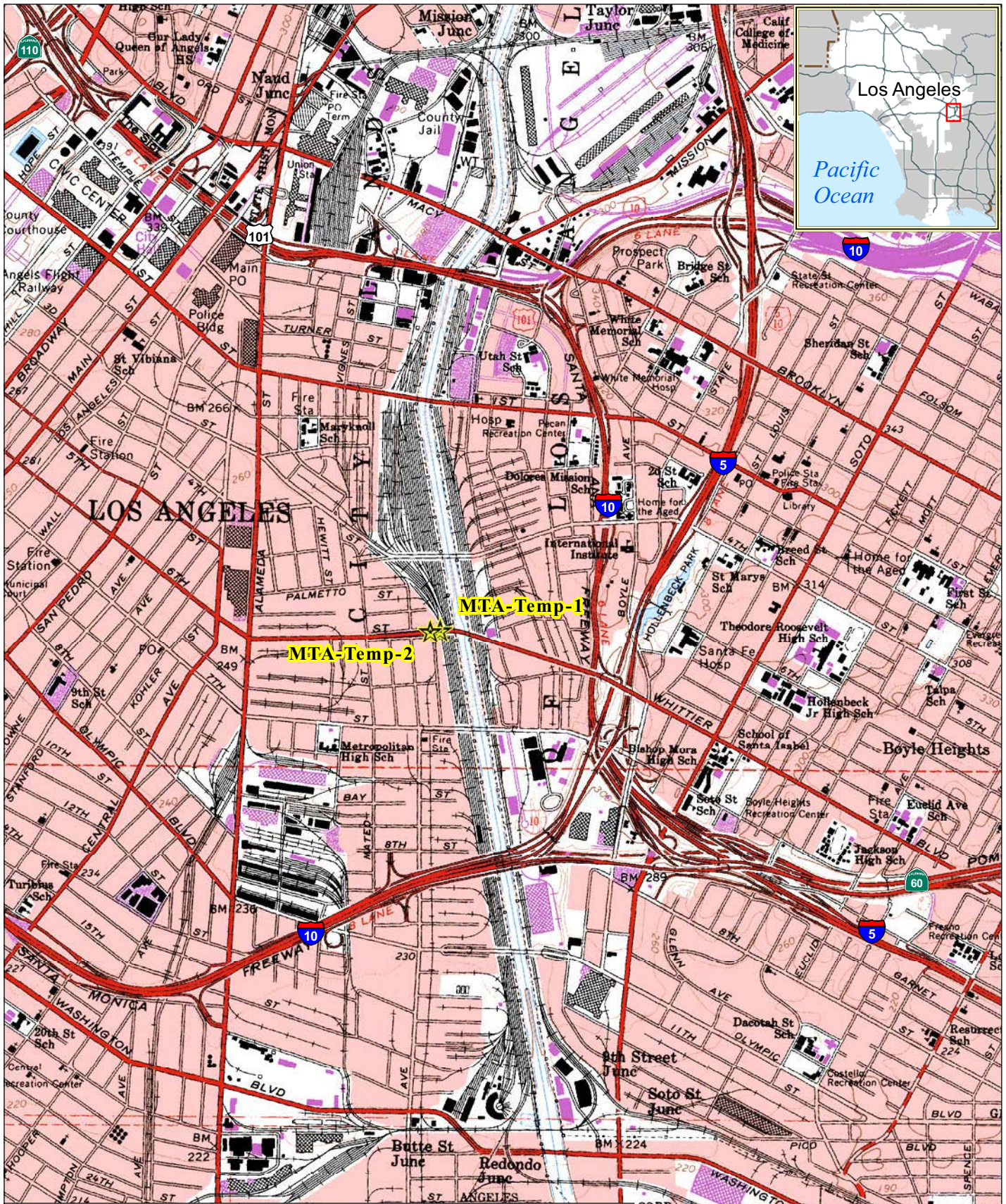
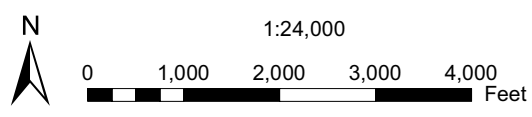


Appendix B
Department of Parks and Recreation Forms
523 Series
Identified Archaeological Sites



Legend
 ★ Sites Recorded

1:24,000-scale USGS Topo Map Name:
 LOS ANGELES (1981)



CONFIDENTIAL

Source: [1] URS Corp. - isolates recorded March 2010, [2] CA DRG, 7.5 Minute (O) Series, scanned USGS topographic maps from CA Spatial Information Library (CaSIL).

Metro Westside Extension Cultural Resources DPR(523) Series

**SITE LOCATION MAP
 MTA-Temp-1 & MTA-Temp-2**

2010

T:\MetroWestsideExtension\deliverables\MetroWestsideExtensionDPR523_SiteLocationMap.mxd

*A1. Dimensions: a. Length: 15m. N/S × b. Width: 7.5m. E/W

Method of Measurement: Paced Taped Visual estimate Other:

Method of Determination (Check any that apply.): Artifacts Features Soil Vegetation Topography
 Cut bank Animal burrow Excavation Property boundary Other (Explain):

Reliability of Determination: High Medium Low Explain:

Limitations (Check any that apply): Restricted access Paved/built over Site limits incompletely defined
 Disturbances Vegetation Other (Explain): Bioturbation, erosion, modern debris

A2. Depth: None Unknown Method of Determination:

*A3. Human Remains: Present Absent Possible Unknown (Explain):

*A4. Features: The site is a 15-20 meter patch of dirt underneath the 6th Street Bridge. The site is located east of Santa Fe Ave. and west of the railroad tracks.

*A5. Cultural Constituents:

HPRD- mostly comprised of historic period brick with some historic glass. There are approximately 15 artifacts. There are approximately 13 pieces of brick and 2 glass fragments, one of which is a base.

*A6. Were Specimens Collected? No Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

*A7. Site Condition: Good Fair Poor (Describe disturbances.):

*A8. Nearest Water: Los Angeles River, located 250 feet east of the site

*A9. Elevation: 437 ft. above sea level

A10. Environmental Setting: The site is located in an urban environment. The site is located about 250 feet west of the Los Angeles River and is on flat terrain.

A11. Historical Information: Historic materials located adjacent to the Factory north of the site, underneath the 6th Street Viaduct, and immediately west of the Railroad Tracks.

*A12. Age: Prehistoric Protohistoric 1542-1769 1769-1848 1848-1880 1880-1914 1914-1945
 Post 1945 Undetermined Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations:

A14. Remarks:

A15. References: Westside Subway Extension, Cultural Resources Technical Report

A16. Photographs: View north of the site, accession # 100_100_1908

Original Media/Negatives Kept at: URS Los Angeles

*A17. Form Prepared by: L. Solis, M.A., N. Orsi, B.A.

Date: 3/17/10

Affiliation and Address: URS Los Angeles 915 Wilshire Blvd., Suite 700
Los Angeles, CA 90017

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code

Reviewer

Date

Page 1 of 4

*Resource Name or #: MTA-Temp-1

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted

*a. County: Los Angeles

*b. USGS 7.5' Quad: Los Angeles Date: 3/17/10 T 1S; R 13W

c. Address: 606 Mesquit St.

City: Los Angeles

Zip: 90021

d. UTM: Zone: 11; 37671111.50 mE/

386536.65 mN (G.P.S.)

e. Other Locational Data: Elevation: 437 ft.

*P3a. **Description:** The site is a 15-20 meter by 7.5 meter patch of dirt underneath the 6th Street Bridge. The site is located east of Santa Fe Ave. and west of the railroad tracks. The location of the site is in an urban environment.

*P3b. **Resource Attributes:** AH16

*P4. **Resources Present:** Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo: View north, 3/17/10, accession # 100_1908

*P6. **Date Constructed/Age and Sources:** Historic Prehistoric Both

*P7. **Owner and Address:**
Los Angeles County MTA
One Gateway Plaza
Los Angeles, CA 90012-2952

*P8. **Recorded by:**
L. Solis, M.A., N. Orsi, B.A.
URS Corporation
915 Wilshire Blvd. Suite 700
Los Angeles, CA 90017

*P9. **Date Recorded:** 3/17/10

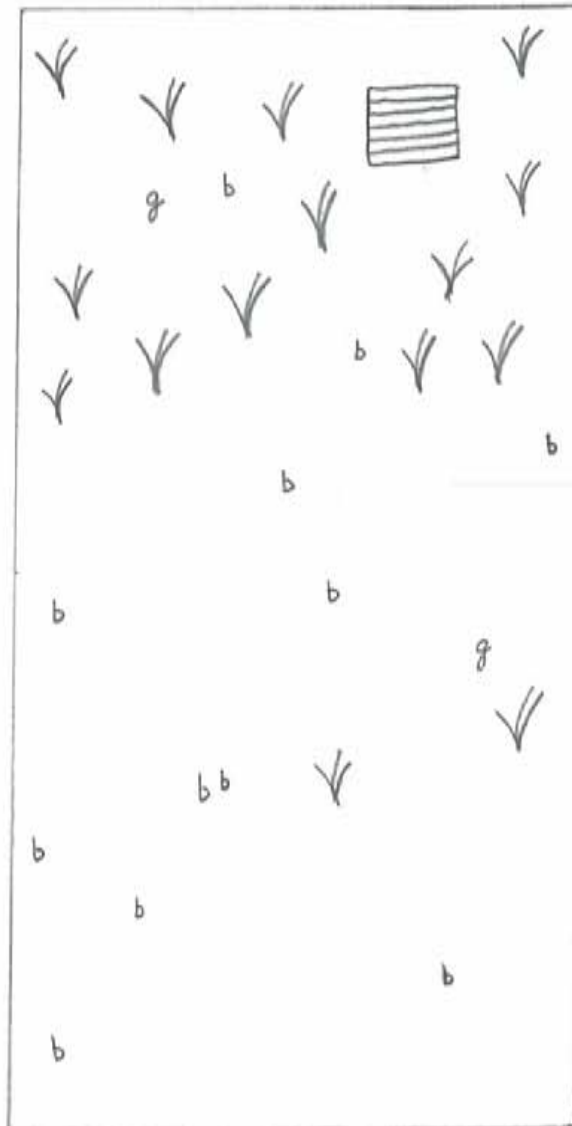
*P10. **Survey Type:** Phase 1
Archaeological Survey

*P11. **Report Citation:** Westside Subway Extension, Cultural Resources Technical Report


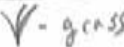
*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

DPR 523A (1/95)

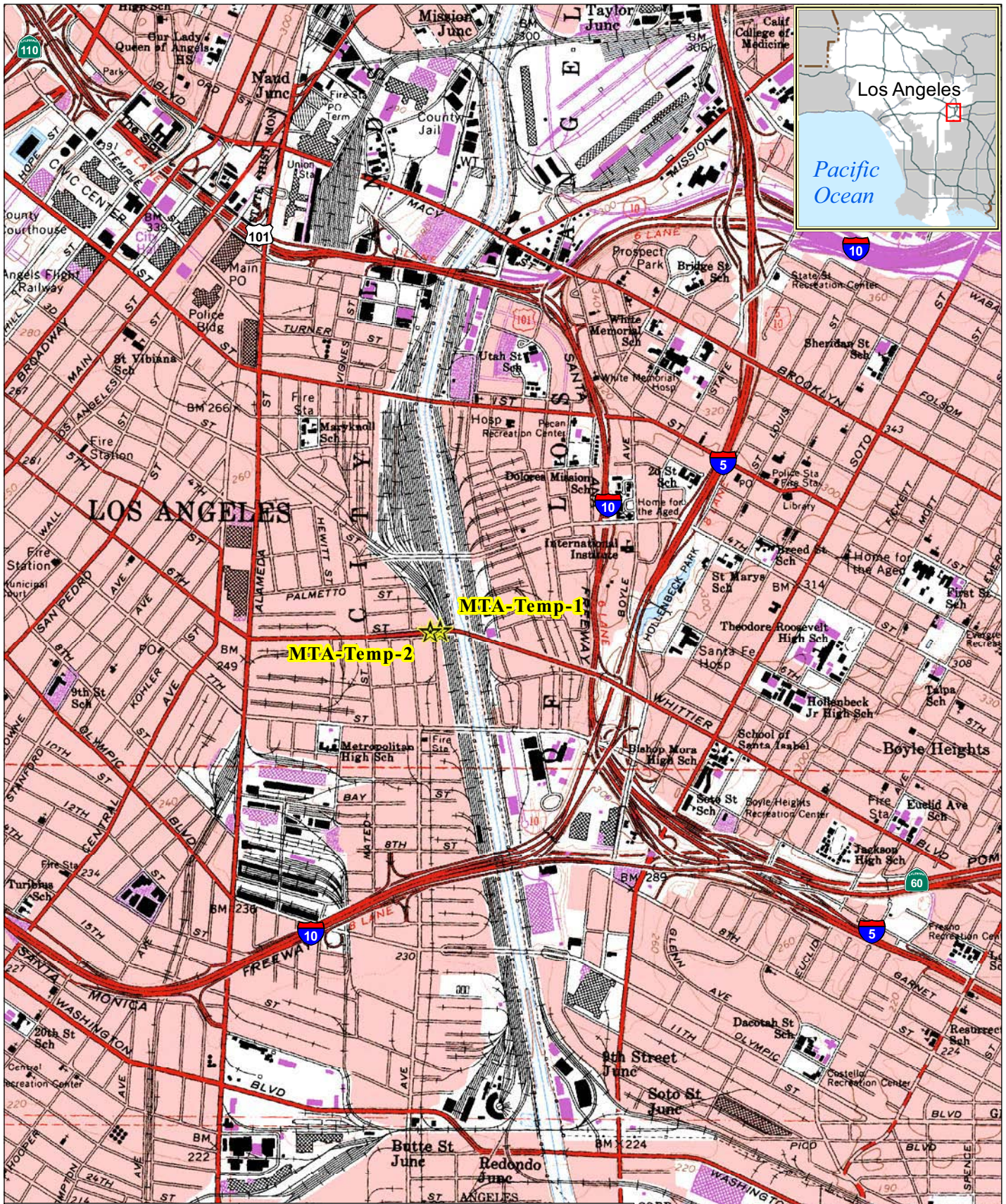
*Required information



Key:

- b - brick
- g - glass
-  - storm drain
-  - grass

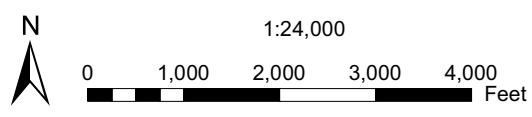
NOTE: Include bar scale and north arrow.



T:\MetroWestside\Extensions\deliverables\MetroWestside\Extensions\DPR523_Site_LocationMap.mxd

Legend
 ★ Sites Recorded

1:24,000-scale USGS Topo Map Name: LOS ANGELES (1981)



CONFIDENTIAL

Source: [1] URS Corp. - isolates recorded March 2010, [2] CA DRG, 7.5 Minute (O) Series, scanned USGS topographic maps from CA Spatial Information Library (CaSIL).

Metro Westside Extension Cultural Resources DPR(523) Series

**SITE LOCATION MAP
 MTA-Temp-1 & MTA-Temp-2**

2010

Other Listings
Review Code

Reviewer

Date

Page 1 of 3

*Resource Name or #: MTA-Temp-2

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted

*a. County: Los Angeles

*b. USGS 7.5' Quad: Los Angeles

Date: 3/17/10 T 1S; R 13W

c. Address: 606 Mesquit St.

City: Los Angeles

Zip: 90012

d. UTM: Zone: 11; 3767106.72 mE/

386490.49 mN (G.P.S.)

e. Other Locational Data: 472 feet above sea level

*P3a. Description: Original street exposed near foundation of the 6th Street bridge.

*P3b. Resource Attributes: AH7

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo:
Planview, 3/17/10, accession #
100_1916

*P6. Date Constructed/Age and
Sources: Historic
 Prehistoric Both

*P7. Owner and Address:
Los Angeles County MTA
One Gateway Plaza
Los Angeles, CA 90012-2952

*P8. Recorded by:
L. Solis, M.A., N. Orsi, B.A.
URS Corporation
915 Wilshire Blvd. Suite 700
Los Angeles, CA 90017

*P9. Date Recorded: 3/17/10

*P10. Survey Type: Phase 1
Archaeological Survey

*P11. Report Citation: Westside Subway Extension, Cultural Resources Technical Report

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

DPR 523A (1/95)

*Required information

***A1. Dimensions:** a. Length: 3.5 feet x b. Width: 2.5 feet

Method of Measurement: Paced Taped Visual estimate Other:

Method of Determination (Check any that apply.): Artifacts Features Soil Vegetation Topography

Cut bank Animal burrow Excavation Property boundary Other (Explain): Exposed portion of original road

Reliability of Determination: High Medium Low Explain:

Limitations (Check any that apply): Restricted access Paved/built over Site limits incompletely defined

Disturbances Vegetation Other (Explain):

A2. Depth: None Unknown Method of Determination:

***A3. Human Remains:** Present Absent Possible Unknown (Explain):

***A4. Features:** Original road exposed near the foundation of the 6th Street Viaduct.

***A5. Cultural Constituents:**

***A6. Were Specimens Collected?** No Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** Good Fair Poor (Describe disturbances.):

***A8. Nearest Water:** Site is located 270 feet west of the Los Angeles River

***A9. Elevation:**

A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The site is located in an urban environment. The site is located about 270 feet west of the Los Angeles River and is on flat terrain.

A11. Historical Information: Historic materials located south of the Factory north just north, underneath the 6th Street Bridge Viaduct (built in 1932), and west of the Railroad Tracks. There is a rectangular area just east of the exposed street that has scattered historic brick and glass.

***A12. Age:** Prehistoric Protohistoric 1542-1769 1769-1848 1848-1880 1880-1914 1914-1945

Post 1945 Undetermined Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):

A14. Remarks:

A15. References: Westside Subway Extension, Cultural Resources Technical Report

A16. Photographs: Planview of MTA-Temp-2, 3/17/10, accession # 100_1916

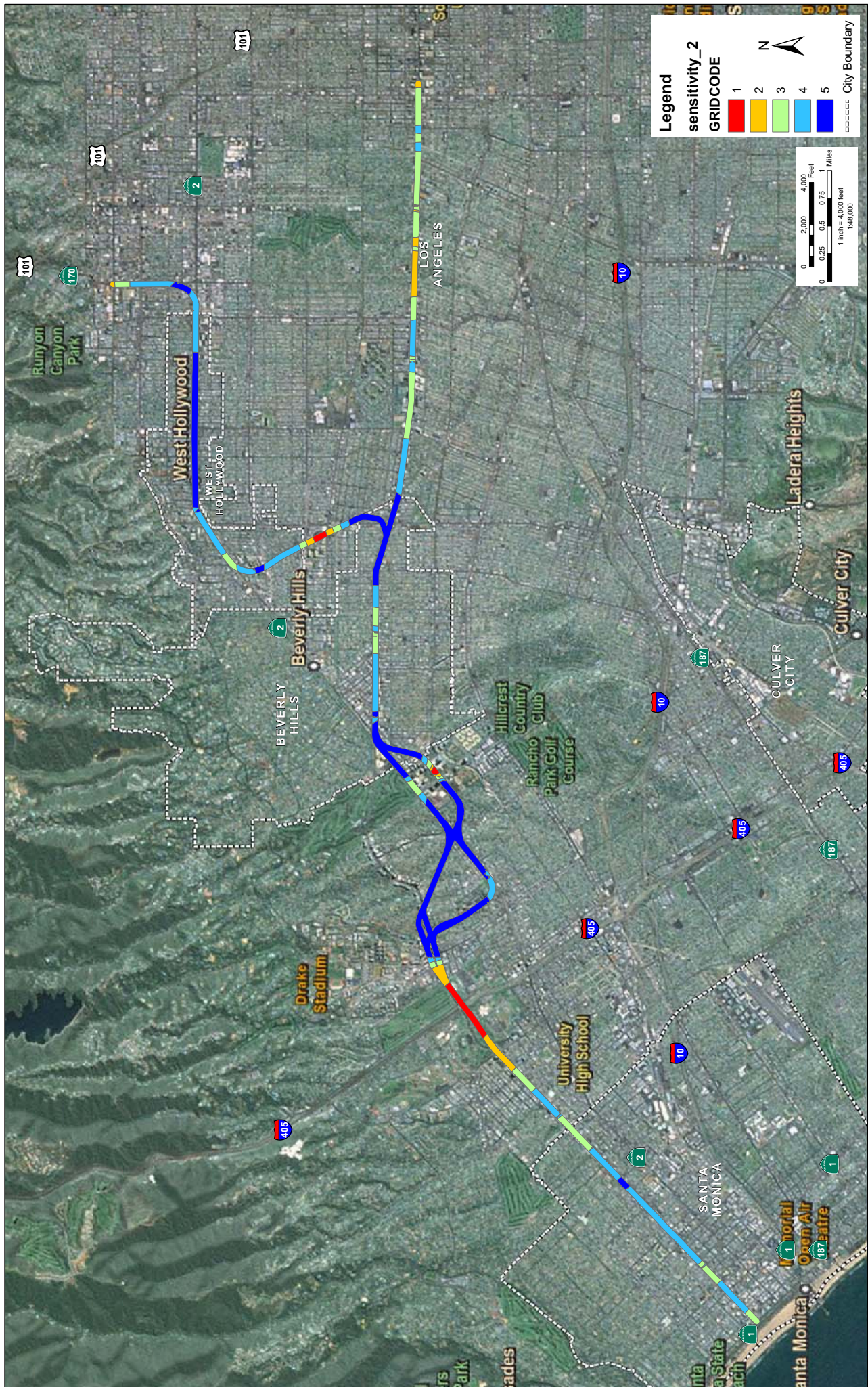
Original Media/Negatives Kept at: URS Los Angeles

***A17. Form Prepared by:** L. Solis, M.A., N. Orsi, B.A.

Affiliation and Address:

Date: 3/17/10

Appendix C
GIS Archaeological Predictive Study

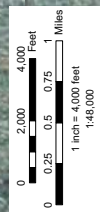


Legend

sensitivity_2

GRIDCODE	Color
1	Red
2	Orange
3	Yellow
4	Light Green
5	Blue

City Boundary



Runyon Canyon Park

101

170

2

West Hollywood

WEST HOLLYWOOD

Beverly Hills

BEVERLY HILLS

2

Drake Stadium

405

University High School

10

2

SANTA MONICA

1

101

LOS ANGELES

10

405

187

Hillcrest Country Club

Rancho Park Golf Course

CULVER CITY

Ladera Heights

Culver City

187

405

10

187

1

1

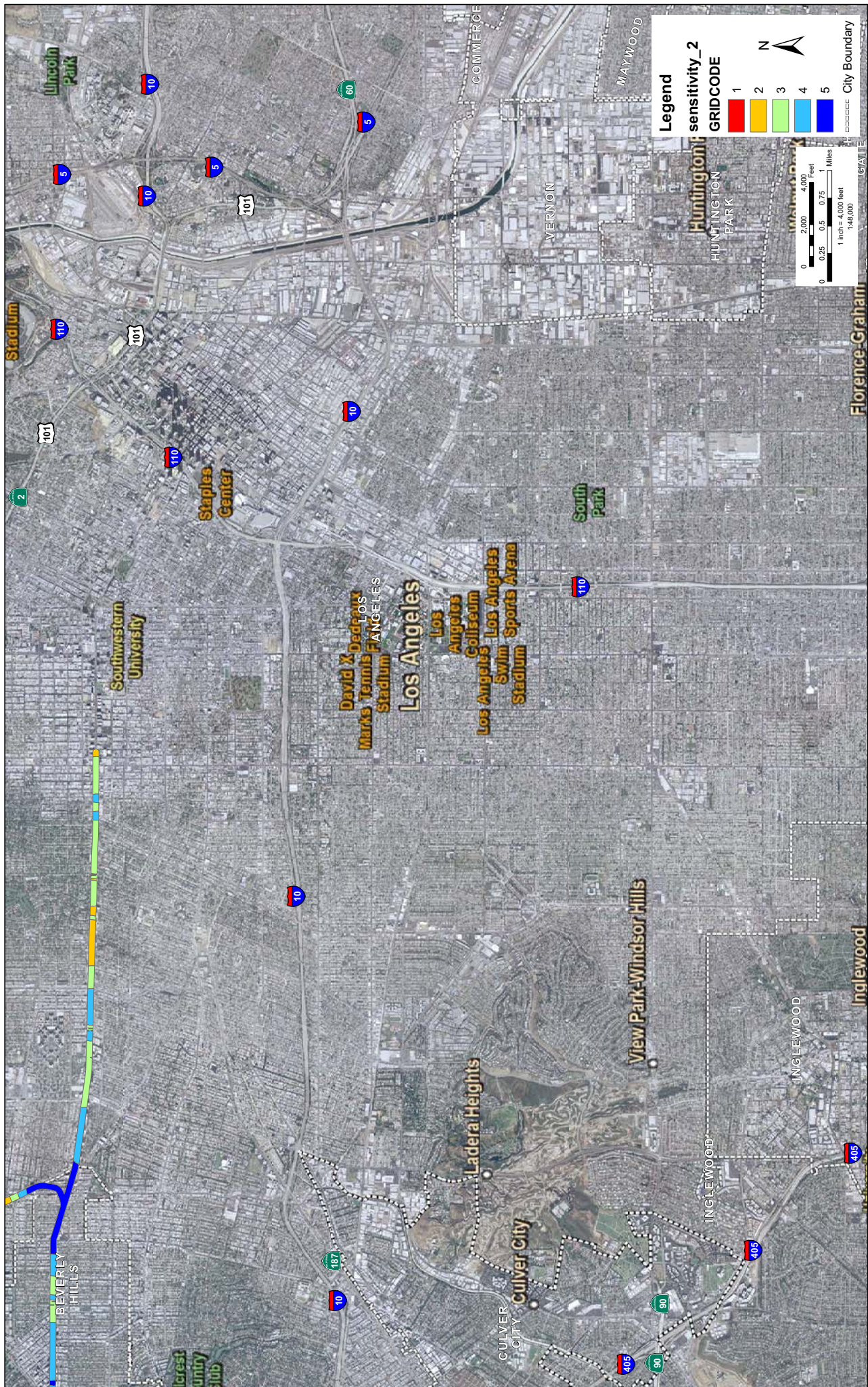
187

1

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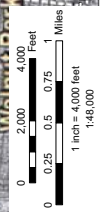
187

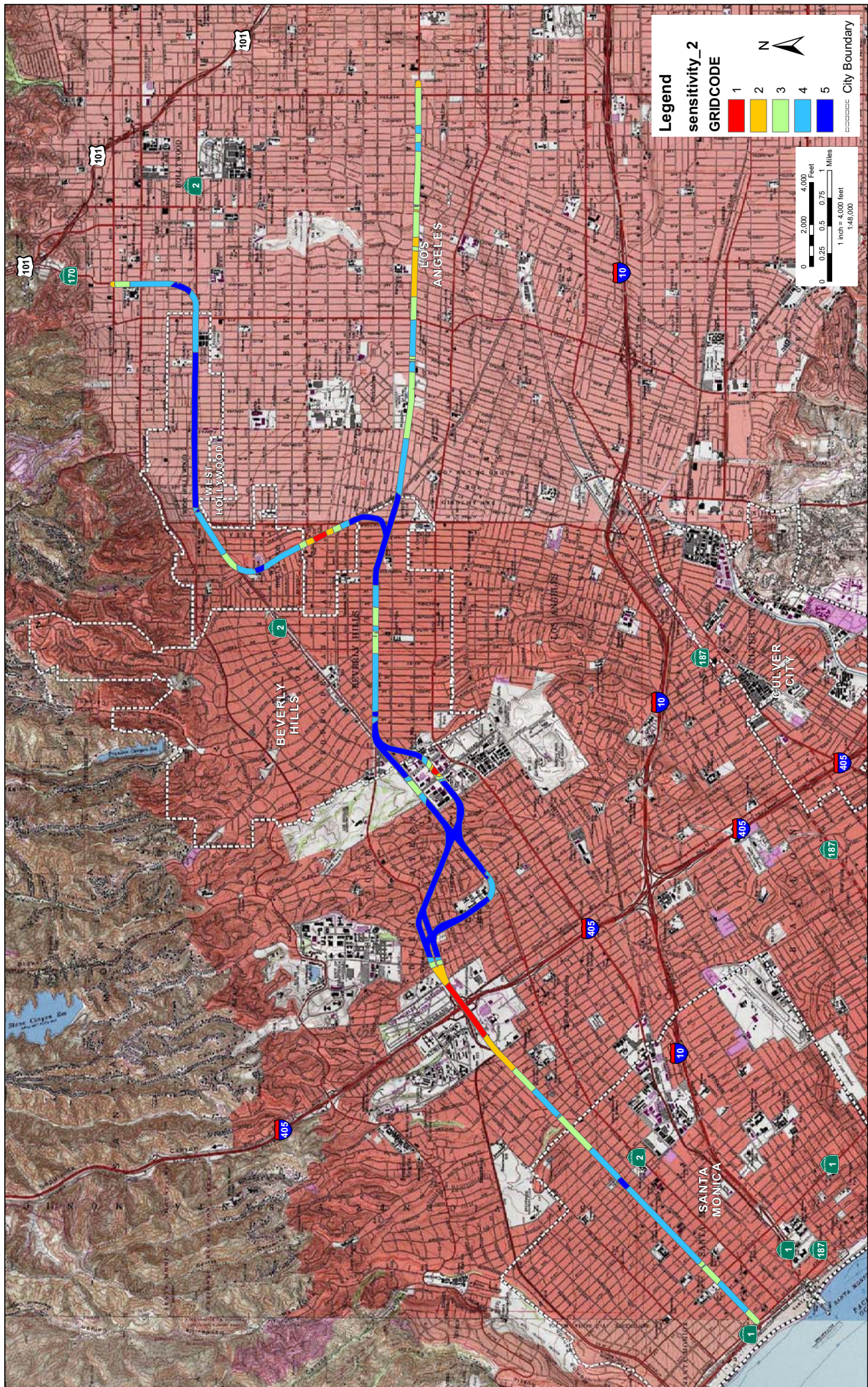
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Legend

sensitivity_2 GRIDCODE	Color
1	Red
2	Orange
3	Yellow
4	Green
5	Blue



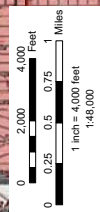


Legend

sensitivity_2

GRIDCODE	Color
1	Red
2	Orange
3	Yellow
4	Green
5	Blue

City Boundary



Date: August 10, 2009

To: Laurie Solis

From: Mark Neal

Subject: **MTA Westside Expansion Predictive Model Feasibility**

Executive Summary

The purpose of this memorandum is to report on the results of a study of the feasibility of creating a geographical information system (GIS)-based model to predict the potential for the presence of previously undiscovered historic and prehistoric resources within the Area of Potential Effect (APE) of the Metro Transit Authority's proposed Westside Expansion of the Metro Rail system.

During this study, a variety of modeling methods and data sources were considered and tested. Most avenues of investigation proved to be unfruitful and, as a result, no method was discovered that had potential to yield a robust, sophisticated, and statistically testable model. As an alternative, a simplified judgmental deductive model based on the density of historic era standing architecture has been created and is presented here.

Background

Though predictive models are generally associated with new technology such as advanced computer systems and spatially-oriented database systems such as GIS, the concept is not new to archaeology. Beginning in the 1950s, archaeologists shifted their methodological focus from the study of single sites to that of regions (Dalla Bona 1994; Trigger 1989). Those studies not only represented an expansion of the geographical dimensions of archaeological investigations, but also expanded the degree to which diverse scientific disciplines were consulted in order to create more comprehensive theories of settlement strategies. The resulting models of settlement systems were most commonly based on environmental data and were created by teams of scientists consisting of archaeologists, zoologists, geologists, botanists, and other specialists (Trigger 1989). The advent of computer-based GIS did foster significant improvements in predictive modeling, primarily in two ways. It greatly increased the ease with which archaeologists could manage large geographic datasets and also initiated a fluorescence of publicly available geographic data, which increased access to especially high-resolution environmental datasets.

Generally speaking, archaeological predictive models are produced by two methods —inductive and deductive. Deductive models are based entirely on theory, previous findings, and ethnological analog (Kvamme 2006). Commonly produced using manual map overlays, these are perhaps the most common models currently employed in urban planning. The strength of these models is that they provide a way of capturing experts' knowledge and experience concerning the relative cultural

sensitivity of regions and making that information readily accessible and comprehensible to experts in other disciplines, such as urban planning.

With the advent of sophisticated computers, inductive models have come into wider use. Based on empirical correlations between geographic phenomena and the locations of known cultural resources, inductive models are most powerful when they are created using large geographic datasets, large numbers of known resources, and sophisticated spatial statistics to test the significance of correlations between the two. Models with inductive characteristics have an additional advantage in that they are commonly created using more robust mathematical theory such as Weights of Evidence and Logistic Regression.

However, it is noteworthy that the most advanced and powerful models are created using a combination of inductive and deductive reasoning. In those models, the types of datasets considered for the model are determined deductively by considering their potential to address hypotheses derived from current anthropological and archaeological theory. The hypotheses are tested using spatial datasets and statistical analysis, and the spatial extent of the final layers of evidence are created based on the strength of their statistical correlation to a training set of known resources. An additional advantage of such models lies in the ease with which they can be updated and improved as the datasets employed are refined and new theories are published.

Methods

The following paragraphs describe the layers of evidence that were considered and the reasoning behind their acceptance or rejection for use in the predictive model. In that very different conditions affect the spatial organization of prehistoric vs. historic sites, those two classes of resources will be considered separately.

TRAINING POINTS

In statistically based probabilistic predictive models such as the one proposed here, a dataset of points indicating known locations of the phenomena to be predicted is used to determine the strength of statistical relationships between geographic regions and the phenomena. In this case the phenomena to be predicted are the locations of cultural resources. As with most statistical analysis, larger datasets generally produce more reliable results. Though there are no set limits as to how few training points one can use in a given model and still yield useable results, some general guidelines can be defined. Generally speaking, a dataset of at least 70 training points is required to yield reliable results, though one widely accepted model was created with only 21 training points (Neal 2007). In order to test the final model, it is most advantageous to have an additional dataset of at least that many training points, thereby doubling the number of data points required. In addition, it is the goal of this model to predict the potential for the presence of both historic and prehistoric resources. As those two classes of resources would likely be located according to very different criterion, each would require the minimum number of points necessary to create a complete model. Therefore, the absolute minimum number of training points required to create this model would be 42 points representing historic archaeological resources and 42 representing prehistoric resources.

The current dataset of cultural resources within .25 miles of the archaeological APE for the project consists of four historic archaeological resources and four prehistoric resources. Therefore, there are too few known resources to support the creation of an inductive predictive probabilistic model. However, the possibility of the creation of a deductive, judgmental model is not eliminated by condition.

*ENVIRONMENTAL DATASETS INVESTIGATED TO PREDICT PREHISTORIC
ARCHAEOLOGICAL SITES*

Fortunately, a comprehensive predictive model of prehistoric archaeological sites has recently been produced for an area quite similar to the current project area. The criteria and findings of that model can serve to guide the construction of the currently proposed model. Neal (2007) created an environmentally-based predictive model of village sites within the Santa Ynez Valley, which is the traditional home of one of the groups of Chumash people who inhabited that region from prehistoric to current times. As the environment and social structure of the Tongva people of the current project area are similar to the Chumash, it can be assumed that criteria shaping settlement patterns would also be similar between the two groups. In his study, Neal determined that the most critical criteria for site selection were:

- Proximity to reliable sources of fresh water
- Areas of less than 15° slope.
- Areas within 200 meters of ecotone boundaries.
- Areas with high environmental diversity.

Unfortunately, current efforts were unable to yield adequate datasets to address those criteria in the current project area. Each are discussed briefly below.

Proximity to reliable sources of fresh water – The National Hydrology Dataset as well as early maps were consulted in an effort to create a reliable dataset of reliable water sources. Unfortunately, the local stream network has been disrupted to such a degree and beginning such a long time ago that reconstruction of a defensible depiction of what the local hydrologic environment would have been like in prehistoric times is well beyond the scope of this project. Should such a dataset become available, this aspect of the model could be reconsidered.

Areas of less than 15° slope – The National Elevation dataset was consulted and slope derived for the project area. The project area is depicted as lying primarily in a broad, flat plain and as such there are virtually no areas that do not meet this criterion. Therefore, the slope dataset as it is would add no predictive power to a predictive model.

Areas within 200 meters of ecotone boundaries and areas with high environmental diversity – The source data to address both these criteria is the GAP Landcover dataset. In that dataset, the project area falls entirely within an area designated simply as “Urban.” As no other sources were found to accurately depict the boundaries of ecological regions within the project area before the onset of urbanization, it was not possible to incorporate either of these criteria into the model.

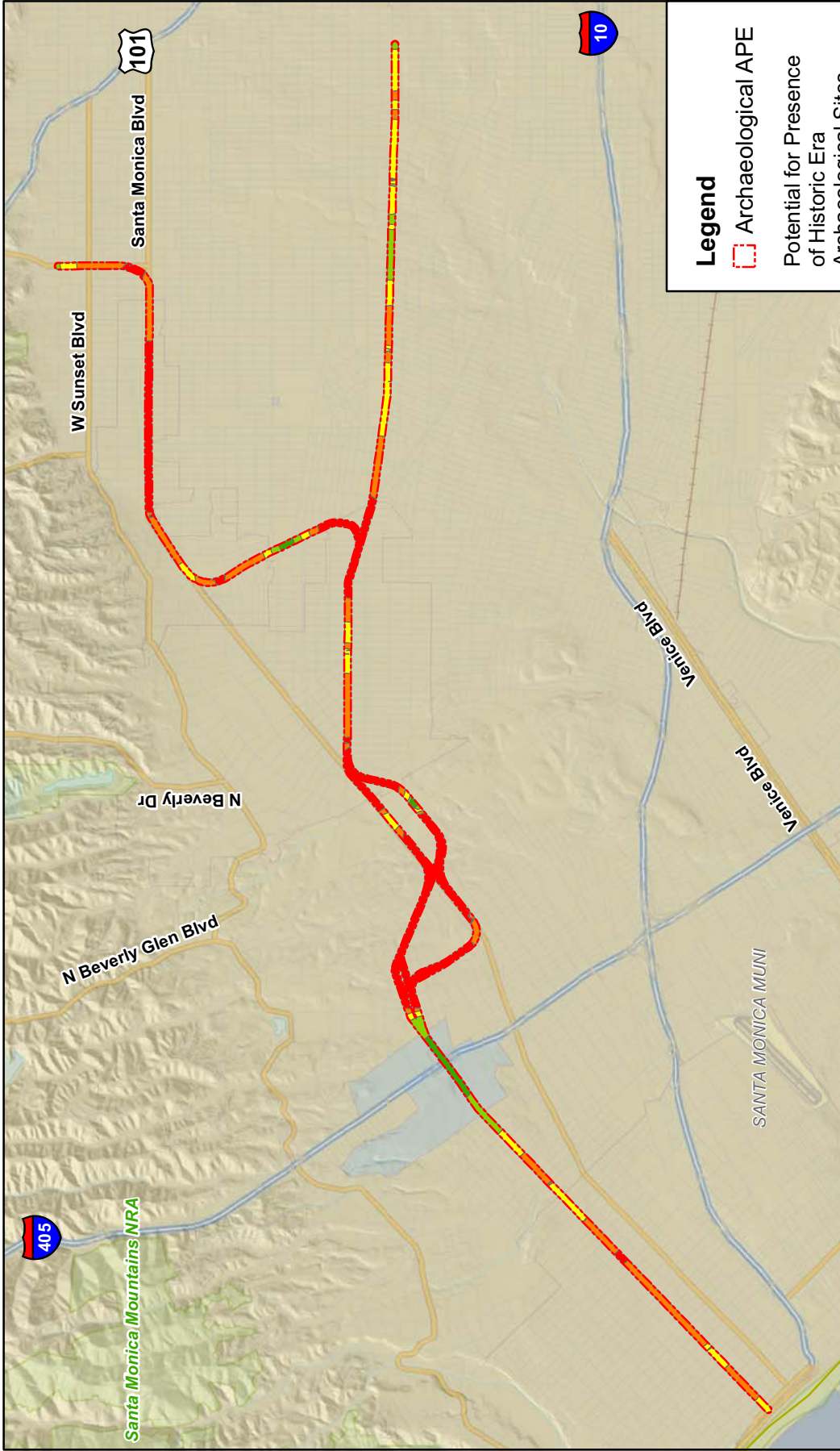
DATASETS CONSIDERED IN ORDER TO PREDICT HISTORIC ARCHAEOLOGICAL SITES.

Virtually any site occupied by humans for habitation or other purposes might yield cultural resources in the form of buried trash pits, privies, wells, remnants of razed architecture, etc. It can be assumed that areas that have remained largely unchanged within the past 50 or more years would be more likely to yield undisturbed archaeological deposits of the historic era.

To address that hypothesis, a cadastral dataset of land parcels within the project area was used. A point dataset of the centroids of each parcel attributed with the built date of the building located on each was created. Based on that layer, a surface reflecting the relative densities of historic-era structures was generated using the ArcGIS Point Density tool. The resulting raster was classified by Quantiles into five classes of relative potential for the presence of undisturbed historic era archaeological resources. That raster was converted into a vector-dataset in order to enhance its portability. A map of the resulting zones is included at the end of this memo (Figure 1).

CONCLUSIONS

The current effort has succeeded in producing a dataset that can be useful in providing a geographic representation of areas expected to have higher and lower potentials for the presence of historic era archaeological resources. Whereas the strength of the resulting model cannot be statistically quantified nor can it predict prehistoric archaeological sites, it is nonetheless a useful tool. Concepts such as density of historic era structures are generally difficult to assess without maps such as the one provided herein. This modeling effort allows that data to be accessed easily and allows it to be overlaid onto other datasets, thereby enhancing the decision making tools available to planners. In addition, when further hypotheses concerning the locations of significant resources are generated and more environmental datasets are made available, they can be incorporated into this model to enhance its overall accuracy and precision. That ability to constantly build on and improve a model is one of the most powerful aspects of predictive models within the modern urban planning environment.



Legend

- Archaeological APE
- Potential for Presence of Historic Era Archaeological Sites
 - Low
 - Moderately Low
 - Moderate
 - Moderately High
 - High

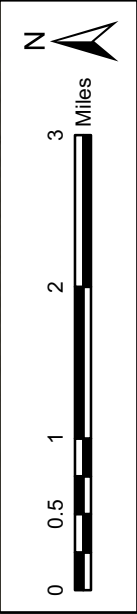


Figure 1

Potential for Presence of Historic Era Archaeological Sites Based on Density of Standing Historic Era Structures

**MTA
Westside Expansion**

URS Corporation

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cc: [Click **here** and type cc]

Appendix D
Rancho La Brea Bibliography

RANCHO LA BREA BIBLIOGRAPHY

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