	SpC	Red	Yellow	51	52	(53)	N/A
SF8	Wetland has conservation/compensation agreements/activity?	Yes	No	specify:						
SF9	Wetland is calcerous fen, black ash or cedar swamp?	Yes	No							
SF10	Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:						
SF11	WL within a floodplain and upstream of or within of a populated area?	Yes	No							
SF12	Fed/Prov/Municipal area of interest?	Yes	No	specify:						
SECT	ION FIVE: HYDROLOGIC CONDITION AND INTEGRITY									
1	Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify: Recie	ves some ove	rland flow but	stream ch	annel begi	ins at outflow o	of wetland
2	Is WL geographically isolated?	Yes	No	Specify:						
3	WL ability to maintain characteristic hydrologic regime	High		Med		Low				
4	Water Storage Depth (list % in each class)	>30cm 10 %	5 15-30cm	up to 15cm 59	%	No ponding				
	Signs of surface water retention observed?	SW_5_cm, \	WSL, WCD,	, WMcm, SM	cm, SD, AD	, ID, PMT	_x_, Al,	BT, AR_	_, Other:	-
6	Describe observable/historical anthropogenic sediment delivery	Low		Med		High				
7	Disturbance of WL soils	Low		Med		High				
8	Predominant soils adjacent to WL	Sand		Silt/loam		Clay bedrock	<u> </u>			
9	Capacity of WL to alter/retard flows	(ligh		Med		Low				
10	Roughness coefficient for surface water flow path	High		Med		Low				
11	Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low				
12	Water Source	Natural		Mostly natura	ıl	Partly altered		Controlled		
13	Hydrology of tidal wetlands	Unrestricted	d	Reduced		Restricted		N/A)		
14	Coastal storm surge	Yes	No							
SF13	WL hydrologic condition	Natural	Modified		Significantly	y Modified				
SF14	WL important for maintaining stream flow?	Yes	No							
SF15	WL ability to detain surface water	High	(Med)	Low						
SECT	ION SIX: WATER QUALITY									
1	Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low				
	Nutrients/sediments from surrounding land	High		Med		Low				
	Significant flood/stormwater attenuation	Yes	No							-
4	Vegetation capacity to settle suspended sediments	High		Med		Low				
5	WL type /landscape position holds/filters runoff?	Yes	(No)							
SF16	Wetland improves water quality?	Yes (No							
SF17	Evidence of excess nutrient loading/contamination?	(low)	Med	High						
SF18	WL contributes to water quality in downstream resources	High	(Med)	Low						
SECT	ION SEVEN: GROUNDWATER INTERACTIONS									
1	Describe soils in wetland	Recharge		Discharge						
2	Land use / run off in subwatershed upstream	Recharge		Discharge						
	Conditions of upland soils within 200m of wetland	Recharge)	Discharge						
4	Hydroperiod of wetland	Recharge		Discharge						
5	Describe inlet/outlet configuration	Recharge		Discharge						
		_								

6 Characterize topographic relief surrounding wetland	Recharge		Discharge							
SF19 WL serves as a recharge site	Yes	No)								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth	>4m	streamwid	th<4m	WB Exposed	WB Shelt	ered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%							
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	M	L	N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list:Equisetui	m variegatum	(20%)/Rhododei	ndron groenla	ndicum (15%	6)/ Alnus inc	cana (15%)			
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M		specify type	e(s) below					
5 Disturbance Types	H,ATV	,G,,M,	In, D/D, In	n, OAH	, Ii, Sd	_,E,,othe	er,			
7 Vegetative Integrity of plant community	E (M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes	no	specify:							
SF23 Does the WL contain a diversity of plant communities	(H)	М	L							
SF24 Rate the overall integrity/quality of plant community?	(H)	М	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	S2	(33)	N/A	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	М								
1b % cover in vegetation verus open water	90_%									
2 Interspersion that best fits entire wetland	Н (M	L	N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	М								
6 Barriers/restriction between wetland and other habitat		М	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc)	Yes	No	list: Dragon f	lies, Northern	Leopard Frog	g; Black Cap	ped Chickadee			
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians		Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	(Yes)	No	specify:Poter	ntially Americ	an Eel (found	d in lower re	eaches of strear	n)		
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr-SARA	SpC	Red	(ellow)	51	52	<i>S3</i>	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,C	O PO PA	۸\/	□ 1 \\/\/	RO HII	DG v B	P_x_,F, E, F	Other:		
T Describe community use		<u>,</u> ,	<u>_,Av_x_,Gb</u> ,c	, , vv v_	<u>_, b0,1</u> 10_	<u>_, ru_x_</u> , b	<u>' _^_/ </u>	<u>, Other.</u>		

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent is encouraged to contact NSE for advice about the approval because NSE is unlikely to approve alterations to wetlands that would affect these red-rated functions.

APPE	NDIX C: WL4 Nova Scotia Wetland Evaluation	Technique Fie	eld Data Sheet (S	eptember 201:	1)						
Proje	t Name: Goldboro LNG	Evaluator: Sc	ott Burley		GPS Coordin	ates:	607114 E	x 5002089 N			
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	unty, NS									
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventory	(Current Fore	est Data - 2004);	Google Earth (2	2007)						
Evalu	tion Date: 22-Apr-13	Site Visit Date	e:	Sept. 27, 2013							
Weat	ner Conditions (past 48 hours): Clear and Sunny previous day; Rain today										
Seaso	nal Weather Conditions: Typical										
SECTI	ON ONE: WATERSHED CHARACTERISTICS										
1	Watershed Name (tertiary): 1EP-SD	Size: 218	km²								
2	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7 (Gravel Pit,	Landfill, Ind	ustrial
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Presei	nt
SF1	Watershed condition	Н	М	L					•	•	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н	M	L							
SECTI	ON TWO: WETLAND CHARACTERISTICS										
Wetla	nd Type: Fen	WL size: 0.15	hectares		Landform: SI	оре		Landscape Pos	sition: Lotio	c-Stream Co	nfined
Wate	flow path: Throughflow	Wetland Orig	gin: Natural			_					
1	Water Regime	PF	SF	TF	SS (PS	RfT	IfT	AF		
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
3	Is WL part of complex	Yes (No								
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS: 10	CP:	VP:		
		bordering		within 100m		N/A		specify			
6	Standing water?	Yes	Avg Dep: 40cm		% Inundated	: 10%	No				
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet								
8	Adjacent Upland Land Use within 100m (%)	For: 60	Nat: 25	PasHay:	Crop:	UrbCm:	Road: 15	Other Dev:			
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW_x_	_, WcS_x_, O/C	_,EB,DP,F	_,M, ES,N	IE,DwP,					
		M,GC,A1	TV,DG,EA,	(x_)1r,U/0	CD,F,FA_>	_, other (spe		ic mining in are			
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify:	:		
SF3	Rate the general wetland condition/integrity	н (M	L							
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY										
1	Average width of adjacent naturalized buffer	20mete	r								
	' '	H >1	M 8-15	(8)	Road loacted						
_		H >1 0 0	M 15-100	(<15)	Road loacted	along one si	de of wetla	nd			_
	, , , , , , , , , , , , , , , , , , , ,	H 80%		L 10%							
		H 60%		L 10%							
		Steep 20%	Mod 20%	Gentle 60%							
		Yes		Specify:							
		Yes		Specify:	•						
	<i>5</i> , ,	н (M	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	f yes if no	<u> </u>
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5	Is the WL a WSS?	Yes	No								

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No	American Ee	I found in s	tream associated v	vith wetlar	nd		
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr-SARA	SpC	Red	Yellow	51	S2	<i>S3</i>	N/A
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:				_		
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No							
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:						
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No							
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:						
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY									
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:						
2 Is WL geographically isolated?	Yes	No	Specify:						
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low				
4 Water Storage Depth (list % in each class)	>30cm 109	% 15-30cm	up to 15cm		No ponding				
5 Signs of surface water retention observed?	SW_40_cn	n, WSL, WCD_	, WMcm, SN	lcm, SD_	_, AD, ID, PM1	Γ_x_, Al,	, BT, AR	_, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High				
7 Disturbance of WL soils	Low		Med		High				
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedrock				
9 Capacity of WL to alter/retard flows	High		Med		Low				
10 Roughness coefficient for surface water flow path	High		Med		Low				
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low				
12 Water Source	Natural		Mostly natur	ral	Partly altered		Controlled		
13 Hydrology of tidal wetlands	Unrestricte	ed	Reduced		Restricted		N/A		
14 Coastal storm surge	Yes	No							
SF13 WL hydrologic condition	Natural	Modified		Significa	intly Modified	Highway 3	16 at outflo	w	
SF14 WL important for maintaining stream flow?	Yes	No							
SF15 WL ability to detain surface water	High	Med	Low						
SECTION SIX: WATER QUALITY									
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low				
2 Nutrients/sediments from surrounding land	High		Med		Low				
3 Significant flood/stormwater attenuation	Yes	No							
4 Vegetation capacity to settle suspended sediments	High		Med		Low				
5 WL type /landscape position holds/filters runoff?	Yes	No							
SF16 Wetland improves water quality?	Yes	No							
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High						
SF18 WL contributes to water quality in downstream resources	High	Med	Low						
SECTION SEVEN: GROUNDWATER INTERACTIONS									
1 Describe soils in wetland	Recharge		Discharge						
2 Land use / run off in subwatershed upstream	Recharge		Discharge)					
3 Conditions of upland soils within 200m of wetland	Recharge	>	Discharge						
4 Hydroperiod of wetland	Recharge		Discharge						
5 Describe inlet/outlet configuration	Recharge		Discharge						
6 Characterize topographic relief surrounding wetland	Recharge		Discharge						

SF19 WL serves as a recharge site	Yes	(No								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes (No	streamwidth >	4m	streamwidth	<4m	WB Exposed	WB Shelte	ered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%							
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	\mathbb{M}	L	N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Juncus ef	ffusus (15%)/Rul	ous hispidus (15	5%)/ Alnus inc	cana (20%)	•	•	•		
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н (M	L	specify type	(s) below					
5 Disturbance Types	Hx_,ATV	,G,,M,lr	n, D/D, lm	, OAH	, Ii, Sd	E,,othe	er,			
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes	no	specify:							
SF23 Does the WL contain a diversity of plant communities	н (M	L							
SF24 Rate the overall integrity/quality of plant community?	н (M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	52	<i>S3</i>	(N/A)	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	M (L							
1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland	Н	М		N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat		M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc)	Yes	No	list: Dragon flie	es, Passerines	5					
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:Americ	an Eel found	in stream ass	ociated wi	th wetland			
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr-SARA	SpC	Red	Yellow	<i>S</i> 1	52	<i>S3</i>	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use		CO,PO,PA_x	:_,,AV,GB,E	,HI, WV	, BO,HU_	_, PG_x_, B	BP_x_,F, E,	R, Other	:	
SF29 Rate the wetland's community use/value	H (M	L							



APPE	NDIX C: WL5 Nova Scotia Wetland Evaluation	Technique Fie	eld Data Sheet (S	eptember 2011	L)						
Proje	t Name: Goldboro LNG	Evaluator: Sc	ott Burley		GPS Coordina	ates:	607402 E	< 5001908 N			
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	unty, NS									
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventory	(Current For	est Data - 2004);	Google Earth (2	2007)						
Evalu	ation Date: 22-Apr-13	Site Visit Date	e:	Sept. 28, 2013							
Weat	ner Conditions (past 48 hours): Clear and Sunny; Rainprevious day										
Seaso	nal Weather Conditions: Typical										
SECTI	ON ONE: WATERSHED CHARACTERISTICS										
1	Watershed Name (tertiary): 1EQ-SD	Size: 518	km²								
		For: 46	Nat: 40	Past/Hay: <1	Crop: <1	Urb/Com: 2	Road: 1	Other Dev: <1	(Gravel Pit	Landfill, Inc	Justrial
3	% Watershed WL Cover and by Class	Total: 11%	SM: <1	BO: 6	FE: 1	FM: 2	FS: <1	SS: <1	CP: <1	VP: Presen	t
SF1	Watershed condition	Н	М				•				
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н	M	L							
SECTI	ON TWO: WETLAND CHARACTERISTICS										
Wetla	nd Type: Fen	WL size: 0.32	hectares		Landform: SI	оре		Landscape Pos	sition: Lotic	-Stream Cor	ıfined
Wate	flow path: Throughflow	Wetland Orig	gin: Natural			_					
1	Water Regime	PF	SF	TF	ss (PS	RfT	IfT	AF		
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
3	Is WL part of complex	Yes (No								
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS: 10	CP:	VP:		
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify			
6	Standing water?	Yes	Avg Dep: 15cm		% Inundated	: 2%	No				
7	Inlet or Outlet (circle all that apply)?	Inlet	Qutlet								
8	Adjacent Upland Land Use within 100m (%)	For: 60 %	Nat: 30 %	PasHay:	Crop:	UrbCm:	Road: 10%	Other Dev:			
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS_x_, O/C,	EB,DP,F	,M, ES,NI	E,DwP,					
		M,GC,A ⁻	TV,DG,EA,	i(x_ R):,U/C	D,F,FA_x	_, other (spe		ic mining in are			
10	Hydrology Altered (circle all that apply)?	Ditching		Tiles	Culvert	Well	Diversion	Other Specify:			
SF3	Rate the general wetland condition/integrity	Н (M	L							
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY										
1	Average width of adjacent naturalized buffer	20mete	r								
2	· · ·	H >1	M 8-15	(<8)	Road loacted						
3	Widths for wildlife habitat	H >1 0 0	M 15-100	(<15)	Road loacted	along one si	de of wetla	nd			
	, , , , , , , , , , , , , , , , , , , ,	H 80%		L 10%							
5		H 70%		L 10%							
		Steep		Gentle 100%							
		Yes	No	Specify:							
		Yes		Specify:							
	<i>z</i> , ,	н (M	L	is buffer req	uired to mai	ntain red fla	g functions of	wetland? I	yes if no	<u> </u>
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5	Is the WL a WSS?	Yes	No								

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No						
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr	SpC	Red	Yellow 51	52	<i>S3</i>	(N/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify:					
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm 10%	% 15-30cm	up to 15cm 2	2%	No ponding			
5 Signs of surface water retention observed?	SW_15_cn	n, WSL, WCD_	_, WMcm, SN	lcm, SD	, AD, ID, PMT_x_, <i>F</i>	λΙ, BT, AR	, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natu	al	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricte	ed	Reduced		Restricted	N/A		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified Highw	ay 316 at outf	low	
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	Med	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge)				
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge	<u>-</u>				
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					·

SF19 WL serves as a recharge site	Yes	(No								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes (No	streamwidth >	4m	streamwidth	ı<4m	WB Exposed	WB Shelte	red	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%							
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	М	L (N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: <i>Picea ma</i>	riana (15%)/Car	ex trisperma (30	0%)/ Alnus in	cana (30%)				•	
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	М	L	specify type	(s) below					
5 Disturbance Types	Hx_,ATV	_,G,,M,lr	, D/D, lm	, OAH	, li, Sd	E,othe	er,			
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes (no	specify:							
SF23 Does the WL contain a diversity of plant communities	н (M	L							
SF24 Rate the overall integrity/quality of plant community?	н (M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>5</i> 1	52	<i>S3</i>	(N/A)	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	M	L							
1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland	Н	М	L	N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat	L	M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Deer tracks	s, Passerines						
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	51	52	S3	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV_x_,CP,(_,,AV,GB,E	,HI, WV	, BO,HU_	_, PG_x_, B	SP_x_,F, E,	R, Other:		
SF29 Rate the wetland's community use/value	Н	М	L							

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent



APPE	ENDIX C: WL6 Nova Scotia Wetland Evaluati	on Technique Fi	ield Data Sheet (September 201	1)					
Proje	ct Name: Goldboro LNG	Evaluator: So	cott Burley		GPS Coord	inates:	608135 E	E x 5002011 N		
PID:3	5095884 Site Address: Goldboro Industrial Park, Goldboro, Guysborough	County, NS								
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Invent	ory (Current Fo	rest Data - 2004)	; Google Earth (2007)					
Evalu	ation Date: 22-Apr-	13 Site Visit Da	te:	Sept. 27, 2013	}					
Weat	her Conditions (past 48 hours): Clear and Sunny; Rain previous day									
Seaso	onal Weather Conditions: Typical									
SECTI	ON ONE: WATERSHED CHARACTERISTICS									
1	Watershed Name (tertiary): 1EQ-SD	Size: 518	km²							
2	% Watershed Land Cover	For: 46	Nat: 40	Past/Hay: <1	Crop: <1	Urb/Com: 2	Road: 1	Other Dev: <1	. (Gravel Pit	, Landfill, Industrial
3	% Watershed WL Cover and by Class	Total: 11%	SM: <1	BO: 6	FE: 1	FM: 2	FS: <1	SS: <1	CP: <1	VP: Present
SF1	Watershed condition	Н	М (L						
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	H (M	L						
SECTI	ON TWO: WETLAND CHARACTERISTICS									
Wetla	and Type: Fen	WL size: 0.10	0 hectare	S	Landform:	Basin		Landscape Po	sition: Terr	ene
Wate	r flow path: Isolated	Wetland Ori	igin: Natural							
1	Water Regime	PF	SF	TF	SS	(PS)	RfT	IfT	AF	
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:
3	Is WL part of complex	Yes	No							
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS: 10	CP:	VP:	
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify		
6	Standing water?	Yes	Avg Dep: 5cm		% Inundate	ed: 2%	No			
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet							
8	Adjacent Upland Land Use within 100m (%)	For: 20 %	Nat:	PasHay:	Crop:	UrbCm:	Road: 109	% Other Dev:	80% fores	try
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).		_, WcS, O/C							
		M,GC,A	ATV,DG,EA_	_, R,Rr,U/C	D,F,FA (x_, other (spec	ify): histor	ic mining in area	3	
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	:	
SF3	Rate the general wetland condition/integrity	Н	M	L						
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY									
1	Average width of adjacent naturalized buffer	20mete	er							
2	Widths for water quality	H >1	M 8-15	(<8)	Road loact	ed along one s	ide of wetl	and		
3	Widths for wildlife habitat	H >1 0 0	M 15-100	(<15)	Road loact	ed along one s	ide of wetl	and		
	Adjacent area vegetation condition (list % in each category)	H 80%	M 10%	L 10%						
5	Adjacent area diversity and structure (list % in each category)	H 70%	M 20%	L 10%						
	Adjacent Upland Slope (list % in each category)	Steep	Mod	Gentle 100%						
7	Adjacent land supports water quality	Yes	No	Specify:						
8	Adjacent land supports wildlife habitat	Yes	No	Specify:						
	Rate the overall condition and integrity land adjacent to wetland	н (M	L	is buffer re	equired to main	ntain red fl	ag functions of	wetland? I	f yes if no
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5	Is the WL a WSS?	Yes	No							

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	(No	\neg					
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr	SpC	Red	Yellow S1	52	S3	(N/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify: No s	urface inlet	or outlet			
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm 2	2%	No ponding			
5 Signs of surface water retention observed?	SW_5_cm, \	WSL, WCD	, WMcm, SM_	_cm, SD,	AD, ID, PMT_x_, A	I, BT, AR_	_, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/Ledrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natur	al .	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted	N/A)		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	Med	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No)						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge					
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					

SF19 WL serves as a recharge site	Yes	(No								
SF20 WL serves as a discharge site	(Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY		_	•							
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	4m	streamwidth	1<4m	WB Exposed	WB Shelt	ered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%		•			•		
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m	•						
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	М	L (N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Picea ma	ariana (20%)/Rub	us hispidus (109	%)/ Juncus ej	fusus (15%)	•			•	
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M	L	specify type	e(s) below					
5 Disturbance Types	Hx_,ATV_	,G,,M,lr	n, D/D, lm	, OAH	_, Ii, Sd	,E,,oth	er,			
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes (no	specify:							
SF23 Does the WL contain a diversity of plant communities		M	L							
SF24 Rate the overall integrity/quality of plant community?	н (M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>5</i> 1	S2	<i>S3</i>	N/A	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	М	L							
1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland	Н	М		N/A						
3 Wetland condition related to detritus	Н	М	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat		М	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc)	Yes	No	list: Deer track	•						
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians		Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	51	S2	S3	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,C			_,HI, WV	, BO,HU,	PG_x_, BP	_x_,F, E, R_	, Other:		
SF29 Rate the wetland's community use/value	Н	м	L							

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent



APP	ENDIX C: WL7 Nova Scotia Wetla	nd Evaluation Technique F	ield Data Shee	t (September 201:	1)					
Proje	ect Name: Goldboro LNG	Evaluator: S	cott Burley		GPS Coordin	nates:	608389 E	x 5002048 N		
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Gu	ysborough County, NS								
Sour	ces and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Fo	rest Inventory (Current Fo	rest Data - 200	4); Google Earth (2	2007)					
Evalu	uation Date:	22-Apr-13 Site Visit Da	te:	Sept. 26, 2013						
Wea	ther Conditions (past 48 hours): Clear and Sunny; Rain previous day									
Seas	onal Weather Conditions: Typical									
SECT	ION ONE: WATERSHED CHARACTERISTICS									
	1 Watershed Name (tertiary): 1EQ-SD	Size: 518	km²							
	2 % Watershed Land Cover	For: 46	Nat: 40	Past/Hay: <1	Crop: <1	Urb/Com:	2 Road: 1	Other Dev: <	:1 (Gravel Pi	t, Landfill, Industrial
	3 % Watershed WL Cover and by Class	Total: 11%	SM: <1	BO: 6	FE: 1	FM: 2	FS: <1	SS: <1	CP: <1	VP: Present
SF1	Watershed condition	Н	М			•			•	
SF2	Proportion of WL area in watershed & opportunity for floodwater de	etention H	M	L						
SECT	ION TWO: WETLAND CHARACTERISTICS									
Wetl	and Type: Fen	WL size: 0.1	0 hecta	res	Landform: E	Basin		Landscape P	osition: Loti	c Stream confined
Wate	er flow path:Throughflow	Wetland Ori	igin: Natural							
	1 Water Regime	PF	SF	TF	SS (PS	RfT	IfT	AF	
	2 # WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:
	Is WL part of complex	Yes	No							
	4 % each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS: 10	CP:	VP:	
	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify		
(5 Standing water?	Yes	Avg Dep: 5cr	n	% Inundate	d:	No			
	7 Inlet or Outlet (circle all that apply)?	Inlet	Outlet							
	Adjacent Upland Land Use within 100m (%)	For: 90 %	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev:	10% Pipe	line ROW
	Are there stressors in WL or WL buffer area? Circle primary stressor(s)			_,EB,DP,F,						
		M,GC, <i>P</i>	ATV,DG,EA	, R,Rr,U/CI	D,F,FA ()	_, other (sp	ecify): histor	ric mining in are	ea	
1	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specif	y:	
SF3	Rate the general wetland condition/integrity	Н	M	L						
SECT	ION THREE: ADJACENT LAND CONDITION AND INTEGRITY									
	1 Average width of adjacent naturalized buffer	50mete	er							
	2 Widths for water quality	H >1)	M 8-15	(<8)	Pipeline RO	W loacted a	long one sid	e of wetland		
	Widths for wildlife habitat	H >1 0 0	M 15-100	(<15)	Pipeline RO	W loacted a	long one sid	e of wetland		
	4 Adjacent area vegetation condition (list % in each category)	H 90%	M 10%	L						
	Adjacent area diversity and structure (list % in each category)	H 90%	M 10%	L						
	6 Adjacent Upland Slope (list % in each category)	Steep	Mod	Gentle 100%						
	7 Adjacent land supports water quality	Yes	No	Specify:						
	Adjacent land supports wildlife habitat	Yes	No	Specify:						
SF4	Rate the overall condition and integrity land adjacent to wetland	H (M	L	is buffer red	quired to ma	aintain red f	lag functions o	f wetland?	If yes if no
SECT	ION FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5	Is the WL a WSS?	Yes	No							

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No	\neg					
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr	SpC	Red	Yellow S1	52	S3	(N/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	(No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify: No s	urface inlet	or outlet			
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm		No ponding			
5 Signs of surface water retention observed?	SWcm, W	VSL, WCD,	WMcm, SM	cm, SD, <i>A</i>	AD, ID, PMT_x_, AI_	, BT, AR	Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natur	al	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted	N/A		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	Med	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge					
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					

SECTION HIGHT: SHORELINE STABILIZATION AND INTEGRITY Wetland fringing ocean/estuary/lake/pond/river/stream? Yes	SF19 WL serves as a recharge site	Yes	No								
Wetland fringing ocean/estuary/lake/pond/river/stream? Yes No streamwidth>4m streamwidth<4m WB Exposed WB Sheltered	SF20 WL serves as a discharge site	Yes	No								
2 % cover of rooted vegetation in shallow water zone 3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour 4 Prevalence of strong-stemmed emerg, veg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level 6 Shoreline/streambank veg condition upslope of water level 7 Wa ability to stabilize shoreline 7 ESECTION NINE: PLANT COMMUNITY 1 Vegetation diversity 1 Dominant plant species and % cover in the WL 1 Ilst: Myrica gole (40%)/Alnus incana (15%)/ Osmunda cinnamomea (15%) 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 4 Vegetative Integrity of plant community 7 Vegetative Integrity of plant community 8 E H M L 8 FZF2 Is the plant community unique or rare regionally or provincially? 8 FZF2 Rate the overall integrity/quality of plant community? 8 FZF2 Are there any observed rare or endangered plant species? Specify. 8 M 10-50 L < 3m M 3-10 L < 3m M	SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour 4 Prevalence of strong-stemmed emerg, veg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level 5F21 WL ability to stabilize shoreline 5F21 WL ability to stabilize shoreline 5F21 Wegetation diversity 1 Vegetation diversity 1 Vegetation diversity 1 Dominant plant species and % cover in the WL 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 7 Vegetative Integrity of plant community FE H M L Specify: 5 SF22 Is the plant community unique or rare regionally or provincially? FEST Over the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? FINAL SPECIAL SPECI	1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	4m	streamwidth	<4m	WB Exposed	WB Shelt	ered	
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only) 5 Describe shoreline erosion potential 6 Shoreline/streambank veg condition upslope of water level Low Med High Artificial 5F21 WL ability to stabilize shoreline H M L N/A SECTION NINE: PLANT COMMUNITY 1 Vegetation diversity 1 Dominant plant species and % cover in the WL list: Myrica gale (40%)/Alnus incana (15%)/ Osmunda cinnamomea (15%) 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types Fig. 2 Is the plant community Fig. 3 Is the plant community unique or rare regionally or provincially? Fig. 3 Does the WL contain a diversity of plant communities Fig. 3 Does the WL contain a diversity of plant community? Fig. 4 No Specify: Fig. 4 No L Fig. 5 Are there any observed rare or endangered plant species? Specify. Fig. 6 Fig. 7 Red Fig. 6 Fig. 7 Red Fig. 7 Veglow SI S2 S3 N/A	2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%					-		
S Describe shoreline erosion potential	3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m	•						
Shoreline/streambank veg condition upslope of water level Low Med High Artificial	4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
SF21 WL ability to stabilize shoreline	5 Describe shoreline erosion potential	High	Med	Low							
SECTION NINE: PLANT COMMUNITY 1 Vegetation diversity	6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
1 Vegetation diversity 1b Dominant plant species and % cover in the WL 1b Dominant plant species and % cover in the WL 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 6 Disturbance Types 7 Vegetative Integrity of plant community 8 E H M L SF22 Is the plant community unique or rare regionally or provincially? FF23 Does the WL contain a diversity of plant communities FF24 Rate the overall integrity/quality of plant community? FF25 Are there any observed rare or endangered plant species? Specify. High Med Low Itis: Myrica gale (40%)/Alnus incana (15%)/ Osmunda cinnamomea (15%) Specify: % FF25 No Specify: % FF26 No Specify: No Specify: FF26 No Specify: FF27 No Specify: FF28 No Specify: FF29	SF21 WL ability to stabilize shoreline	Н	М	L (N/A						
1b Dominant plant species and % cover in the WL 3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 5 Disturbance Types 6 Disturbance Types 7 Vegetative Integrity of plant community 8 E H M L 8 SF22 Is the plant community unique or rare regionally or provincially? 8 Yes 9 No 9 Specify: % 9 Specify: % 9 Specify type(s) below 9 L 9 SF24 Rate the overall integrity/quality of plant community? 9 H M L 9 SF25 Are there any observed rare or endangered plant species? Specify. 9 End 9 Thr 9 SpC Red 9 Yellow 9 S1 S2 S3 W/A	SECTION NINE: PLANT COMMUNITY										
3 Dominant Non-native or Invasive species and % cover 4 Vegetation Disturbance 4 Vegetation Disturbance 5 Disturbance Types 7 Vegetative Integrity of plant community E H M L SF22 Is the plant community unique or rare regionally or provincially? FF23 Does the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? FF25 Are there any observed rare or endangered plant species? Specify. FF26 No specify: FF26 Red Yellow SF2 S3 N/A	1 Vegetation diversity	High	Med	Low							
4 Vegetation Disturbance 5 Disturbance Types 7 Vegetative Integrity of plant community E H M L SPECIFY type(s) below Hx_ATV,G,M,In,D/D,Im,OAH,Ii,Sd,E,other, 7 Vegetative Integrity of plant community F H M L SF22 Is the plant community unique or rare regionally or provincially? Yes Ino Specify: SF23 Does the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? H M L SF25 Are there any observed rare or endangered plant species? Specify. End Thr SpC Red Yellow S1 S2 S3 N/A	1b Dominant plant species and % cover in the WL	list: Myrica g	ale (40%)/Alnus	incana (15%)/ C	Osmunda cinr	namomea (159	%)	•	•	•	
5 Disturbance Types H_x_ATVG,M,In,D/D,Im,OAH,Ii,Sd,E,other, 7 Vegetative Integrity of plant community E H M L SF22 Is the plant community unique or rare regionally or provincially? Yes no specify: SF23 Does the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? H M L SF25 Are there any observed rare or endangered plant species? Specify. End Thr SpC Red Yellow S1 S2 S3 (N/A)	3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
7 Vegetative Integrity of plant community SF22 Is the plant community unique or rare regionally or provincially? SF23 Does the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? H M L SF25 Are there any observed rare or endangered plant species? Specify. E H M L SF26 Red Yellow S1 S2 S3 M/A	4 Vegetation Disturbance	H (M	L	specify type	(s) below					
SF22 Is the plant community unique or rare regionally or provincially? SF23 Does the WL contain a diversity of plant communities	5 Disturbance Types	Hx_,ATV_	_,G,M,lr	n, D/D, lm	, OAH	, Ii, Sd	,E,,othe	!r,			
SF23 Does the WL contain a diversity of plant communities H M L SF24 Rate the overall integrity/quality of plant community? H M L SF25 Are there any observed rare or endangered plant species? Specify. H M L SF25 Are there any observed rare or endangered plant species? Specify. End Thr SpC Red Yellow S1 S2 S3 (N/A)	7 Vegetative Integrity of plant community	E	Н	M	L						
SF24 Rate the overall integrity/quality of plant community? H M L SF25 Are there any observed rare or endangered plant species? Specify. End Thr SpC Red Yellow S1 S2 S3 (N/A)	SF22 Is the plant community unique or rare regionally or provincially?		no	specify:							
SF25 Are there any observed rare or endangered plant species? Specify. End Thr SpC Red Yellow S1 S2 S3 W/A	SF23 Does the WL contain a diversity of plant communities	н (M	L							
	SF24 Rate the overall integrity/quality of plant community?	н (M	L							
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY	SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	S1	52	S3	(N/A)	
	SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only) H M L	1 Interspersion of open water and vegetation (open water types only)	Н	М	L							
1b % cover in vegetation verus open water	1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland H M L N/A	2 Interspersion that best fits entire wetland	Н	М	L	N/A						
3 Wetland condition related to detritus H M L N/A	3 Wetland condition related to detritus	Н	М	L	N/A						
4 Interspersion of other wetlands in vicinity	4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat L M H	6 Barriers/restriction between wetland and other habitat		М	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc) (Yes) No list: Dragon flies, Passerines	7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Dragon flie	es, Passerines						
8 Connected to permanent water (accessible to fish)? Exceptional High Med Low N/A	8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list) Yes No list:	9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland: >50ha 25-50ha 10-25ha (10h)	10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha								
11 WL provides habitat for: Amphibians Reptiles Waterfowl Waterbirds Mammals Fish R/E species	11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat? Yes No specify:	SF26 Does wetland support fish/fish habitat?	Yes	No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland? End Thr SpC Red Yellow S1 S2 S3 W/A	SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	S1	52	<i>S3</i>	N/A	
SF28 Overall fish and wildlife habitat quality H M L	SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE	SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use VV,CPCO,PO,PA, <u>AV</u> ,GB,E,HI, WV, BO,HU, PG_x_, BP_x_,F, E,, R, Other:	1 Describe community use	VV,CP,C	O,PO,PA,	,AV,GB,E	,HI, WV	, BO,HU,	PG_x_, BP_	x_F, E, R	, Other:		
SF29 Rate the wetland's community use/value H M L	SF29 Rate the wetland's community use/value	Н									



APP	ENDIX C: WL8 Nova Scotia Wetland Evaluatio	n Technique Fi	eld Data Sheet (S	September 20:	11)					
Proje	ct Name: Goldboro LNG	Evaluator: So	cott Burley		GPS Coordin	ates:	608389 E	x 5002048 N		
PID:3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough C	County, NS								
Sour	ces and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Invento	ry (Current For	est Data - 2004);	Google Earth (2	2007)					
Evalu	ation Date: 22-Apr-1	3 Site Visit Dat	:e:	Sept. 25, 2013						
Wea	ther Conditions (past 48 hours): Clear and Sunny; Rain previous day									
Seas	onal Weather Conditions: Typical									
SECT	ION ONE: WATERSHED CHARACTERISTICS									
	Watershed Name (tertiary): 1EP-SD	Size: 218	km²							
	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7	Gravel Pit,	Landfill, Industrial
	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Present
SF1	Watershed condition	Н	М	L					-	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L						
SECT	ION TWO: WETLAND CHARACTERISTICS									
Wetl	and Type: Fen/Shurb Swamp	WL size: 0.62	2 hectares		Landform:SI	оре		Landscape Po	sition: Loti	c Stream confined
Wate	er flow path:Throughflow	Wetland Orig	gin: Natural							
	Water Regime	PF	SF	TF	SS (PS	RfT	IfT	AF	
	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:
	Is WL part of complex	Yes	No		•				•	•
	% each wetland type in complex	SM:	BO:	FE: 20%	FM:	FS:	SS: 80%	CP:	VP:	
	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify	•	
(Standing water?	Yes	Avg Dep: 5cm		% Inundated	d:	No			
	Inlet or Outlet (circle all that apply)?	nlet	Outle							
	Adjacent Upland Land Use within 100m (%)	For: 80 %	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev:	20% Pipe	line ROW
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS, O/C,I	B,DP,F,l	M, ES,NE	,DwP,				
		M,GC,A	.TV,DG,EA	, R,Rr,U/CI	D,F,FA (x	_, other (spe	cify): histori	ic mining in area	1	
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	:	
SF3	Rate the general wetland condition/integrity	Н ((M)	L						
SECT	ION THREE: ADJACENT LAND CONDITION AND INTEGRITY									
	Average width of adjacent naturalized buffer	100met	:€							
	Widths for water quality	H >1	M 8-15	L <8						
	Widths for wildlife habitat	H >100	M 15-100	L <15						
	Adjacent area vegetation condition (list % in each category)	H 90%	M	L 10%	cobble/boul	der beach				
	Adjacent area diversity and structure (list % in each category)	H 90%	M	L 10%	cobble/boul	der beach				
	Adjacent Upland Slope (list % in each category)	Steep	Mod	Gentle 10%						
	Adjacent land supports water quality	Yes	No	Specify:						
	Adjacent land supports wildlife habitat	Yes	No	Specify:						
SF4	Rate the overall condition and integrity land adjacent to wetland	H (M	L	is buffer req	uired to mai	ntain red fl	ag functions of	wetland?	If yes if no
SECT	ION FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5	Is the WL a WSS?	Yes	No							

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No	\neg					
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr	SpC	Red	Yellow S1	52	S3	(N/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	(No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify: No s	urface inlet	or outlet			
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm		No ponding			
5 Signs of surface water retention observed?	SWcm, W	VSL, WCD,	WMcm, SM	cm, SD, <i>A</i>	AD, ID, PMT_x_, AI_	_, BT, AR	Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natur	·al	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted	N/A		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	(No						
SF15 WL ability to detain surface water	High	(Med)	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge)				
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					

SF19 WL serves as a recharge site	Yes	(No)								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	∙4m	streamwidtl	h<4m	WB Exposed	WB Shelt	tered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%				•			
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m	•						
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	H (M	L	N/A	•					
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Calamag	rsotis canadensi	s (15%)/Alnus in	ncana (25%)/	Carex trisper	ma (20%)				
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M	L	specify type	(s) below					
5 Disturbance Types	Hx_,ATV_	,G,,M,lı	n, D/D, Im	n, OAH	_, Ii, Sd	_,E,,oth	er,			
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes (no	specify:							
SF23 Does the WL contain a diversity of plant communities		M	L							
SF24 Rate the overall integrity/quality of plant community?	н (M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	S2	<i>S3</i>	N/A	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	M	L							
1b % cover in vegetation verus open water	%									
2 Interspersion that best fits entire wetland	H	М		N/A						
3 Wetland condition related to detritus	H	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat		M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Dragon flie		5					
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians		Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	<i>51</i>	S2	53	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,C			_,HI, WV	, BO,HU	, PG_x_, BF	^_x_F, E, R_	, Other:		
SF29 Rate the wetland's community use/value	Н	м (L							

SF ratings highlighted in red indicate critical wetland functions or watershed conditions that are highly degraded. Whenever a wetland is found to have red-highlighted SFs the proponent



APPE	NDIX C: WL9 Nova Scotia Wetland Evaluation	Technique Fi	eld Data Sheet (S	eptember 201	11)						
Proje	ct Name: Goldboro LNG	Evaluator: So	cott Burley		GPS Coordin	ates:	606913 E	x 5001574 N			
PID:3	5094481 Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	ounty, NS									
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventory	y (Current For	est Data - 2004);	Google Earth (2	2007)						
Evalu	ation Date: 24-Apr-13	Site Visit Dat	:e:	Sept. 25, 2013							
Weat	her Conditions (past 48 hours): Clear and Sunny; Rain previous day										
Seaso	nal Weather Conditions: Typical										
SECTI	ON ONE: WATERSHED CHARACTERISTICS										
1	Watershed Name (tertiary): 1EP-SD	Size: 218	km²								
2	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7 (Gravel Pit,	Landfill, Indust	rial
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Present	
SF1	Watershed condition	Н	М			-	•			•	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L							
SECTI	ON TWO: WETLAND CHARACTERISTICS										
Wetla	and Type: Coastal Saline Pond	WL size: 0.61	1 hectares		Landform:Ba	asin		Landscape Po	sition: Terr	ene	
Wate	r flow path:Throughflow	Wetland Orig	gin: Natural								
1	Water Regime	PF	SF	TF	SS	PS	RfT	IfT	AF		
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
3	Is WL part of complex	Yes (No								
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:		
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify			
6	Standing water?	Yes	Avg Dep: 5cm		% Inundated	l: (No				'-
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet								
8	Adjacent Upland Land Use within 100m (%)	For: 10 %	Nat: 10%	PasHay:	Crop:	UrbCm:	Road:	Other Dev:	80% Beac	h/Ocean	
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS, O/C,E	B,DP,F,I	M, ES,NE	,DwP,					
		M,GC,A	.TV,DG,EA	R,Rr,U/CI	D,F,FA	, other (speci		farming/mining			
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify			
SF3	Rate the general wetland condition/integrity	H	M	L							
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY										
	Average width of adjacent naturalized buffer	100met	In close proximi	ty to coast							
	Widths for water quality	H >1)		L <8							
	Widths for wildlife habitat	H >100	M 15-100	L <15							
	Adjacent area vegetation condition (list % in each category)	H 10%	M	L 90%	cobble/boul						
5	Adjacent area diversity and structure (list % in each category)	H 10%	М	L 90%	cobble/boul	der beach					
	Adjacent Upland Slope (list % in each category)	Steep	Mod	Gentle 100%							
	Adjacent land supports water quality	Yes	No	Specify:							
	Adjacent land supports wildlife habitat	Yes	No	Specify:							
	Rate the overall condition and integrity land adjacent to wetland	н (M	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	f yes if no	<u>) </u>
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5	Is the WL a WSS?	Yes	No)								

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	(No						
SF7 Species of concern (Fed/Prov)? Specify.	End	Thr	SpC	Red	Yellow S1	52	53	(N/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No	T ,					
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No	T ,					
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify: No s	surface inlet	or outlet			
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm 100%	% 15-30cm	up to 15cm		No ponding			
5 Signs of surface water retention observed?	SW_40_cm,	WSL, WCD_	_, WMcm, SM	1cm, SD	, AD, ID, PMT_x_, ,	AI, BT, AR	, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay bedrock	Boulder/	Cobble Beach	
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natu	ral	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricted	d	Reduced		Restricted	N/A)		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significar	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No)						
SF15 WL ability to detain surface water	High	Med	(low)					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	(No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge					
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					

SF19 WL serves as a recharge site	Yes	No								
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	∙4m	streamwidt	h<4m	WB Exposed	WB Shel	tered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%					•		
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	(<3m)	•						
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	М		N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	LOW)							
1b Dominant plant species and % cover in the WL	list: Potamog	geton sp. (5%)/A	Mgae sp. (15%)	•				•	•	
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M		specify type	e(s) below					
5 Disturbance Types	Hx_,ATV_	,G,,M,	ln, D/D, lm	n, OAH	_, Ii, Sd	_,E,,oth	er,			
7 Vegetative Integrity of plant community	E	Н (M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes (no	specify:							
SF23 Does the WL contain a diversity of plant communities	Н	M								
SF24 Rate the overall integrity/quality of plant community?	Н	м (
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	52	<i>S3</i>	N/A	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	М (L							
1b % cover in vegetation verus open water	5%									
2 Interspersion that best fits entire wetland	Н	М	L	N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	\mathbb{M}	L							
6 Barriers/restriction between wetland and other habitat		M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Dragon flie	es, Passerine	S					
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list: Sticklebac	k						
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10ha						
11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammal	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:Stickle	back						
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	<i>5</i> 1	52	<i>S3</i>	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,C		<u>,,AV_</u> x_,GB,E	,HI, WV_	_, BO,HU_	_, PG, BF	P,F, E, R_	_, Other:		
SF29 Rate the wetland's community use/value	Н	M	L							



APPI	NDIX C: WL10 outside of Property boundary	Nova Scoti	ia Wetland Evalu	ation Techniqu	e Field Data S	Sheet (Septer	nber 2011)				
Proje	ct Name: Goldboro LNG	Evaluator: Se	cott Burley		GPS Coordin	nates:	607037 E	x 5001949 N			
PID: 3	Site Address: Goldboro Industrial Park, Goldboro, Guysborough C	County, NS									
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Invento	ry (Current Fo	rest Data - 2004);	Google Earth (2007)						
Evalu	ation Date: 23-Apr-1	3 Site Visit Da	te:	Sept. 27, 2013	1						
Weat	her Conditions (past 48 hours): Clear and Sunny; Rained earlier in the morning										
Seaso	nal Weather Conditions: Typical										
SECT	ON ONE: WATERSHED CHARACTERISTICS										
1	Watershed Name (tertiary): 1EP-SD	Size: 218	km²								
2	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7	(Gravel Pit,	Landfill, Ind	ustrial
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Preser	it
SF1	Watershed condition	Н	М	L			•			•	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	H (M	L							
SECT	ON TWO: WETLAND CHARACTERISTICS										
Wetla	and Type: Shurb Swamp	WL size: 0.0	5 hectares		Landform: S	Slope		Landscape Po	sition: Loti	Stream con	fined
Wate	r flow path:Throughflow	Wetland Ori	igin: Natural								
1	Water Regime	PF	(SF	TF	SS	PS	RfT	IfT	AF		
2	# WL's within 30m project area	Total# 0	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
3	Is WL part of complex	Yes	No								
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:		
	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify borde	ring Dung F	ond at strea	ım inlet
	Standing water?	Yes	Avg Dep: 5cm		% Inundate	d: (No				
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet								
8	Adjacent Upland Land Use within 100m (%)	For: 80 %	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev:	20% Pond	ł	
g	Are there stressors in WL or WL buffer area? Circle primary stressor(s).		_, WcS, O/C,I								
		_	ATV,DG,EA	1				mining in area		_	
	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	:		
SF3	Rate the general wetland condition/integrity	(H)	M	L							
SECT	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY										
1	Average width of adjacent naturalized buffer	100me			_						
	Widths for water quality	H >1	M 8-15	L <8							
	Widths for wildlife habitat	H >1 0 0	M 15-100	L <15							
	Adjacent area vegetation condition (list % in each category)	H 100%	M	L							
	Adjacent area diversity and structure (list % in each category)	H 100%	M	L							
	Adjacent Upland Slope (list % in each category)	Steep	Mod 50%	Gentle 50%							
	Adjacent land supports water quality	Yes	No	Specify:							
	Adjacent land supports wildlife habitat	Yes	No	Specify:	_						_
	Rate the overall condition and integrity land adjacent to wetland	(H)	М	L	is buffer red	quired to mai	ntain red fl	ag functions of	wetland?	f yes if no	<u> </u>
	ON FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5	Is the WL a WSS?	Yes	No								

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No						
SF7 Species of concern (Fed/Prov)? Specify. American Eel	End	Thr -SARA	SpC	Red	Yellow 51	S2	<i>S3</i>	N/A
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No						
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY								
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify: No s	surface inlet	or outlet			
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm		No ponding			
5 Signs of surface water retention observed?	SWcm, W	VSL, WCD,	WMcm, SM	_cm, SD, /	AD, ID, PMT_x_, AI	, BT, AR	, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natur	ral	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricte	d	Reduced		Restricted	N/A)		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	Med	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No						
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	Low					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge)	Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge)				
3 Conditions of upland soils within 200m of wetland	Recharge)	Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge					
6 Characterize topographic relief surrounding wetland	Recharge		Discharge					

F19 WL serves as a recharge site	Yes	No								
F20 WL serves as a discharge site	Yes	No								
ECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth:	>4m	streamwidt	h<4m	WB Expose	d WB She	eltered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	<10%					•		
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	<3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
F21 WL ability to stabilize shoreline	Н	М		N/A						
ECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Aster u	mbullata (10%),	/Alnus incana (6	0%)/ Juncus	effusus(15%)			•	•	
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M		specify typ	pe(s) below					
5 Disturbance Types	H_x_,ATV	,G,M	,ln, D/D, lr	n, OAH_	, Ii, Sd	,E,,oth	ner,			
7 Vegetative Integrity of plant community	E	Н	M	L						
F22 Is the plant community unique or rare regionally or provincially?	Yes	no	specify:							
F23 Does the WL contain a diversity of plant communities	Н	M								
Rate the overall integrity/quality of plant community?	Н	M	L							
F25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	S1	52	S3	(N/A)	
ECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	М								
b % cover in vegetation verus open water	95%									
2 Interspersion that best fits entire wetland	H_	М		N/A						
3 Wetland condition related to detritus	H	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	M	L							
6 Barriers/restriction between wetland and other habitat		М	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc)	Yes	No	list: Dragon fli	ies, Deer trai	il					
8 Connected to permanent water (accessible to fish)?	Exceptiona	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10h						
11 WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbird	s Mammals	Fish	R/E species	5		
F26 Does wetland support fish/fish habitat?	Yes	No	specify:Braide	ed channels	through wetla	nd may pr	ovide fish nur	sery habita	t	
F27 Rare or endangered fish/wildlife species found in the wetland?American Eel	End	Thr - SARA	SpC	Red	Yellow	<i>S</i> 1	52	<i>S3</i>	N/A	
F28 Overall fish and wildlife habitat quality	Н	M	L							
ECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use F29 Rate the wetland's community use/value	VV,CP	CO,PO,PA_	,AV,GB,E_	_,HI, WV_	, BO,HU	, PG_x_, BI	P,F, E,	R, Other:		



APPI	NDIX C: WL11 Nova Scotia Wetland Evaluation	Technique Field	Data Sheet (Sep	tember 2011)						
Proje	ct Name: Goldboro LNG	Evaluator: Scott	Burley		GPS Coordi	nates:	608129 x	5001772		
	35095884 Site Address: Goldboro Industrial Park, Goldboro, Guysborough Co	ounty, NS								
Sourc	es and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventor	y (Current Forest	Data - 2004); Go	ogle Earth (200	17)					
Evalu	ation Date: 19-Jun-13	Site Visit Date:	19-Jun-13							
Weat	ner Conditions (past 48 hours): Rain today; sun previous days									
Seaso	nal Weather Conditions: Wet Spring									
SECT	ON ONE: WATERSHED CHARACTERISTICS									
1	Watershed Name (tertiary): 1EQ-S1	Size: 518	km²							
2	% Watershed Land Cover	For: 4690	Nat: 40%	Past/Hay: <1	Crop: <1	Urb/Com: 2	Road: 1	Other Dev: <	1 (Gravel Pi	t Landfill, Indust
3	% Watershed WL Cover and by Class	Total: 11%	SM: <1	BO: 6	FE: 1	FM: 2	FS: <1	SS: <1	CP: <1	VP: Present
SF1	Watershed condition	Н	М	L		•	•		•	
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н	М	L						
SECT	ON TWO: WETLAND CHARACTERISTICS									
Wetla	nd Type: Treed Bog	WL size: 0.44	hectares		Landform:	Basin		Landscape Po	osition: Terr	ene
Wate	r flow path: Isolated	Wetland Origin:	Natural							
1	Water Regime	PF	SF	TF	SS (PS	RfT	IfT	AF	
2	# WL's within 30m project area	Total#	SM:0	BO:0	FE:0	FM:0	FS:0	SS:0	CP:0	VP: NA
3	Is WL part of complex	Yes	No		•		•	•	•	
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:	
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A)		specify		
6	Standing water?	Yes	Avg Dep:		% Inundate	ed:	No			
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet							
8	Adjacent Upland Land Use within 100m (%)	For: 50%	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev: 50	0% cut	
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW, W	cS, O/C,EB_	_,DP,F,M_	_, ES,NE_	_,DwP,				
		M,GC,ATV_	,DG,EA, R_	,Rr,U/CD	_,F (x_,F 3 ,	other (specify): historic n	nining in area		
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	/ :	
SF3	Rate the general wetland condition/integrity	H	M	L						
SECT	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY									
1	Average width of adjacent naturalized buffer	50meters								
2	Widths for water quality	H >15	M 8-15	L <8	Road loacte	ed along one s	ide of wetla	and		
3	Widths for wildlife habitat	H >100	M 15-100	L <15	Road loacte	ed along one s	ide of wetla	and		
	Adjacent area vegetation condition (list % in each category)	Н	M	L						
5	Adjacent area diversity and structure (list % in each category)	Н	М	L						
6	Adjacent Upland Slope (list % in each category)	Steep 30%	Mod	Gentle 70%						
7	Adjacent land supports water quality	Yes	No	Specify:						
8	Adjacent land supports wildlife habitat	Yes	No	Specify:						
	Rate the overall condition and integrity land adjacent to wetland	н	M	L	is buffer re	quired to mai	ntain red fl	ag functions of	wetland?	If yes if no
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES									
SF5	Is the WL a WSS?	Yes	No							

SF6	Does the WL support commercial/recreational fish/shellfish?	Yes	No	Potentially	American Eel	(found in lower r	eaches of	stream)		
SF7	Species of concern (Fed/Prov)? Specify. Potentially American Eel	End	Thr	SpC	Red	Yellow	<i>5</i> 1	52	<i>S3</i>	(N/A)
SF8	Wetland has conservation/compensation agreements/activity?	Yes	No	specify:						
SF9	Wetland is calcerous fen, black ash or cedar swamp?	Yes	No							
SF10	Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:						
SF11	WL within a floodplain and upstream of or within of a populated area?	Yes	No							
SF12	Fed/Prov/Municipal area of interest?	Yes	No	specify:						
SECTI	ON FIVE: HYDROLOGIC CONDITION AND INTEGRITY									
1	Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:						
2	Is WL geographically isolated?	Yes	No	Specify:						
3	WL ability to maintain characteristic hydrologic regime	High		Med		Low				
4	Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm	1	No ponding				
5	Signs of surface water retention observed?	SWcm, WSL	, WCD, WN	/cm, SMc	m, SD, AD_	_, ID, PI V IT_x_,	A), BT_	_, AR, Othe	:	
6	Describe observable/historical anthropogenic sediment delivery	Low		Med		High				
7	Disturbance of WL soils	Low		Med		High				
8	Predominant soils adjacent to WL	Sand		Silt/loam)	Clay/bedrock				
9	Capacity of WL to alter/retard flows	High		Med		Low				
10	Roughness coefficient for surface water flow path	High		Med		Low				
11	Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low				
12	Water Source	Natural		Mostly nat	ural	Partly altered		Controlled		
13	Hydrology of tidal wetlands	Unrestricted		Reduced		Restricted		N/A)		
14	Coastal storm surge	Yes	No							
SF13	WL hydrologic condition	Natural	Modified		Significa	ntly Modified				
SF14	WL important for maintaining stream flow?	Yes	No							
SF15	WL ability to detain surface water	High	Med	Low						
SECTI	ON SIX: WATER QUALITY									
1	Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low				
2	Nutrients/sediments from surrounding land	High		Med		Low				
3	Significant flood/stormwater attenuation	Yes	No)							
4	Vegetation capacity to settle suspended sediments	High		Med		Low				
5	WL type /landscape position holds/filters runoff?	Yes (No							
SF16	Wetland improves water quality?	Yes	No							
SF17	Evidence of excess nutrient loading/contamination?	(Low)	Med	High						
SF18	WL contributes to water quality in downstream resources	High	Med	Low						
SECTI	ON SEVEN: GROUNDWATER INTERACTIONS									
1	Describe soils in wetland	Recharge		Discharge						
2	Land use / run off in subwatershed upstream	Recharge		Discharge)					
3	Conditions of upland soils within 200m of wetland	Recharge		Discharge						
4	Hydroperiod of wetland	Recharge		Discharge						
	Describe inlet/outlet configuration	Recharge		Discharge						
6	Characterize topographic relief surrounding wetland	Recharge		Discharge	—					

SF19	WL serves as a recharge site	(Yes)	No	potentially						
SF20	WL serves as a discharge site	Yes	No							
SECTI	ON EIGHT: SHORELINE STABILIZATION AND INTEGRITY									
1	Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	∙4m	streamwidth<	4m	WB Exposed	WB Shelt	ered
2	% cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <10%						
3	Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m						
4	Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low						
5	Describe shoreline erosion potential	High	Med	Low						
6	Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial					
SF21	WL ability to stabilize shoreline	H	М	L	N/A					
SECTI	ON NINE: PLANT COMMUNITY									
1	Vegetation diversity	High	Med	Low						
1b	Dominant plant species and % cover in the WL	list: Picea marin	a 60% ; Carex tri	sperma 30% ; K	almia angust	ifolia 25%		•	•	
3	Dominant Non-native or Invasive species and % cover	Yes	No	specify: %						
4	Vegetation Disturbance	Н	M	L	specify type	e(s) below				
5	Disturbance Types	H,ATV,G	,M,ln,	D/D, Im	, OAH, Ii_	, Sd,E	,,other	_/		
7	Vegetative Integrity of plant community	Е	Н (M	L					
SF22	Is the plant community unique or rare regionally or provincially?	Yes	no	specify:						
SF23	Does the WL contain a diversity of plant communities	н	M	L						
SF24	Rate the overall integrity/quality of plant community?	н	M	L						
SF25	Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow .	S1	52	<i>S3</i>	(N/A)
SECTI	ON TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY									
1	Interspersion of open water and vegetation (open water types only)	Н	M (L						
1b	% cover in vegetation verus open water	%								
2	Interspersion that best fits entire wetland	Н	M		N/A					
3	Wetland condition related to detritus	Н	М	L	N/A					
4	Interspersion of other wetlands in vicinity	(H)	М	L						
6	Barriers/restriction between wetland and other habitat		М	Н						
7	Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: white thro	oated sparrov	v; chickadee; ga	rter snak	e		
8	Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A				
9	Fish species observed or evidence seen (list)	Yes	No	list:						
10	Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10ha					
11	WL provides habitat for:	Amphibians	Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species		
SF26	Does wetland support fish/fish habitat?	Yes	No	specify:						
SF27	Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow .	S 1	52	<i>S3</i>	N/A
SF28	Overall fish and wildlife habitat quality	H	М (I)						
SECTI	ON ELEVEN: COMMUNITY USE/VALUE									
1	Describe community use	VV,CP,CO_	_,PO,PA,,AV	/,GB,E,H	I, WV, B	O,HU, PG_	_, BP_x_,	F, E, R, C	ther:	
SF29	Rate the wetland's community use/value	Н	M (_				



APPENDIX C: WL12 Nova Scotia Wetland Evaluate	ion Technique Fi	eld Data Sheet (September 2011	L)						
Project Name: Goldboro LNG	Evaluator: Sco	cott Burley GPS Coordinates: 608268 x 50				x 5002104				
35095884 Site Address: Goldboro Industrial Park, Goldboro, Guysborough	gh County, NS									
Sources and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Invent	ory (Current Fore	est Data - 2004); (Google Earth (20	07)						
Evaluation Date: 20-Jun-	13 Site Visit Date	e: 20-Jun-1	3							
Weather Conditions (past 48 hours): Rain previous days, currently sunny										
Seasonal Weather Conditions: Wet Spring										
SECTION ONE: WATERSHED CHARACTERISTICS										
1 Watershed Name (tertiary): 1EQ-SD	Size: 518	km²								
2 % Watershed Land Cover	For: 46%	Nat: 40%	Past/Hay: <1	Crop: <1	Urb/Com: 2	Road: <1	Other Dev: <:	1 (Gravel Pi	t Landfill, In	dustrial)
3 % Watershed WL Cover and by Class	Total: 11%	SM: <1	BO: 6	FE: 1	FM: 2	FS: <1	SS: <1	CP: <1	VP: Prese	nt
SF1 Watershed condition	Н	М (•			•		
SF2 Proportion of WL area in watershed & opportunity for floodwater detention	Н	M	L							
SECTION TWO: WETLAND CHARACTERISTICS										
Wetland Type: Riparian Treed Swamp	WL size: 0.1	7 hectares		Landform:	Basin		Landscape Po	sition: Loti	c stream co	nfined
Water flow path: Through flow	Wetland Orig	in: Natural								
1 Water Regime	PF	SF	TF	SS	PS	RfT	IfT	AF		
2 # WL's within 30m project area	Total#	SM:0	BO:0	FE:0	FM:0	FS:0	SS:0	CP:0	VP: 0	
3 Is WL part of complex	Yes	No								
4 % each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:		
5 Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify			
6 Standing water?	Yes	Avg Dep:		% Inundate	d:	No				
7 Inlet or Outlet (circle all that apply)?	Inlet	Outlet								
8 Adjacent Upland Land Use within 100m (%)	For: 100	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev:			
9 Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW,	WcS, O/C,EI	B,DP,F,M	I, ES,NE_	,DwP,					
	M,GC,AT	V,DG,EA,	R,Rr,U/CD_	,F,FA,	other (specify)					
10 Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify	<i>/</i> :		
SF3 Rate the general wetland condition/integrity	(H)	М	L							
SECTION THREE: ADJACENT LAND CONDITION AND INTEGRITY										
1 Average width of adjacent naturalized buffer	>100met	:e								
2 Widths for water quality	H >15	M 8-15	L <8	Road loacte	ed along one si	de of wetla	and			
3 Widths for wildlife habitat	H >100	M 15-100	L <15	Road loacte	ed along one si	de of wetla	and			
4 Adjacent area vegetation condition (list % in each category)	H 100%	М	L							
5 Adjacent area diversity and structure (list % in each category)		M	L							
6 Adjacent Upland Slope (list % in each category)	Steep 60%	Mod 0	Gentle 40%							
7 Adjacent land supports water quality	Yes	No	Specify:							
8 Adjacent land supports wildlife habitat	Yes	No	Specify:							
SF4 Rate the overall condition and integrity land adjacent to wetland	н	M	L	is buffer re	quired to mair	ntain red fl	lag functions of	wetland?	If yes if no	
SECTION FOUR: DOCUMENTED IMPORTANT FEATURES										
SF5 Is the WL a WSS?	Yes	No								

SF6 Does the WL support commercial/recreational fish/shellfish?	Yes	No						
SF7 Species of concern (Fed/Prov)? Specify. Potentially American Eel	End	Thr	SpC	Red	Yellow 51	<i>S2</i>	S3	(V/A)
SF8 Wetland has conservation/compensation agreements/activity?	Yes	(No	specify:					
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No	<u> </u>					
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:					
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No						
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:					
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY			<u> </u>					
1 Is WL source of stream or headwater(wc order 1 or 2)	Yes	No	Specify:					
2 Is WL geographically isolated?	Yes	No	Specify:					
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low			
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm		No ponding			
5 Signs of surface water retention observed?	SWcm, W	SL, WCD, \	WMcm, SMc	cm, SD, AD	, ID, PM(T_x_, A)	_, BT, AR, C	ther:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High			
7 Disturbance of WL soils	Low		Med		High			
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedrock			
9 Capacity of WL to alter/retard flows	High		Med		Low			
10 Roughness coefficient for surface water flow path	High		Med		Low			
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low			
12 Water Source	Natural		Mostly natu	ıral	Partly altered	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricted		Reduced		Restricted	N/A)		
14 Coastal storm surge	Yes	No						
SF13 WL hydrologic condition	Natural	Modified	_	Significa	ntly Modified			
SF14 WL important for maintaining stream flow?	Yes	No						
SF15 WL ability to detain surface water	High	Med	Low					
SECTION SIX: WATER QUALITY								
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low			
2 Nutrients/sediments from surrounding land	High		Med		Low			
3 Significant flood/stormwater attenuation	Yes	No				<u>-</u>		
4 Vegetation capacity to settle suspended sediments	High		Med		Low			
5 WL type /landscape position holds/filters runoff?	Yes	No						
SF16 Wetland improves water quality?	Yes	No						
SF17 Evidence of excess nutrient loading/contamination?	(low)	Med	High					
SF18 WL contributes to water quality in downstream resources	High	Med	(Low)					
SECTION SEVEN: GROUNDWATER INTERACTIONS								
1 Describe soils in wetland	Recharge		Discharge					
2 Land use / run off in subwatershed upstream	Recharge		Discharge	<u> </u>				
3 Conditions of upland soils within 200m of wetland	Recharge		Discharge					
4 Hydroperiod of wetland	Recharge		Discharge					
5 Describe inlet/outlet configuration	Recharge		Discharge)				
6 Characterize topographic relief surrounding wetland	Recharge		Discharge)				

SF19 WL serves as a recharge site	Yes	No	potentially							
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth:	>4m	streamwidt	h<4m	WB Exposed	WB Sh	eltered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	L <109							
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	Н	M	L	N/A						
SECTION NINE: PLANT COMMUNITY			_							
1 Vegetation diversity	High	Med	(Low)							
1b Dominant plant species and % cover in the WL	list: Osmunda	cinnamonea 40%	%; Acer rubrum .	20%		•		•	•	
3 Dominant Non-native or Invasive species and % cover	Yes C	No	specify: %							
4 Vegetation Disturbance	Н	M	L	specify type	e(s) below					
5 Disturbance Types	H_x,ATV	,G,M,ln	, D/D, lm_	, OAH,	li, Sd,	E,,othe	r,			
7 Vegetative Integrity of plant community	E	Н	M	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes	no	specify:							
SF23 Does the WL contain a diversity of plant communities	Н	M	L							
SF24 Rate the overall integrity/quality of plant community?	н	M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	S1	S2	<i>S3</i>	(V/A)	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	М								
1b % cover in vegetation verus open water	85%									
2 Interspersion that best fits entire wetland	Н	М		N/A						
3 Wetland condition related to detritus	Н	M	L	N/A						
4 Interspersion of other wetlands in vicinity	Н	M	L							
6 Barriers/restriction between wetland and other habitat		M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians,etc)	Yes	No	list: Passerire:	s ; Deer tracks						
8 Connected to permanent water (accessible to fish)?	Exceptional	High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	≤10ha						
11 WL provides habitat for:		Reptiles	Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes (No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr	SpC	Red	Yellow	51	52	53	N/A	
SF28 Overall fish and wildlife habitat quality	Н	M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,CO			,HI, WV,	BO,HU, I	PG, BP	,F, E, R,	Other:		
SF29 Rate the wetland's community use/value	Н	М								



APPE	APPENDIX C: WL13 Nova Scotia Wetland Evaluation Technique Field Data Sheet (September 2011)											
Proje	t Name: Goldboro LNG	Evaluator: So	,			GPS Coordinates: 607390 x			90 x 5002423			
	35066158 Site Address: Goldboro Industrial Park, Goldboro, Guysborough C											
Sourc	Sources and Dates of Mapping/Images: NS Wetlands Inventory (2012); NS Forest Inventory (Current Forest Data - 2004); Google Earth (2007)											
Evalu	Evaluation Date: 19-Jun-13 Site Visit Date 19-Jun-13											
Weat	ner Conditions (past 48 hours): Sun today, rained previous days											
Seaso	nal Weather Conditions: Wet spring											
SECTI	ON ONE: WATERSHED CHARACTERISTICS											
1	Watershed Name (tertiary): 1EP-5D	Size: 218	km²									
2	% Watershed Land Cover	For: 61	Nat: 11	Past/Hay: <1	Crop: <1	Urb/Com: 1	Road: <1	Other Dev: 7 (Gravel Pit,	Landfill, Inc	lustrial)	
3	% Watershed WL Cover and by Class	Total: 14%	SM: <1	BO: 9	FE: 1	FM: 2	FS: 1	SS: 1	CP: <1	VP: Prese	nt	
SF1	Watershed condition	Н	М	L		•	•					
SF2	Proportion of WL area in watershed & opportunity for floodwater detention	Н (M	L								
SECTI	ON TWO: WETLAND CHARACTERISTICS											
Wetla	nd Type: Treed Bog	WL size: 0.1	9 hectares		Landform: Ba	asin		Landscape Pos	sition: Loti	c stream - co	onfined	
Wate	flow path: Perennial through flow	Wetland Orig	gin: Natural			_						
1	Water Regime	PF	SF	TF	ss (PS	RfT	IfT	AF			
2	# WL's within 30m project area	Total#	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:		
3	Is WL part of complex	Yes (No									
4	% each wetland type in complex	SM:	BO:	FE:	FM:	FS:	SS:	CP:	VP:			
5	Is WL bordering or associated with a lake or pond?	bordering		within 100m		N/A		specify				
6	Standing water?	Yes	Avg Dep:		% Inundated	l: (No					
7	Inlet or Outlet (circle all that apply)?	Inlet	Outlet								•	
8	Adjacent Upland Land Use within 100m (%)	For: 100%	Nat:	PasHay:	Crop:	UrbCm:	Road:	Other Dev:				
9	Are there stressors in WL or WL buffer area? Circle primary stressor(s).	DD, CW	, WcS, O/C,E	B,DP,F,	M, ES,NE	,DwP,					•	
		M,GC,A	TV,DG,EA	, R,Rr,U/CI	D,F,FA,	, other (speci		mining in area				
10	Hydrology Altered (circle all that apply)?	Ditching	Dams	Tiles	Culvert	Well	Diversion	Other Specify:				
SF3	Rate the general wetland condition/integrity	H	M	L								
SECTI	ON THREE: ADJACENT LAND CONDITION AND INTEGRITY											
	Average width of adjacent naturalized buffer	>100me	91									
2	Widths for water quality	H >15	M 8-15	L <8	Road loacted	d along one s	ide of wetla	ınd				
3	Widths for wildlife habitat	H >100	M 15-100	L <15	Road loacted	d along one s	ide of wetla	ınd				
	Adjacent area vegetation condition (list % in each category)	H 100%	М	L								
	Adjacent area diversity and structure (list % in each category)	H 100%										
	Adjacent Upland Slope (list % in each category)	Steep 70%	Mod	Gentle 30%								
	Adjacent land supports water quality	Yes	No	Specify:								
	Adjacent land supports wildlife habitat	Yes	No	Specify:								
	Rate the overall condition and integrity land adjacent to wetland	(H)	M	L	is buffer req	uired to mai	ntain red fla	ag functions of	wetland?	If yes if no		
SECTI	ON FOUR: DOCUMENTED IMPORTANT FEATURES											
SF5	Is the WL a WSS?	Yes	No)									

SF6 Does the WL support commercial/recreational fish/shellfish? American Eel	Yes	No	Potentially A	merican Eel	(found in lowe	er reaches o	of stream)		
SF7 Species of concern (Fed/Prov)? Specify. Potentially American Eel	End	Thr - COSEW	IC SpC	Red	Yellow	<i>S</i> 1	<i>S2</i>	<i>S3</i>	N/A
SF8 Wetland has conservation/compensation agreements/activity?	Yes	No	specify:		'	_			
SF9 Wetland is calcerous fen, black ash or cedar swamp?	Yes	No							
SF10 Within Drinking Water Protected Area (designated watershed/wellfield)	Yes	No	specify:						
SF11 WL within a floodplain and upstream of or within of a populated area?	Yes	No							
SF12 Fed/Prov/Municipal area of interest?	Yes	No	specify:						
SECTION FIVE: HYDROLOGIC CONDITION AND INTEGRITY									
1 Is WL source of stream or headwater(wc order 1 or 2)	(Yes)	No	Specify:						
2 Is WL geographically isolated?	Yes	No	Specify:						
3 WL ability to maintain characteristic hydrologic regime	High		Med		Low				
4 Water Storage Depth (list % in each class)	>30cm	15-30cm	up to 15cm		No pondi	g			
5 Signs of surface water retention observed?	SWcm, W	/SL, WCD,	WMcm, SM	cm, SD, A			, BT, AR,	, Other:	
6 Describe observable/historical anthropogenic sediment delivery	Low		Med		High				
7 Disturbance of WL soils	Low		Med		High				
8 Predominant soils adjacent to WL	Sand		Silt/loam		Clay/bedro	ock			
9 Capacity of WL to alter/retard flows	High		Med		Low				
10 Roughness coefficient for surface water flow path	High		Med		Low				
11 Strormwater/Wastewater/Agricultural runoff detention	High		Med		Low				
12 Water Source	Natural		Mostly natur	al	Partly alte	red	Controlle	ed	
13 Hydrology of tidal wetlands	Unrestricted	d	Reduced		Restricted		N/A)		
14 Coastal storm surge	Yes	No							
SF13 WL hydrologic condition	Natural	Modified		Significa	ntly Modified				
SF14 WL important for maintaining stream flow?	Yes	No							
SF15 WL ability to detain surface water	High	Med	Low						
SECTION SIX: WATER QUALITY									
1 Strormwater/Wastewater/Agricultural runoff as water source?	High		Med		Low				
2 Nutrients/sediments from surrounding land	High		Med		Low				
3 Significant flood/stormwater attenuation	Yes	No)							
4 Vegetation capacity to settle suspended sediments	High		Med		Low				
5 WL type /landscape position holds/filters runoff?	(Yes)	No							
SF16 Wetland improves water quality?	Yes	(No)							
SF17 Evidence of excess nutrient loading/contamination?	(Low)	Med	High						
SF18 WL contributes to water quality in downstream resources	High	Med	Low						
SECTION SEVEN: GROUNDWATER INTERACTIONS									
1 Describe soils in wetland	Recharge		Discharge						
2 Land use / run off in subwatershed upstream	Recharge		Discharge						
3 Conditions of upland soils within 200m of wetland	Recharge)	Discharge						
4 Hydroperiod of wetland	Recharge		Discharge						
5 Describe inlet/outlet configuration	Recharge		Discharge						
6 Characterize topographic relief surrounding wetland	Recharge		Discharge						

SF19 WL serves as a recharge site	Yes (No	potentially							
SF20 WL serves as a discharge site	Yes	No								
SECTION EIGHT: SHORELINE STABILIZATION AND INTEGRITY										
1 Wetland fringing ocean/estuary/lake/pond/river/stream?	Yes	No	streamwidth >	4m	streamwidt	h<4m	WB Exposed	WB Shelt	ered	
2 % cover of rooted vegetation in shallow water zone	H >50%	M 10-50	<10%		•					
3 Avg veg WL width b/w shoreline/streambank & 2 m depth contour	H >10m	M 3-10	L <3m							
4 Prevalence of strong-stemmed emerg. veg (shoreline marshes and fens only)	High	Med	Low							
5 Describe shoreline erosion potential	High	Med	Low							
6 Shoreline/streambank veg condition upslope of water level	Low	Med	High	Artificial						
SF21 WL ability to stabilize shoreline	H	M	L	N/A						
SECTION NINE: PLANT COMMUNITY										
1 Vegetation diversity	High	Med	Low							
1b Dominant plant species and % cover in the WL	list: Alnus inc	ana 20% ; Picea	mariana 20% ; C	Osmunda cini	nanomea 15%	6				
3 Dominant Non-native or Invasive species and % cover	Yes	No	specify: %							
4 Vegetation Disturbance	Н	M (L	specify type	(s) below					
5 Disturbance Types	H,ATV	_,G,,M,In	, D/D, lm_	, OAH,	Ii, Sd	,E,,othe	r,			
7 Vegetative Integrity of plant community	E	Н	М	L						
SF22 Is the plant community unique or rare regionally or provincially?	Yes (no	specify:							
SF23 Does the WL contain a diversity of plant communities	н (M)	L							
SF24 Rate the overall integrity/quality of plant community?	H	M	L							
SF25 Are there any observed rare or endangered plant species? Specify.	End	Thr	SpC	Red	Yellow	<i>S</i> 1	52	S3	(V/A)	
SECTION TEN: FISH AND WILDLIFE HABITAT AND INTEGRITY										
1 Interspersion of open water and vegetation (open water types only)	Н	M (L							
1b % cover in vegetation verus open water	98%									
2 Interspersion that best fits entire wetland	Н	М		N/A						
3 Wetland condition related to detritus	H	М	L	N/A						
4 Interspersion of other wetlands in vicinity	H	М	L							
6 Barriers/restriction between wetland and other habitat		M	Н							
7 Noteworthy wildlife or evidence (birds, mammals, amphibians, etc)	Yes	No	list: Passerines	; Deer trails						
8 Connected to permanent water (accessible to fish)?		High	Med	Low	N/A					
9 Fish species observed or evidence seen (list)	Yes	No	list:							
10 Wetland part of contiguous upland or wetland:	>50ha	25-50ha	10-25ha	<10ha			_			
11 WL provides habitat for:	Amphibians		Waterfowl	Waterbirds	Mammals	Fish	R/E species			
SF26 Does wetland support fish/fish habitat?	Yes	No	specify:							
SF27 Rare or endangered fish/wildlife species found in the wetland?	End	Thr- COSEWIC	SpC	Red	Yellow	51	<i>S2</i>	<i>S</i> 3	N/A	
SF28 Overall fish and wildlife habitat quality	Н (M	L							
SECTION ELEVEN: COMMUNITY USE/VALUE										
1 Describe community use	VV,CP,C			_,HI, WV	, BO,HU	, PG, BP_	_,F, E, R	, Other:		
SF29 Rate the wetland's community use/value	Н	М ([L]							

