

# THE HOWS AND WHYS OF CONSTRUCTION WASTE RECYCLING

Prepared for  
SUNY – ESF Green Building Conference

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Turner Construction Company

# I would like to speak about:

- Brief overview of Turner Green Building Experience
- Brief overview of Turner Green Commitments
- Recycling Construction on Every Job - Making it work.
- How does the leading general builder in the US implement such a process on an average of 1500 projects per year across 40 Business Units throughout the country?
- How does capacity vary and what different responses are successful in different areas.
- Where can it work?
- Where is it still an unrealized goal?
- Implementation of policy and procedures, progress and pushback

# Turner Green Building Experience

Since Turner Green Building Experience 1995

- Over 150 Projects with Green Building Elements Completed or Under Construction
- Construction value: Over \$10 Billion
- Over 42 million sq. ft.
- 20 LEED Certified Projects
- 50 LEED Registered Projects
- Over 110 LEED Accredited Professionals
- (and counting...)

# Turner's Commitment to Green

- Recycle Construction Waste on All Projects
- Greening our Field Offices
- Emerging Green Builders
- Online LEED Training
- Double LEED Accredited Professionals
- Advisory Board
- Center of Excellence

# Why is this Important?

(Hint: its not about chasing LEED points)

- C&D Waste accounts for between 20% and 50% of all waste sent to landfills
- Diverted material can be reused, reducing use of virgin materials
- Potential cost savings to Owner
- Potential revenue stream to Hauler
- Good for business
- Good for the planet

# Chapter One – Ignorance is Bliss

- January 2005 – this will be easy
- February 2005 – we can't do that in our market
- March 2005 – No more \*#%! forms

# Early Wins

- New York – Cardella Carting - Already doing it. Just get others to follow.
- Boston – Charles George Trucking – Only game in town. He got it.
- Nashville - Tennessee Waste – Opportunist. Created a market.
- Waste Management – National Firm wanted to serve a big client. Already pretty sophisticated.

# Early Setbacks

- Ohio – Duh?
- Texas – too much “wide open space”
- Many other places – Hello?

# Pleasant Surprises

- Dallas – A number of green projects gets Management Attention. “Gray Hair” takes over.
- Florida – Ditto. And Ditto. Negotiated rebates.

# Innovators

- Ace Waste – market differentiator – committed to green (business model)
- Construction Waste Management – committed to green (environmental model)

# Results – Year One

- Turning the Queen Mary BUT
- Continuous Improvement BUT
- Low Hanging Fruit
- All or nothing

# Results – Year Two (to date)

- More reporting = less spectacular results BUT
- Standardized reporting now a requirement
- Goal One – complete and accurate reporting
- Goal Two – improve performance

# The Future – Are We There Yet?

- NO

## What Does the Future Hold?

- Deconstruction

# CONSTRUCTION WASTE MANAGEMENT INITIATIVE 2006

**David Hodgson**, Turner Michigan Green Champion  
**Ryan Kline**, CWMI Manager

Turner Construction Company  
May ??, 2006

# CWMI 2006 - Objectives

**REDUCE**

**DIVERT**

**RECYCLE**

# CWMI 2006 - Benefits

- Develop proficiency in rapidly growing “Green Building” market
  - Approximately 50% of our earnings comes from LEED projects where construction waste management is a requirement
- Influence local C&D debris handlers by increasing demand for diversion
  - Several local haulers constantly competing for Turner contracts
- Earn positive Owner / Public attention
  - Every little bit helps in Michigan’s competitive market

# CWMI 2006 - Background

- **September 2004 – Tom Leppert announces Turner’s commitment to sustainability**
- **February 2005 – Turner introduces Construction Waste Management Initiative (CWMI)**
- **March 2005 – Business Units begin reporting**
- **June 2005 – Michigan Green Team issues CWMI Workbook to Business Unit w/ Presentation to PM’s & PX’s**
- **October 2005 – Michigan Green Team partners with Michigan Purchasing to incorporate CWMI language in Subcontracts**
- **February 2006 – Turner Purchasing provides revised hauler Subcontract; Turner Sustainable Construction provides revised Monthly Project Progress Report**

# CWMI 2006 – Turner's Mission

- Report waste management activity on ALL projects.
- Within 3 years, achieve diversion on 100% of projects.
- Within 3 years, achieve overall diversion rate of 50%.



# CWMI 2006 – Michigan's Mission

- Report on 100% of Michigan Projects
- Report monthly
- Projects implement project-specific CWM Plan
- Develop waste hauling market by providing demand for diversion



# CWMI 2006 - Procedure

- 1<sup>st</sup> Step - Be Proactive!!!
- 2<sup>nd</sup> Step – Remain flexible!!!

“Success is not the result of spontaneous combustion. You must set yourself on fire.”

*- Reggie Leach*

# CWMI 2006 - Procedure

- Step 3 – Prepare Project Specific Construction Waste Management Plan
  - Site's logistical parameters
  - Haulers' experience/abilities
  - Staff experience/commitments
- Step 4 – Include CWMI in Subcontracts
  - Include CWM Plan
  - 2<sup>nd</sup> Tier haulers must also comply

# CWMI 2006 - Procedure

- Step 5 – Release hauler subcontract
  - Use Form 124 - Rubbish Removal
  - Include CWMP & Monthly Report
- Step 6 – Inform workforce
  - Tradesmen need to buy-in
  - Use CWMI Orientation & Toolbox Talk

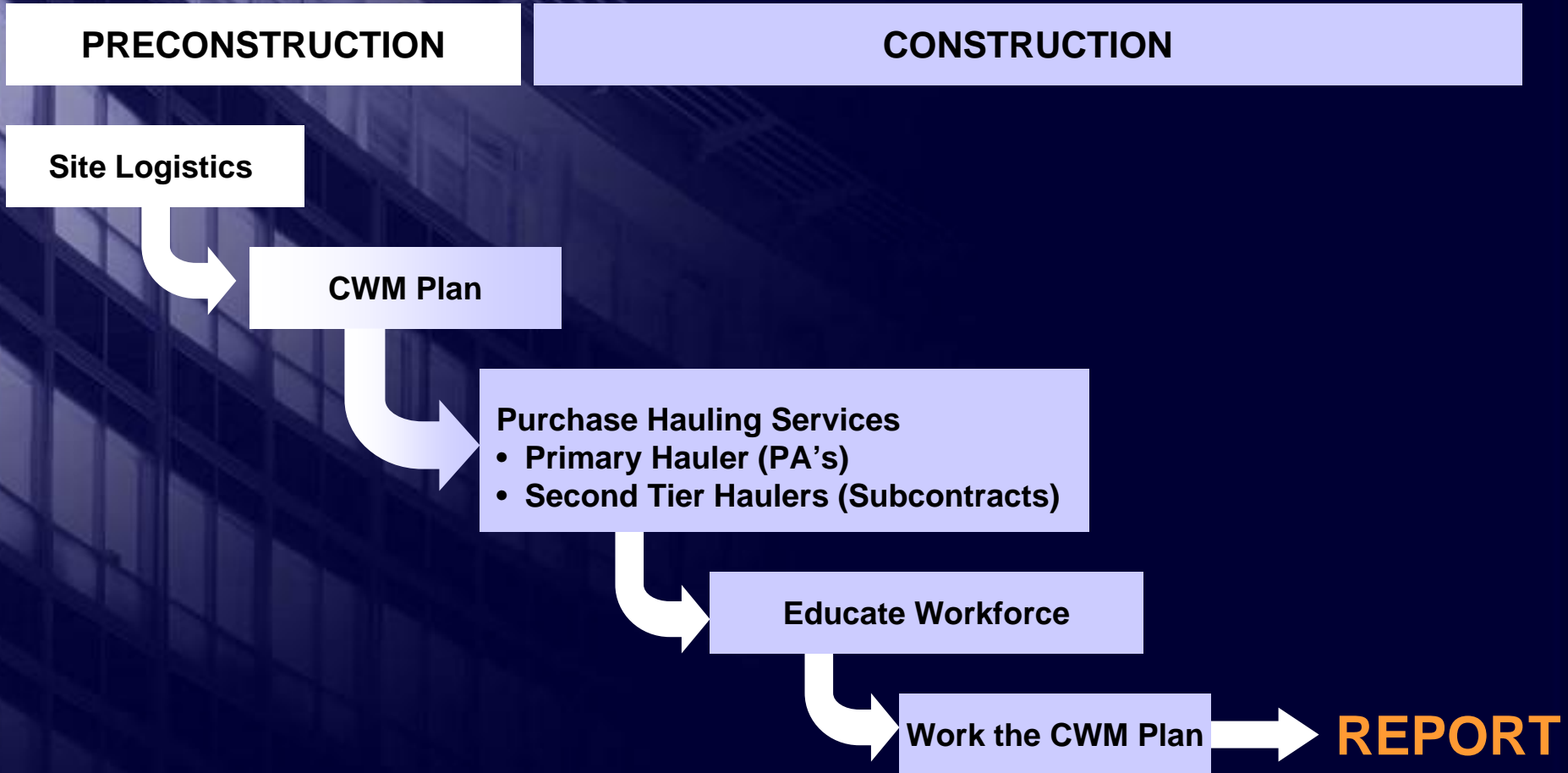
# CWMI 2006 - Procedure

- Step 7 – Work the CWM Plan
  - Inspect boxes for compliance
  - Issue backcharges/withhold payment when necessary
- Step 8 – Report Monthly
  - Hauler reports to you
  - You report to BU CWMI Manager

# CWMI 2006 – Procedure

- Step 9 – Follow-up
  - Make sure you're achieving your target diversion rate
  - Flexibility – May need to revise CWM Plan
- Step 10 – Share lessons learned!!!

# CWMI 2006 – Project Flowchart



# CWMI 2006 – Reporting Timeline

## PREPARE REPORTS

Prepared by Haulers – 26<sup>th</sup> of previous month to 25<sup>th</sup> of current month



## REQUEST REPORTS

26<sup>TH</sup> Day of the Report Month



## RECEIVE REPORTS



## COLLATE REPORTS



## SUBMIT REPORTS

Submit to Business Unit CWMI Manager (Ryan Kline) by 1<sup>st</sup> Tuesday of the Month

# CWMI – Monthly Project Progress Report

- Prepared by Sustainable Construction Division
- Developed with the hauler in mind (let them do it!)
- Located in Michigan Green Room on TKN - Michigan



Pharmacia Building Q

# CWMI 2006 - Resources

- Form 124 – Rubbish Removal Agreement
- Construction Waste Management Plan
- CWMI Jobsite Orientation
- CWMI Toolbox Talks
- Local Hauler / Recycler Matrix
- Michigan Green Team

# CWMI 2006 – Lessons Learned

## DPS Sinai Educational Campus

### Learning:

- Inexperience resulted in lower diversion rates & more staff time invested
- Late implementation compromised enforcement

### Lesson:

Steep learning curve

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Poor planning/implementation



# CWMI 2006 – Lessons Learned

## Metro Hospital

### Learning:

- Researched options for diversion of gypsum wallboard > found vendor
- Maintaining dialogue with hauler and subcontractors

### Lesson:

Proactive Management

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Successful Diversion (Currently 67%)



# CWMI 2006 – Lessons Learned

## Ford Field Parking Deck

### Learning:

- Staff transitions resulted in gaps in communication between project staff.

### Lesson:

Lack of communication

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Lost Diversion



# CWMI 2006 – Future Projects

## 5<sup>th</sup> Royal Oak

### Learning:

- Tight site logistics complicate CWMI implementation
- Sharing knowledge assisted project team with expanded options

### Lesson:

Proactive Project Staff

+

Green Team Coordination

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Optimized Resources



# CWMI 2006 – Future Projects

## HFHS – West Bloomfield

### Learning:

- Project staff included Green Team from start
- Discussing challenges with Architect reduced risk in the future

### Lesson:

Proactive Project Staff

+

Green Team Coordination

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Improved Potential for LEED Compliance



# CWMI 2006 - Strategies

- Contract Compliance
  - Include CWMP in all subcontracts
  - Enforce compliance through backcharges/fines
- Educate the Workforce
  - Subcontractor PM's may not explain requirements to Foremen / Tradesmen

# CWMI 2006 - Strategies

- Well-Planned Logistics
  - Site Separation vs. Commingled
    - Site Separation = Greater Diversion
    - Commingled = Reduced Field Management
    - Hybrid = Optimal
  - Plan for Progress
    - Be prepared to adapt CWM Plan for changing site / construction waste

# CWMI 2006 - Summary

- Set up Site Logistics & CWM Plan
- Use available resources
- Get everyone on board
- Report!!!



Dolan Center

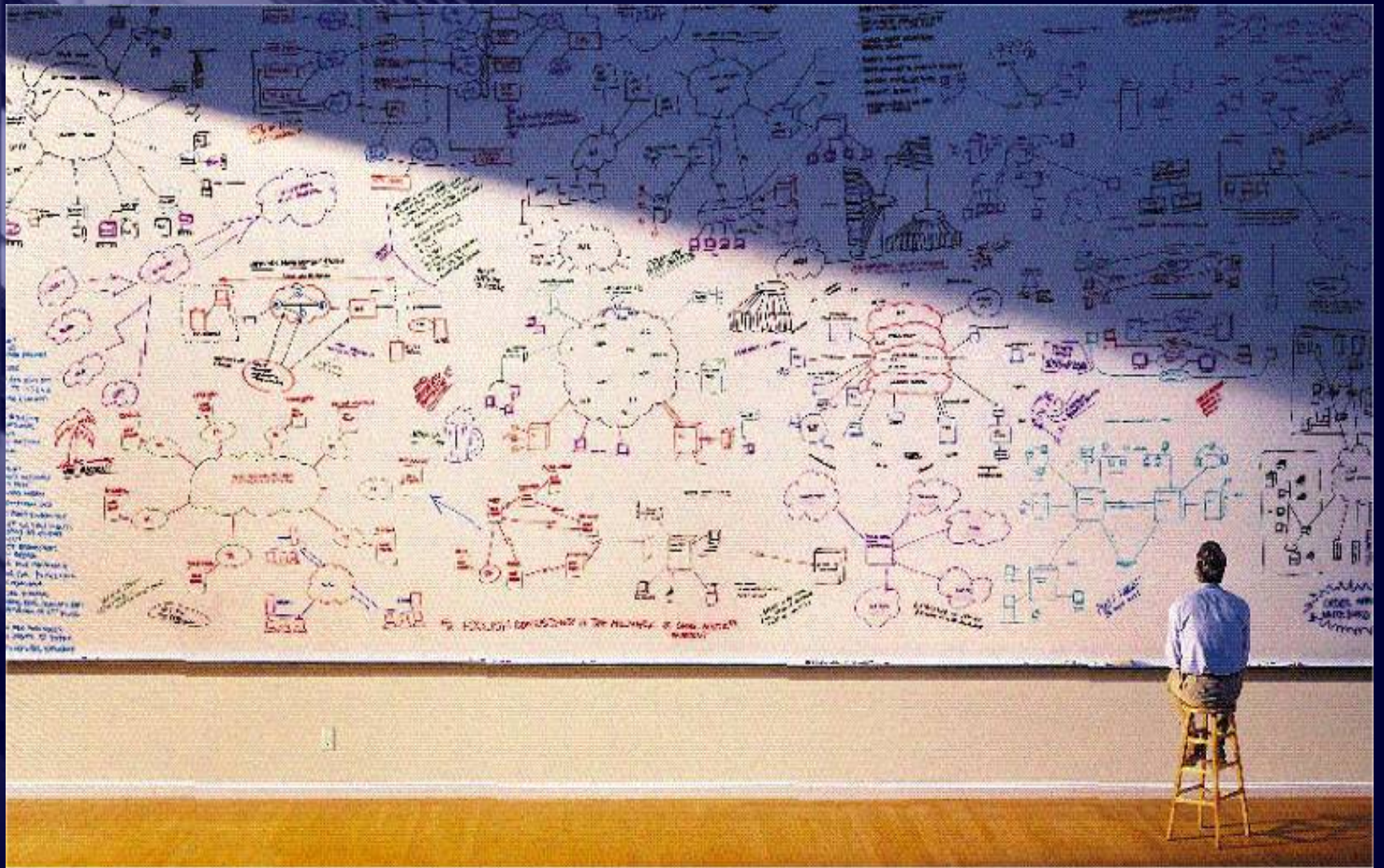


Dalles Middle School



Natomas High School

# Questions??





Any questions please send me an email  
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**Turner**