

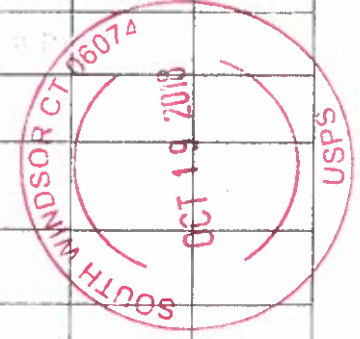


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ATTACHMENT #16 50 TALBOT LA

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1.		STAT D.O.E. C+D CATHARINE SMITH 505 HUNTER ST HARTFORD CT 06106-7106														
2.		RICHARD BLUMENTHAL 90 STATE HOUSE SQ HARTFORD CT 06103														
3.		TIM HANSON HOURS APT. 3 33 GORMAN PL EAST HARTFORD CT 06108														
4.		STAT D O E P ROBERT KILB 79 ELA ST HARTFORD CT 06106														
5.		SUSAN MERRIN 79 ELA ST HARTFORD CT 06106														
6.		D.O.T. JAMES REDEKER 2800 BORLIN TRAIL NEWINGTON CT 06111														
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1.	INLAND WETLANDS BARBARA KELLY TOWN HALL 1540 SULLIVAN SOUTH WINDSOR STATE D.O.A. STEVEN REVICZKY 165 CAPITOL AVE HARTFORD, CT 06103 RAUL PINO MD. STATE DPH 410 CAPITOL AVE HARTFORD, CT 06134 PUBLIC UTILITIES REG AUTH KATIE DYKAL 10 FRANKLIN SQ NEW BRITAIN CT 06051 DCP MICHELLE H SUGULL 450 COLUMBIA BLVD HARTFORD, CT 06103 D.O. E.S. DORA B. SCHIAPPA 111 CANTON CLUB RD MIDDLETOWN CT 06457 D.P.M. BENJAMIN BARNES 450 CAPITOL AVE HARTFORD CT 06106-1341 CHRIS MURPHY ONS CAMPBELL PLAZA HARTFORD, CT 06103													
2.														
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Joanne B

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USPS Tracking/Article Number	Addressee (Name, Street, City, State & ZIP Code TM)		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
1.	Capital Region 24 Main St #4 Hartford, CT 06106 Tom Delnick, 130 Felt Rd, SW CT 06074														
2.	Planning & Zoning TOWN HALL 1540 Sullivan Ave SW CT 06074														
3.	SW Engineering 1540 Sullivan Ave SW CT 06074														
4.	Mayor Said Anwar TOWN HALL 1540 Sullivan Ave SW CT 06074 Dept. of Labor														
5.	200 Folly Brook Blvd Wethersfield, CT 06074 St House St. 50 Hickory St. EH CT 06108														
6.	Town Manager 1540 Sullivan Ave SW CT 06074														
7.															
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SOUTH WINDSOR CT 06074
OCT 19 2018
USPS



Firm Mailing Book For Accountable Mail

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1.	Town S.W. 16 Edgewood Dr SW CT 06074	☐ Adult Signature Required ☐ Adult Signature Restricted Delivery ☐ Certified Mail ☐ Certified Mail Restricted Delivery ☐ Collect on Delivery (COD) ☐ Insured Mail ☐ Priority Mail	☐ Priority Mail Express ☐ Registered Mail ☐ Return Receipt for Merchandise ☐ Signature Confirmation ☐ Signature Confirmation Restricted Delivery	Actual Value if Registered	Insured Value
2.	Osprey Assoc. Box 8385 Hatch, CT 06045			Due Sender if COD	ASR Fee
3.	Hale Realty Box 300 Hatch, CT 06040			ASRD Fee	RD Fee
4.	Suri Realty 50 Talbot Ln SW, CT 06044			RR Fee	SC Fee
5.	Hale Realty Box 8385 Hatch, CT 06044			Signature Confirmation Restricted Delivery	Signature Confirmation
6.	Osprey Assoc. 82 Alphadale Rd SW CT 06044			Return Receipt	Signature Confirmation
7.	Harris Real Estate 30 Talbot Ln SW CT 06044			Restricted Delivery	Signature Confirmation
8.	Architectural design 1006 Main St Box 4129 E. W. Hill, CT 06028			Adult Signature Required	Signature Confirmation
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1.	George Jepsen 55 Elm St Hartford, CT 06106
2.	Office of Gen. Atty George Jepsen 55 Elm St Hartford, CT 06106
3.	Dept. of Admin. Serv. M. Gorney 450 Columbus Blvd Hartford, CT 06103
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6.	
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PS Form 3811, January 2017 (Page 1 of 2)
EIN: 53-0240030

Ben Yoon

From: Dougan, Christopher <Christopher.Dougan@southwindsor.org>
Sent: Friday, September 28, 2018 4:09 PM
To: Ben Yoon
Subject: RE: S. Windsor Doosan Fuel Cell Installation

Hi Ben,

Yes, it was nice to meet you today. I look forward to working with you on the fuel cell project at Carla's. I do want to caution you, that the property address is 50 Talbot. There have been occasions during this addition project where the address 280 Nutmeg Rd., is referred to, in the context of its formal address. The structure(s) on that property are all referenced to and addressed as 50 Talbot Lane.

Thanks,

Christopher J. Dougan

**Chief Building Official
Town of South Windsor
1540 Sullivan Avenue
860-644-2511 x232
christopher.dougan@southwindsor.org**

From: Ben Yoon <ben.yoon@doosan.com>
Sent: Friday, September 28, 2018 3:22 PM
To: Dougan, Christopher <Christopher.Dougan@southwindsor.org>
Cc: Donald Emanuel <donald.emanuel@doosan.com>; James Kenney <james.kenney@doosan.com>
Subject: S. Windsor Doosan Fuel Cell Installation

Hi Chris,

Thanks for taking the time to meet us at the Town Hall today.

Like discussed, Doosan is planning to install two fuel cells at Carla's Pasta manufacturing facility, one at 50 Talbot Lane and the other at the new building, 280 Nutmeg Road. The plan is to finish the two projects and start commercial operation by 2019 May. Like your suggestion, my colleague Don will reach out to Planning and Zoning to inform them of our project prior to Connecticut Siting Council filing.

Thank you and have a wonderful weekend.

Ben

Ben Yoon
Installation Project Manager
Doosan Fuel Cell America, Inc. www.doosanfuelcell.com | ben.yoon@doosan.com
Tel: 860.727.2487 mob: 714.510.0777

Ben Yoon

From: Donald Emanuel
Sent: Thursday, October 11, 2018 2:04 PM
To: michele.lipe@southwindsor.org
Cc: Ben Yoon
Subject: Doosan Fuel cell / Carlas Pasta
Attachments: Carlas Pasta Town Meeting_9.28.2018.pptx

Michele, good afternoon.

Please see attached sketch of the fuel cell replacement area @ 50 Talbot Lane. Carla's Pasta. The existing building. Replacing old fuel cell.

Also note: within this attachment is information on the fuel cell concept for the New building as well. 280 Nutmeg. At this moment we are only actively working on Mobilization of the existing building site at 50 Talbot.

We are informing you of our intentions prior to any permitting per the Siting Council requirements. Any questions, please feel free to ask.

Thank you

Donald Emanuel Jr

Install Project Manager
Doosan Fuel Cell America
195 Governors Highway
South Windsor, Ct 06074
O: 860 727-2160
C: 203 525-4566

Q3 Flood Zone Data South Windsor, CT

Legend

- 100 Year Flood Zone
- 100 Year Flood Zone, COBRA
- 500 Year Flood Zone
- 500 Year Flood Zone, COBRA
- Floodway in Zone AE

Other Flood Areas

Explanation

The Q3 Flood Data are derived from Flood Insurance Rate Maps, (FIRMs). They offer floodplain management, mitigation and provide insurance information for the National Flood Insurance Program (NFIP). 100 Year Flood Zones indicate that there is 1 out of 100 chances that the area will be flooded every year, while 500 Year Flood Zones indicate that there is 1 out of 500 chances that the area will be flooded every year. NOTE: The Q3

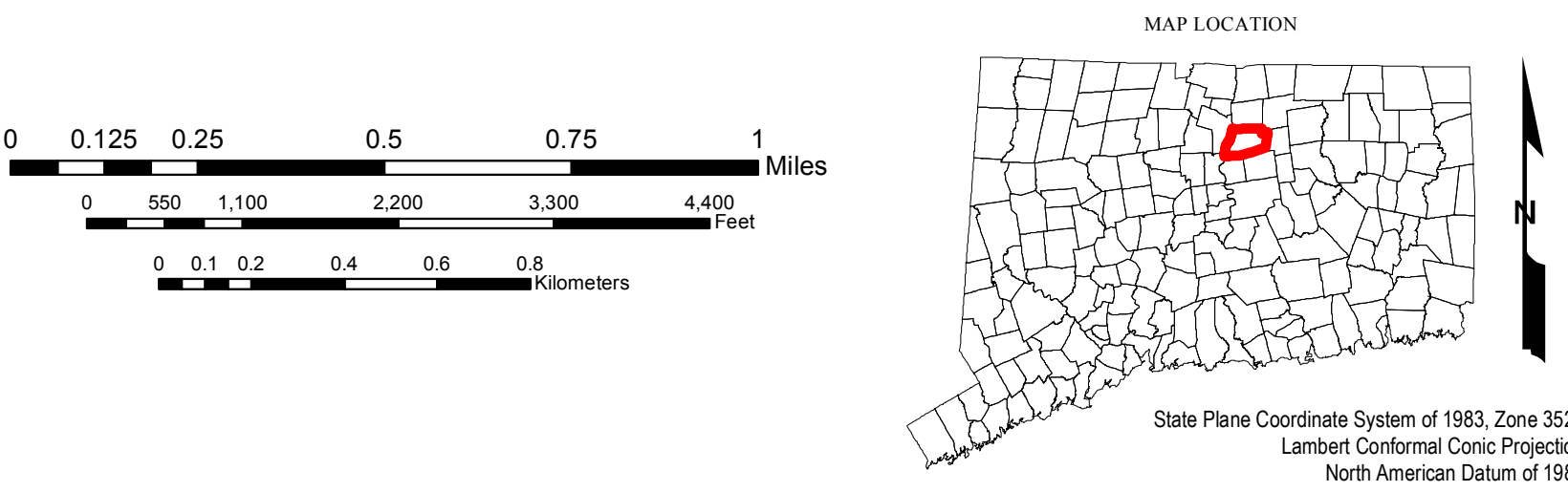
Flood Zone Data is the best flood zone mapping data available statewide. However, it is dated and may not represent current flood zone mapping. It is available for all towns except Windham. More accurate flood zone mapping data may be available for this town from FEMA. Refer to the National Flood Hazard Layer (NFHL) Database, which supercedes the Q3 Flood Data. The NFHL Database is not available for every county.

Data Sources

Q3 FLOOD DATA- Provided by the Federal Emergency Management Agency (FEMA).

BASE MAP DATA - Based on data originally from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries and important geographic places and names. Streets and street names are from Tele Atlas copyrighted data. Base map information is neither current nor complete.

MAPS AND DIGITAL DATA - Visit the CT ECO website for this map and a variety of others. Visit the NRCS soils website for the soils data shown on this map. Visit the CT DEP website to download the base map digital spatial data shown on this map.



This map is for general planning purposes only. Site specific field surveys are necessary for determination of regulatory wetland boundaries. This map is prepared as a guide to assist town commissions & the public in identifying the general location of wetland soils. The wetland soils portrayed on this map show areas that may be subject to regulation; however, due to mapping conventions and map scale, this map should not be used as the sole basis for determination of regulatory jurisdiction or for enforcement actions. This map portrays the general location of areas that may be subject to regulation as defined in the Inland Wetlands & Watercourses Act, CT General Statutes Section 22a-38 or the tidal wetlands act, CT General Statutes Section 22a-29. These areas are poorly drained, very poorly drained, and alluvial and floodplain soils, as mapped by the USDA Natural Resources Conservation Service (NRCS), & lands subject to tidal action, as mapped by the CT Department of Environmental Protection (DEP). Due to scale and mapping conventions, some wetland soils may not appear. BASE MAP INFORMATION: Political boundaries & parcel boundaries are derived from the Town of South Windsor Assessor's Maps, digitized at a scale of 1"=100'.

Areas of tidal action shown may include areas subject to the sole jurisdiction of the Commissioner of the CT DEP. Areas of tidal action occur along the Connecticut, Housatonic, Quinnipiac, and Thames Rivers, & along the coast.

DATASET INFORMATION: •Originators: USDA, Natural Resources Conservation Service (NRCS)

•Status: This information is updated as needed. The previously published county soil surveys (published between 1962 & 1981) are superseded by this official soil information. County soil surveys are for historical use only.

•Date of Data: The original data was collected from published surveys from 1962 to 1981, field mapping from 1985 through 2001 and additional attribute documentation to 3/23/2007.

•Map Scale & Accuracy: 1:12,000 (1 inch = 12,000 feet). Minimum delineation is 3 acres in size.

Additional Documentation

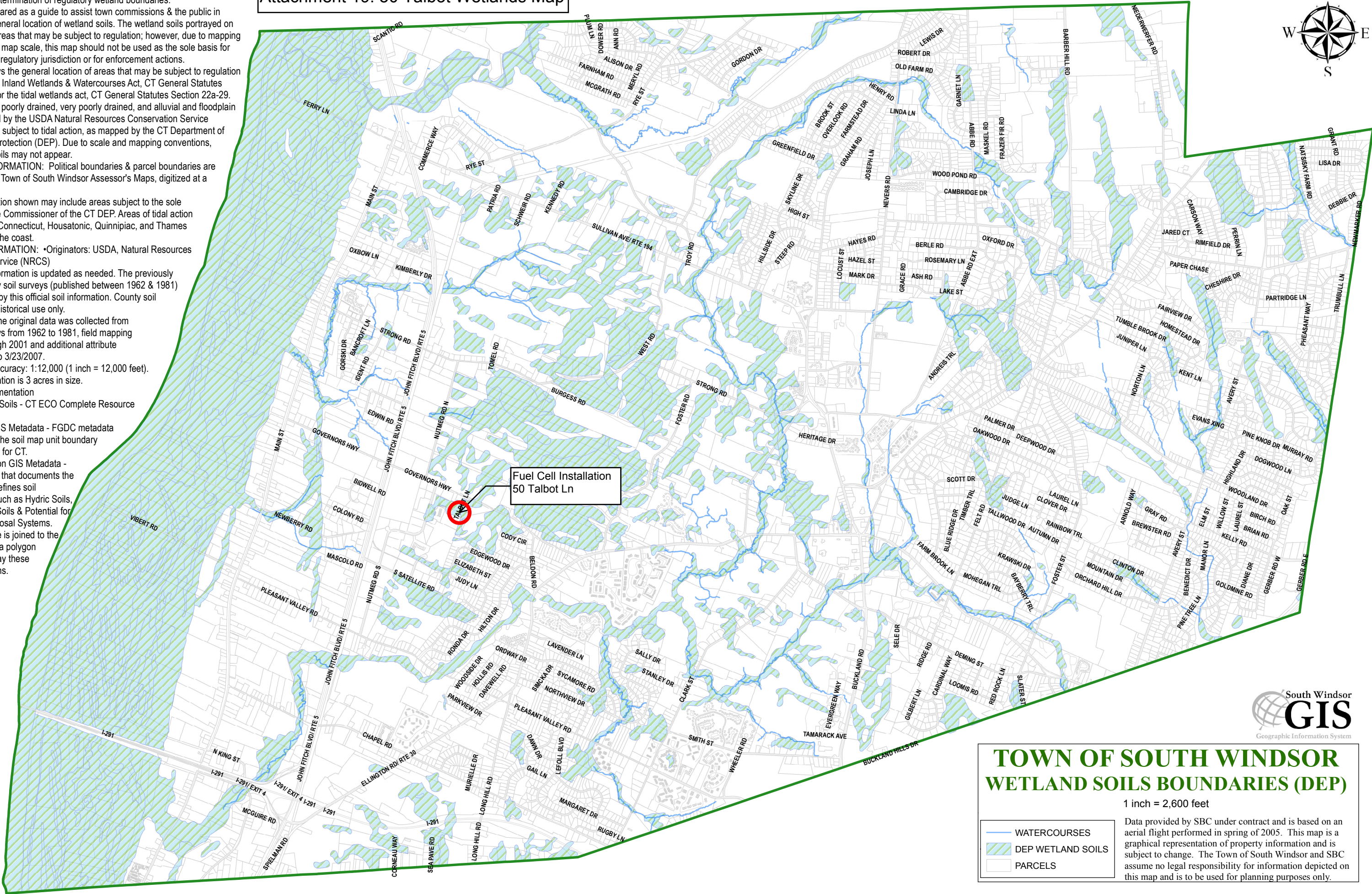
•Inland Wetland Soils - CT ECO Complete Resource Guide

•Soil map unit GIS Metadata - FGDC metadata that documents the soil map unit boundary polygon features for CT.

•Soil interpretation GIS Metadata - FGDC metadata that documents the data table that defines soil interpretations such as Hydric Soils, Inland Wetland Soils & Potential for Subsurface Disposal Systems.

This lookup table is joined to the soil map unit data polygon features to display these soil interpretations.

Attachment 19: 50 Talbot Wetlands Map



Desulfurization Memorandum
PureCell® Model 400 Stationary Fuel Cell System



Date: 2017-01-05

PureCell Model 400 Fuel Processing System (FPS)

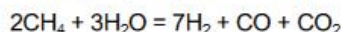
The FPS converts pipeline-quality natural gas into hydrogen reformat – a hydrogen-rich gas that is delivered to the anode side of the fuel cell stacks. This module includes a condenser to recover water generated in the fuel cell reaction by condensing water vapor from the process exhaust. This eliminates the need for makeup water under most operating conditions. The recovered water is used in the steam reformation process. The main components of the FPS include the following:

Hydro-Desulfurizer

The desulfurizer system removes sulfur used as an odorant in natural gas, which is a poison to the catalysts used in the fuel cell systems. Sulfur is converted to zinc-sulfide, a non-hazardous waste, within the desulfurizer and remains there until an overhaul is required, nominally after 10 years. This system will also remove small amounts of oxygen in the gas.

Steam Reformer

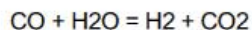
Steam (H₂O) generated in the cell stack cooling loop of the TMS is combined in the reformer with methane (CH₄) in the natural gas to generate a gas composed of hydrogen (H₂), carbon monoxide (CO), and carbon dioxide (CO₂).



Equation 1

Integrated Low-Temperature Shift Converter

The integrated low-temperature shift converter (ILS) generates additional hydrogen through a water-gas reaction in which CO and water is converted to hydrogen and CO₂. The reduced CO content minimizes its adverse effect on fuel cell stack performance.



Equation 2

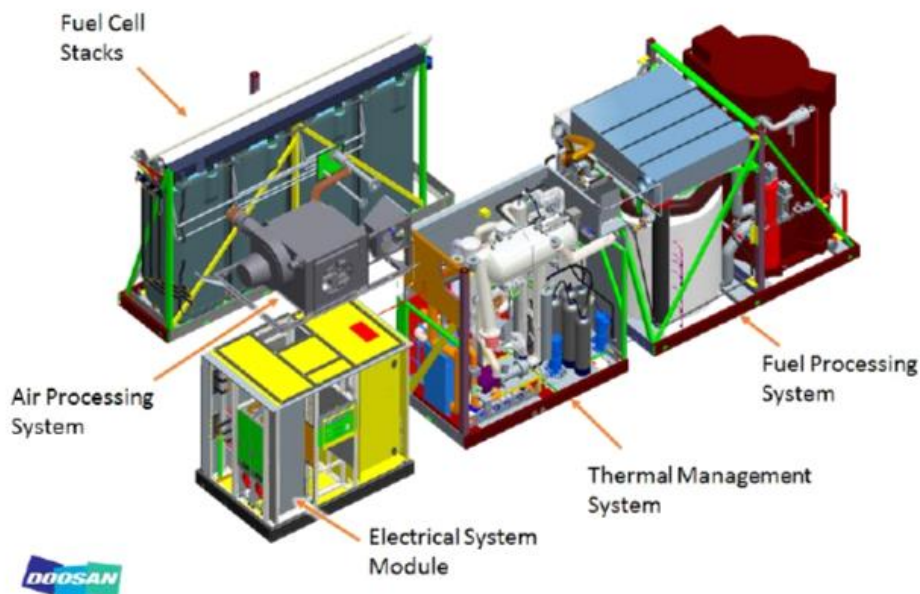


Figure 1. PureCell Model 400 Subsystems

Desulfurization Memorandum

PureCell® Model 400 Stationary Fuel Cell System



Date: 2017-01-05

Sulfur Background

Sulfur is present in pipeline natural gas. It is primarily used as an odorant so leaks can be detected. Unfortunately, sulfur is also a poison to fuel cell systems and exposure to sulfur will drastically reduce the life and efficiency of the fuel cell.

Types of sulfur found in natural gas vary from region to region. Some common examples are:

- Hydrogen Sulfide (H₂S)
- Tetrahydrothiophene (THT)
- Mercaptain – (MCP) - Broad family of sulfur molecules characterized by a sulfur atom attached to a hydrocarbon molecule or chain

The majority of the odorants are organic with the exception of hydrogen sulfide. Standard pipeline natural gas contains up to 6 parts per million by volume (ppmv) sulfur on average with spikes as high as 30 ppmv possible. In order to successfully maintain operation of the fuel cell for a period of 10 years, the sulfur levels must be reduced to less than 0.02 ppmv, or a 99.7% removal rate. An additional benefit of this is that it removes sulfur dioxide from the emissions of the fuel cell power plant.

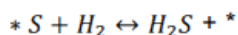
Sulfur Removal Techniques

Sulfur removal can be broken down into two main techniques, physical capture and reactive capture.

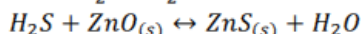
Physical capture involves using porous media such as activated carbon or molecular sieves to capture and concentrate the odorant before it enters the fuel cell. Doosan elected not to pursue this path due to several factors, including:

- The process concentrates the odorant and turned it into hazardous waste
- The concentrated odorant is highly toxic and requires specially trained personnel to handle the waste
- Would result in more service being required at customer sites to maintain the system

Reactive capture is the method used by Doosan to remove sulfur. It involves chemically reacting the odorant over a catalyst bed in order to separate the sulfur molecule. Once the sulfur molecule is separated from the odorant, the remaining odorant is destroyed in another catalyst bed. The sulfur molecule is then captured and converted to a compound called Zinc Sulfide.



Equation 4



Equation 5

Note: * represents the non-sulfur odorant components

Doosan's system has been sized such that it will run for the 10 year service life of the unit and not need to be changed out. When the unit is removed from service, the decommissioning or refurbishment of the unit will be carried out by trained personnel and a company specializing in removal of the waste Zinc Sulfide will recover the spent material. Zinc sulfide has some commercial value, so that company will either process it and sell it or split it into Zinc and Sulfur and sell them separately.

Respectfully,

Jesse Hayes, Director, Product Management, Doosan Fuel Cell

195 Governors Highway

South Windsor, CT 06074

Jesse.hayes@doosan.com

(860) 560-3309