

**Fly Like An Eagle**  
**"Serving The Production Builder"**

**RESNET**

*Residential Energy Services Network*



**D.R. Wastchak, L.L.C.**  
**Daran Wastchak**

*Residential Energy Efficiency and  
Building Science Consultants*



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**Presentation Outline**

- **Company Background**
- **What Are A Production Builder's Needs?**
- **Challenges Faced By Builder**
- **Helping Builders to Overcome Challenges**
- **Q & A**



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## Company Background

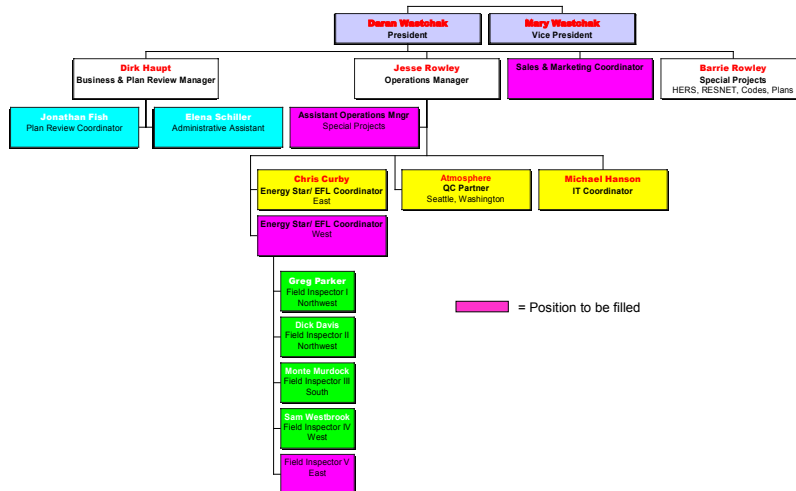
- Managing *Energy Star* for Homes program in Phoenix since 1996
- Certified HERS Provider (Arizona, Washington)
- Eighteen (17) employees
- 27 builder clients (170+ subdivisions)
- 7,700 homes labeled as Energy Star in 2003
- Projected 9,000 homes labeled for 2004

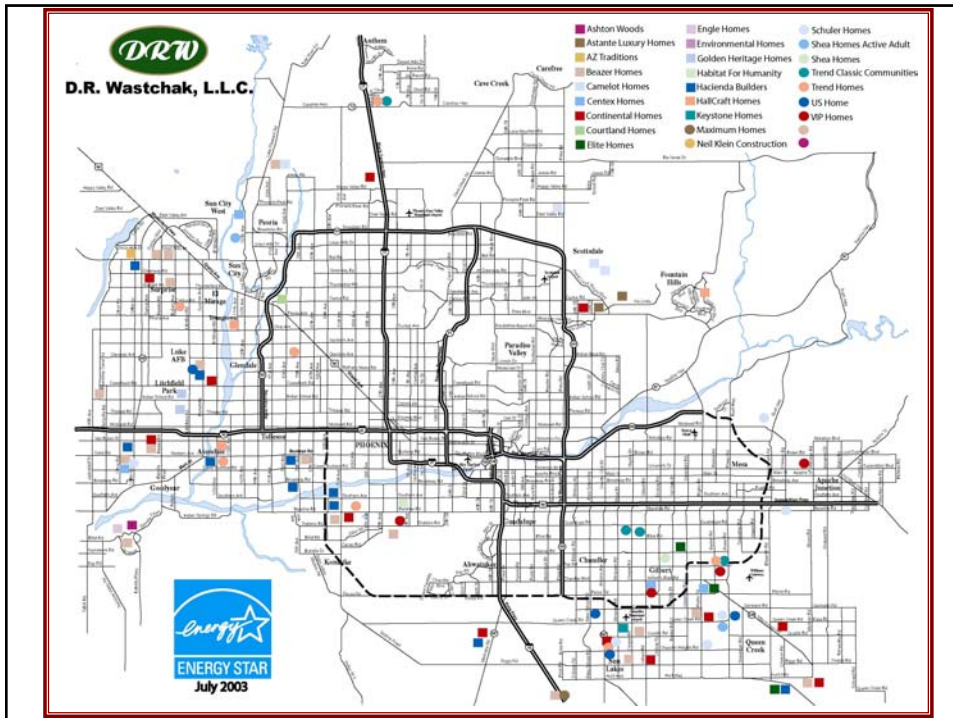


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## What Are A Production Builder's Needs

- **Administration and assistance with energy programs:** Energy Star, EFL, Code Compliance
- **Consulting on plan evaluations, HERS analysis**
- **Field training for trade contractors**
- **Training for builder sales personnel** (sales tools)
- **Coordination/production of point of sale and marketing materials**
- **Testing and inspections during construction for quality control**
- **Documentation and assistance with Energy Efficient Mortgages (EEM's)**
- **Marketing programs** (i.e. "Parade" and "Showcase" of Homes, Co-operative advertising campaign)
- **Investigations at problem homes** (for builder warranty and service departments)



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## **Challenges Faced By Builders**

- Communicating program requirements to trades (before construction starts)
- Training for builder construction personnel and trade contractors
  - Doing the "right" kind of training
  - Commitment of builder and trade personnel time
  - Problems with employee turnover
  - Repeat trainings
- Adequate and timely feedback/reporting mechanism(s) during construction process
- Knowledgeable sales staff who are comfortable selling energy efficiency in homes



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## **Helping Builders to Overcome Challenges**

- Communication – create a specification which clearly outlines expectations
  - Allows for "apples to apples" bid comparisons
  - Facilitates enforcement of quality requirements during construction
- Training
  - Set a training schedule at the beginning (with regular updates)
  - Communicate to the builder the importance of training and the negatives if problems occur as a result of insufficient training (e.g. "costs" for re-inspections)
  - Make training fresh and new each time to maintain interest of participants
- Feedback/Reporting Mechanism(s)
  - Multi-part forms
  - Fax-back forms
  - Electronic forms (PDA's)

# Testing and Inspection Forms

**D.R. Wastchak, L.L.C.** **ENERGISED FOR LIFE**  
 EFL - LIVING - ENERGY STAR FIELD TEST & INSPECTION REPORT

INSPECTOR: \_\_\_\_\_ PHONE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_  
 Lot No.: \_\_\_\_\_ Floor Plan: \_\_\_\_\_

**DUCT LEAKAGE (Duct Blaster)**

Test	Pass or Fail	Comments
100	<input type="checkbox"/>	Duct leakage test
101	<input type="checkbox"/>	Proper duct installation (R-6)
102	<input type="checkbox"/>	Jump ducts all bedrooms

**FRAMING**

Test	Pass or Fail	Comments
103	<input type="checkbox"/>	Roofing & sheetrock capped
104	<input type="checkbox"/>	Double interior walls capped
105	<input type="checkbox"/>	Corners and T walls allow for insulation
106	<input type="checkbox"/>	Recessed HVAC cabinets (platform)

**MISCELLANEOUS**

Test	Pass or Fail	Comments
107	<input type="checkbox"/>	Window Low-E check
108	<input type="checkbox"/>	Combustion appliances vent to outside
109	<input type="checkbox"/>	Fresh air check (Compass)

Call (480) 350-9269 to schedule Phase 2 & 3 inspections

**INSULATION & AIR SEALING**

Test	Pass or Fail	Comments
200	<input type="checkbox"/>	Insulation full rated R-value
201	<input type="checkbox"/>	Insulation well touch or barrier/drywall
202	<input type="checkbox"/>	Spill batts at wires and plumbing
203	<input type="checkbox"/>	Faced batts must be face stapled
204	<input type="checkbox"/>	Insulated behind sub
205	<input type="checkbox"/>	Depth batts installed in attic
206	<input type="checkbox"/>	Baffles installed at rafter black vents
207	<input type="checkbox"/>	All truss & bottom plates air sealed

**FINAL INSPECTION (schedule after AC startup)**

Test	Pass or Fail	Comments
300	<input type="checkbox"/>	Envelope Leakage (Blower Door)
301	<input type="checkbox"/>	Attic Insulation (Compass)
302	<input type="checkbox"/>	Fresh Air (per owner, after startup)
303	<input type="checkbox"/>	CO Detectors (1 = 1,000 of 1.1% (100) ppm)
304	<input type="checkbox"/>	HVAC check (full system)
305	<input type="checkbox"/>	Controlled appliance (ventilate, check need to run)
306	<input type="checkbox"/>	Blower Door
307	<input type="checkbox"/>	Room Pressures (if or before 3 PM)

Blower Door: \_\_\_\_\_  
 Room 1: \_\_\_\_\_ Room 2: \_\_\_\_\_ Room 3: \_\_\_\_\_  
 Room 4: \_\_\_\_\_ Room 5: \_\_\_\_\_ Room 6: \_\_\_\_\_


Enter label: ☐ Passes Phase 3: ☐

Are all of the above items corrected and completed? Yes ☐ No ☐

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

This Testing and Inspection Form is a part of the performance file for the above lot and community/subdivision. Any questions should be directed to the inspector listed above. Any items listed below not completed in the property shall not be taken as a sign from the EPA Energy Star master program under the appropriate EPA Certified Installer for Testing & Commissioning of Controls. Please call for assistance, no inspection or re-testing is required. Once completed, EFL - Living Homes REG-2014-01 that this form be signed by a licensed professional engineer or architect.

Prepared by D.R. Wastchak, L.L.C.  
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**Helping Builders to Overcome Challenges**

- Selling energy efficient homes**
  - Help to minimize or eliminate the ducking of "hard" (technical) questions
  - Pictures, graphics, bullet points (simple to understand)
  - Sales books (durable, usable, well laid out, thorough)
  - Don't forget the realtors!



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## Questions

