Post Office Box 9010 Addison, Texas 75001-9010 5300 Belt Line Road
(972) 450-7000 Fax: (972) 450-7043

AGENDA

WORK SESSION OF THE CITY COUNCIL

6:00 P.M.

AND

REGULAR MEETING OF THE CITY COUNCIL

7:30 P.M.

AUGUST 25, 2009

TOWN HALL

5300 BELT LINE ROAD

WORK SESSION

Item #WS1 - Discussion regarding Airport Management Use of Fueling Permit Guidelines for Addison Airport Fuel Farm.

Item #WS2 - Discussion regarding the proposed education space, wind turbines, and other matters concerning the proposed new Elevated Storage Tank (Water Tower) to be located adjacent to the southeast corner of the intersection of Surveyor Boulevard and Arapaho Road.

REGULAR SESSION

Pledge of Allegiance

Item #R1 - Consideration of Old Business.

Introduction of Employees

Discussion of Upcoming Events

Item #R2 - Consent Agenda.

#2a - Approval of the Minutes for:

August 11, 2009, Regular City Council Meeting and Work Session

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Item #R3 - **PUBLIC HEARING.** Presentation and discussion regarding the Airport and Utility Funds for the 2009-2010 Fiscal Year.

Item #R4 - Presentation, discussion and consideration of approval of the appointment of two members to the Board of Zoning Adjustment (the first term for current members Bob Baumann (appointment recommendation to be received from Councilmember Braun) and Becky Thompson (appointment recommendation to be received from Councilmember Lay) expired on August 14, 2009).

Item #R5 - Presentation, discussion and consideration of approval regarding the designation of persons to participate in the Class XXI Leadership Metrocrest Program.

Attachment:

1. Council Agenda Item Overview

Administrative Recommendation:

Administration recommends approval.

Item #R6 - Presentation, discussion and consideration of approval of a supplemental agreement to the Engineering Services Agreement between the Town of Addison and Freese & Nichols, Inc., in an amount not to exceed $112,000.00 for additional design services on the proposed 1.5 Million Gallon Elevated Storage Tank (Water Tower) to be located adjacent to the southeast corner of the intersection of Surveyor Boulevard and Arapaho Road.

Attachments:

1. Council Agenda Item Overview
2. Amendment #2 Proposal
3. Contract

Administrative Recommendation:

Administration recommends approval.

Item #R7 - Presentation, discussion and consideration of approval of a contract with SWG Energy to purchase and install a 3.5 KW Cleanfield Wind Turbine for $41,620.00 on the future Elevated Storage Tank (Water Tower) site adjacent to the southeast corner of the intersection of Surveyor Boulevard and Arapaho Road.

Attachments:

1. Council Agenda Item Overview
2. Wind Turbine Addison Technical Memorandum
3. Wind Turbine Library Photos
4. Demo Turbine Final Costs

Administrative Recommendation:

Administration recommends approval.

Item #R8 - Presentation, discussion and consideration of approval of Resolution approving a Modification to Master Facilities Agreement between the Town of Addison, UDR, Inc., and various property owners regarding an assignment of a portion of the property subject to the Master Facilities Agreement between the Town, UDR, Inc., and various property owners and concerning a development generally known as Vitruvian Park and generally located in an area south of Spring Valley Road and along and

near Brookhaven Club Drive, and an Estoppel Certificate in connection with the assignment.

Attachments:

1. Carmen Moran Memorandum
2. Resolution with Modification to Master Facilities Agreement and Estoppel Certificate

Administrative Recommendation:

Administration recommends approval.

Adjourn Meeting

Posted:
August 21, 2009 at 5:00 P.M.
Lea Dunn - City Secretary

THE TOWN OF ADDISON IS ACCESSIBLE TO PERSONS WITH DISABILITIES. PLEASE CALL (972) 450-2819 AT LEAST 48 HOURS IN ADVANCE IF YOU NEED ASSISTANCE.

Council Agenda Item **#WS1**

There are no attachments for this Item.

Council Agenda Item **#WS2**

There are no attachments for this Item.

OFFICIAL ACTIONS OF THE ADDISON CITY COUNCIL
REGULAR SESSION

August 11, 2009
7:30 P.M. – Town Hall
5300 Belt Line Road
Council Chambers

Present: Mayor Chow, Councilmembers Braun, Clemens, Daseke, Lay, Mellow and Noble

Absent: None

Regular Session

Item #R1 - Consideration of Old Business.

The following employees were introduced to the Council: Jo Ann Shuffield with the Parks Department and Petr Lukas with the Fire Department.

Item #R2 - Consent Agenda.

#2a - Approval of the Minutes for:

July 14, 2009, Regular City Council Meeting and Work Session

Councilmember Braun moved to approve the Minutes for:

July 14, 2009, Regular City Council Meeting and Work Session

Councilmember Daseke seconded the motion. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R3 - Presentation and discussion regarding the Third Quarter Financial Review for Fiscal Year 2008-2009.

Jason Cooley made the presentation and led the discussion regarding the Third Quarter Financial Review for Fiscal Year 2008-2009.

There was no action taken.

Item #R4 - **PUBLIC HEARING** 2009-2010 Proposed Budget. Public Hearing on, presentation and discussion regarding the 2009-2010 Proposed Budget.

Randy Moravec made the presentation and led the discussion regarding the 2009-2010 Proposed Budget.

Mayor Chow opened the meeting as a Public Hearing.

The following residents spoke:

Chris Mulvaney	3867 Lakeway Court
Charles Hanson	5055 Addison Circle

Mayor Chow closed the meeting as a Public Hearing.

There was no action taken.

Item#R4A **-** Presentation and discussion of the General and Hotel Budget Funds.

Randy Moravec made the presentation and led the discussion of the General and Hotel Budget Funds.

There was no action taken.

Item#R5 - Presentation and discussion regarding the participation in the Class XXI Leadership Metrocrest Program.

Lea Dunn made the presentation and led the discussion regarding the participation in the Class XXI Leadership Metrocrest Program.

There was no action taken.

Item #R6 - Presentation, discussion and consideration of approval of an ordinance approving a negotiated resolution between the Atmos Cities Steering Committee (including the Town of Addison) and Atmos Energy Corp., Mid-Tex Division (the "Company") regarding the Company's Rate Review Mechanism filing in all cities (including the Town) exercising original jurisdiction, declaring existing rates to be unreasonable, requiring the Company to reimburse cities' reasonable ratemaking expenses, adopting tariffs, and including and providing for other matters and items related thereto.

Councilmember Lay moved to approve ordinance 009-022 approving a negotiated resolution between the Atmos Cities Steering Committee (including the Town of Addison) and Atmos Energy Corp., Mid-Tex Division (the "Company") regarding the Company's Rate Review Mechanism filing in all cities (including the Town) exercising original jurisdiction, declaring existing rates to be unreasonable, requiring the Company

to reimburse cities' reasonable ratemaking expenses, adopting tariffs, and including and providing for other matters and items related thereto.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item#R7 - Presentation, discussion and consideration of approval of consent to a Transfer of Ownership Interest and Change of Control of Ground Lease 0410-0401 at 4532 Glenn Curtis, between the Town of Addison as Landlord and 4532 Glenn Curtis Associates, Ltd., as Tenant and Colbyco Industries, LLC, a Texas limited liability company.

Councilmember Daseke moved to approve of consent to a Transfer of Ownership Interest and Change of Control of Ground Lease 0410-0401 at 4532 Glenn Curtis, between the Town of Addison as Landlord and 4532 Glenn Curtis Associates, Ltd., as Tenant and Colbyco Industries, LLC, a Texas limited liability company.

Councilmember Lay seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R8 - Presentation, discussion and consideration of approval of a contract between the Town of Addison and Reliable Paving, Inc., for Keller Springs Repairs Bid # 09-16.

Councilmember Clemens moved to approve a contract between the Town of Addison and Reliable Paving, Inc., for Keller Springs Repairs Bid # 09-16.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R9 - Presentation, discussion and consideration of approval of a contract in the amount of $30,101.40, with R2W, Inc., to replace the current Fire Station Alerting Systems at Fire Station #1 and Fire Station #2.

Councilmember Mellow moved to approve a contract in the amount of $30,101.40, with R2W, Inc., to replace the current Fire Station Alerting Systems at Fire Station #1 and Fire Station #2.

Councilmember Braun seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R10 - Presentation, discussion and consideration of approval of an ordinance affirming the ongoing and continued provision of the Town's police department and matters related thereto in connection with the Town's application for "recognized" status from the Texas Police Chiefs Association's Law Enforcement Best Business Practices Recognition Program.

Councilmember Lay moved to approve ordinance 009-023 affirming the ongoing and continued provision of the Town's police department and matters related thereto in connection with the Town's application for "recognized" status from the Texas Police Chiefs Association's Law Enforcement Best Business Practices Recognition Program.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R11 - Presentation, discussion and consideration of approval of a way-finding sign package for Addison Circle.

Councilmember Daseke moved to approve a way-finding sign package for Addison Circle.

Councilmember Noble seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R12 - **PUBLIC HEARING** Case 1581-Z/Ryland Homes at Meridian Square. Public Hearing on, presentation, discussion and consideration of approval of an ordinance approving revised floor plans and elevations for a townhome project, which is part of a previously approved development project for 48 townhomes and 90 condominium units, located in the UC – Urban Center District/Residential Subdistrict, on 3.9 acres at the southeast corner of the intersection of Quorum Drive and Airport Parkway, on application from Ryland Homes, represented by Mr. Matthew Alexander of Dowdey, Anderson & Associates.

Mayor Chow opened the meeting as a Public Hearing. No one spoke. Mayor Chow closed the meeting as a Public Hearing.

Councilmember Braun moved to approve Ordinance 009-024 approving revised floor plans and elevations for a townhome project, which is part of a previously approved development project for 48 townhomes and 90 condominium units, located in the UC – Urban Center District/Residential Subdistrict, on 3.9 acres at the southeast corner of the intersection of Quorum Drive and Airport Parkway, on application from Ryland Homes, represented by Mr. Matthew Alexander of Dowdey, Anderson & Associates with the following waivers to design standards and conditions:

APPROVED WAIVERS FOR RYLAND TOWNHOMES

Waiver of design standards in order to allow lot widths to be 22 feet as opposed to the 25 feet required by the ordinance

Waiver to design standards in order to allow depths of 45 feet as opposed to the 55 feet required by the ordinance.

Waiver to design standards in order to allow lot coverage of 100% of the lot as opposed to the 65% of the lot required by the ordinance

Waiver to design standards in order to allow a minimum three-foot setback against the Category C, (Residential) Streets (Calloway), as opposed to the five-foot setback required by the ordinance, and a waiver to design standards in order to allow a seven-foot setback against the Category D (Quorum, Spectrum, Airport Parkway) streets, as opposed to the ten-foot setback required by the ordinance.

Waiver to design standards in order to use composition shingles as a roofing material.

APPROVED WAIVERS FOR SAVANNAH HOMES CONDOMINIUMS

Waiver to the design standard for minimum width and minimum depth for a lot.

Waiver to design standards in order to allow a minimum seven-foot setback against a Category D street (Spectrum Drive), as opposed to the ten-foot setback required by the ordinance.

Waiver to design standards in order to allow for not less than 70 percent of the exterior cladding of all exterior walls fronting or

visible from public streets (including above grade parking structures) be brick or stone construction.

Subject to the following conditions:

CONDITIONS FOR APPROVAL:

-All townhomes on the site shall contain the following design elements:

-divided light windows

-overhangs and gables

-30% of the front and sides of each building shall be stone façade. Alley sides of buildings are not required to include stone in the façade.

-all units within a building shall be composed of the same brick. However, not all buildings have to use the same brick.

-front yard enclosures are to be provided on buildings facing Quorum Drive, Spectrum Drive, and Calloway Drive

-all fencing, stair rails, and balcony railings shall be metal. No wood fencing or railings will be allowed.

-all air conditioning units shall be screened with a sight-barring material which shall be approved by the staff.

-GAF "Grand Slate" composition shingles, with lifetime warranty, shall be used on all roofs.

-All roof vents, plumbing stacks, and mechanical vents shall be installed on the back side of the roof ridge line to the fullest extent possible.

-Units in Block C, units 1-8, (as shown on the approved final plat for Meridian Square) shall be constructed using noise mitigation methods so that outside noise levels, measured within the habitable space of the dwelling unit, do not exceed 45 DNL. A certified acoustical engineer shall approve the construction plans for units 1-8 to assure they will provide a 45 DNL noise level, and a certified acoustical engineer shall inspect the units, once they are constructed, and verify that the required noise level has been attained. The applicant shall bear all costs for hiring the certified acoustical engineer.

-The tree wells on all public streets shall be designed to match the Fairfield Development tree wells, which include a concrete curb edge separating the pavers from the planting bed.

-Where possible, plantings (shrubs or vines) shall be added in the alleys to soften the appearance from the streets.

-The dead-end alleys shall have appropriate signage.

-A 5-foot sidewalk easement shall be added along the Spectrum Drive frontage.

-Any encroachments into the public right-of-way shall comply with Chapter 32 of the 2006 IBC must be approved by the Public Works Department.

-The townhomes shall comply with the requirements of the 2006 IRC, unless a unity agreement is executed.

-Fire hydrants shall be placed at 300-foot intervals along streets and fire lanes serving the property.

-All air conditioning units on the condominiums shall be screened from view on all sides with a solid material,

-Plans shall be revised to include a wing-wall or gateway element at all alley entrances to help screen views into the alleys.

-All paving and drainage design and construction must meet city standards.

-A final site plan must be approved by the Fire Department before issuance of a building permit.

-Detailed streetscape plans shall be submitted for review and approval for lighting, paving, irrigation, site furniture, and planting prior to the issuance of a building permit.

-The on-going open space maintenance shall be the owners/homeowners association's responsibility, which includes the maintenance of the living screen area along Airport Parkway.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R13 - **PUBLIC HEARING** Case 1582-SUP/Chase's Place. Public Hearing on, presentation, discussion and consideration of approval of an ordinance amending an existing Special Use Permit for a day care facility in a LR – Local Retail District, located

at 14210 Marsh Lane, on application from Chase's Place, Inc., represented by Ms. Elizabeth Goodson.

Mayor Chow opened the meeting as a Public Hearing. No one spoke. Mayor Chow closed the meeting as a Public Hearing.

Councilmember Braun moved to approve ordinance 009-025 amending an existing Special Use Permit for a day care facility in a LR – Local Retail District, located at 14210 Marsh Lane, on application from Chase's Place, Inc., represented by Ms. Elizabeth Goodson.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R14 - **PUBLIC HEARING** Case 1583-SUP/RCCG Lion of Judah Parish. Public Hearing on, presentation, discussion and consideration of approval of an ordinance for a Special Use Permit for a religious institution in a Planned Development district, located at 4845 Keller Springs Road, on application from Redeemed Christian Church of God, represented by Mr. Adewale Justin Alaysa.

Mayor Chow opened the meeting as a Public Hearing. No one spoke. Mayor Chow closed the meeting as a Public Hearing.

Councilmember Mellow moved to approve ordinance 009-026 for a Special Use Permit for a religious institution in a Planned Development district, located at 4845 Keller Springs Road, on application from Redeemed Christian Church of God, represented by Mr. Adewale Justin Alaysa.

Councilmember Lay seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R15 - Presentation, discussion and consideration of approval of an ordinance approving an exception to Section 62-163, Area, of the Sign Ordinance, for the FedEx Office located at 4568 Belt Line Road.

Councilmember Daseke moved to approve ordinance 009-027 approving an exception to Section 62-163, Area, of the Sign Ordinance, for the FedEx Office located at 4568 Belt Line Road, for approval of 30" letters.

Councilmember Noble seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R16 - Presentation, discussion and consideration of approval of the rejection of all the received bids for the purchase and implementation of a Court Case Management System.

Councilmember Clemens moved to approve the rejection of all the received bids for the purchase and implementation of a Court Case Management System.

Councilmember Braun seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R17 - Presentation, discussion and consideration of approval of a Construction and Utility Adjustment Agreement between the Town of Addison and Southwestern Bell Telephone Company, d/b/a AT&T Texas to implement the construction of the duct bank and the relocation of AT&T Facilities for the Vitruvian Park Public Infrastructure – Phase IB project.

Councilmember Mellow moved to approve a Construction and Utility Adjustment Agreement between the Town of Addison and Southwestern Bell Telephone Company, d/b/a AT&T Texas to implement the construction of the duct bank and the relocation of AT&T Facilities for the Vitruvian Park Public Infrastructure – Phase IB project.

Councilmember Daseke seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

Item #R18 - Presentation, discussion and consideration of approval of a Supplemental Agreement to the Agreement for Professional Service with Icon Consulting Engineers, Inc., in the amount not to exceed $38,750.00, for additional professional services on the Vitruvian Park Phase 1 Infrastructure project.

Councilmember Braun moved to approve a Supplemental Agreement to the Agreement for Professional Service with Icon Consulting Engineers, Inc., in the amount not to exceed $38,750.00, for additional professional services on the Vitruvian Park Phase 1 Infrastructure project.

Councilmember Clemens seconded. Motion carried.

Voting Aye: Chow, Braun, Clemens, Daseke, Lay, Mellow and Noble
Voting Nay: None
Absent: None

There being no further business before the Council, the meeting was adjourned.

_____
Mayor-Joe Chow

Attest:

_____
City Secretary-Lea Dunn

Council Agenda Item #R3

There are no attachments for this Item.

Council Agenda Item #R4

There are no attachments for this Item.

Memorandum

To: Mayor and City Council

From: Lea Dunn, Deputy City Manager

Date: August 20, 2009

Subject: Interest in Class XXI Leadership Metrocrest Program

To date I've received only one call regarding participation in the upcoming Metrocrest Leadership Program. Marina Peake who participated in the 2008 Citizens Academy Class left a message that she wanted to participate and had completed the application and submitted the $10 fee.

The upcoming program was mentioned in the e-newsletter and is on the web. If interested, people were encouraged to call Town Hall or contact a Councilmember, so you may have received some calls as well. Please let me know if you have any questions.

Council Agenda Item:#R6

SUMMARY:

This item is for the approval of a supplemental agreement to the Engineering Services Agreement with Freese & Nichols, Inc. in an amount not to exceed $112,000.00 for additional design services on the proposed 1.5 Million Gallon Elevated Storage Tank.

FINANCIAL IMPACT:

Original Cost:	$550,000.00
Additional Professional Services:	$112,000.00
Procurement of demo wind turbine:	$ 41,620.00

Funds are available in the Utility Fund from 2008 sale of certificates of obligation.

Project Manager: Nancy S. Cline, P.E.

BACKGROUND:

The Texas Commission in Environmental Quality (TCEQ) has recommended that the Town pursue construction of additional elevated storage in order to provide 100 gallons of elevated storage per connection. A letter to the Town of Addison from TCEQ, dated January 7, 2006, indicated that the Town had reached 94.5% of its elevated storage capacity. Freese and Nichols, Inc. was retained in 2006 by the Town of Addison to perform a Water Distribution Study. The 2006 study determined that additional elevated storage was needed. At the November 27, 2007 Council meeting, Council approved a contract with Freese & Nichols, Inc. to perform preliminary engineering for the elevated storage tank (EST). With the high visibility of the proposed location of the new tower (Surveyor and Belt Line) and its proximity to the planned Arapaho Rd. trail extension to the utility easement, the new water tower offers and opportunity to provide an iconic statement for the community.

On November 11, 2008, Council approved a professional design services contract with Freese & Nichols for $550,000 for the design and general construction representation services. It included a hemisphere painted carbon steel bowl on a 46 ft diameter concrete pedestal, a stainless steel veneer at bottom of pedestal, 15 solar wind turbines mounted on top of the tank bowl, and ground floor storage with roll-up door. The original contract also includes assistance from Freese & Nichols in evaluating and recommending the placement of a demonstration wind turbine on the ground level near the EST that would allow the Town to evaluate the advantages of including additional wind turbines at the top of the EST.

The proposed contract amendment will include the design of an approximately 1200 square foot learning center room in the pedestal of the elevated tank. The elevated tank will have the space in the pedestal dedicated to an educational classroom, restrooms, and the piping for the operation of the elevated storage tank. The learning center design will include an enclosed room for data displays, restrooms (water supply and sanitary sewer service), access doors, an HVAC system, ADA accessibility to the room, room interior and exterior walls and ceiling coatings/texturing, room interior floor coating / covering. The learning center will include a technology center which will enable guests to view energy production and wind measurement data, a PowerPoint presentation on the elevated tank, and other videos / presentations as desired.

The professional services contract amendment also includes installation of a chlorine analyzer to monitor the water quality in the elevated storage tank. The contract amendment also includes installation of two anemometers and wind measurement services and purchase of the wind measuring systems. The anemometers will be installed on top of the existing elevated tank and on top of the wind turbine demonstration unit at the new tank site. The wind measurement system will remain on-site as part of the wind energy system after the system is installed. The wind measurement system will be used to collect decision-

making data as it relates to wind energy potential on the site. Upon completion of the new elevated tank, the wind measurement system from the existing tank will be relocated to the new elevated tank.

The total amount for the contract including learning center design, design of the audio/visual equipment for the learning center, design of the chlorine analyzer and installation and purchase of the wind measuring systems is $112,000.00.

RECOMMENDATION:

Staff recommends that Council authorize the City Manager to enter into a supplemental agreement to the Engineering Services Agreement with Freese & Nichols, Inc., in the amount not to exceed $112,000.00, for additional design services on the proposed 1.5 Million Gallon Elevated Storage Tank.

Freese and Nichols, Inc. Engineers Environmental Scientists Architects

4055 International Plaza, Suite 200 Fort Worth, Texas 76109 817 735-7300 817 735-7491 fax www.freese.com

August 20, 2009

Ms. Nancy Cline, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Drive
Addison, Texas 75001

Re: 1.5 MG Elevated Storage Tank
Engineering Contract Amendment #2 Proposal

Dear Ms. Cline:

We are pleased to submit our revised proposal for the additional services related to the referenced project. The Amendment #2 form and scope of services are attached for your consideration. Based upon recent correspondence with you, we have revised our proposal for the following items:

1. Second Floor Storage is removed from the proposal.
2. The design will maximize the amount of pedestal floor space that will be used for the technology center. Our preliminary estimate of the available space for the learning center is approximately 75% of the pedestal floor space, or 1,200 sf. This estimate will be further refined once the concept development is underway and we are able to more precisely determine the technology center and tank operations layouts.
3. We have updated our estimate of the anticipated construction cost for the technology center. This cost is not part of our fee proposal, but is included for your reference. Based upon an approximate 1,200 technology center space, we anticipate the construction cost as follows:

Shell finishout, HVAC, roof, walls, restrooms, plumbing –	$180,000
Audio/Visual Equipment & Commissioning -	$ 45,600
Total Tech Center Construction Cost Estimate -	$225,600

We have provided a breakdown of our proposed fee for Amendment #2 below:

Technology Center - Concept Plan Development, Design, and General Construction Representation for a technology center within the pedestal of the elevated storage tank (construction not included in fee proposal). The Technology Center will be an approximately 1,200 square foot enclosed space within the elevated storage tank pedestal, with a data display/audio visual control command center. Featuring several large screen displays, this command center will be used both for staff monitoring of the tank and wind energy production and for educational tours to learn about the tank and wind energy production, including real time data displays. The space will have heating and air conditioning (powered by the onsite wind turbines) and will have restroom facilities.

The following is a breakdown of the proposed fees:

Concept Plan Development -	$8,920
Architectural, Mechanical, Electrical, Civil Design -	$33,750
Audio/Visual Command Center Design -	$13,750
General Construction Representation -	$13,330

Chlorine Analyzer - Design and General Construction Representation for a chlorine analyzer (construction not included in fee proposal). The analyzer equipment will continuously and automatically monitor the level of chlorine residual in the water in the elevated storage tank. SCADA display of this information will allow the staff to efficiently monitor the water quality within the tank, and react before chlorine levels become a concern. Staff can also view the chlorine levels locally within the elevated tank pedestal. This chlorine analyzer is a component of the water quality effort currently underway by the staff.

The following is a breakdown of the proposed fees:

Chlorine Analyzer Design -	$5,300
General Construction Representation -	$550

Wind Measurement System - Procurement, Installation, and Commissioning of a wind measurement system. The wind measurement system will be installed atop the existing elevated storage tank, and on the 60' pole for the wind turbine ground display at the proposed elevated storage tank site. The system will provide real-time measurement, logging and analysis of the wind velocities, directions, and trending to provide an accurate assessment of the anticipated wind energy generation. The measurement system will assist with the final determination of the wind turbine design and long term monitoring of wind energy generation with the local wind patterns. This data will also be valuable for future wind energy installations within the Town of Addison.

The following is a breakdown of the proposed fees:

Equipment Procurement, Installation, and Commissioning -	$40,400

Delete Landscaping and Irrigation Design Scope – It is our understanding that the landscaping and irrigation will be designed by others. Based upon this, we propose a decrease in contract fee of $4,000.00.

Based upon the above summary, the total net fee proposal is $112,000

We appreciate the opportunity to be of service to the Town of Addison. Please call if you have any questions or comments.

Yours truly,

Jessica Brown, P.E.
Freese and Nichols, Inc.

Freese and Nichols

CONTRACT CHANGE AUTHORIZATION FORM

Client: Town of Addison	**F&N Project No.:** ADD08459
	Client Contract Ref.:
	Date: 8-19-09

Project Description: Surveyor 1.5 MG Elevated Storage Tank Design – Amendment #2

Description of Services Added/Deleted:

See Attachments A, B, and C for the scopes for the proposed technology center room design, chlorine analyzer design, and anemometer/wind measurement services.

Remove landscaping and irrigation design from the scope of services.

Deliverables:

For the learning center room, storage area, and chlorine analyzer specifications and plans to be included in the elevated storage tank set at the 60%, 90%, 100%, and construction contract documents stages. Record drawings will also be included with the elevated storage tank set.
For the anemometer/wind measurement services, see Attachment C.

Compensation shall be adjusted as follows:
Adjustments to not-to-exceed contract amount:
Technology Center design, chlorine analyzer design, wind measurement services – Add $116,000.00
Remove landscaping and irrigation design services – Subtract $4,000.00

Net contract change – Add $112,000.00

Original Contract	$550,000.00
Amended Amount	$112,000.00
Revised Total Contract	$662,000.00

Schedule shall be adjusted as follows:

Add 60 days to the design schedule

The above described services shall proceed upon return of this Contract Change Authorization. Services will be billed as they are done. All other provisions, terms, and conditions of the agreement for services which are not expressly amended shall remain in full force and effect.

☐ A contract modification will be submitted.
✓ This Contract Change Authorization will serve as contract modification.

FREESE AND NICHOLS, INC.:

BY: _____

TITLE: Principal

DATE: 8/19/09

CLIENT:

BY: _____

TITLE: _____

DATE: _____

4055 INTERNATIONAL PLAZA, SUITE 200 • FORT WORTH, TEXAS 76109-4895 • TELEPHONE: 817-735-7300 • METRO: 817-429-1900 • FAX: 817-735-7491

Attachment A
Scope of Added Services

Design an approximately 1,120 square foot "technology center" room inside the pedestal of the proposed elevated water storage tank. Include the following items:

1. One kickoff meeting with the Town to discuss the layout and requirements for the room and storage.
2. Enclosed room for data displays, with approximately 10' walls and waterproof ceiling inside the pedestal.
3. Room will be partitioned from the proposed pedestal storage space, and will be coordinated with the required tank piping.
4. Rest rooms for public use, and plumbing.
5. Connection of the restroom toilets and drains to the existing sanitary sewer line in Surveyor Blvd.
6. Water supply and meter for the restrooms. A line will also be extended to the outdoor educational area for the proposed drinking water fountain.
7. Access doors with access control as required.
8. HVAC system for the room.
9. ADA accessibility to the room.
10. Electrical and controls design for lighting, HVAC, wall plugs, and data display units.
11. Room interior and exterior wall and ceiling coatings and texturing as required.
12. Room interior floor coating or covering as required.
13. Chlorine Analyzer.
14. See Attachment B for data display items.
15. Fire hydrant on site as required by the Fire Department.
16. Attend one each 60%, and 90% design submittal review meetings with the Town.
17. Answer technical questions and prepare addenda as necessary during the advertisement phase.
18. Answer technical questions and review contractor's technical submittals during the construction phase.
19. Prepare change orders in accordance with the terms of the Agreement for Professional Services.
20. Prepare record drawings in accordance with the terms of the Agreement for Professional Services.

Provide anemometer/wind measurement services. See Attachment C for detailed scope.

ATTACHMENT B

Technology Center Design
The Addison Water Tower Technology Center is designed to promote the use of renewable energy in the Town of Addison and help demonstrate Addison's environmental leadership and sustainability vision. The Technology Center will specifically feature the wind energy system installed on the top of the iconic Water Tower. As Addison adds more renewable energy technology to other town facilities: Town Hall & other buildings, parks and recreation areas, and other sites within the town, these locations can also be featured as part of the Technology Center's content. Much of this content can also be accessed from the Town's web site.

Impactful First Impression
As visitors enter the Addison Water Tower Technology Center they will be greeted with a multimedia center consisting of a bank of six flat screen monitors, a computerized control center, which will be supported by a surround sound system for increased production value. The multi-media system will be mounted to an industrial racking system to achieve the "high tech look" of a network operations center.

On the multiple flat screens will be simultaneous presentations of different aspects of the wind technology system installed on the top of the Water Tower:

Screen 1	A weatherproof web cam will web cast live views of the wind turbines on top of the 195' Water Tower from multiple angles.
Screen 2	Energy production data delivered by the wind energy data logger will calculate the kWh production and the amount of carbon emissions reduced.
Screen 3	Live web cast coverage of the wind measurement systems: anemometers, wind vanes on the top of the 195' Water Tower designed to continuously measure wind speed, direction and build a data base of wind energy data.
Screen 4	A PowerPoint Presentation that explains all about the Water Tower
Screen 5	5 Minute Video time-lapse footage demonstrating "How The Water Tower" was built.
Screen 6	5 Minutes of 30 to 60 second video interviews with Town Officials, the designer, the engineers and more: • Designer's vision of the iconic design • Interviews with various Town Officials • Engineering required to build the unique water tower

- Department of Energy Official – how the Water Tower qualifies as a DOE Net Zero Energy Facility that produces all of it own energy.
- How excess energy is used to power nearby city owned and operated streetlights and traffic lights.

Sustainability Marketing Plan - Communication Targets

The Technology Center content will be designed to reach a full spectrum of communications targets touring the facility as part of the Town of Addison's Sustainability Marketing Plan. These communications targets will include:

- Student Groups - K thru 12
- Business leaders
- The Media
- Visiting Government and City Officials from other areas
- International visitors

The Design Plan will include the following components:

- Overall Graphic Design to establish the look of the Technology Center
- Detailed Graphic Design that visualizes what the Technology Center will include
- Detailed description of all components and systems to be included
- Detailed specifications, brands, models and specs for each component
- Multi-media equipment, industrial racking system, and signage

SWG Energy will also provide supervisory construction services to assist the Town of Addison with the solicitation, bidding and selection process.

ATTACHMENT C
SCOPE OF SERVICES
ANEMOMETERS & WIND MEASUREMENT

Recommendation for Wind Measurement System

To measure the wind speed on the existing Addison Water Tower and also at the site of the new Water Tower at Surveyor and Arapahoe, SWG Energy is recommending and will install the Wind Measurement System manufactured by SecondWind on both locations. This system provides integrated wind measurement whose components are custom designed to work together to provide a complete wind measurement system. This integrated package provides a technological advantage over matched components produced by separate manufacturers. SecondWind has over 28 years of experience in the wind industry as a wind measurement technology company and the SecondWind System is a standard in the wind farm assessment industry.

Wind Measurement Plan

Wind measurement collection should be an integral on-going part of any wind energy system. It is used to collect decision-making data as it relates to the wind energy potential on the site. It should continue as an on-going part of the wind energy system after the wind energy system is installed to accurately provide wind data at the wind production site.

Goals of the Addison Wind Measurement Plan

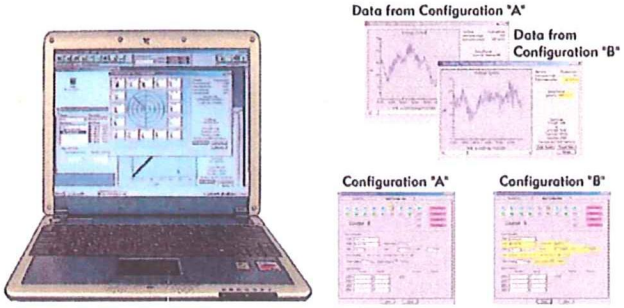
1. Install and collect wind speed data from the top of the existing Addison Water Tower from 2009 to the time when the new Water Tower Construction is installed in 2011. At a similar height to the new Water Tower, this will provide valuable wind data. The installation on the existing water tower eliminates the need for a meteorological tower at the new site and reduces the cost for the Town of Addison.
2. In 2011, the wind measurement system will be moved and installed to the top of the new Addison Water Tower.
3. Install a second wind measurement system to collect wind measurement data at approximately 35 Ft., which is the planned height for the new water tower demonstration wind turbine. This system can remain in place on a permanent basis to measure the wind conditions at the lower height 35 Ft. high.

SecondWind Wind Measurement System and Components

The Wind Measurement System Description

SecondWind Nomad 2 Wind Data Logger
SecondWind C3C Anemometer – MIT Calibrated
SecondWind PV 1 Wind Vane
SkyServe Satellite Wind Data and Monitoring Service
SecondWind Nomad 2 Desktop Software

The SWI Nomad 2 Data Logger is the heart of the data collection system, which continually collects the wind monitoring data from the wind energy system. The SWI C3C Anemometer is a three-cup device whose role in the system is to capture the wind, measure its speed and communicate that data to the data logger. The SWI PV1 Wind Vane adds the wind direction technology with 360 degree rotation to enable the system to capture the directional changes of the wind and communicate it to the data logger. SkyServe Satellite Wind Data Management Service delivers the data via satellite directly to the client's desktop, laptop or PDA device.



The Wind Measurement System Components Description

1. SecondWind Nomad 2 Wind Data Logger

SecondWind Nomad 2 Data Logger is at the heart of SecondWind's wind resource assessment systems. Designed with SecondWind's principles of flexibility, simplicity, and economy, the Nomad 2 offers advanced functionality and simplified installation while reducing system costs. Nomad 2 Data Logger consists of a built-in charger/regulator unit, built-in LCD screen, keypad, 12 counter and 8 analog sensor inputs, lightning protection, lockable steel enclosure. Also 4 alkaline batteries, 4 multi-cable grips, serial cable, users manual, Nomad Desktop software and a 32 MB Compact Flash card.

Rationale for System Selection

More sensor choices. Nomad 2 works with all market-leading sensors.

More sensor inputs. The Nomad 2 wind data logger allows you to connect up to 12 anemometers or other frequency or solid state-devices. Another 8 analog inputs connect directly to wind vanes, thermistors, or transducers.

Field friendly. Nomad 2 incorporates features such as clear, bright readout even in low temperatures and high sunshine, and an easy to maintain shelter box design.

Smart power management. Nomad 2 manages transducer power and sensor excitation to get the most out of your batteries – or will run continuously with an optional solar package.

2. SecondWind C3 Anemometer MIT Calibrated

SecondWind Model C3C Anemometer has been calibrated at the highly respected Massachusetts Institute of Technology's Wright Brothers wind tunnel. The C3C Anemometer is an improved version of the popular three-cup design used in wind assessments for decades, manufactured to precise industry standards, The rotor is made of tough polycarbonate for exceptional durability and reliability. The sensor base is also made of rugged polycarbonate, making it more resistant to damage during installation.

Manufactured by SecondWind with exceptional quality control—all units are tested mechanically and electronically before shipping. The C3C is made entirely of Lexan, a strong plastic that makes the SecondWind anemometer less likely to break during installation. Its distinctive blue vinyl boot shields wiring for long-term performance. Additionally, it is manufactured to meet new standards and is RoHS-compliant— no toxic metals. All models are individually laser-engraved with serial number and date code, simplifying tracking and data analysis.

3. SecondWind PV 1 Wind Vane

After more than 28 years of leadership in wind vane design and installation, SecondWind's Model PV-1 answers the call for a more accurate, reliable, easy-to-use measurement device. The PV-1 is a continuous-rotation potentiometric wind direction vane. It is ideal for applications including wind resource assessment, meteorological studies, and environmental monitoring. The mechanical range is a full 360 degrees with continuous rotation, and the instrument is compatible with all Nomad data loggers from SecondWind and similar data logging devices. □□You get all the features you expect in an affordable, high-performance wind vane: simple construction,

stable/smooth response to wind change and perfect balance. The standard vane used in the wind energy industry. Stainless steel and thermoplastic construction for corrosion resistance. The technology PV-1 was developed by SecondWind in response to customers in the field. Earlier technology too often fell short in its ability to accurately capture data in every direction and in cold, icy environments.

4. SkyServe Satellite Wind Data and Monitoring Service
Satellite modems use the Iridium Satellite System, a mobile satellite voice and data network with complete coverage of the earth, including Polar Regions using a constellation of 66 low earth-orbiting satellites.

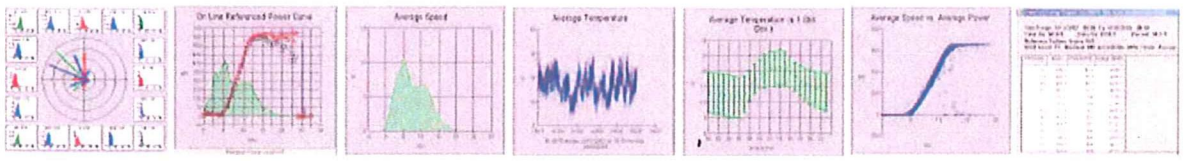
SkyServe Satellite Features

- You can receive data via Globalstar satellite every 10 minutes, using SkyServe for weather forecasting as well as prospecting.
- More reliable than cellular networks. Cellular service is spotty or unavailable. Even when voice service works, many cell providers can't meet the demands of continuous data feeds.
- More reliable than other satellite services. Second Wind's SkyServe data collection plus Globalstar's CDMA technology equals higher data recovery for you.
- GPS location and time accuracy. SkyServe adds a time and location stamp to all data as it's recorded, eliminating the inaccuracy or guesswork that can accompany remote data without GPS information.
- See the data from anywhere, anytime.

5. SecondWind Nomad 2 Desktop Software
Nomad 2 Desktop Software allows you to have complete communications with the data logger. It enables you to completely manage the data logger and your communications system from any location. You can download and upload data daily, remotely change settings on the data logger, check the storage capacity of the 32MB Flash Card, the status of the batteries and more.

Nomad 2 Desktop Software will generate all the reports you need in graph and report.

Wind Rose Graph	Power Curve Graph	Distribution Graph
Time Series Graph	Diurnal Graph	X-Y Graph
Expected Energy Report		



The Existing Water Tower - Wind Measurement System Cost
This provides the cost of installing the wind measurement system, described in detail above, on the top of the existing Addison Water Tower in mid 2009 in order to start collecting 2 years of wind data at the same height as the new Water Tower. When the new Water Tower construction is completed in June 2011, the wind measurement system will then be moved to the new Water Tower where it will be a permanent component of the wind energy system.

Due to the fact that there will be ten or more 3.5 KW CleanField Energy wind turbines installed around the complete perimeter of the tank, the engineers at SecondWind recommended that there be a minimum of two Anemometers and two Wind Vanes to capture wind data at multiple positions on the top of the Water Tower.

Cost of System Installed and Commissioned $20,300.00

The Demonstration Wind Turbine Wind Measurement System Cost
As part of the single 3.5KW CleanField Energy Demonstration Wind Turbine installation at the location of the new Water Tower, scheduled to be installed in December 2009, a second wind measurement system will be installed to measure the wind speed on the site of the new Water Tower at the 35 Ft. height of the demonstration turbine. To reduce the cost of this system, consideration should be given to mounting the Anemometer and Wind Vane on an extended pole that is attached to the top of the nearby street light pole.

This measurement system will provide over two years of wind data on the actual site of the new Water Tower that can be used for both marketing, public relations and educational value to build awareness of the Town of Addison's sustainability vision.

Cost of System Installed and Commissioned $14,030.00

Council Agenda Item:#R7

SUMMARY:

This item is for the contract with SWG Energy to install a 3.5 KW Cleanfield Wind Turbine for $41,620.00 on the future Elevated Storage Tank site at Surveyor and Arapaho Road.

FINANCIAL IMPACT:

Original Cost:	$550,000.00
Additional Professional Services:	$112,000.00
Procurement of demo wind turbine:	$ 41,620.00

Funds are available in the Utility Fund from 2008 sale of certificates of obligation.

Project Manager: Nancy S. Cline, P.E.

BACKGROUND:

The Texas Commission in Environmental Quality (TCEQ) has recommended that the Town pursue construction of additional elevated storage in order to provide 100 gallons of elevated storage per connection. A letter to the Town of Addison from TCEQ, dated January 7, 2006, indicated that the Town had reached 94.5% of its elevated storage capacity. Freese and Nichols, Inc. was retained in 2006 by the Town of Addison to perform a Water Distribution Study. The 2006 study determined that additional elevated storage was needed. At the November 27, 2007 Council meeting, Council approved a contract with Freese & Nichols, Inc. to perform preliminary engineering for the elevated storage tank (EST). With the high visibility of the proposed location of the new tower (Surveyor and Belt Line) and its proximity to the planned Arapaho Rd. trail extension to the utility easement, the new water tower offers and opportunity to provide an iconic statement for the community.

On November 11, 2008, Council approved a professional design services contract with Freese & Nichols for $550,000 for the design and general construction representation services of the 1.5 million gallon tank. In the preliminary design phase of the elevated tank, the Town, Freese & Nichols and SWG Energy underwent an extensive evaluation process to select the most efficient wind turbine that fits the project constraints. While final design of the elevated tank is underway, a demonstration wind turbine unit will be installed at the new elevated tank site to begin evaluating system performance. The data from this unit will be evaluated along with the data from the anemometers.

This contract includes the installation of a 3.5 KW CleanField Wind turbine mounted on top of an approximately 60 ft pole, which will match the style of the nearby street light poles. The contract also includes the construction of a standard concrete pole base, complete balance of system, shipping of all equipment, complete turnkey installation, final connection by licensed electrician and final electrical permit inspection. The total cost of this contract is $41,620.00

RECOMMENDATION:

Staff recommends that Council authorize the City Manager to enter into a contract with SWG Energy to install a 3.5 KW Cleanfield Wind Turbine for $41,620 on the future Elevated Storage Tank site at Surveyor and Arapaho Road.

ATTACHMENT:

New Addison Water Towner Site CleanField Energy Demonstration Wind Turbine proposal

January 7, 2009
Technical Memorandum
Preliminary Research and Wind Turbine Recommendation
Town of Addison, TX Water Tower
Prepared by SWG Energy – Dallas TX

TO: Freese and Nichols Inc.

FROM: Joseph J. Willix, President
SWG Energy Inc.

SUBJECT: Addison Water Tower Wind Project

INTRODUCTION

The Town of Addison has budgeted for a new water tower to serve the growing needs of the Town's water supply, to be constructed and become operational in 2011. The decision has been made to create a very unique design for the water tank and utilize wind turbines within the design. The new water tower will be an iconic architectural structure in the Town of Addison visually communicating to the people who "live, work, play, shop, and visit " the town, that they are in the Town of Addison, a town always ahead of the rest.

As part of the Town of Addison's Sustainability Vision, the town leaders would like to have the water tower serve a dual functional purpose. The first is to serve as a central component of the water system. The second is to make a statement of the town's commitment to utilize renewable energy as a central component of its Sustainability Program by equipping the new water tower with a wind energy system that will:

- Further advance the "unique appearance of the iconic architectural design" of the water tank with the installation of wind energy turbines on the top of the tank
- Produce energy on-site to offset electricity used by the water tower facility
- Provide a highly visible and unique location for the renewable energy system
- Utilize the facility to educate and build awareness of the importance of renewable energy to the general public, residents, business leaders, students from elementary school to post graduate levels, and visitors

SWG Energy has been retained as the renewable/wind energy consultant for the purpose of evaluating and recommending the most suitable wind energy system type and brand based on currently available wind energy turbines. The following is the selection criteria that was used in this process.

Feasibility

- Determine what type of wind energy system is suitable for use on this specific site. The research includes a wide variety of traditional wind turbine designs with urban and suburban low wind blade design technologies.
- Determine how the recommended wind energy system type and brand must be installed on the top of the water tank in a safe and functional manner.

Aesthetics

- Determine which of the alternative wind turbine designs will best support the creative strategy to develop "an iconic symbol" that will enhance the overall uniqueness of the water tower structure. The evaluation process included the uniqueness of the wind turbine shape and design as an additional architectural component of the overall design.
- Determine the potential and desirability for the use of color on the wind turbines to enhance the visual impact of the overall design.

Production

- Determine what type and brand of wind turbine system best meets the objective to produce maximum electric energy on-site at this facility.
- Determine the impact of the water tower shape and the method of installation on the annual kWh production of the various wind turbines as it relates to the uniqueness of this installation.
- Estimate the annual kWh production based on the historical wind data available for the region and the specific wind conditions at the site.

COMPARATIVE AND TECHNICAL BASIS

1. BASIC SITE DATA USED IN THE SUBMISSION

The Structure

The water tower structure is 181 ft. high, 86 ft. in diameter, with a circumference of 270 ft. The top of the tank has a 1 on 10 slope to facilitate proper drainage. The pedestal of the tank is concrete. The overall height of the structure must be within FAA requirements. The selected wind energy system has to meet a 195 ft requirement, approximately 14 ft. above the tank height. The aviation safety lights will extend above the wind turbine units by 1 ft. The maximum height of the finished project must be within the limitation of the FAA requirements.

Wind Conditions
The wind conditions at the site in Addison are typical for the North Texas Region, which is located in a Class 2 wind zone. The average annual wind speeds in this type of zone generally average between 9.5 and 10.7 mph on an annual basis.
These wind conditions will be a strong determining factor of which type and brand of wind turbine is recommended as the best suited at this installation.
While many of these wind energy systems utilize "low wind blade design" technology, the specific cut-in speed 5 to 10 mph range, cut-out speed 25 to 50+ mph was carefully evaluated as this will impact positively or negatively on the annual kWh production of the wind energy system.

Wind Measurement
In addition to the historical wind data available, the project should also include on-site wind measurement for a 12-month period, or a minimum of 7-months during the prevailing wind season. This measurement will be conducted using a wind anemometer system installed on the property to build a database of wind speeds on the site.

Wind Energy System and Custom Installation Costs
The decision making process will include data related to the cost of the wind energy system, which will include: the wind turbine, generator, inverters, mounting plates and mounting systems, cable system, connection to the electrical meter and include three disconnect systems: DC disconnect, AC disconnect and electrical service panel breaker switch disconnect. A customized process for installing the wind energy system on the water tank will have to be developed.

Wind Energy System Maintenance
Due to the uniqueness of the location of this installation, data relating to the frequency of maintenance, preventive maintenance schedule required, and emergency maintenance method of repair and the associated costs should be part of the decision making process.

Electric Energy Production
The on-site electric energy of wind energy systems is based on scientific calculations of the wind conditions at the site in combination with the technical rating of the wind turbine. For example, the wind turbine size is stated in KW. This is established based on rated wind speed. The operating range of the turbine is expressed in terms of a Cut-in and Cut-out speed. The maximum or survival speed is also established. Many manufacturers also provide noise level measurement.

Sample Wind Turbine Specifications

Rated Power	3KW	
Rated Wind Speed	12m/s	26.84 mph
Operating Range	4 to 25 m/s	9.95 mph to 55.92 mph
Maximum Wind Speed	50 m/s	111.85 mph
Noise Level @ 3meters	27DB	

Manufacturer Credentials, Product Development and Product Availability
An important consideration in the wind turbine manufacturer selection process is to consider the credentials of the company, confirm that they are beyond the product development stage and that they have the potential to manufacture the product to meet the delivery timeline.

2. OUTPUT POWER FROM TYPICAL WIND TURBINES AS A FUNCTION OF MEAN SPEED
All wind turbine manufacturers provide power output charts that demonstrate at what wind speed their wind turbine reaches maximum power. These power curves allow us to evaluate the power potential at the site.

3. THE IMPACT OF MEAN WIND SPEED ON TURBINE PRODUCTION
Based on wind tunnel turbine testing and actual installation performance, wind turbine manufacturers provide annual energy production charts, that demonstrate the impact of wind speed on electric energy production expressed in kWh kilowatt hours produced. The higher the wind speed the higher the kWh production. These charts are used as guidelines for what a wind turbine will produce at a given site that is being considered based on information about the average wind speed at that location.

4. MAXIMUM WIND SPEEDS, SURVIVAL SPEEDS AND BRAKING SYSTEMS
As part of the rating process, each manufacturer has to provide information regarding the maximum wind speed that their product is designed to withstand. This is important particularly in hurricane zones where the building code requires that a product be capable of withstanding in excess of 120 mph winds. In almost all cases, the types of wind turbines that we are considering will be able to withstand in excess of 100 mph winds.

WIND TURBINE ANALYSIS SIX PHASE PROCESS
For the Addison Wind Tower Project, SWG Energy used a Six Phase Review and Recommendation Process.

Phase One was the fact-finding process, where we explore the broadest range of wind turbine technologies available to provide a broad overview of what is potentially viable for this project. In Phase One of the process, the following was the criteria for Feasibility, Production, and Aesthetics applied to the entire group with the goal of eliminating those that did not meet the minimum requirements.

Manufacturer Company's Qualifications

- Well funded with good credentials
- Currently manufacturing their product
- Delivery time and reliability
- Assistance with wind speed studies and annual kWh production estimates
- Technical support and maintenance required
- Dealer network development and warranties

Feasibility

- Did the turbine meet the height, width and weight limitations of the site installation
- Was the design compatible with the water tank top installation

Aesthetics

- Visibility from ground level
- Potential to add color if desired
- Did it enhance the overall uniqueness of the water tank design

Energy Production

- Produces acceptable levels of electricity at the site
- Total annual production contributed to offset the facility's power needs

Cost Efficiencies

- The installed cost of the system is affordable
- The cost per KW is market competitive

Phase Two continued the process of elimination, the criteria for Feasibility, Production, and Aesthetics were applied to the entire group with the goal of eliminating those that did not meet all of the requirements.

In **Phase Three** of the process, we focused on the wind technologies that met the selected criteria. We then reviewed everything in greater detail to evaluate the pros and cons of each in order to identify best contenders for final consideration.

In **Phase Four** of the process, we ranked the final wind technology contenders to review with Freese and Nichols, Brad J. Goldberg, and Landmark, the water tank manufacturer, in order to obtain agreement prior to presenting the information to the Town of Addison officials.

In **Phase Five** of the process, all of the various design options will be explored.

In **Phase Six** of the process, The Final Wind Turbine Recommendation will be made.

WIND TURBINE ANALYSIS RESULTS

Phase One - Wind Turbine Technologies Available - 25 Manufacturers

Phase I consisted of a review of all available wind turbine manufactures of small to medium size that utilize low wind blade technologies. These range in size from 1KW to approximately 55KW and all are designed specifically for use in urban and suburban areas. The following were the manufactures evaluated.

Evaluated

Abundant RE
Alvesta UK
AV AeroVironment Architectural Wind
Bluenergy The Solar Wind Turbines
CleanField Energy
ERD-Energie Resource Development –Windports
Everwind Platek
Four Seasons Windpower
GreenEnergy Technologies WindCube
Gual Industrie
HelixWind
Hi-Energy
KR Wind
Maglev - Magturbine
Mariah Power

Marquiss Wind
McKenzie Bay
PacWind Inc.
Quiet Revolution UK
Ropatec
Tangarie
Turby.nl
Urban Green Energy
Windside
Windterra

Eliminated - 10 Manufacturers

Alvesta UK - British not certified in U.S.
Bluenergy The Solar Wind Turbine - Not available until 2010 -2011
Windports - French Canadian Co. Size and weight issues
Everwind - Not available on time
Gual Industrie – Not certified in U.S.
Maglev - Not available on time
Mariah Power – 30' high exceeds height limit
Marquiss Wind – too high and too large
McKenzie Bay - too large
Ropatec AG Italian - Not yet in USA

Phase Two - Process of Elimination - 15 Manufacturers

Phase Two eliminated the manufacturers whose physical dimensions exceeded the height requirement of the project or whose manufacturing timeline did not match the delivery requirements for the demonstration model and/or the final installation. Also eliminated were manufacturers who did not already have UL certification or recognition. The following are the manufacturers who fit Phase II criteria.

Evaluated

Abundant RE
AV AeroVironment Architectural Wind
CleanField Energy

Four Seasons Windpower
GreenEnergy Technologies WindCube
HelixWind
Hi-Energy
KR Wind
PacWind Inc.
Quiet Revolution UK
Tangarie
Turby.nl
Urban Green Energy
Windside
Windterra

Eliminated - 8 Manufacturers

Abundant RE - Uncertain manufacturing schedule
Four Seasons Windpower - Not appropriate for Addison
Hi-Energy – Taiwan - Uncertain of production timing
KR Wind – Korea - Uncertain of production timing
PacWind Inc. - Company is being reorganized
Quiet Revolution UK – Not certified for sale in U.S.
Turby.nl – Appearance not favorable
Windside – No response from Finland headquarters or Canadian distributor

Phase Three - Process of Elimination - 7 Manufacturers

Phase Three narrowed the field further to include the semi-finalist manufacturers that represented the best potential for the project and warranted to be further scrutinized for final selection. These were the best companies that were well-funded, already manufacturing with available inventory, who can meet the demonstration model requirement, meet the final installation delivery schedule, and offer low wind blade design suited to the installation. These companies delivered acceptable levels of annual kWh production and also offer aesthetic architectural enhancement to the water tower design.

AV AeroVironment Architectural Wind
CleanField Energy
GreenEnergy Technologies WindCube

HelixWind
Tangarie
Urban Green Energy
Windterra

Eliminated - 3 Manufacturers
GreenEnergy Technologies WindCube - exceeds height and may be cost prohibitive
Urban Green Energy - high cut-in speed
Windterra - high cut-in speed

Phase Four - Wind Turbine Finalists
In Phase Four of the process, we ranked the final wind technology contenders that were reviewed at the December 23, 2008 meeting with Freese and Nichols and at the 12/ 31/08 meeting with Freese and Nichols, Brad J. Goldberg and Eric Lamon, Landmark. At this meeting, the wind turbine finalists were discussed and evaluated by the group for aesthetics, production and installation preferences in preparation for the January 7, 2009 meeting with the Town of Addison officials. Eric Lamon provided his perspective as the tank manufacturer which is summarized below.

- None of the wind turbines presented any serious issues as it applied to additional weight on the water tank.
- A formal engineering review to include a structural load analysis will be conducted based on the final wind turbine recommendation.
- The best method of attachment of the wind turbines to the tank is to use the wind turbine manufacturer's standard plate or attachment unit by installing a compatible receiving plate designed into the tank top.
- It was suggested that this plate be mounted on a raised structure so it is above the top level of the tank allowing space for future modifications if necessary.
- The use of this raised attachment will facilitate changing to a different wind turbine 20 years from now that may have a different mounting plate.
- The handrail that determines the safety area around the tank top can be designed to match the look of the wind turbine construction.
- The top of the tank is accessed through the center column and hatch.
- For ease of maintenance it may be necessary to plan for the inclusion of a crane in the final tank design.
- The wind turbines can be mounted on the side of the tank, however, this will require additional reinforcement of the tank construction in the areas necessary.
- Side mounting of wind turbines will complicate servicing, as the turbines will then be outside the handrail safety area.

- Mounting of the turbines to the top of the tank should take into consideration the 1 on 10 slope in order to insure adequate clearance
- The installation of the wind turbines will be closely coordinated with the selected water tank manufacturer who will be the General Contractor.

The following was the ranking of the four final manufacturers selected.

AV AeroVironment Architectural Wind
Tangarie
HelixWind
CleanField Energy

In order to assist the selection process, a final selection criteria was established, so each of the wind turbines could be compared and then ranked.

Final Selection Criteria

1. The Installed Budget
   Budget became a non-issue as the cost of all four systems was within a $20,000 +/-range.
2. The Number of Units Installed on the Water Tank
   The number of units installed on the tank was included for design purposes.
3. The Total Annual kWh Production
   Annual kWh production provided a quantitative measure of what each wind turbine would produce.
4. The System Size in KW (kilowatts)
   The system size represents the "size of the engine" expressed in KW.
5. kWh produced per KW
   The kWh per KW provided a way to evaluate the positive/negative impact of cut-in speed on total annual production.
6. Production Delivery Index
   The production delivery index related the total annual kWh produced to KW or "the size of the engine".
7. Linear Circumference Used
   The linear circumference used helped to visualize the design.
8. Appearance Rating
   The appearance rating scale of High, Moderate, Low helped rank compatibility with the design.
9. Production Rating
   The production rating scale of 1 to 4 established the ranking order based on production (1 being the best).

Criteria Website	**AV AeroVironment** **Architectural Wind** www.avinc.com	**HelixWind** www.helixwind.com	**CleanField Energy** www.cleanfieldenergy.com
Product Description Color	AV Architectural Wind eliminates the need for a tower by being installed directly to the parapets of flat roof buildings. Modular and scalable.	HelixWind is a vertical axis wind turbine for urban & suburban use addressing height and aesthetic issues.	Cleanfield Energy's vertical axis wind turbine is designed to harness urban wind efficiently and effectively.
Size/KW	1KW	2.5KW	**3.5KW**
Size Height / width	6' wide x 8.5 ' high, 40.15" from cone to tail deep	4' wide x 8.66' high	9.84' wide x 10.2' high
Size Weight	130 lbs – 250 lbs.	310 lbs.	540 lbs.
Footprint Ground / Elevation	Base Plate 18" wide x 9" deep 36" from base plate center	16 Sq. Ft.	7.5 Square meters
Unit Lifetime	15 Years	30 Years	20 Years
Rated Wind Speed	27 mph	27 mph	27 mph
Blade Diameter	5 feet 6 inches	4 feet	9 feet
# of Blades	5	1 Helical	3
Warranty	1 Year, Extended 5 Year	5 Year	5 Year Parts, 1 Year labor
Company Information	AV AeroVironment Energy Technology Center 1960 Walker Avenue Monrovia, CA 91016	HelixWind 1848 Commercial St, San Diego, CA 92113 Tel 877-2GO Helix	Cleanfield Energy 1404 Cormorant Road Unit 6 Ancaster, Ontario L9G 4V5 Canada 866-430-VAWT
Manufacturing Availability	Available Delivery 30 – 60 days	Available Delivery 30 to 90 days.	Available Delivery 30 to 90 days.
Region Wind Class Addison Median Speed	10.7 mph 10.7 mph @10m = 10.7 mph @59m = 13.9 mph	10.7 mph 10.7 mph @10m = 10.7 mph @59m = 13.9 mph	10.7 mph 10.7 mph @10m = 10.7 mph @59m = 13.9 mph
Annual kWh Production/kW	1,517kWh annually@13.9	629kWh annually@14.5	1,828.5kWh annually @13.9 mph
Max Wind	120 mph max,	100 mph	100 mph

Cut-in / Cut-out	Cut-in 4 mph. Cut-out safety	Cut-in 8 mph No cut out speed	Cut-in 9 mph No Cut-out needed
Safety Controls/Monitoring	No braking necessary. Disconnect for servicing	No braking necessary. Disconnect for servicing	No braking necessary. Disconnect for servicing
Installation Requirements	Installed to parapet of building with base plate or on tower or architectural structure	Installed on rooftop, pole/tower or architectural structure	Installed on rooftop with monopole tower. Ground installations on monopole tower or pole.
Demonstration Installation	Available now 30-60 day delivery	Available now 30-60 day delivery	Available now 30-60 day delivery
No. of Units on Tank	30	15	10
Total Annual kWh	45,510	23,587	64,000
System Size	30KW	37.5KW	35KW
kWh Produced per KW	1,517kWh/KW	629kWh/KW	1828.5kWh/KW
Production Delivery Index	152%	63%	182%
Linear Circumference Used	180 Ft.	60 Ft.	98.4 Ft.
Decision Criteria			
Appearance	High	High	Moderate
Production	Highest	Low	Moderate
Cost Efficiency/KW	Rank 2nd in Efficiency	Rank 3rd in Efficiency	Rank 1st in Efficiency
			

Wind Turbine Finalists Comparison - Results

Top Two Finalists - AV and Tangarie
Ranked the highest on appearance - AV and Tangarie were equally appealing
Ranked the highest on energy production – AV ranked first and Tangarie ranked second
Ranked the highest on cost efficiency/KW – AV ranked first and Tangarie ranked second

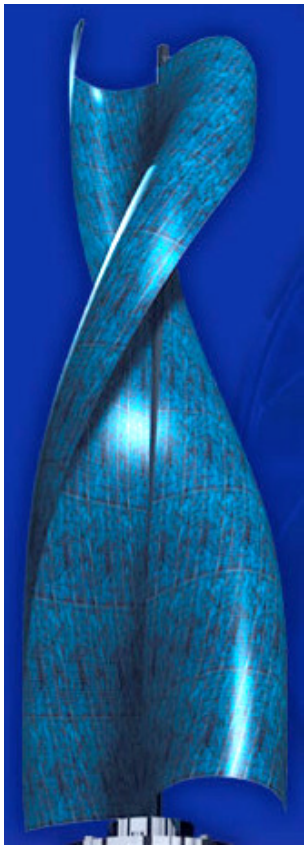
Third and Fourth Finalist - HelixWind and CleanField Energy
Ranked on appearance – HelixWind and Cleanfield Energy were both acceptable on appearance
Ranked on energy production – HelixWind ranked low and Cleanfield Energy ranked moderate
Ranked the highest on cost efficiency/KW – HelixWind ranks 4th and Celanfield Energy ranked 3rd

Additional Input from Manufacturers
Each manufacturer has been contacted and asked to submit additional information regarding:
1. Confirm that the lifetime of their unit will be 20 years.
2. Determine the warranty period and confirm that an extended warranty is available if desired.
3. Final estimate of the annual kWh production based on the conditions at the site.

Phase Five – The Design Exploration
Before a final wind turbine recommendation can be made, the design team needs to work on the design concept. Brad J Goldberg will be responsible for all of the design concepts. Freese and Nichols & SWG Energy will work closely with Brad to develop visual images that best represent his designs (Photoshop renderings, CAD drawings etc.) to explore the various design alternatives.

Now that we have identified the wind turbine finalists, we need to create the design to visualize the design options:
- Number of units installed on the tank
- Size of the units on the tank
- Overall look of the design as it relates to linear circumference used
- Placement options on the tank; top and side mount
- Use of color on the wind turbines
- Visualize what the design will look like from the ground

Phase Six – The Final Wind Turbine Recommendation
The final wind turbine recommendation will be made after the comprehensive design exploration and review is completed.

Company Name	**Bluenergy** **The Solar Wind Turbine**
Website	www.bluenergyusa.com
Product Description	Bluenergy SolarwindTurbines “double helix designed” curved wind vanes mounted on a vertical axis and covered with encapsulated solar cells.
Size (kW)	5 KW
Size (Height/Width)	18'tall and 6' wide
Weight	Estimated 1,500 lbs.
Footprint Ground/Elevation	60 Sq. Ft.
Example	

Company Name	**AV AeroVironment** **Architectural Wind**
Website	www.avinc.com
Product Description	AV Architetcural Wind eliminates the need for a tower by being installed directly to the parapets of flat roof buildings. Modular and scalable.
Size (kW)	1KW
Size (Height/Width)	8.5 ' high x 6' wide, 40.15” from cone to tail deep
Weight	130 lbs - 250 lbs.
Footprint Ground/Elevation	Base Plate 18” wide x 9” deep
Example	

Company Name	**Hi-Energy Technology Co.**
Website	www.hi-energy.com.tw
Product Description	Vertical Axis Small Wind Turbine specifically designed for urban and suburban applications.
Size (kW)	1.5KW, 3KW, 5KW,10KW
Size (Height/Width)	3KW 13.12'wide x 14.76” high
Weight	1,433 lbs.
Footprint Ground/Elevation	169 Sq. Ft., 13”diameter
Example	

Company Name	**GreenEnergy Technologies** **WindCube**
Website	www.getsmartenergy.com
Product Description	The WindCube is a medium size low wind blade turbine designed for urban & suburban high rise and lower buildings or towers. Modular and scalable
Size (kW)	55KW
Size (Height/Width)	22' wide x 22' high x 15 ' deep 11'above building rooftop
Weight	26,000 lbs.
Footprint Ground/Elevation	330 Sq. Ft.
Example	

Company Name	**HelixWind**
Website	www.helixwind.com
Product Description	HelixWind is a vertical axis wind turbine for urban & suburban use addressing height and aesthetic issues.
Size (kW)	2.5 KW
Size (Height/Width)	4' wide x 8.66' high on Monopole Tower 25' to 30' high
Weight	310 lbs.
Footprint Ground/Elevation	16 Sq. Ft.
Example	

Company Name	**Windterra**
Website	www.winterra.com
Product Description	Windterra ECO 1200 is a vertical axis wind turbine that has its own roof mounting system.
Size (kW)	1KW
Size (Height/Width)	88.58” high x 104.72” 7.38' high x 8.72 diameter
Weight	308.65lbs
Footprint Ground/Elevation	81 Sq. Ft.
Example	

Company Name	**PacWind Inc**
Website	www.pacwind.net
Product Description	PacWind vertical axis wind turbines are silent, stable and safe in all wind conditions. Architecturally & aesthetically pleasing.
Size (kW)	500W, **2KW**, 5KW, 10KW
Size (Height/Width)	Delta 1 Model: 2KW 78”d x 48”h, 6.5'd x 4' high
Weight	126 lbs
Footprint Ground/Elevation	36 Sq. Ft.
Example	

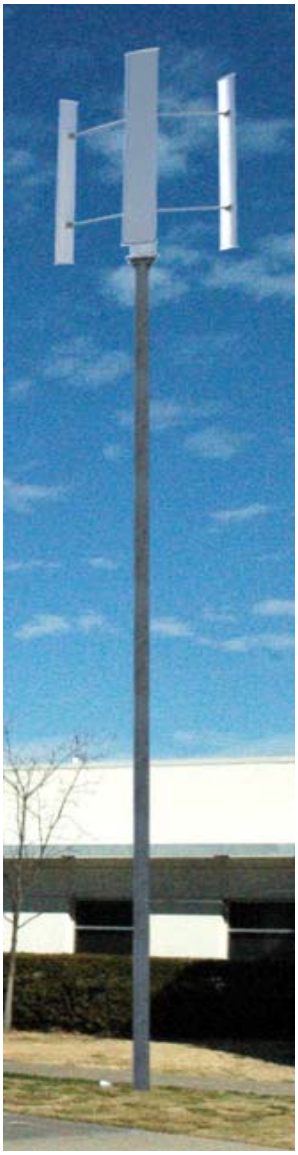
Company Name	**CleanField Energy**
Website	www.cleanfieldenergy.com
Product Description	Cleanfield Energy's vertical axis wind turbine is designed to harness urban wind efficiently and effectively.
Size (kW)	**3.5KW**, 5KW
Size (Height/Width)	9.84' wide x 10.2' high
Weight	540 lbs.
Footprint Ground/Elevation	7.5 Square meters
Example	

Company Name	**Turby.nl**
Website	www.turby.nl
Product Description	Turby combines the best qualities of a horizontal wind turbine with the simplicity of the vertical axis wind turbine.
Size (kW)	2.5KW
Size (Height/Width)	9.48'
Weight	286.6 lbs
Footprint Ground/Elevation	
Example	

Company Name	**Urban Green Energy**
Website	www.urbangreenenergy.com
Product Description	Urban Green Energy VAWT offers high production in turbulent urban/suburban environments.
Size (kW)	1KW, **3KW,** 4KW, 10KW
Size (Height/Width)	1KW to 4KW All 18' high 10KW 36' high
Weight	3KW830 lbs
Footprint Ground/Elevation	3KW Mill dimensions 3m x 3.6 m , 118” x 142”, 9.83' x 11.83'
Example	

Company Name	**Tangarie**
Website	www.tangarie.com
Product Description	GUS (Green Utility Systems) are vertical axis wind turbines suited for urban suburban use.
Size (kW)	1KW, **5KW** 10KW,
Size (Height/Width)	High 112.25” , 9.35' Wide 39.65”, 3.3'
Weight	5KW 500 lbs.
Footprint Ground/Elevation	5KW112.25” x 39.65” or 9.35'H x 3.3'w
Example	

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



New Addison Water Tower Site
CleanField Energy Demonstration Wind Turbine
Turnkey System Description and Installed Costs
March 1, 2009

CleanField Energy Model V3.5 Vertical Axis Wind Turbine System

Technical Review

The V3.5 VAWT has three major components (turbine, generator and inverter) that offer a series of features, which have been customized as a fully integrated system by Clearfield Energy™. This solution enables the complete system to be optimized for maximum efficiency and reliability.

Turbine

CleanField's turbine has been designed for simplicity by having fewer moving parts and providing increased reliability while the stationary center structure can accommodate grounding for lightning protection. The turbine was designed with a high aspect ratio in order to accommodate low nominal RPM of the turbine. As a result, a low blade speed ratio (ratio of blade speed to wind speed) minimizes audible noise.

The blades are connected to the shaft by way of a pair of struts with an aerodynamic profile that has very low power losses, contributing to a better power coefficient of the turbine. The turbine is equipped with a custom developed sensor/communication interface board, which communicates with the inverter for data collection, supervision and protection of the turbine resulting in extended life expectancy and lowering maintenance costs. The sensor board monitors turbine vibration for resonant frequency skipping or to shutdown turbine if excessive vibration is detected; generator temperature to reduce the output power of the turbine and eventually shut it down if thermal operating limits are approaching; ambient temperature to prevent the turbine start if outside temperature drops below -40C and prevent the bearing from damage; and electromechanical brake status to ensure controlled stoppage of turbine and control turbine speed to ensure that turbine is operated within safety limits and maximized efficiency.

Generator

The generator is a direct drive, low speed, permanent magnet generator (PMG) with an external rotor. Designed and built to match the turbine parameters (nominal rotational speed, nominal torque, assembly requirements etc.), it is an integral part of the system structure. The Fail-safe Electro-mechanical brake with status feedback is included in the generator (energized in order to be released) and will engage in case of power loss. Shutting down the power will stop the turbine from spinning and also allows service and maintenance work to proceed safely.

Inverter Electronics

The inverter has been designed with a custom algorithm for permanent magnet generator control. The flux vector control software provides an extremely sophisticated means of monitoring voltage, frequency, and current without costly and unreliable external sensors, which is capable of profiling and predicting patterns and conditions.

The V3.5 RPM is custom controlled by regulating current to and from the generator. The control algorithm allows variable speed operation and the generator delivers the optimum power by following the power curve of the turbine while staying within safety limits. As a result, even in high wind or gusty conditions, the turbine RPM will not exceed 160 RPM. This control

algorithm is fundamentally different than virtually all other small wind turbines available today, and is of significant advantage, providing improved performance and margins of safety.

Turbine Development & Validation
Cleanfield's V3.5 VAWT has gone through extensive product engineering, testing (lab and field) and validation.

Wind tunnel testing to validate product performance. Extensive testing has been performed by McMaster University at the University of Waterloo's wind tunnel, University of Western Ontario's Wind Tunnel Laboratory and at the National Research Council wind tunnel in Ottawa.

- Finite Element Analysis (FEA) of mechanical elements for static and fatigue analysis
- Structural cyclic fatigue testing of turbine shaft
- Structural testing of blades
- Inverter & generator tested and certified to CSA 22.2 No. 107.1-01

Turbine Mounting
The V3.5 Demonstration Turbine will mounted to a specially engineered pole capable of withstanding the force of a wind generation system. Mounted to the top of the pole will be the turbine manufacturer's pre-engineered mounting plate that matches the wind turbine mounting plate. The two matching plates enable the turbine to be bolted to the pole. All installations will be subjected by manufacturers engineering review.

Key Benefits of Vertical Axis Wind Turbines
VAWT's provide superior performance in urban environments due to their inherent characteristics. Some key benefits of vertical wind turbines over horizontal wind turbines are:

- Ability to effectively capture dirty/turbulent winds which are typical in urban environments; especially in built up areas;
- VAWT's do not need to yaw to capture wind as wind direction changes. They are able to capture wind from any direction; and,
- VAWT's are much more durable and reliable working in turbulent winds as they are designed to take the wind forces from all directions.

Cleanfield V3.5 Competitive Strengths

- V3.5 VAWT has been designed to effectively capture wind either off of rooftops or ground mount monopoles in both urban and suburban settings;
- Cleanfield's VAWT can be effectively roof mounted and does not need to be raised high above the rooftop to operate. They provide an excellent wind energy solution where there are height restrictions set by local regulations in urban environments;
- V3.5 turbine, generator and inverter has been designed as an integrated system resulting in optimized system performance;
- Variable speed operation;
- Elegant design is both simple and robust resulting in long life expectancy and minimal maintenance;
- Low nominal RPM resulting in lower blade speed ratio and negligible audible noise;
- Unique sensor board has been integrated into the turbine for data collection and

supervision to monitor and protect the turbine;
- Advanced emergency braking mechanism to manage turbine speed and lock down the turbine when wind speeds are excessive;
- Turbine blades are made from gel coated reinforced fiberglass which minimizes icing conditions in the winter; and,
- Offsite monitoring option by Cleanfield via web enabled connection for preventative maintenance.

The Balance of the Grid Connected System
The following components comprise the complete balance of the wind turbines operating system. This includes; DC disconnect switch, AC disconnect switch, a dedicated circuit breaker inside the facility's service panel, conduit, wiring to connect the wind turbine to the electrical connection of the facility at the electrical meter and service panel, combiner boxes, nuts/bolts, etc.. The system also includes its own dedicated safety monitoring device to monitor the turbine's operation. Also built into the system is redundant safety for utility company maintenance or when servicing the wind turbine.

Department of Energy Net Zero Energy Facility
This facility has real potential to be classified and promoted as a Department of Energy Net Zero Energy Facility – one that produces as much energy as it utilizes. With an estimated total annual 64,000 kWh of electric energy produced onsite, there is good potential that this will be more than sufficient to satisfy all of the facilities energy demand.

The Cost of the Demonstration Turbine System

3.5KW CleanField Wind Turbine
Pole Mounted to match the style of the nearby streetlight poles
Concrete Construction of the Tower Base
Complete Balance of System
Shipping of all Equipment
Complete Turnkey Installation
Final Connection by Licensed Electrician
Final Electrical Permit Inspection

Turnkey Installed Cost $41,620

Stimulus Package Financial Incentives
Now that the American Recovery Act has been finalized, the town should be researching the potential for Stimulus Package matching funds, grants, rebates, incentives and bond funding that the Water Tower Wind Energy System can qualify for. With over $79 billion of incentives targeted to renewable energy there are potentially multiple sources of funding from different Federal Government Agency's.

Total Wind Energy System Project Budget
This funding also increases the potential to install more than the originally planned ten CleanField Energy wind turbines on the top of the new Water Tower.

M E M O R A N D U M

August 20, 2009

TO: Ron Whitehead, Addison City Manager
FROM: Carmen Moran, Director of Development Services
SUBJECT: Assignment of Ownership Interest by United Dominion Realty to DCO Savoye, LLC

On March 11, 2008, the City entered into a Master Facilities Agreement with United Dominion Realty for the redevelopment of the Brookhaven Club Drive neighborhood into Vitruvian Park. Section 4.B.1 of the Master Facilities Agreement states that the owners of the property have the right to sell and assign that interest, and that in the event of an assignment to an "affiliate" of UDR, UDR is to provide written notice and information regarding the assignment (name of assignee, the type of entity, the state of formation, contact information, and a statement to the effect that the assignee is an affiliate of UDR). An "affiliate" is defined as persons and entities that control UDR, and persons and entities that UDR controls; "control" means the power to direct the management and policies.

As a condition of closing for financing on Phase 101, the lender required United Dominion Realty to create an entity specifically for Phase 101. UDR set up DCO Savoye LLC as that entity, and wants to modify the Master Facilities Agreement to add DCO Savoye as a Property Owner and Developer to the Master Facilities Agreement and, as such, assume the benefits and burdens under the Master Facilities Agreement as they relate to the Savoye Property and agree to observe and perform all of the duties and obligations of UDR and the Property Owners as contained in the Master Facilities Agreement.

UDR is also requesting an estoppel certificate from the Town, as outlined in Section 26 of the Master Facilities Agreement, stating there has been no default or breach by the Developer. The estoppel certificate is for Regions Bank, which is making a loan for construction within the development.

John Hill reviewed the documents UDR provided and made some changes, which were accepted by UDR. The staff requests that the Council approve a Resolution approving the Modification to the Master Facilities Agreement to recognize DCO Savoye LLC as a Property Owner, and approving an estoppel Certificate from the Town. The proposed documents are provided as attachments to the Council agenda.

TOWN OF ADDISON, TEXAS

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS APPROVING A MODIFICATION TO MASTER FACILITIES AGREEMENT BETWEEN THE CITY, UDR, INC., AND OWNERS OF PROPERTY OF THAT AREA GENERALLY KNOWN AS VITRUVIAN PARK, WHICH MODIFICATION PROVIDES FOR THE ADDITION TO THE SAID MASTER FACILITIES AGREEMENT OF A NEW PROPERTY OWNER; APPROVING AN ESTOPPEL CERTIFICATE IN CONNECTION WITH A CONSTRUCTION LOAN FOR THE CONSTRUCTION OF A PORTION OF THE REDEVELOPMENT OF THE VITRUVIAN PARK PROPERTY; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Addison, Texas (the "City"), UDR Inc. ("UDR"), and the owners of that certain property generally known as Vitruvian Park and described in the Master Facilities Agreement (the "Property") previously entered into that certain Master Facilities Agreement dated March 11, 2008 (the "Master Facilities Agreement" or "Agreement") regarding the redevelopment of the Property (the "Redevelopment"); and

WHEREAS, the Agreement provides in part that the owners of the Property, to the extent of an owner's interest therein, may, subject to the provisions of the Agreement, sell and assign that interest, and one of the Property owners, DCO Greenhaven LP, has conveyed its interest (the "Conveyance") in a portion of the Property, described in Exhibit A to the Modification to Master Facilities Agreement (as hereinafter defined), to DCO Savoye LLC, a Delaware limited liability company ("DCO Savoye"); and

WHEREAS, the parties to the Agreement desire to modify the Agreement to reflect the addition of DCO Savoye as a party thereto as described in the Modification to Master Facilities Agreement attached hereto as Exhibit 1 (the "Modification to Master Facilities Agreement"); and

WHEREAS, in connection with the Conveyance and the current construction of a portion of the Redevelopment, Regions Bank, an Alabama banking corporation, which is making a construction loan to DCO Savoye to finance a portion of the costs of the construction of the Redevelopment, has requested that the City provide an estoppel certificate, the form of which is attached hereto as Exhibit 2 (the "Estoppel Certificate").

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. The Modification to Master Facilities Agreement, the form of which is attached hereto as Exhibit 1, and the Estoppel Certificate, the form of which is attached hereto as Exhibit 2, are approved. The City Manager is authorized to execute the same on behalf of the City.

Section 2. This Resolution shall take effect upon its passage and approval.

PASSED AND APPROVED by the City Council of the Town of Addison, Texas this _____ day of _____,2009.

_____
Joe Chow, Mayor

ATTEST:

By:_____
Lea Dunn, City Secretary

APPROVED AS TO FORM:

By:_____
John Hill, City Attorney

EXHIBIT 1

MODIFICATION TO MASTER FACILITIES AGREEMENT

THIS MODIFICATION TO MASTER FACILITIES AGREEMENT (the "Modification") is made as of this _____ day of August, 2009, by and among the **TOWN OF ADDISON, TEXAS** (the "City"), **UDR, INC.,** a Maryland corporation ("UDR") and **DCO BROOKS APARTMENTS LP**, a Delaware limited partnership, **DCO GREENBROOK APARTMENTS LP**, a Delaware limited partnership, **DCO TALISKER LP**, a Delaware limited partnership, **DCO GARDEN OAKS LP**, a Delaware limited partnership, **DCO GLENWOOD APARTMENTS LP**, a Delaware limited partnership, **DCO CLIPPER POINTE LP**, a Delaware limited partnership, **DCO SPRINGHAVEN LP**, a Delaware limited partnership, **DCO ADDISON AT BROOKHAVEN LP**, a Delaware limited partnership, **DCO GREENHAVEN LP**, a Delaware limited partnership (collectively, the "Original Property Owners") and **DCO SAVOYE LLC**, a Delaware limited liability company ("DCO Savoye"). This Modification is made with respect to the following facts and circumstances:

WHEREAS, the City, UDR and the Original Property Owners entered into that certain Master Facilities Agreement dated March 11, 2008 ("Master Facilities Agreement"; capitalized terms used and not defined herein are used with the meanings set forth in the Master Facilities Agreement.) in connection with redevelopment of the Property located in the City.

WHEREAS, DCO GREENHAVEN LP has conveyed that portion of the Property described on Exhibit A hereto to DCO Savoye (the "Savoye Property").

WHEREAS, DCO Savoye is an Affiliate of UDR.

The parties hereto desire to modify the Master Facilities Agreement as and to the extent set forth herein.

NOW, THEREFORE, for and in consideration of the above and foregoing recitals and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties agree as follows:

1. **Addition of DCO Savoye; Representations.** DCO Savoye is added as a Property Owner and Developer to the Master Facilities Agreement and, as such, assumes the benefits and burdens under the Master Facilities Agreement as they relate to the Savoye Property and agrees to observe and perform all of the duties and obligations of UDR and the Property Owners as contained in the Master Facilities Agreement, or as it may be amended or revised, as such duties and obligations pertain to the Savoye Property and be bound by the terms and provisions of the Master Facilities Agreement. DCO Savoye acknowledges that it is assuming the applicable possible reimbursement obligation regarding Funding No. 2, as stated in Section 7.F of the Master Facilities Agreement.

In connection herewith, UDR, the Original Property Owners, and DCO Savoye represent that: (a) the sole member of DCO Savoye is DCO Realty Inc., a Delaware corporation ("DCO Realty"), (b) DCO Realty has and possesses the power and authority to control DCO Savoye, and is an Affiliate of UDR, and that (c) UDR has direct or indirect ownership of and controls each of the Original Property Owners, DCO Realty and DCO Savoye. For purposes hereof, the term "control" has the meaning set forth in the Master Facilities Agreement.

2. **Reaffirmation**. Except as expressly set forth in this Modification, the terms, conditions and covenants of the Master Facilities Agreement shall remain unmodified and in full force and effect. Nothing in this Modification shall relieve UDR or the Original Property Owners of or from their duties or obligations pursuant to the Master Facilities Agreement.

3. **Execution in Counterparts**. This Modification may be executed in one or more counterparts, each of which shall be an original and all of which shall constitute one and the same instrument.

4. **Binding Effect**. This Modification shall be binding upon the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF, this Modification is effective as of the date set forth above.

TOWN OF ADDISON, TEXAS

By _____
Name _____
Title: _____

ATTEST:

By: _____
City Secretary

Signatures of UDR and Property Owners Follow

UDR, INC., a Maryland corporation

By: _____
W. Mark Wallis, Senior Executive Vice President

DCO BROOKS APARTMENTS LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO GREENBROOK APARTMENTS LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO TALISKER LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO GARDEN OAKS LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO GLENWOOD APARTMENTS LP, a Delaware limited partnership

By: DCO Glenwood Apartments GP LLC, a Delaware limited liability company, its General Partner

By: DCO Realty, Inc., a Delaware corporation, its Sole Member

By: _____
W. Mark Wallis, President

`

DCO CLIPPER POINTE LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO SPRINGHAVEN LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO ADDISON AT BROOKHAVEN LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO GREENHAVEN LP, a Delaware limited partnership

By: DCO REALTY, INC., a Delaware corporation, its General Partner

By: _____
W. Mark Wallis, President

DCO SAVOYE LLC, a Delaware limited liability company

By: DCO REALTY, INC., a Delaware corporation, its Sole Member

By: _____
W. Mark Wallis, President

EXHIBIT A

SAVOYE PROPERTY

Lot 1, Block A, Vitruvian Park Addition, Town of Addison, Dallas County, State of Texas

EXHIBIT 2

ESTOPPEL CERTIFICATE

THIS ESTOPPEL AGREEMENT (the "Certificate") is made as of this _____ day of August, 2009, by the **TOWN OF ADDISON, TEXAS** (the "City") in favor of **DCO SAVOYE LLC**, a Delaware limited liability company ("DCO Savoye") and **REGIONS BANK**, an Alabama banking corporation whose offices are located at 1900 Fifth Avenue North, Birmingham, Alabama 35203, Attention: Commercial Real Estate Loan Department (the "Lender").

W I T N E S S E T H :

WHEREAS, the City, UDR, Inc., DCO Brooks Apartments LP, DCO Greenbrook Apartments LP, DCO Talisker LP, DCO Garden Oaks LP, DCO Glenwood Apartments LP, DCO Clipper Pointe LP, DCO Springhaven LP, DCO Addison at Brookhaven LP and DCO Greenhaven LP entered into that certain Master Facilities Agreement dated March 11, 2008 ("Master Facilities Agreement") in connection with redevelopment of Property located in Dallas County, Texas. Capitalized terms used and not defined herein are used with the meanings set forth in the Master Facilities Agreement.

WHEREAS, DCO Savoye has succeeded to the rights and interests of DCO Greenhaven LP, as one of the Property Owners, and the Developer under the Master Facilities Agreement in respect of that portion of the Property described on Exhibit A hereto.

WHEREAS, DCO Savoye is currently constructing "Phase I" of the private development of the Property and has requested the Lender make a construction loan to it to finance a portion of the costs of construction of "Phase I".

WHEREAS, Lender has agreed to make such loan provided that the City provide an estoppel certificate pursuant to Section 26 of the Master Facilities Agreement.

NOW THEREFORE, the City hereby confirms that (i) the Master Facilities Agreement has not been modified, amended or terminated and is in full force and effect in accordance with its terms, provisions and conditions and (ii) to the best of City's actual knowledge, (a) the Developer (as defined in the Master Facilities Agreement) has not breached the Master Facilities Agreement, and (b) there is not an event which with the passage of time would constitute an event of default under the Master Facilities Agreement. For purposes hereof, the City's actual knowledge means the actual knowledge of Carmen Moran, the City's Director of Development Services.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, this Certificate is effective as of the date set forth above.

TOWN OF ADDISON, TEXAS

By _____
Name _____
Title:_____

ATTEST:

_____
City Secretary

EXHIBIT A

DCO SAVOYE PARCEL

Lot 1, Block A, Vitruvian Park Addition, Town of Addison, Dallas County, State of Texas