



To: General Purposes Committee
From: Greg Scott, P. Eng., LEED A.P.
Director, Major Projects

Date: February 18, 2008
File: 10-6525-07-01/2008-Vol 01

Re: No. 3 Road Restoration Project – Special Effect Lighting Update

Staff Recommendations

That staff report entitled No. 3 Road Restoration Project- Special Effect Lighting Update, dated February 18, 2008 be received for information.

Greg Scott, P. Eng., LEED A.P.
Director, Major Projects
(604-276-4372)

Att. No. 3 Road Restoration Project – Public Art Update Presentation (REDMS Doc # 2344995)

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Culture and Heritage.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Budgets and Accounting.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	REVIEWED BY CAO	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

Richmond City Council endorsed the No. 3 Road restoration preliminary design and the \$24M cost estimate on June 25, 2007 and also expressed interest in the following 3 supplemental streetscape enhancements (that were not included in the cost estimate):

- Retail/Commercial Kiosks at Canada Line transit stations;
- Special Effect Lighting of the Canada Line elevated guideway; and
- Landscape Enhancements, specifically larger plant material at the initial time of planting.

As part of the funding strategy for the restoration of No. 3 Road, Canada Line (CLCO) has contributed \$2M for enhancement of the guideway structure. The purpose of this funding was to better integrate the elevated guideway into the urban fabric along the east side of No. 3 Road. This funding forms part of the \$24M budget and covers streetscape enhancements provided in the base design.

Analysis

Proposed Treatment of Guideway Columns

In order to help integrate the Canada Line elevated guideway with the adjacent urban fabric it is proposed to improve the appearance of the approximately 80 Canada Line guideway columns between Sea Island Way and Cook Road with either 'Green Screens' or 'Art Wraps'. 'Green Screens' consist of tubular metal mesh, approximately 3m high around selected guideway columns and will eventually be covered with climbing vines. 'Art Wraps' are metal/plastic circular display cases, approximately 3m high surrounding selected guideway columns intended to exhibit poster art. These proposed guideway enhancements will be part of the base level No. 3 restoration project improvements. However, the 'Art Wraps' assume the establishment of a new complementary public art program. Richmond staff recently provided an update presentation to the Richmond Public Art Commission (RPAC) regarding the restoration of No. 3 Road including the intention to provide either 'Green Screens' or 'Art Wraps' for the guideway columns between Sea Island Way and Cook Road and received a positive response. As an interim measure, IBI Group will provide inexpensive but attractive graphic art placeholders for the 'Art Wraps' as part of the No. 3 Road Restoration Project until the such time as a commentary public art program is developed and poster art from local artists is available. Cultural staff will prepare a report on the Art Wraps Art Program with associated costs for Council consideration.

Possible Special Effect Lighting of Elevated Guideway

City staff has been working with Lightworks, a designer/supplier of performance lighting solutions to develop and test possible special effect lighting treatments of the elevated guideway. An initial test of the special effect lighting was conducted during the first week of November 2007. A news release was issued and a notice was published in the local papers requesting public feedback. Several special effect lighting configurations were tested and 13 e-mail responses were received, 12 in favour and 1 opposed. Several of the responses noted that the light source was visible to drivers creating a distraction while others had suggestions regarding the placement of lights and selection of colours. Thus far, this exercise has been valuable, confirming performance characteristics for a variety of lighting configurations and revealing a few unanticipated results, however City staff are not satisfied with the results to date. It was learned that the guideway concrete has a sheen that negatively impacts the reflection of light and contrary to photographic images taken of the special effect lighting, the LED colour wash lighting lacked sufficient intensity and uniformity. As a solution, Lightworks has proposed a revised strategy for special effect lighting of the elevated guideway that is intended to create a more dramatic display. A second test to demonstrate this revised special effect lighting demonstration is proposed in the near future.

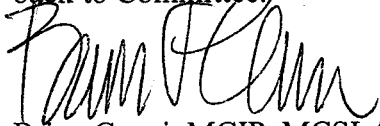
- Base level restoration of No. 3 Road includes underground conduit to all guideway columns for future electrical service with electrical power to the six (6) guideway columns immediately north of the Lansdowne Station only. This will permit a limited installation of special effect lighting at a later date if Council wishes with minimal reconstruction impacts.
- Lightworks have been and continue working with Richmond staff to demonstrate possible special effect lighting treatments of the Canada Line elevated guideway along No. 3 Road at no cost to the City. However it is anticipated that if a suitable special effect lighting treatment of the Canada Line elevated guideway can be demonstrated by Lightworks, staff with report back to Committee.

Financial Impact

There are no financial impacts, at the present time.

Conclusion

A new public art program will be required to complement the 'Art Wraps'. Further testing is required to achieve suitable special effect lighting of the guideway structure. If appropriate decorative lighting can be demonstrated then it will be possible to quantify the cost implications, then staff will report back to Committee.



Brian Guzzi, MCIP, MCSLA
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BG:bg

No. 3 Road Restoration – Special Effect Lighting Update

Canada Line Project

Canada Line System Overview – Configuration, Route & Stations

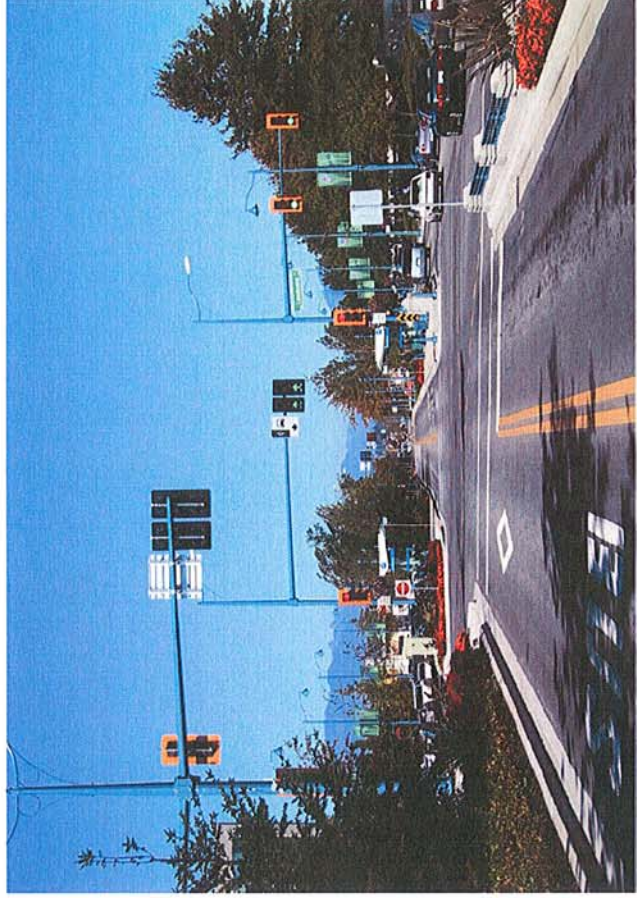


No. 3 Road Restoration Project

Streetscape Design Principles

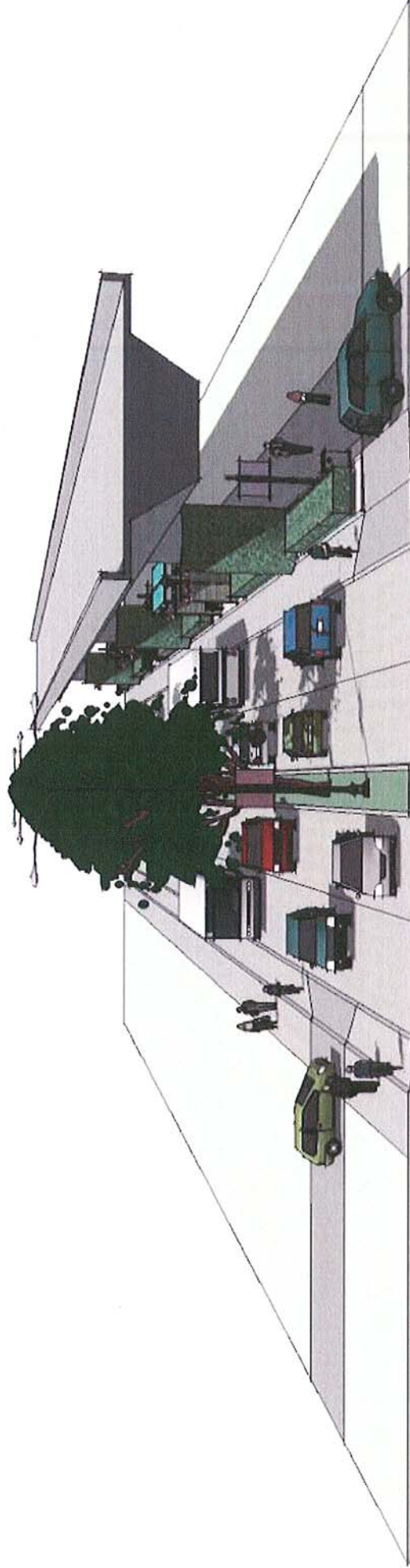
Guiding principles for the restoration of No. 3 Road are:

- Great Streets Design Principles
- Transit-Oriented Development (TOD) Design Principles
- Restoration of No. 3 Road to an Equivalent Pre-existing Condition



No. 3 Road Restoration Project
Streetscape Vision
Council Approved Streetscape Design

Opening Day

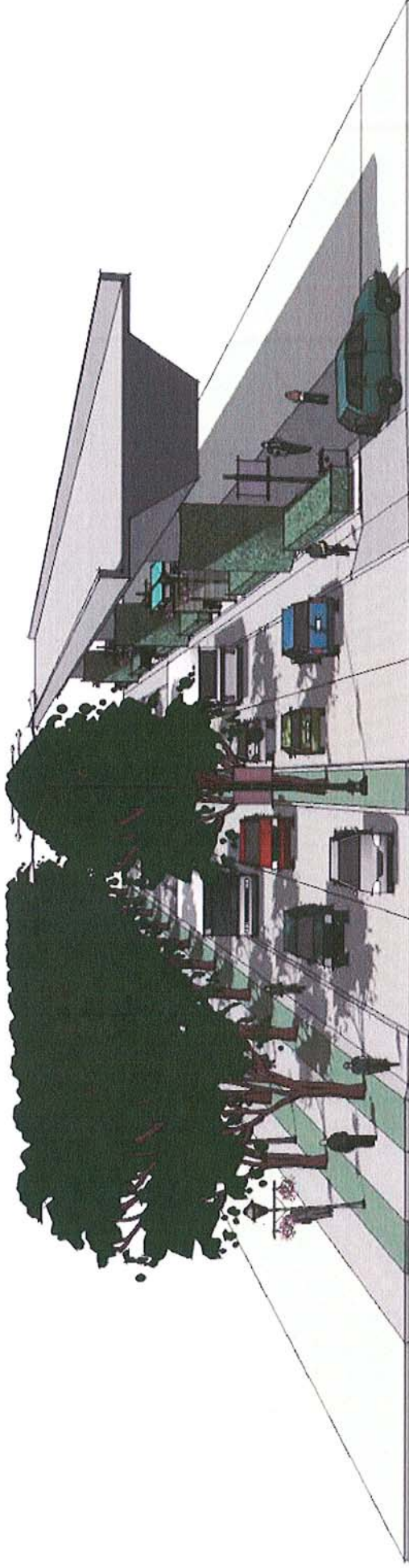


No. 3 Road Restoration Project

Streetscape Vision

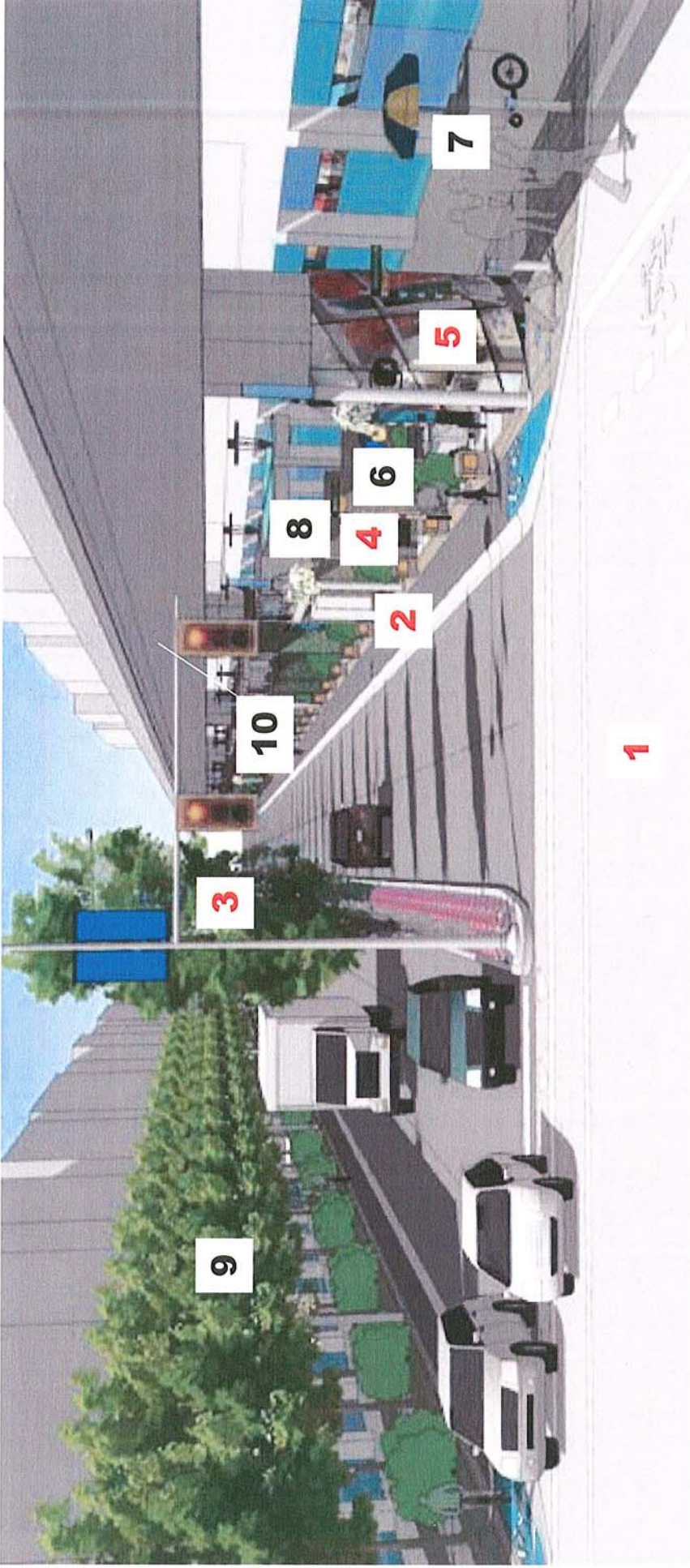
Council Approved Streetscape Design

Long Term



Streetscape Vision

Base Level Improvements vs. Future Streetscape Improvements



Proposed Streetscape Improvements

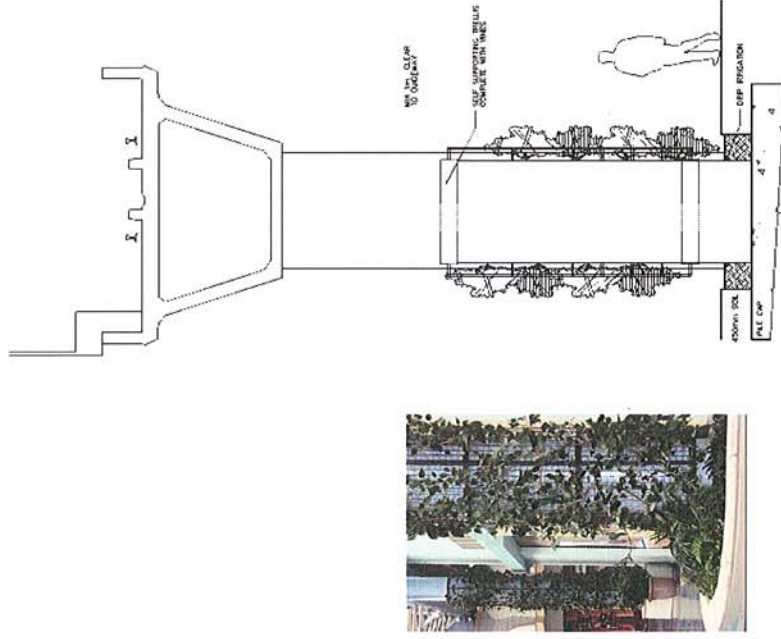
1. Intersection Crosswalk Treatment
2. Raised Bike Lanes (MRN eligible)
3. Centre medians (Planting & Lighting)
4. Street Furniture
5. Column Greening/Art

Future Streetscape Improvements

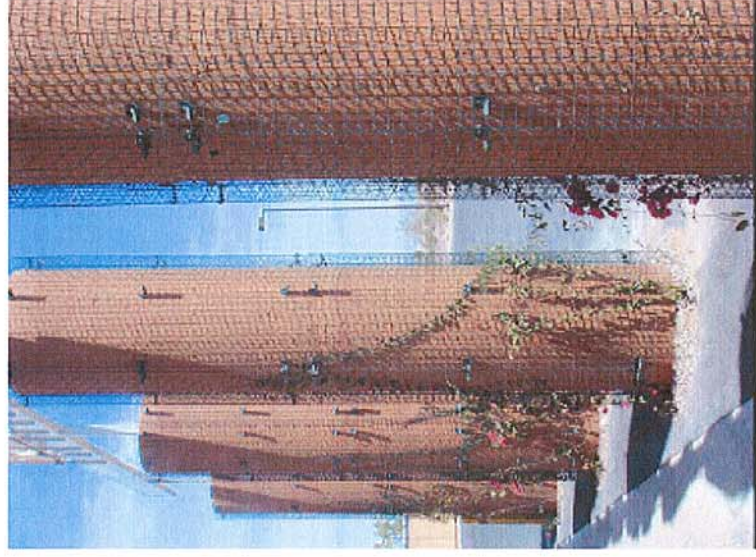
6. Bus Stops (by separate contract)
7. Portable Retail Kiosks (future)
8. Permanent Retail Kiosks (future)
9. Second Row of Trees (future)
10. Guideway Lighting/Art (opportunity)

Integrated Public Art Opportunities

- There are several integrated public art opportunities with the restoration of No. 3 Road
- Green Screens & Art Wraps will help to soften the visual impact of the Canada Line.
 - Inspirational phases on select furnishings & appointments will recall the 2010 Olympics.
 - Colour wash special effect lighting of the columns/guideway could add visual interest.
 - Gobo special effect lights could project colour & patterns on the ground plane or walls.



Greening Columns with Vines

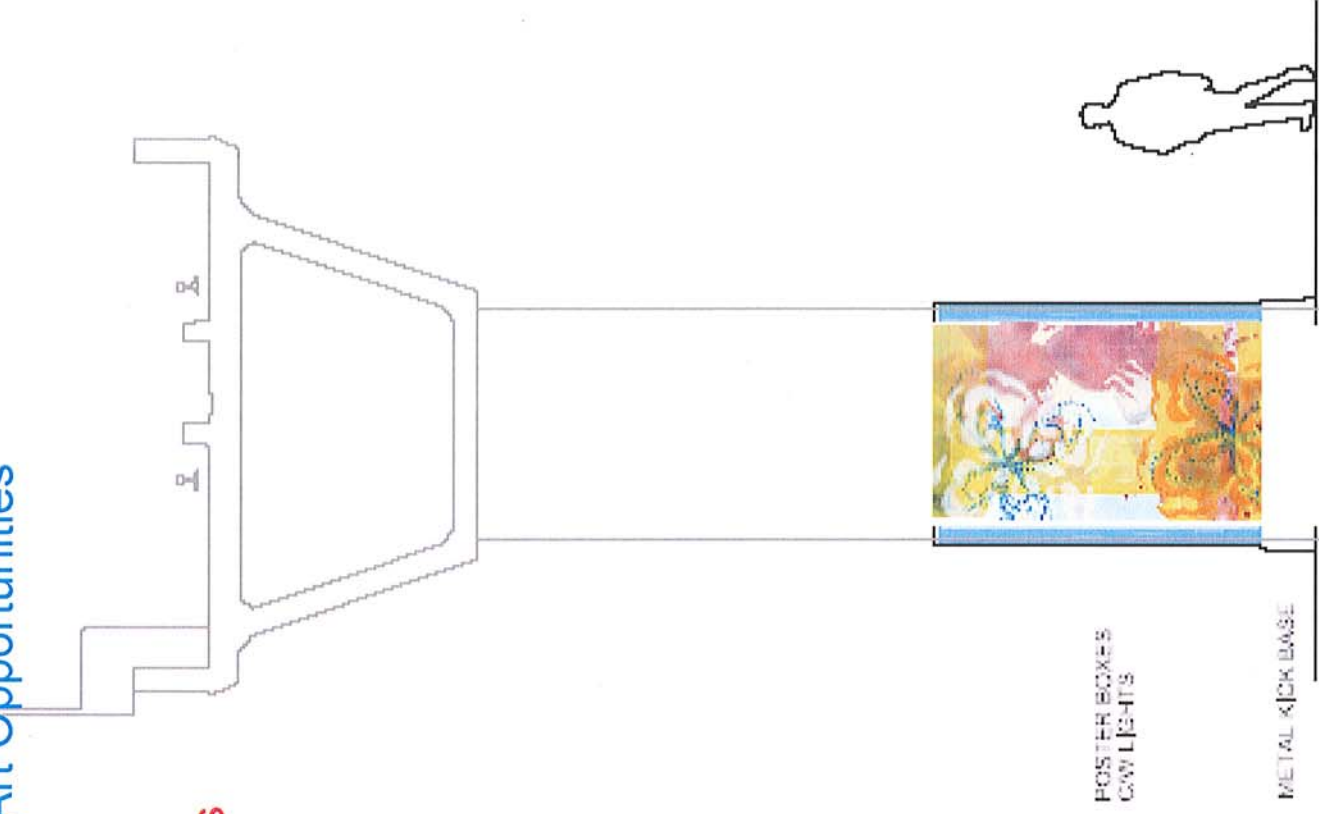
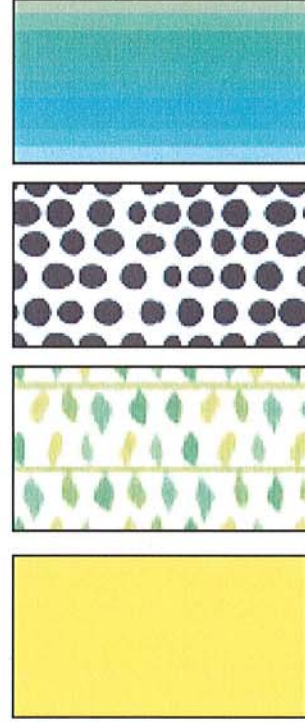


Column Art Wraps

Column ‘Art Wraps’

Guideway Column ‘Art Wraps’ or Poster Art Displays

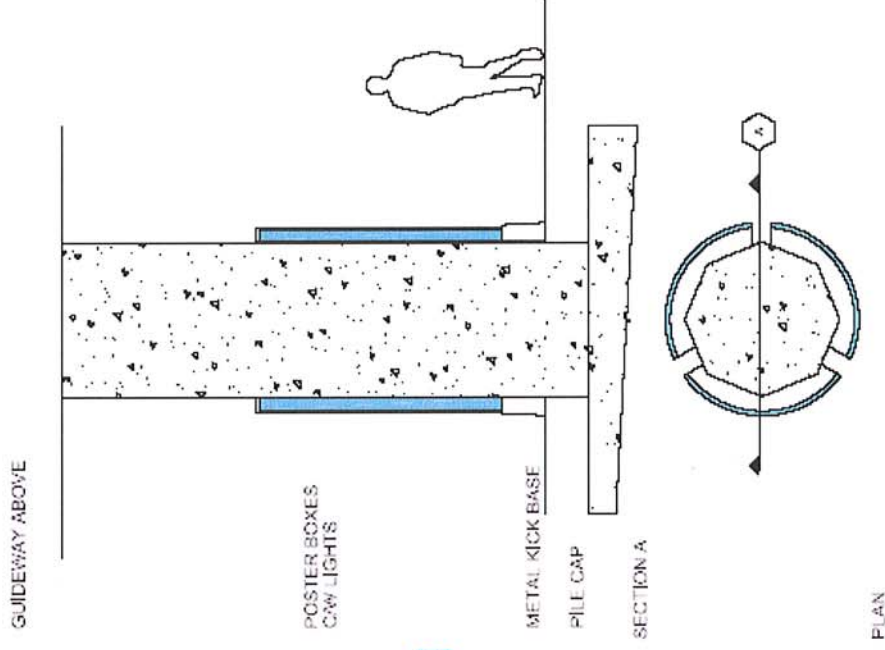
- Public art display cases will be designed and constructed to surround a select number of guideway columns.
- Poster art panels (eg. patterns & colour) will be developed as place-holders until a Richmond public art program can be implemented,



Column ‘Art Wraps’ (cont’d)

Implications

- ‘Art Wraps’ or public art cases can be used to display graphic art panels designed by local artists as part of a new community public art program, however
- A compatible public art program, ideally developed and administered by the Richmond Public Art Commission is required to coordinate the involvement of local artists.



Showcase for Art

Guideway Special Effect Lighting

Possible Guideway Structure Special Effect Lighting Treatments

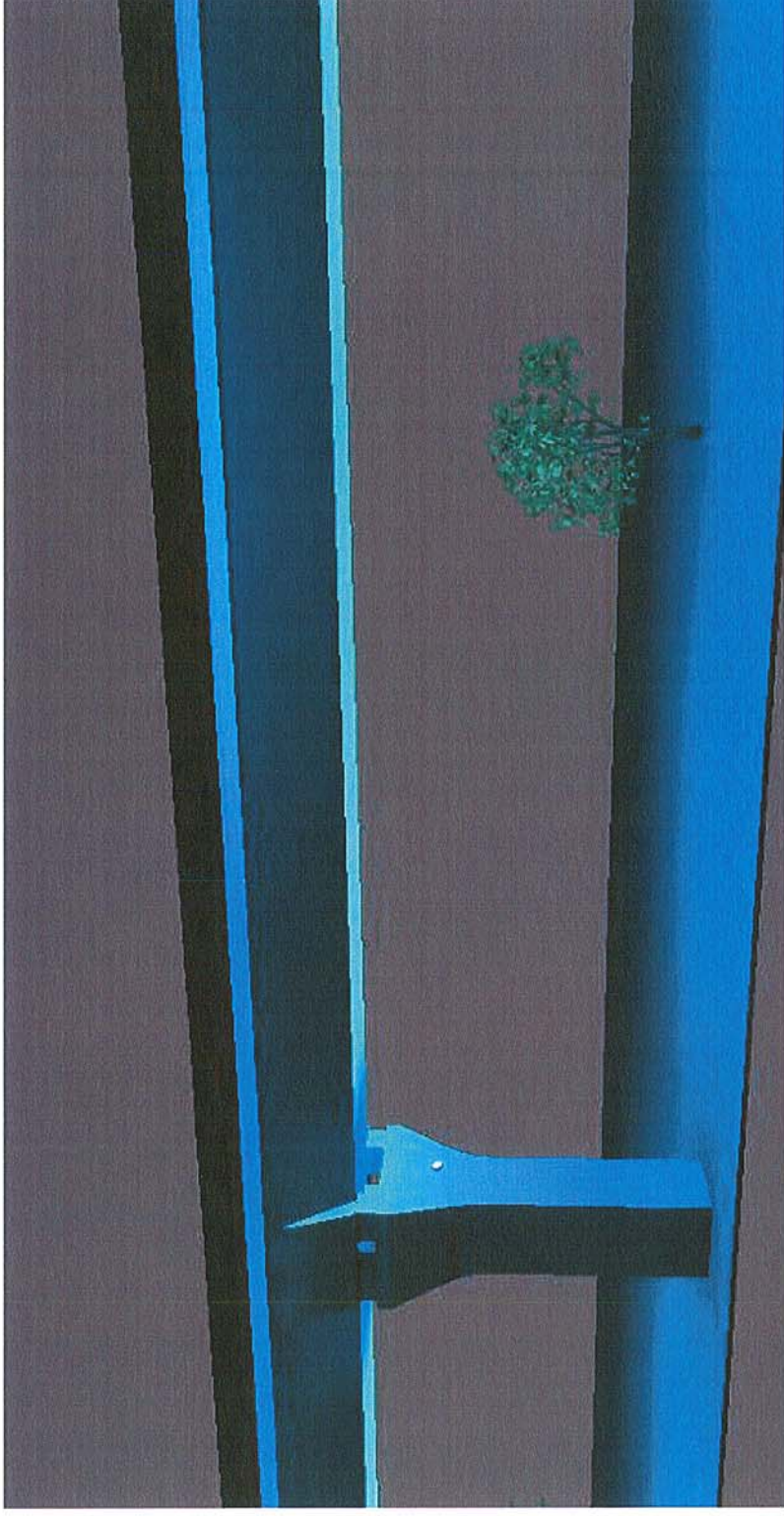
- Council expressed interest in special effect lighting since it was understood that:
 - this will help to animate the pedestrian realm; and
 - may contribute to enhance public safety through an increase in ambient light levels.
- Lightworks is a designer/supplier of performance lighting solutions and recently tested special effect lighting for the No. 2 Road Bridge.



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

- Staff continue working with Lightworks to identify, design & test special effect lighting ideas for the Canada Line guideway structure and developed the initial design concept.



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

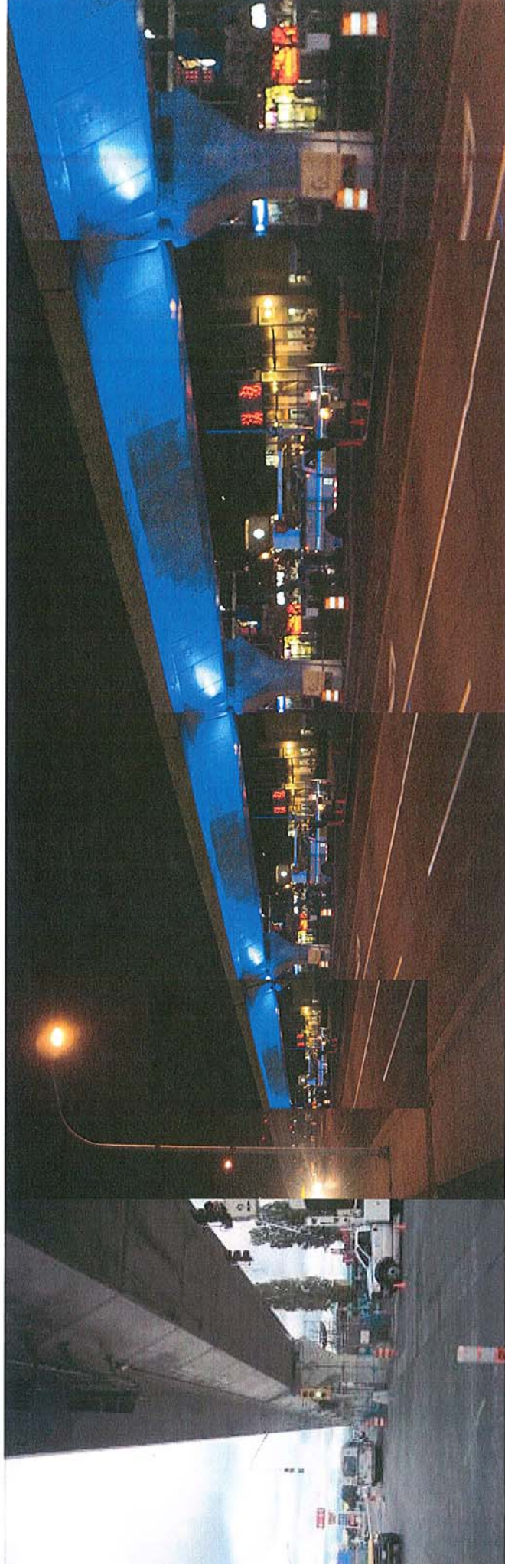
- Special Effect Lighting Test # 1 was publicly advertised & conducted in November 2007



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

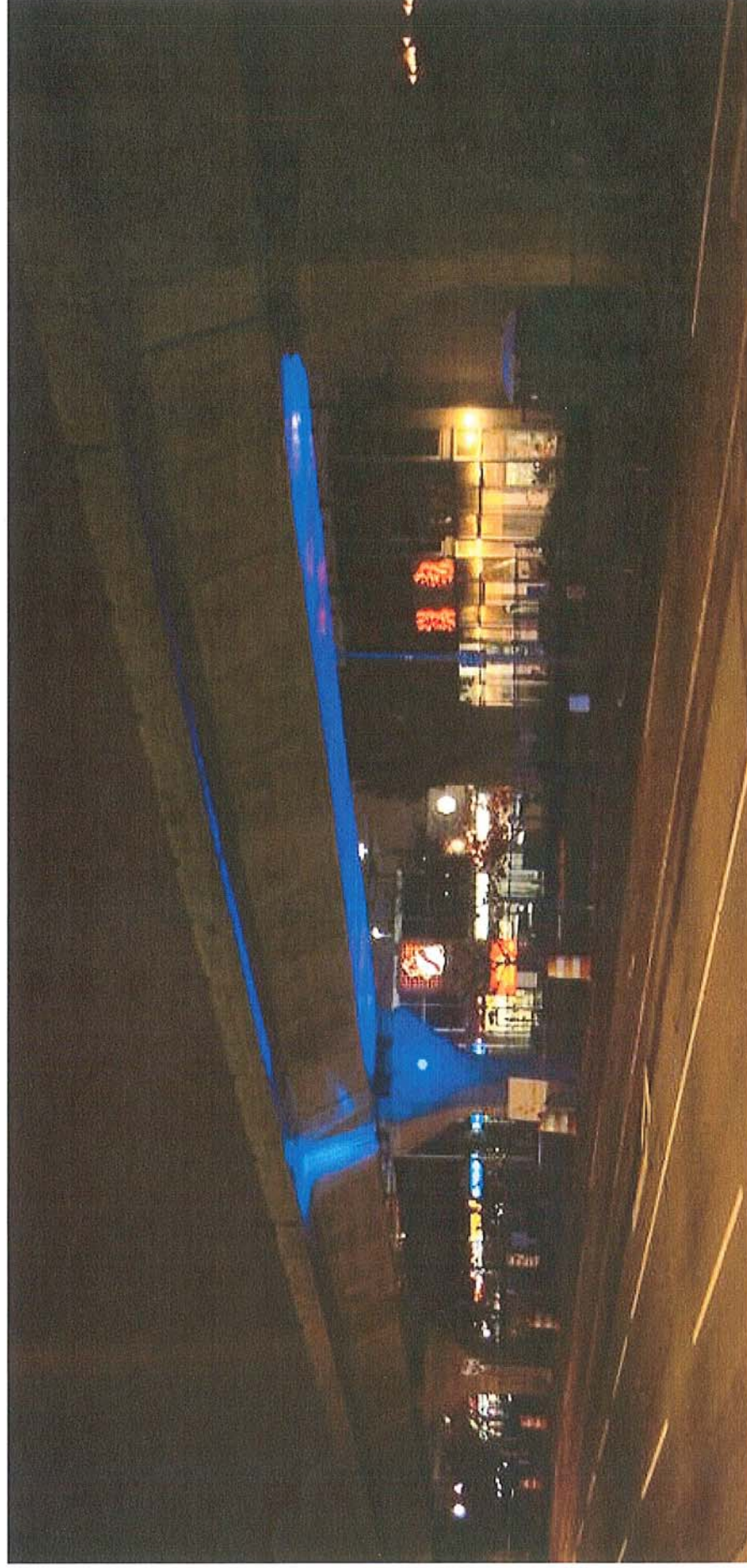
- Digital representation of the intended larger scale special effect lighting treatment.
- Lessons learned include:
 - reflection angle, colour selection & placement of lights are important,
 - baffles are required to shield the light source from vehicle traffic, and
 - colour wash intensity and uniformity requires improvement.



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

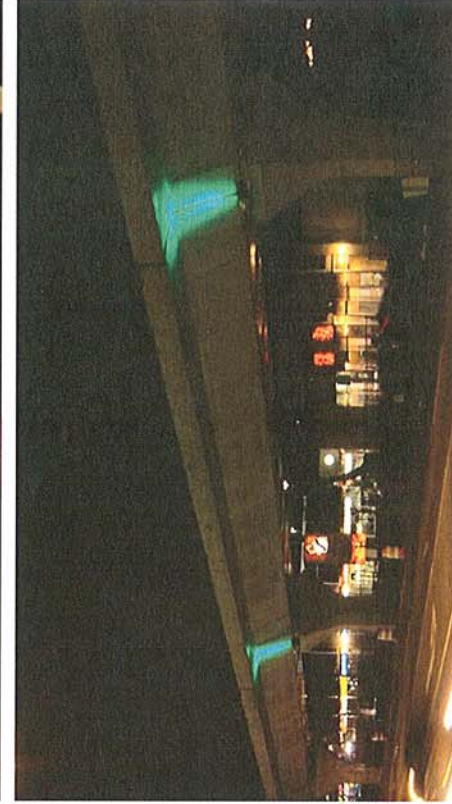
- Various placements of the special effect lights were tested (beside & under the guideway)



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

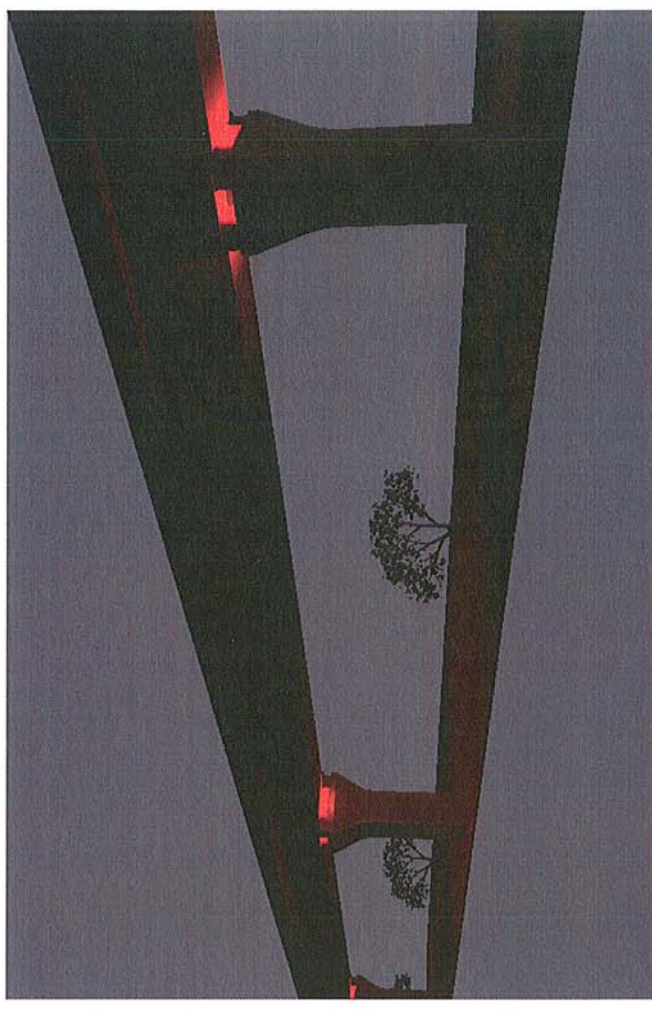
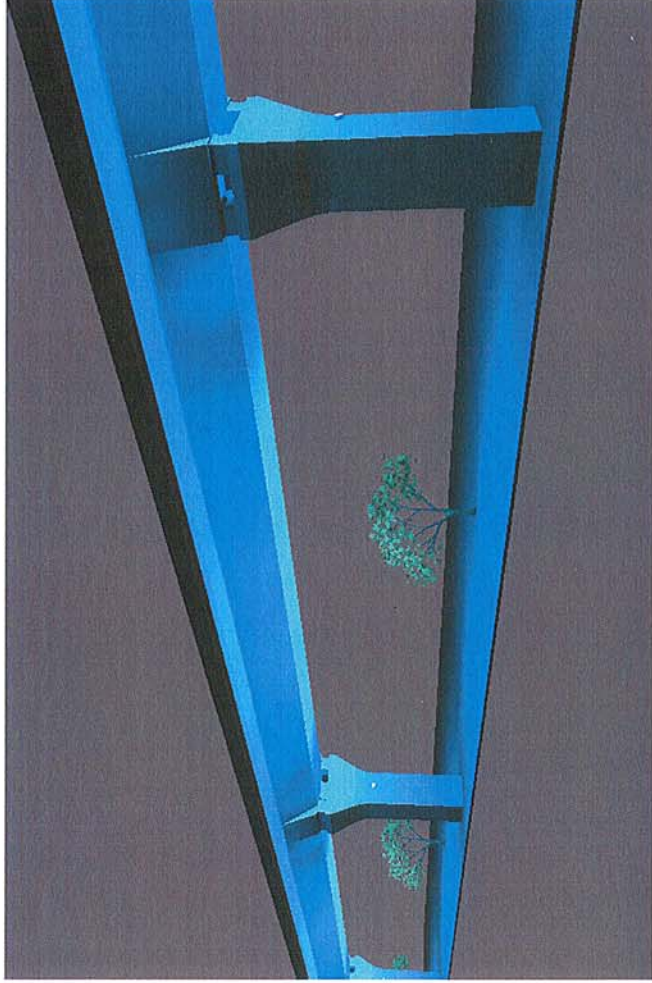
- Several other complementary configurations were also tested



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

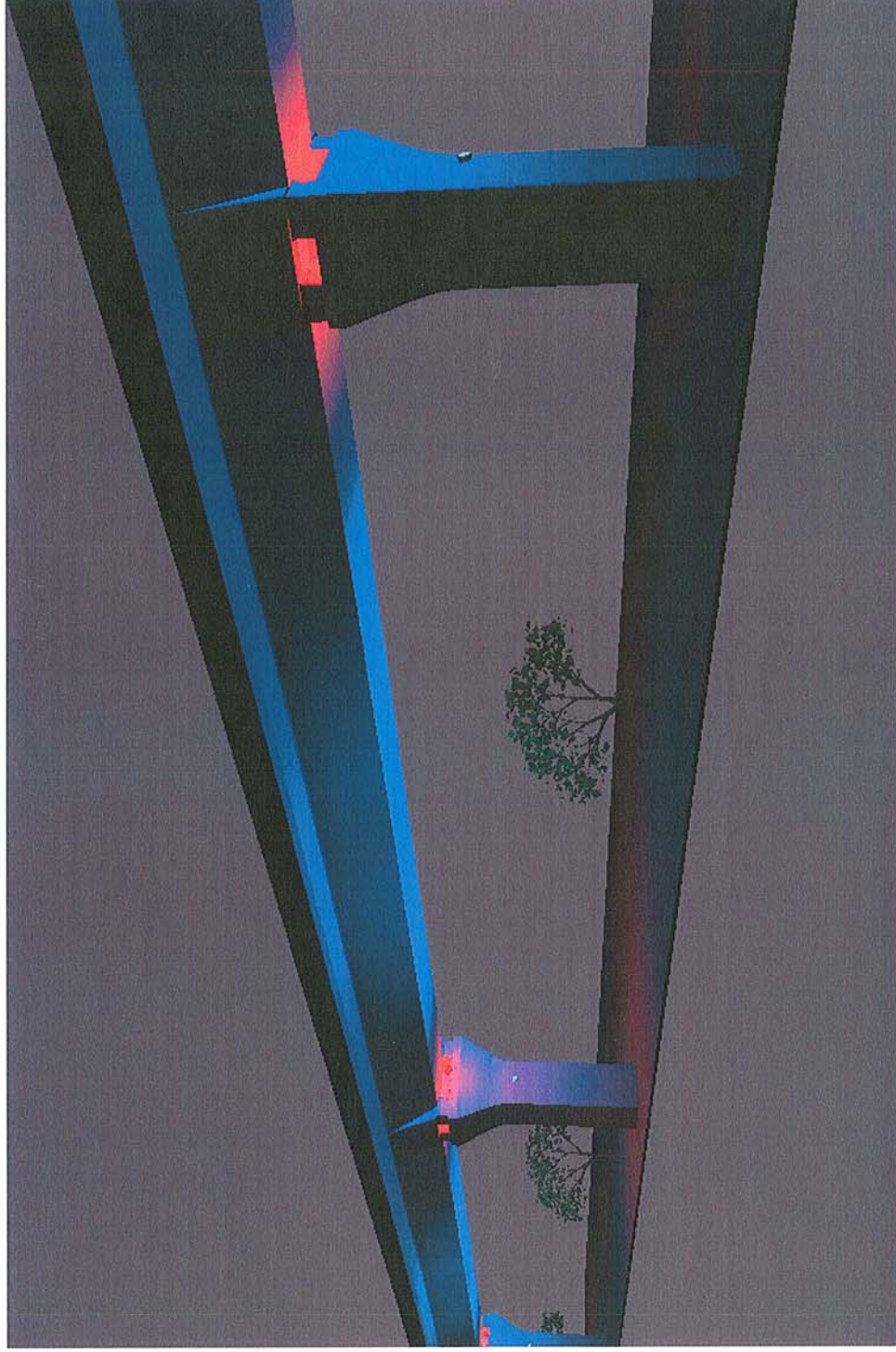
- Recently proposed design refinements include:
 - Reposition the LED light fixtures lower (possibly attached to the Green Screen),
 - Introduction of LED fixtures at top of the guideway column (adjacent to bearing pads) &
 - Consideration of 'Gobo' projection lights.
- Staff request support to proceed with Special Effect Lighting Test # 2



Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

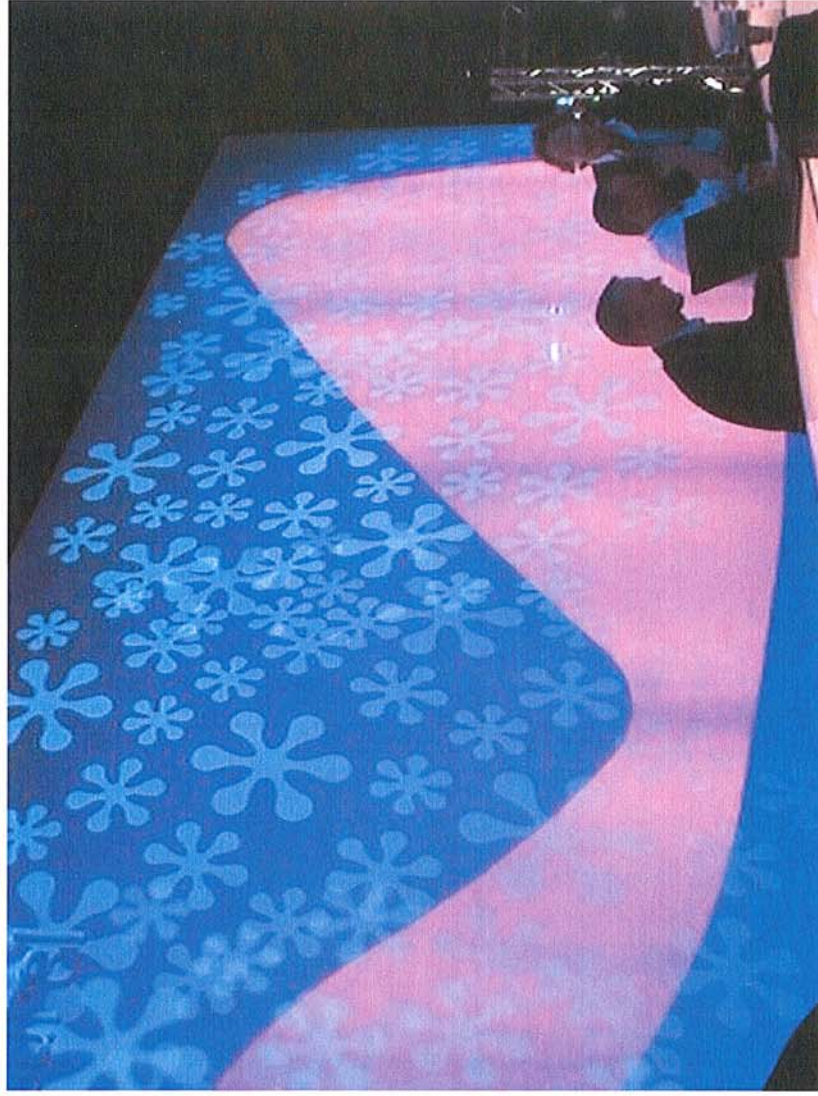
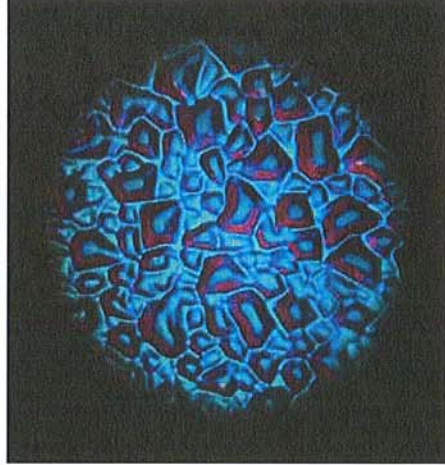
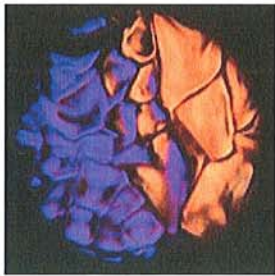
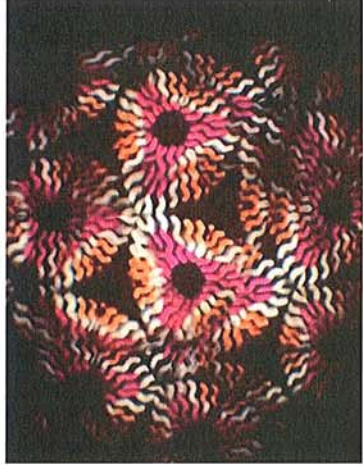
- Digital representation of proposed new special effect lighting treatment to be tested.

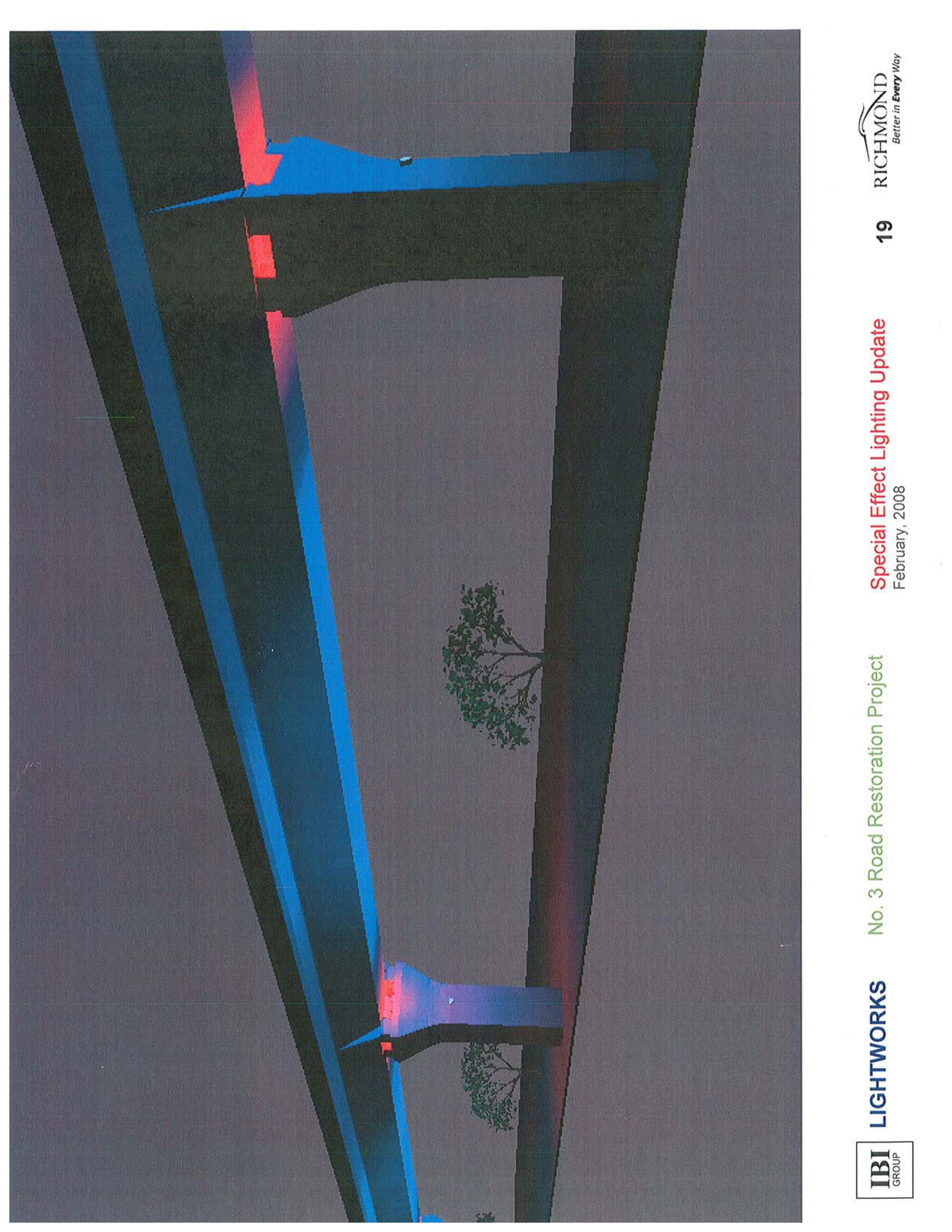


Guideway Special Effect Lighting (cont'd)

Possible Guideway Structure Special Effect Lighting Treatments

- Gobo lights can project colour & patterns onto the paving under the guideway.
- New interactive projection lighting technologies will also be investigated.





LIGHTWORKS

No. 3 Road Restoration Project

Special Effect Lighting Update
February, 2008