Environmental Issues

Noise

Visual impact
Sources of Noise

- Machinery House
- Trolley Runway
- Trolley
- Festoon
Rope Towed Trolley

Machinery on Trolley
# Noise Levels Without Abatement

<table>
<thead>
<tr>
<th>Distance</th>
<th>Noise Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>115 dB(A)</td>
</tr>
<tr>
<td>200 feet (60 m)</td>
<td>70 dB(A)</td>
</tr>
</tbody>
</table>
# Noise Abatement Strategy

<table>
<thead>
<tr>
<th>Component</th>
<th>Abatement Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery House</td>
<td>Noise absorbing panels, Isolated machinery bases</td>
</tr>
<tr>
<td>Trolley Drive</td>
<td>8 Wheels, Cushioned suspension</td>
</tr>
<tr>
<td>Festoon Trolley</td>
<td>Synthetic Wheels</td>
</tr>
<tr>
<td>Girder and Boom</td>
<td>Not practical</td>
</tr>
</tbody>
</table>
# Noise Levels With Abatement

<table>
<thead>
<tr>
<th>Distance</th>
<th>Noise Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>100 dB(A)</td>
</tr>
<tr>
<td>200 feet (60 m)</td>
<td>55 dB(A)</td>
</tr>
</tbody>
</table>
Case Study: Ceres Paragon Terminal in Amsterdam

Terminal and Surrounding Neighborhood
Visual Impact

Crane Configurations
Key Features

Case Study
Crane Configurations
Visual Impact – Crane Configuration

Conventional Crane
Boom Stowed

360' (110 m)
Conventional Crane - Operating Mode

450' (138 m) OVERALL

250' (74 m)

100' (30.5 m)
Conventional Crane - Stowage Mode

300’ (90 m)

100’ (30.5 m)
Articulated Boom Crane

Normal Stow and Maintenance Mode

250’ (75 m)

100’ (30.5 m)
Articulated Boom (18-Wide)
Low Profile Crane – 22 Wide

Operating Mode

410’ (125 m)

185’ (54 m)

100’
Low Profile (16-Wide)

Aircraft Clearance Line
Features - Conventional Cranes

Highest profile with boom stowed
Least Expensive
Lowest Wheel Loads – Less Wharf Cost
No Tie-downs for West Coast, USA
Features - Articulated Boom Cranes

Intermediate height with boom stowed

Length comparable to conventional

Price – 5% Premium Over Conventional Cranes

Wheel Loads Comparable to Conventional Cranes

No Tie-downs for West Coast, USA
Features – Low Profile Cranes

- Lowest profile
- Length comparable to conventional
- Price – 50% Premium Over Conventional
- Wheel Loads – 25% Higher Than Conventional
- Ballast Required for Stability, Tie-downs Not Desirable
Visual Impact

Subjective
Depends on Viewer Location
Options Have Pros and Cons

Color Schemes May Mitigate Some
Case Study

Port of Los Angeles
West Basin Container Terminal
Evergreen Terminal
Visual Impact Case Study

Port of Los Angeles

The Sites:
Evergreen Terminal Berths 227 – 232

West Basin Container Terminal Berth 100

Courtesy- Jones and Stokes
Existing Cranes (Evergreen Terminal)
Rendered Conventional Cranes (Evergreen Terminal)
Rendered Low Profile Cranes (Evergreen Terminal)
Existing Conventional Cranes (WBCT)
Rendered Low Profile Cranes (WBCT)
Thank You

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