

WSDOT Noise Wall Cost Effective/Aesthetic Task Force

Findings 2008

Sally Anderson
Ryan Collins
Mike Katzer
Paul Kinderman
John Livingston
Dave Peterson
Scott Sargent
Anna St Martin
Mia Waters

Task Force Goal

- Make recommendations to the current practice in design, construction and maintenance of noise walls to decrease costs....while maintaining or improving aesthetics.



Standard Walls

Standard Architectural Treatment



- Community Development
- Crime Prevention Through Environmental Design (CPTED)



Side Bar: Public Art PolicyNot Part of Task Force



Laurie Campbell

- Design Manual Chapter 1360
- Region Produces Public Art Plan

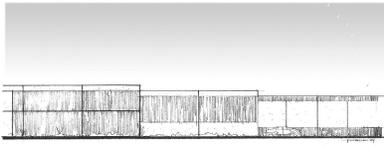
Task Force Members

- Paul Kinderman State Bridge and Structures Architect, Facilitator
- John Livingston HQ Materials Laboratory
- Mia Waters NWR Noise and Air Quality Manager
- Sally Anderson Interim Headquarters Roadside Manager
- Dave Peterson NWR Assistant Landscape Architect
- Ryan Collins HQ Bridge and Structures Noise Wall Specialist
- Scott Sargent HQ Bridge and Structures Specifications and Estimate Engineer
- Anna St Martin Lead Designer SR 520 Project Office
- Mike Katzer NWR Maintenance

Task Force Work Groups



NEW ADDITIONS STANDARD PLANS



STANDARD PLAN SURFACE TREATMENTS

ELECTRONIC VIEW OF STANDARD PLANS 2-101-04
NOISE WALL COST EFFECTIVE/AESTHETICS TASK FORCE
RECOMMENDATIONS TO CHANGES IN THE STANDARD PLANS



NEW PRODUCTS LIST

INTERNATIONAL AND NATIONAL PRACTICE



**ROADSIDE TREATMENT AND HIGHWAY CORRIDOR
CONTINUITY**

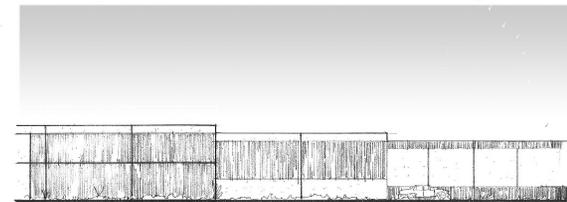
2007 LEGISLATIVE PROVISIO

Standard Plan Walls



NEW ADDITIONS
STANDARD PLANS

STANDARD PLAN
SURFACE TREATMENTS



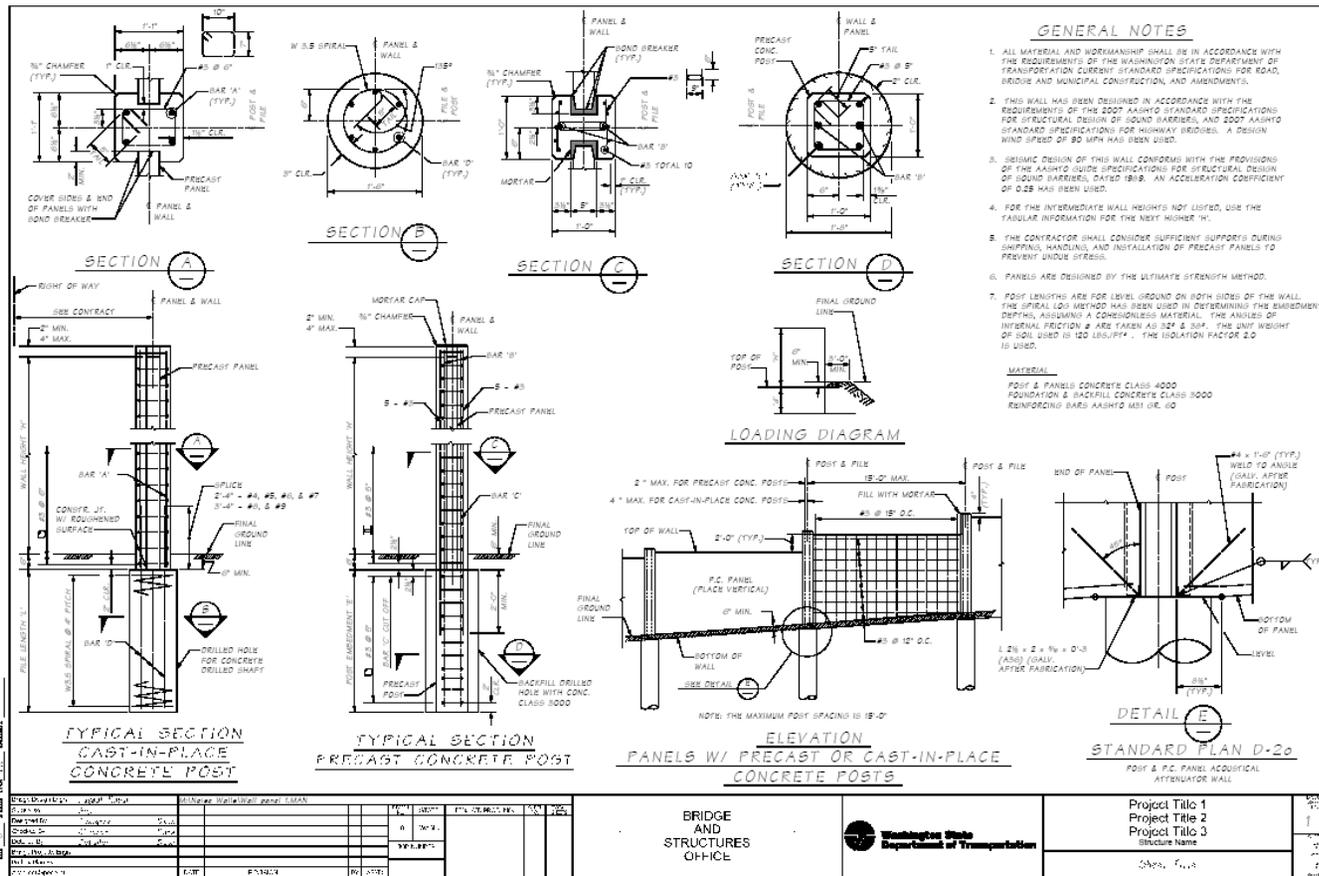
ELEVATION VIEW OF STANDARD PLAN D-2-21-00
SHOWING TREATMENT OPTIONS CORRESPONDING
TO TYPICAL DIMENSIONS OF CONCRETE FORMLINERS.

NOISE WALL COST EFFECTIVE/AESTHETICS TASK FORCE
RECOMMENDATIONS TO CHANGES IN THE STANDARD PLANS

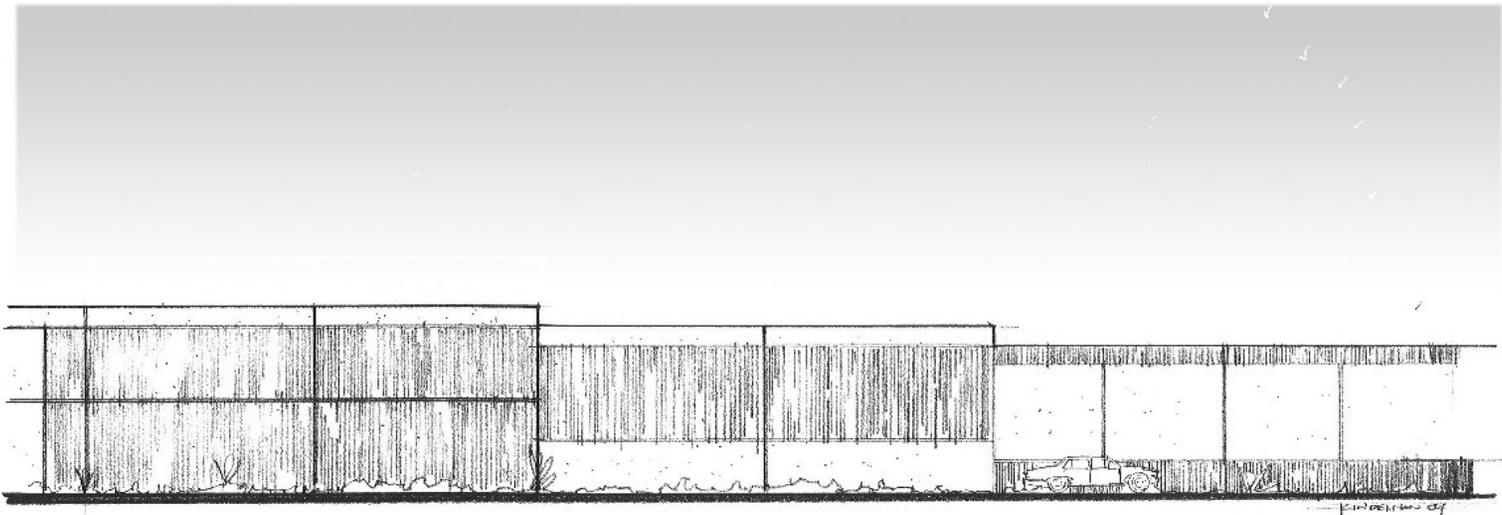
- *Reinstate the use of Standard Plan D-2o where pilasters are structural and visible elements.*
- *Provide a new Standard Plan D-2p where pilasters are structural yet not highly visible elements.*
- *For Standard Plan walls detail rustication grooves and combinations of smooth finishes in the surface treatment that correspond to typical dimensions of industry standard concrete form liners thereby allowing the contractors to use less expensive ‘ABS’ material.*
- *Provide a ‘catalog’ of QPL approved standard off—the-shelf concrete form liners.*
- *Refine Standard Plan D-2.78-00 Timber Panel on Trench Footing. The design will prove effective in uses dictated by the 2007 Legislative Noise Proviso.*

Reinstate Standard Plan D 2o

Visible pilasters



Standard Plan Concrete Surface Treatments



ELEVATION VIEW OF STANDARD PLAN D-2.02-00
SHOWING RUSTICATION GROOVES CORRESPONDING
TO TYPICAL DIMENSIONS OF CONCRETE FORMLINERS.

NOISE WALL COST EFFECTIVE/AESTHETICS TASK FORCE
RECOMMENDATIONS TO CHANGES IN THE STANDARD PLANS  Washington State Department of Transportation

- ABS and Elastomeric Formliners

Formliner Catalog.

- Standard 'off-the-shelf' QPL Form Liners

WSDOT

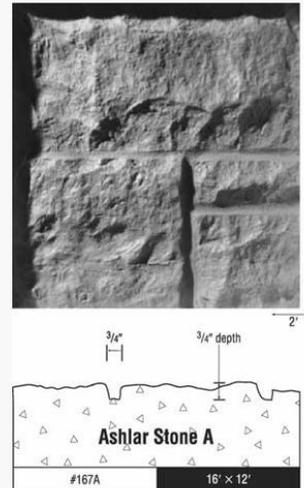
Standard Concrete Finishes

For Bridge & Structure Construction in Highway Projects



Paul Kinderman PE AIA
State Bridge and Structures Architect

Ashlar Stone Finish



- Random cut stone texture.
 - Ideal use in projects requiring stone finish of concrete surfaces.
- Typical uses:**
- I-405

New Products List



NEW PRODUCTS LIST



- *“WSDOT should develop a means for the "New Products" to get into the field as a production item on "pilot projects".*
- *A "Lessons Learned" database for the "New Products" should be created.*

New Products List: Pilot Projects

- Allan Block Fence
- Stonehenge Concrete Walls
- Ultrascreen Sight and Sound Barrier
- Tuff Fence



Allan Block



Stonehenge



Ultrascreen



Tuff Fence

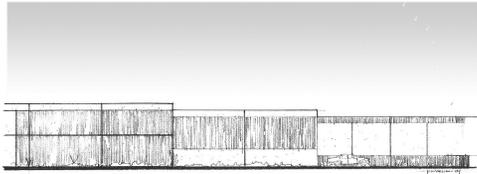
National and International Practice



EXAMPLES OF
TRANSPARENT NOISE
WALLS IN EUROPE

- “The Task Force recommends no further research.at this time”
- “..Intensive internet search.little information on costs and installation.....”

Roadside Treatment and Highway Corridor Continuity



STANDARD PLAN SURFACE TREATMENTS



NEW ADDITIONS STANDARD PLANS

- *Coordinate with Landscape Design disciplines to emphasize the 'continuum of green-over-gray' principles that decreases the requirement for concrete surface treatments.*
- *Look for opportunities to use New Products where landscape features obscure differences in corridor materials.*



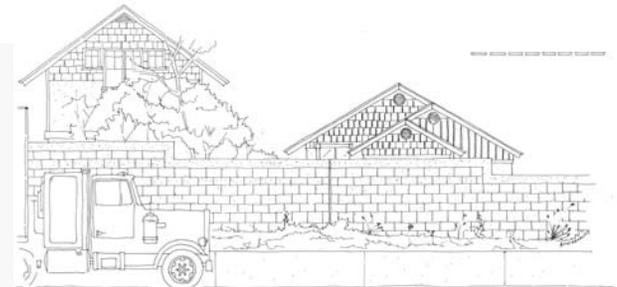
NEW PRODUCTS LIST

Roadside Treatment and Highway Corridor Continuity

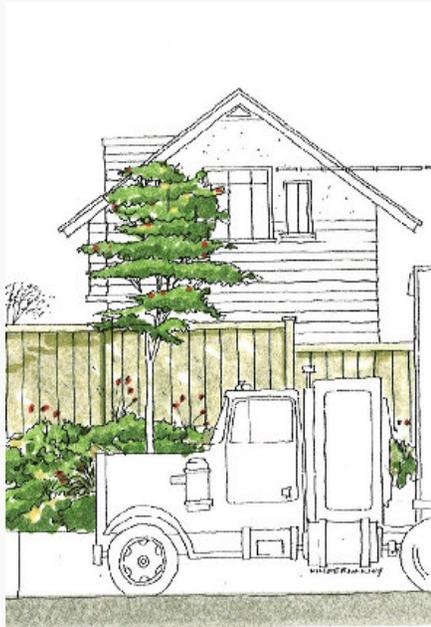


NEW PRODUCTS NOISE WALL OBSCURED
BY LANDSCAPE ELEMENTS

- INTEGRATION OF NOISE WALLS AND LANDSCAPE ELEMENTS



2007 Legislative Noise Proviso



2007 LEGISLATIVE PROVISO

“Community-scale noise alternatives that transportation projects may consider where noise impacts do not meet requirements for noise abatement, but opportunities for enhancements exist within the project scope.”

2007 Legislative Noise Proviso

- COMMUNITY SCALE EXAMPLES



*Standard Plan D-2.78-00 Timber Panel
on Trench Footing*

WSDOT Noise Wall Cost Effective/Aesthetic Task Force

Findings

For Questions
Mia Waters NWR Noise & Air Quality Office
Paul Kinderman PE AIA State Bridge and Structures Architect