### **Permit to Alter Case Report**

 Hearing Date:
 June 20, 2012

 Filing Date:
 March 14, 2012

 Case No.:
 2012.0136H

Project Address: 220 GEARY STREET (aka. 333 POST STREET)

Category: Category I (Significant)
Conservation District: Kearny-Market-Mason-Sutter

Zoning: P (Public)

OS (Open Space) Height and Bulk District

Block/Lot: 0308/001
Applicant: John Funghi

**SFMTA** 

821 Howard Street

San Francisco, CA 94107

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#### PROPERTY DESCRIPTION

Historically known as Union Square, the subject property is located at 220 Geary Street (aka. 333 Post Street) and is located on Assessor's Block 0308; Lot 001 on the City block bounded by Geary, Powell, Post and Stockton Streets. It is a Category I (Significant) Property located within the Kearny-Market-Mason-Sutter Conservation District and is within a P (Public) Zoning District with an OS (Open Space) Height and Bulk limit.

220 Geary Street is a 2.6 acre public park in downtown San Francisco, which has historically been the geographic center of the City's retail shopping district. The Square was donated to the City by Colonel John White Gray in 1850, and is thought to have received its name due to the use of the square for public meetings in support of the Union on the eve of the Civil War. The internal organization and landscaping of the square has changed many times, most notably around 1903 when the Dewey Memorial was installed at the center of the square, around 1941 when the underground garage was constructed as part of Timothy Pflueger's redesign of the park, and in 2002 when the park was redesigned by Fotheringham and Phillips.

Although the appearance of Union Square today is most closely associated with its 2002 redesign, the property retains its original boundaries and character as a designed park to convey its significance as an open space within the Kearny-Market-Mason-Sutter Conservation District (KMMS District).

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#### PROJECT DESCRIPTION

The proposed project is to construct a new station entrance at the corner of Stockton and Geary Streets at the southeast corner of Union Square, as part of the Central Subway project. The station entrance will consist of a weather protected room containing a staircase, escalator, two elevators, and space for pedestrian circulation, covered by a roof terrace. The station entrance will be detailed as a landscape element that matches the existing retaining walls, steps, planters and landscaping of Union Square.

#### PROJECT BACKGROUND

The proposed project was reviewed and approved under the Central Subway Final Supplemental Environmental Impact Statement/Supplemental Environmental Impact Report (SEIS/SEIR) and was certified by the Planning Commission on August 7, 2008, and approved by the SFMTA Board on August 19, 2008. The SEIS/SEIR identified impacts resulting from project construction including noise, dust, vibration historic resource and transit/traffic operational impacts. The SEIS/SEIR identified a potential less-than-significant historic resource impact upon Union Square due to the construction of the station entrance in such a manner that would permanently alter the redesigned plaza and parking garage (completed in 2002). The mitigation measure to minimize this impact involves the use of design and architectural materials that are compatible with the surrounding structure and landscape, and review of the final design for the station by the Recreation and Parks Department.

#### OTHER ACTIONS REQUIRED

According to Section 4.105 of the San Francisco City Charter and Section 2A.53 of the Administrative Code, a General Plan Referral is required prior to passage by the Board of Supervisors of any proposed action pertaining to acquisition of property by the City or County of San Francisco, vacation of property owned by the City and County of San Francisco, or a change of use or title of such property, the Planning Commission must evaluate in writing its conformity with the General Plan. A General Plan Referral was completed for the proposed Central Subway project on March 6, 2012 and the Department determined that the Project is in conformance with the Objectives and Policies of the General Plan and meets the criteria set forth in Section 101.1 of the Planning Code.

The proposed work will also require Building Permit(s).

#### COMPLIANCE WITH THE PLANNING CODE PROVISIONS

The proposed project is in compliance with all other provisions of the Planning Code.

## APPLICABLE PRESERVATION STANDARDS ARTICLE 11

City Charter Section 4.135 gives the Historic Preservation Commission (HPC) authority to approve, disapprove, or modify Permit to Alter applications for designated Significant or Contributory properties. In appraising a proposal for a Permit to Alter, the Historic Preservation Commission should consider the factors of architectural style, design, arrangement, texture, materials, color, and other pertinent issues.

#### **SECTION 1111.6 OF THE PLANNING CODE**

Section 1111.6 of the Planning Code outlines the specific standards and requirements the Historic Preservation Commission shall use when evaluating Permits to Alter. These standards, in relevant part(s), are listed below:

(a) The proposed alteration shall be consistent with and appropriate for the effectuation of the purposes of this Article 11.

The proposed project is consistent with Article 11.

- (b) For Significant Buildings/Properties Categories I and II, and for Contributory Buildings Categories III and IV, proposed alterations of structural elements and exterior features shall be consistent with the architectural character of the building, and shall comply with the following specific requirements:
  - (1) The distinguishing original qualities or character of the building may not be damaged or destroyed. Any distinctive architectural feature which affects the overall appearance of the building shall not be removed or altered unless it is the only feasible means to protect the public safety.
    - The proposed project involves the insertion of a new transit station at the southeast corner of Union Square. This project is additive in nature and will require minimal disturbance of existing historic fabric, limited to the partial loss of terrace seating at the southeast corner of the square. Overall, the distinguishing qualities of Union Square and the KMMS District will be retained.
  - (2) The integrity of distinctive stylistic features or examples of skilled craftsmanship that characterize a building shall be preserved.
    - As described above, the proposed project is additive in nature and will not result in the loss of distinctive stylistic features or examples of skilled craftsmanship that characterize the property.
  - (4) Contemporary design of alterations is permitted, provided that such alterations do not destroy significant exterior architectural material and that such design is compatible with the size, scale, color, material and character of the building and its surroundings.

The proposed station entrance will result in the loss of a portion of the terrace seating at the southeast corner of Union Square. This feature dates to an alteration made in 2002 and the loss of a portion of this feature will not result in the destruction of significant historic architectural material. Overall, the proposed addition is compatible with the size, scale, color, materials and character of the existing retaining walls and structures in Union Square and is compatible with the overall design of the property.

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(6) In the case of Significant Buildings - Category I, any additions to height of the building (including addition of mechanical equipment) shall be limited to one story above the height of the existing roof, shall be compatible with the scale and character of the building, and shall in no event cover more than 75 percent of the roof area.

The proposed project involves the construction of a new one-story building at the southeast corner of Union Square. The proposed design is limited in scale and compatible with the scale and character of the property.

#### PUBLIC/NEIGHBORHOOD INPUT

The Department has received no public input on the project as of the date of this report.

#### **ISSUES & OTHER CONSIDERATIONS**

None.

#### STAFF ANAYLSIS

Staff has determined that the proposed work will be in conformance with the requirements of Article 11 and the *Secretary of Interior's Standards for Rehabilitation*. Proposed work will not damage or destroy distinguishing original qualities or character of the KMMS District. The overall proposal includes the construction of a station concourse that extends south from Union Square below the street to Ellis Street (2 blocks). In order to insert the new station entrance into Union Square, a portion of the existing parking garage will be reconfigured to accommodate the station entrance and a portion of the station's concourse below. The only portion of the new construction that will be visible above grade is the station entrance building located at the southeast corner of Union Square. This analysis is limited to the above ground construction within Union Square.

#### Overview

The proposal consists of the construction of a new station entrance that draws upon the existing treatment, materials and finishes within Union Square in order to achieve compatibility with the existing character of the subject property and the KMMS District. The building is detailed in a manner intended to blend into Union Square such that the new construction appears as a landscape element similar to the existing retaining walls and planters located within the park. The purpose of this design approach is to reduce the visual impact of the new construction to keep visitors focused on the existing square.

#### Entrance enclosure

The enclosure for the station entrance is exposed on three sides: to the west, stepped terraces will be integrated into and match the finish and composition of existing terraced seating; to the east, retaining walls will match the finish of the existing walls enclosing the parking garage's ventilation and exit stair; to the south, glass elevators and the station entrance opening will be framed by concrete walls and parapets treated to match the color and finish of the existing retaining walls within the plaza.

The concrete framing along the Geary Street façade will extend as a parapet over the passenger entries. Vines will be planted in the wells at the base of the concrete walls and will eventually cover these walls. Metal cable grids will support the vines and be detailed to appear as architectural elements until the vines grow into place. These elements will be detailed to minimize bulk and massing and to maintain visibility into the square.

The glass facade of the station enclosure (visible along Geary Street) will offer an opportunity for public art.

Except for fire suppression systems and other functional components, the metalwork on the outside of the entry system will have a powder-coated finish to match that of the existing pavilions in Union Square. These elements will be detailed to match the existing fabric of Union Square to ensure compatibility with the property and the KMMS District.

To secure the station entrance during non-operational hours glazed bi-fold overhead doors will be incorporated into the Geary Street façade. During operating hours, these doors will be opened and serve a dual function as weather protection awnings. The doors will be closed at night to secure the station. The materials of the doors will be transparent and less utilitarian than traditional metal roll down gates.

The Department believes that the proposed entrance enclosure is clearly differentiated and articulated as a new design element within Union Square, but compatible with the scale and character of the property and the KMMS District. This compatibility is achieved through the use of non-reflective materials similar to those of the existing pavilions and through the design of the new station as a landscape/retaining wall element within Union Square such that it blends within the surrounding park landscape.

#### Roof Deck

Vertical clearance requirements for the station entrance will result in the roof elevation being slightly higher than the Square's intermediate plaza level. A translucent glass roof is proposed. The roof will have a thin profile and will provide daylight inside while creating an opportunity to decorate the roof terrace with public art.

A 42-inch-high guardrail will be required along the south and east edges of the roof deck to meet safety requirements. To reduce the bulk and mass of the guardrail, the top 12 inches will be detailed in glass and the guardrail will be stepped along the east wall to allow for maximum visibility into the park from the corner of Geary and Stockton Streets.

The enclosures for the two required elevators will protrude through the roof and above the guardrail. An operational safety clearance above the roof of the elevator cab requires the enclosures to be higher than the guardrail.

The Department believes that the proposed roof deck is clearly differentiated in materials, but compatible with the scale and character of the property and the KMMS District through the use of glazing that will not detract from the surrounding features.

#### Open Space

The construction of the station entrance will displace 1,200 square feet of existing terraced seating at the southeast corner of the park. The existing terraces will be reconfigured and detailed to match the materials and colors of the surrounding terraced seating. The roof of the station has been designed as a walk-on terrace, providing 950 square feet of open space. Public access to the roof deck will be via steps and a short ramp along the north edge, and via terraced seating to the west. These changes will result in a net loss of approximately 250 square feet of open space and will not affect the overall character of Union Square as an open space within the KMMS District.

#### Signage

The east wall of the station entrance will include identification signage (individual letters) to clearly yet subtly identify the location of the station entrance. This signage is consistent with the Departments *Draft Design Standards for Signage & Awnings in the KMMS Conservation District*.

#### Materials

The proposed materials include glass, pre-cast concrete, and powder coated and clear anodized metal. These materials are consistent with the materials of the existing pavilions in Union Square, and are minimally reflective such that they blend within the KMMS District. Cut sheets of the proposed materials are available in the hearing packets.

#### **ENVIRONMENTAL REVIEW STATUS**

The Planning Department has determined that the proposed project is exempt/excluded from environmental review; pursuant to CEQA Guideline Section 15301 (Class One-Maintenance and Repair of Existing facility) because the project is an alteration of an existing structure and meets the Secretary of the Interior's Standards for Rehabilitation.

#### PLANNING DEPARTMENT RECOMMENDATION

Planning Department staff recommends APPROVAL of the proposed project as it appears to meet the provisions of Article 11 of the Planning Code regarding Major Alteration to a Category I (Significant) Property and the Secretary of the Interior Standards for Rehabilitation.

#### **ATTACHMENTS**

Draft Motion
Exhibits
Photographs
Project renderings
SFMTA Design Narrative
Materials cut sheets
Plans
Previously Considered SFMTA design schemes

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### Historic Preservation Commission Motion No. XXXX Permit to Alter

**MAJOR ALTERATION** 

**HEARING DATE: JUNE 20, 2012** 

Hearing Date: June 20, 2012
Filing Date: March 14, 2012
Case No.: 2012.0136H

Project Address: 220 Geary Street (aka. 333 Post Street)

Category: Category I (Significant)

Conservation District: Kearny-Market-Mason-Sutter

Zoning: P (Public)

OS (Open Space) Height and Bulk District

Block/Lot: 0308/001
Applicant: John Funghi

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ADOPTING FINDINGS FOR A PERMIT TO ALTER FOR MAJOR ALTERATIONS TO A CATEGORY I (SIGNIFICANT) PROPERTY, INCLUDING CONSTRUCTION OF A NEW TRANSIT STATION ENTRANCE AT THE CORNER OF GEARY AND STOCKTON STREETS, FOR THE PROPERTY LOCATED ON LOT 001 IN ASSESSOR'S BLOCK 0308. THE SUBJECT PROPERTY IS WITHIN THE KEARNY-MARKET-MASON-SUTTER CONSERVATION DISTRICT, A P (PUBLIC) ZONING DISTRICT AND AN OS (OPEN SPACE) HEIGHT AND BULK DISTRICT.

#### **PREAMBLE**

WHEREAS, on March 14, 2012, John Funghi ("Applicant") filed an application with the San Francisco Planning Department ("Department") for a Permit to Alter for exterior rehabilitation, including construction of a new transit station entrance at the intersection of Stockton and Geary Streets at the southeast corner of Union Square as part of the Central Subway project. The station entrance will consist of a weather protected room containing a staircase, escalator, two elevators, and space for pedestrian circulation, covered by a roof terrace. The subject property is located on Lot 001 in Assessor's block 0308,

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a Category I (Significant) property historically known as Union Square and within the Article 11 Kearny-Market-Mason-Sutter Conservation District (KMMS District).

**CASE NO 2012.0136H** 

WHEREAS, on June 20 2012, the Historic Preservation Commission ("Commission") conducted a duly noticed public hearing and approved the project proposed in Permit to Alter Application No. 2012.0136H through Motion No. XXXX.

WHEREAS, on March 14, 2012, John Funghi ("Applicant") on behalf of property owner filed an application with the San Francisco Planning Department ("Department") for a Permit to Alter for construction of a new transit station entrance located on Lot 001 in Assessor's Block 0308, a Category I (Significant) property, historically known as Union Square.

WHEREAS, the Project was determined by the Department to be categorically exempt from environmental review. The Historic Preservation Commission ("Commission") has reviewed and concurs with said determination.

WHEREAS, on June 20, 2012, the Commission conducted a duly noticed public hearing on the current project, Case No. 2012.0136H ("Project"), for the Permit to Alter.

WHEREAS, in reviewing the application, the Commission has had available for its review and consideration case reports, plans, and other materials pertaining to the Project contained in the Department's case files, and has reviewed and heard testimony and received materials from interested parties during the public hearing on the Project.

MOVED, that the Commission hereby grants the Permit to Alter, APPROVED, and in conformance with the architectural submittal dated February 15, 2012 and labeled Exhibit A on file in the docket for Case No. 2012.0136H.

#### **FINDINGS**

Having reviewed all the materials identified in the recitals above and having heard oral testimony and arguments, this Commission finds, concludes, and determines as follows:

- 1. The above recitals are accurate and also constitute findings of the Commission.
- 2. Findings pursuant to Article 11:

The Historical Preservation Commission has determined that the proposed work is compatible with the exterior character-defining features of the subject property and meets the requirements of Article 11 of the Planning Code:

That the proposal respects the character-defining features of the subject property and the KMMS District;

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That all architectural elements, including reconfiguration of the terrace stairs at the southeast corner of the square, will be done in such a manner to retain as much existing

**CASE NO 2012.0136H** 

- That the new station entrance will be inserted in such a manner that does not impair the essential form and integrity of the subject property and the surrounding KMMS District.
- That the integrity of distinctive stylistic features and examples of skilled craftsmanship that characterize the KMMS District shall be preserved; and,
- That all new materials shall be compatible with the existing materials in composition, design, color, texture and other visual qualities.

For these reasons, the proposal overall, is appropriate for and consistent with the purposes of Article 11, meets the standards of Article 1111.6 of the Planning Code and complies with the Secretary of the Interior's Standards for Rehabilitation.

3. General Plan Compliance. The proposed Permit to Alter is, on balance, consistent with the following Objectives and Policies of the General Plan:

#### I. URBAN DESIGN ELEMENT

fabric as possible;

THE URBAN DESIGN ELEMENT CONCERNS THE PHYSICAL CHARACTER AND ORDER OF THE CITY, AND THE RELATIONSHIP BETWEEN PEOPLE AND THEIR ENVIRONMENT.

#### **GOALS**

The Urban Design Element is concerned both with development and with preservation. It is a concerted effort to recognize the positive attributes of the city, to enhance and conserve those attributes, and to improve the living environment where it is less than satisfactory. The Plan is a definition of quality, a definition based upon human needs.

#### **OBJECTIVE 1**

EMPHASIS OF THE CHARACTERISTIC PATTERN WHICH GIVES TO THE CITY AND ITS NEIGHBORHOODS AN IMAGE, A SENSE OF PURPOSE, AND A MEANS OF ORIENTATION.

#### POLICY 1.3

Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts.

#### **OBJECTIVE 2**

CONSERVATION OF RESOURCES WHICH PROVIDE A SENSE OF NATURE, CONTINUITY WITH THE PAST, AND FREEDOM FROM OVERCROWDING.

#### POLICY 2.4

Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

SAN FRANCISCO
PLANNING DEPARTMENT 3 Motion No. XXXX **CASE NO 2012.0136H** Hearing Date: June 20, 2012 220 Geary Street (aka. 333 Post Street)

#### POLICY 2.5

Use care in remodeling of older buildings, in order to enhance rather than weaken the original character of such buildings.

#### POLICY 2.7

Recognize and protect outstanding and unique areas that contribute in an extraordinary degree to San Francisco's visual form and character.

The goal of a Permit to Alter is to provide additional oversight for buildings and districts that are architecturally or culturally significant to the City in order to protect the qualities that are associated with that significance.

The proposed project qualifies for a Permit to Alter and therefore furthers these policies and objectives by maintaining and preserving the character-defining features of the subject property for the future enjoyment and education of San Francisco residents and visitors.

- 4. The proposed project is generally consistent with the eight General Plan priority policies set forth in Section 101.1 in that:
  - A) The existing neighborhood-serving retail uses will be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses will be enhanced:

The construction of the Central Subway will have impacts to neighborhood retailers adjacent to and in the vicinity of the station; however, these disturbances will cease once construction is completed. Construction of the Central Subway and the opening of the Union Square station will bring additional visitors and consumers to neighborhood serving retail, with a spin-off effect increasing employment in the area.

B) The existing housing and neighborhood character will be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods:

Construction of the station would not affect housing.

C) The City's supply of affordable housing will be preserved and enhanced:

Construction of the station would not affect housing.

D) The commuter traffic will not impede MUNI transit service or overburden our streets or neighborhood parking:

By providing an exclusive right-of-way that does not have to compete with traffic on congested surface streets, the reliability of transit service would be improved and travel times would be reduced for

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transit riders. Temporary disruption to traffic and Muni service is likely to occur during construction activities but will cease once completed.

E) A diverse economic base will be maintained by protecting our industrial and service sectors from displacement due to commercial office development. And future opportunities for resident employment and ownership in these sectors will be enhanced:

As an improvement in the Union Square plaza, the Central Subway station would not have a direct impact on the displacement of industrial and service sectors.

F) The City will achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

The Union Square station is not located on any active faults and therefore rupture resulting from displacement along a fault is not likely to occur. The subway station would be designed to current seismic standards to withstand a major earthquake (magnitude~7) on the San Andreas Fault.

G) That landmark and historic buildings will be preserved:

The implementation of the Central Subway project would result in a change to Union Square, however, the design has been adjusted to create a minimum visual and actual impact upon the historic resource. The proposed project is in conformance with Article 11 of the Planning Code and the Secretary of the Interior's Standards for Rehabilitation.

H) Parks and open space and their access to sunlight and vistas will be protected from development:

The new station would not impact or shadow Union Square.

5. For these reasons, the proposal overall, appears to meet the *Secretary of the Interior's Standards* and the provisions of Article 11 of the Planning Code regarding Major Alterations to Category I (Significant) buildings.

Motion No. XXXX CASE NO 2012.0136H Hearing Date: June 20, 2012 220 Geary Street (aka. 333 Post Street)

#### **DECISION**

That based upon the Record, the submissions by the Applicant, the staff of the Department and other interested parties, the oral testimony presented to this Commission at the public hearings, and all other written materials submitted by all parties, the Commission hereby **GRANTS a Permit to Alter** for the property located at Lot 001 in Assessor's Block 0308 for proposed work in conformance with the architectural submittal dated February 15, 2012 and labeled Exhibit A on file in the docket for Case No. 2012.0136H.

APPEAL AND EFFECTIVE DATE OF MOTION: The Commission's decision on a Permit to Alter shall be final unless appealed within thirty (30) days after the date of this Motion No. XXXX. Any appeal shall be made to the Board of Appeals, unless the proposed project requires Board of Supervisors approval or is appealed to the Board of Supervisors as a conditional use, in which case any appeal shall be made to the Board of Supervisors (see Charter Section 4.135). For further information, please contact the Board of Appeals in person at 1650 Mission Street, (Room 304) or call (415) 575-6880.

THIS IS NOT A PERMIT TO COMMENCE ANY WORK OR CHANGE OF OCCUPANCY UNLESS NO BUILDING PERMIT IS REQUIRED. PERMITS FROM THE DEPARTMENT OF BUILDING INSPECTION (and any other appropriate agencies) MUST BE SECURED BEFORE WORK IS STARTED OR OCCUPANCY IS CHANGED.

I hereby certify that the Historical Preservation Commission ADOPTED the foregoing Motion on June 20, 2012.

Commission Secretary

AYES:

NAYS:

ABSENT:

ADOPTED: June 20, 2012

Linda D. Avery

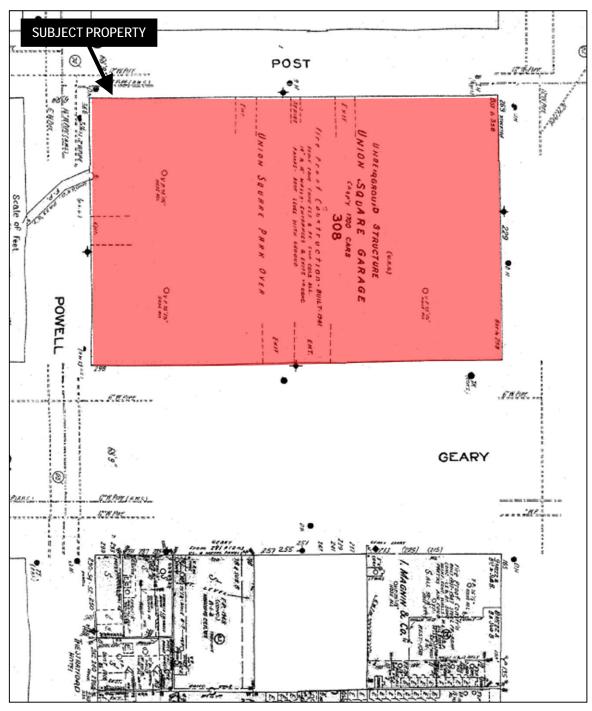
SAN FRANCISCO
PLANNING DEPARTMENT

# **Parcel Map**





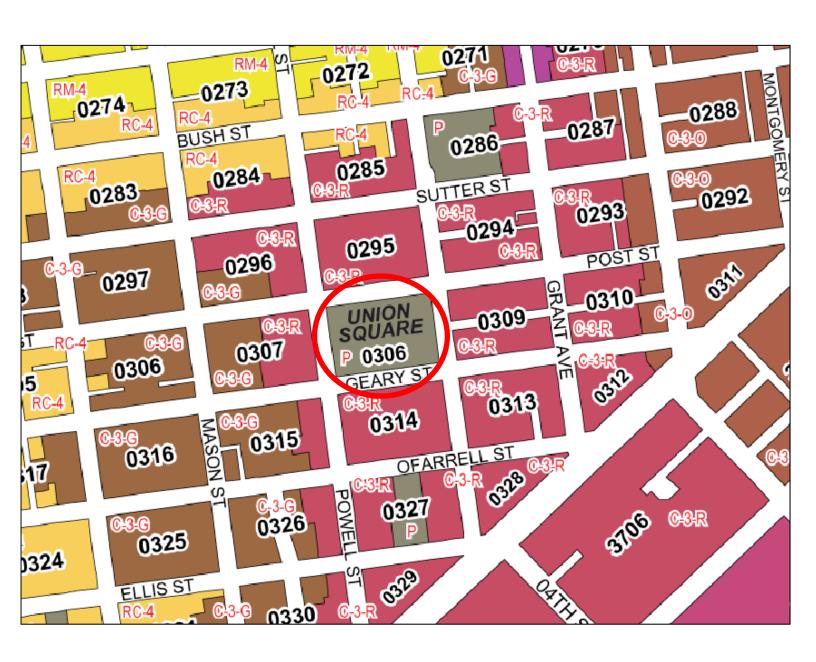
# Sanborn Map\*



\*The Sanborn Maps in San Francisco have not been updated since 1998, and this map may not accurately reflect existing conditions.



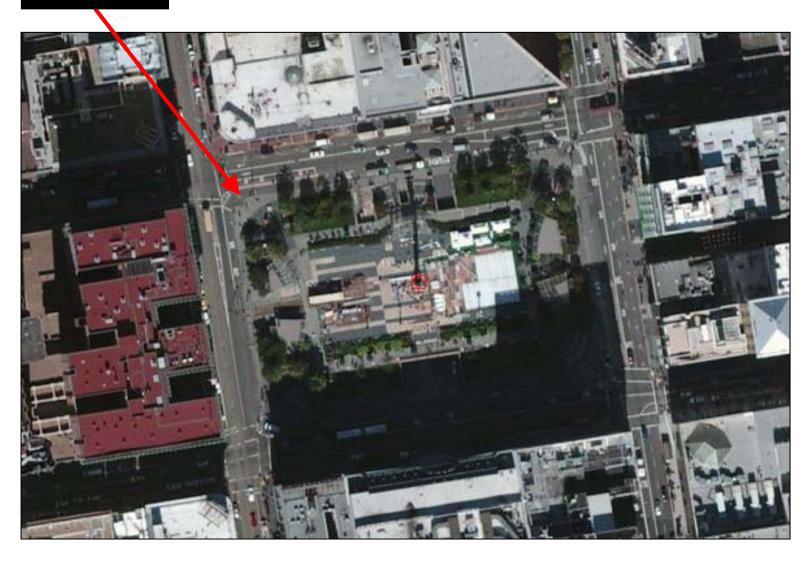
## **Zoning Map**





## **Aerial Photo**

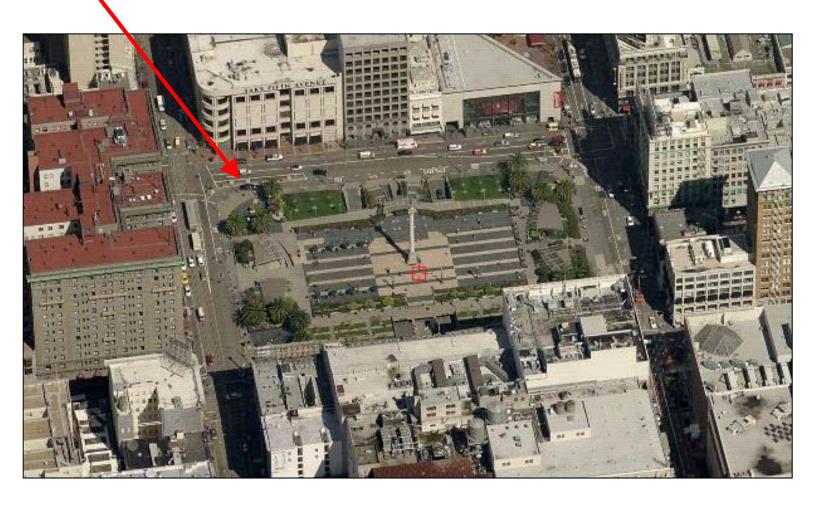
### SUBJECT PROPERTY





# **Birdseye Photo**

### SUBJECT PROPERTY



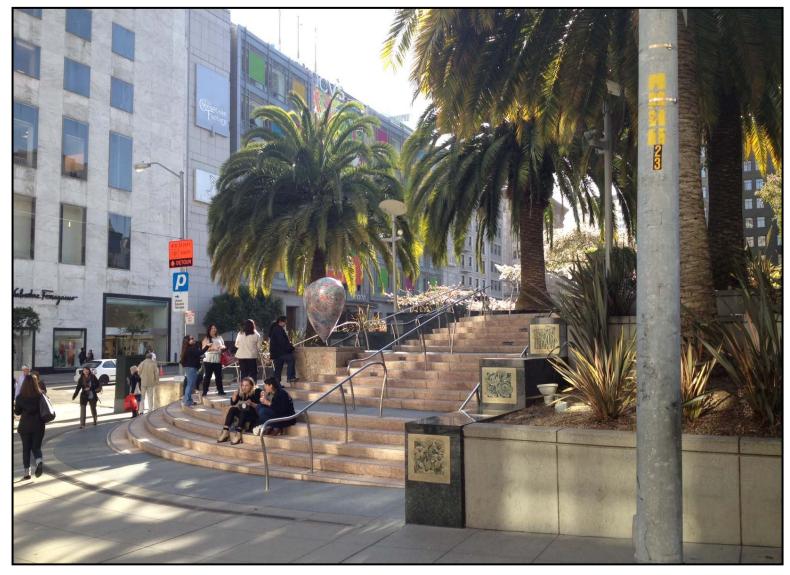


## **Site Photo**



Union Square, view along Geary Street looking north.

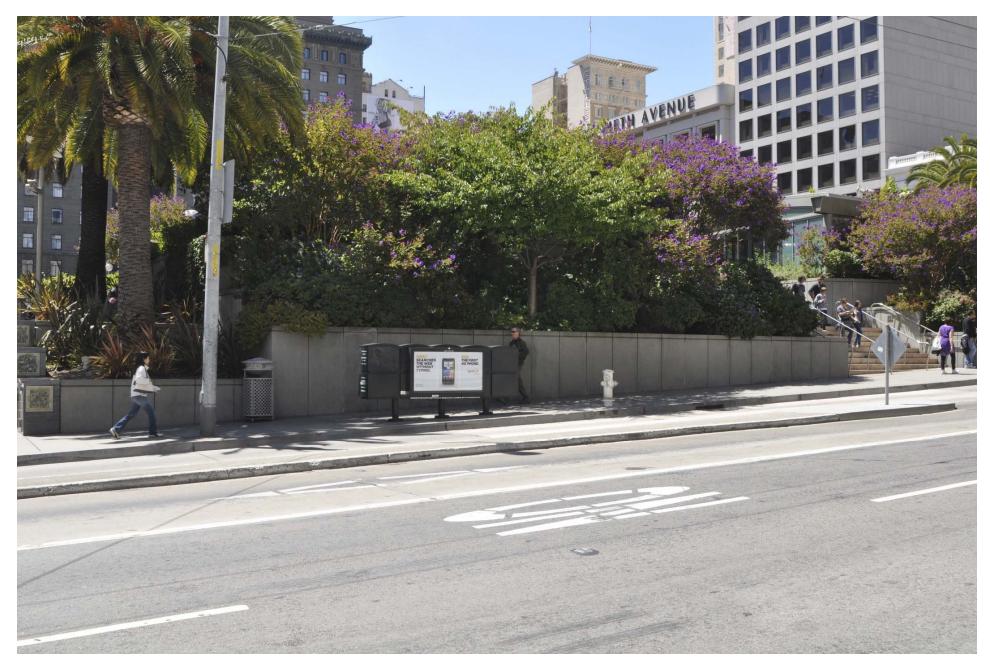
## **Site Photo**



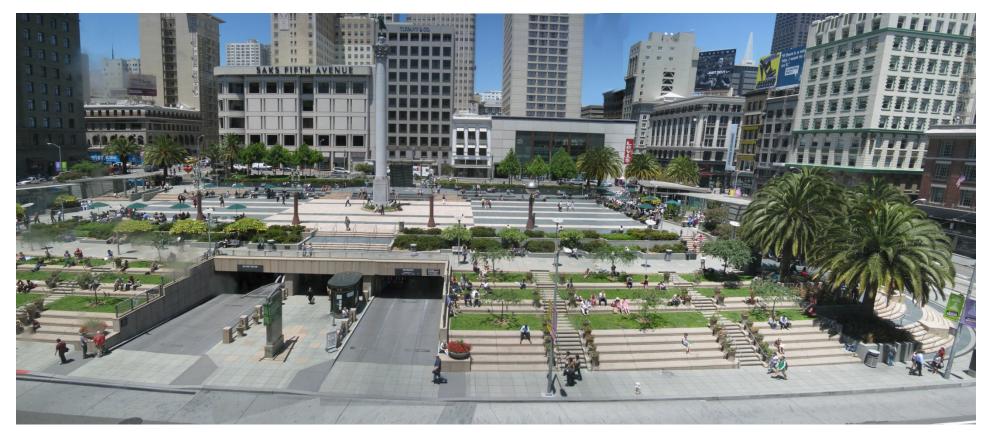
Union Square, view along Stockton Street, looking southwest.



View of NW Corner of Geary and Stockton



View along Stockton Street (Location of Proposed Vent Shafts)



Aerial View from Geary Street (Location of Proposed Station Entrance)



Aerial View toward Stockton and Geary Streets



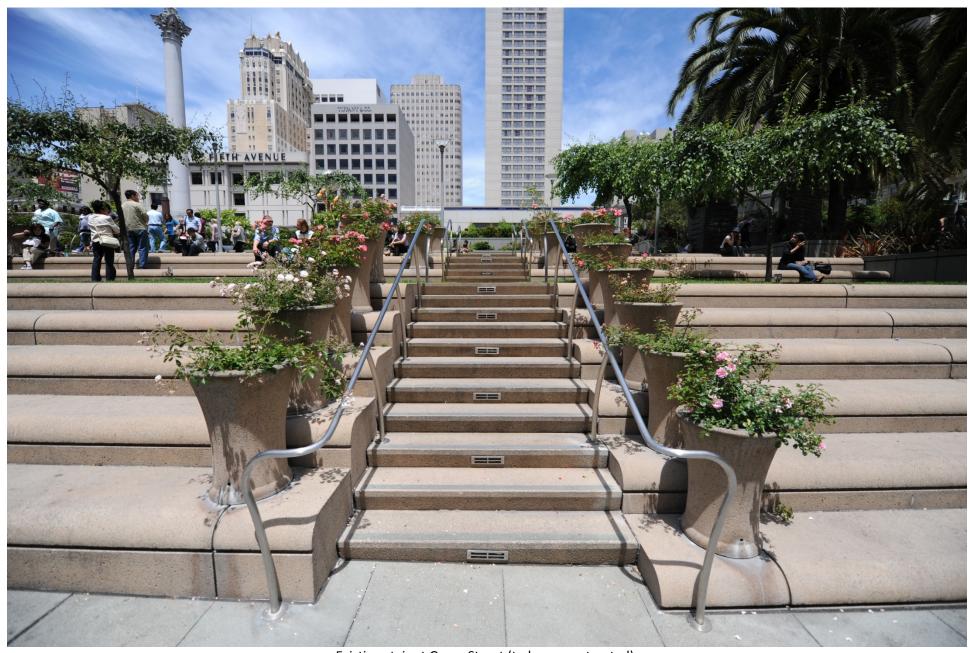
Existing Planters to Remain at NW Corner of Geary and Stockton (along Geary)



Location of Proposed Union Square Entrance (View from Geary Street)



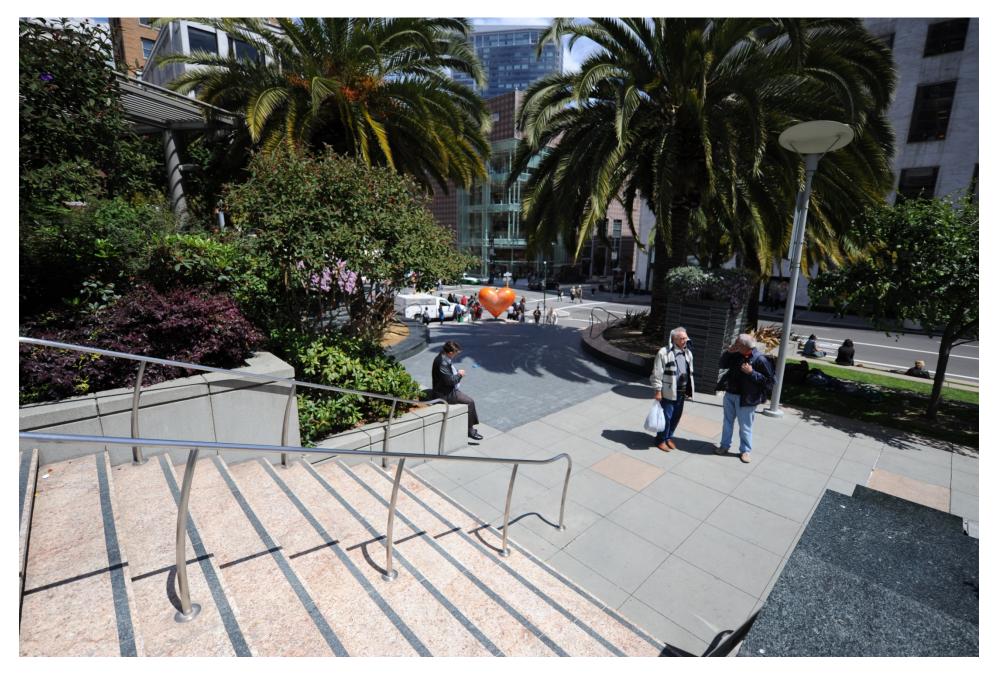
View of adjacent Parking Garage Entrance along Geary Street



Existing stair at Geary Street (to be reconstructed)



View of intermediate Plaza Level (looking East)



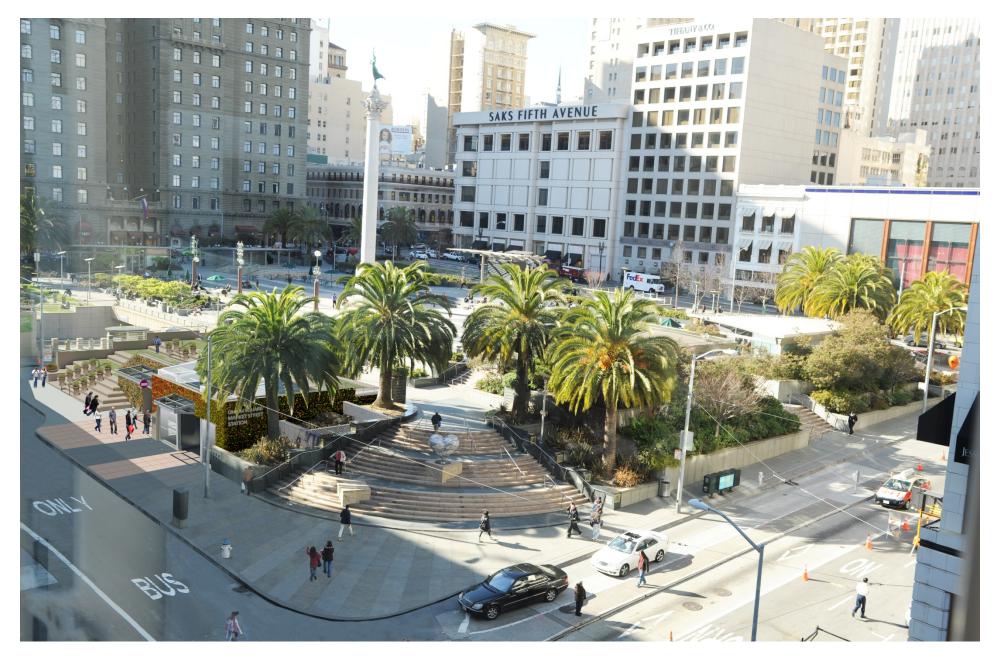
View from Upper Plaza Level (looking toward NW corner of Stockton and Geary)



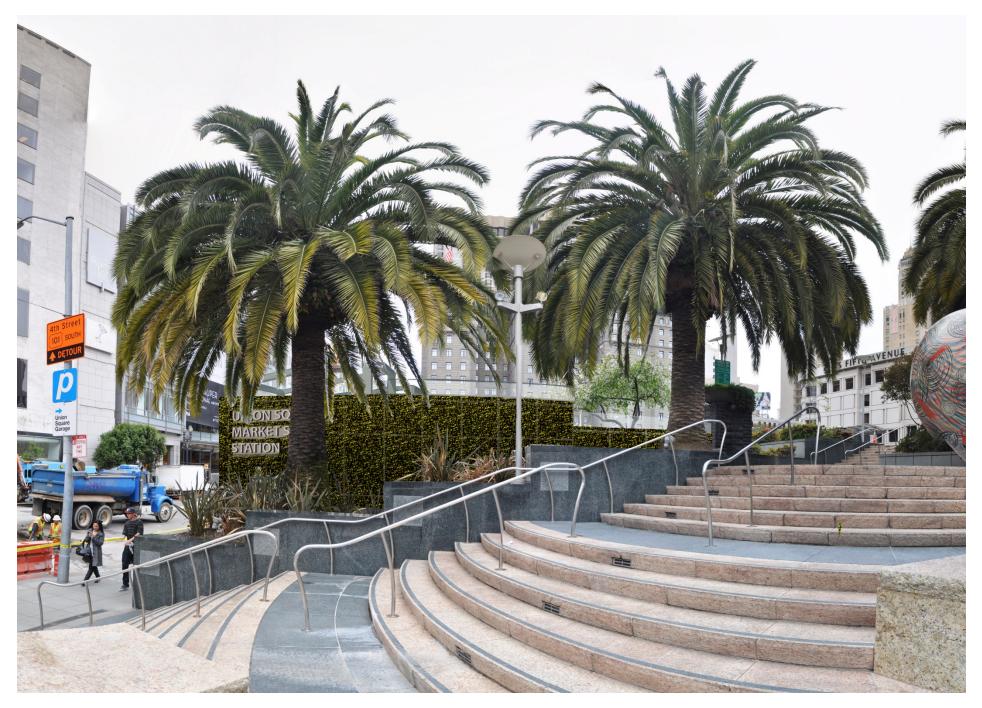
Existing Stone Pilaster at Intermediate Plaza Level (to remain)



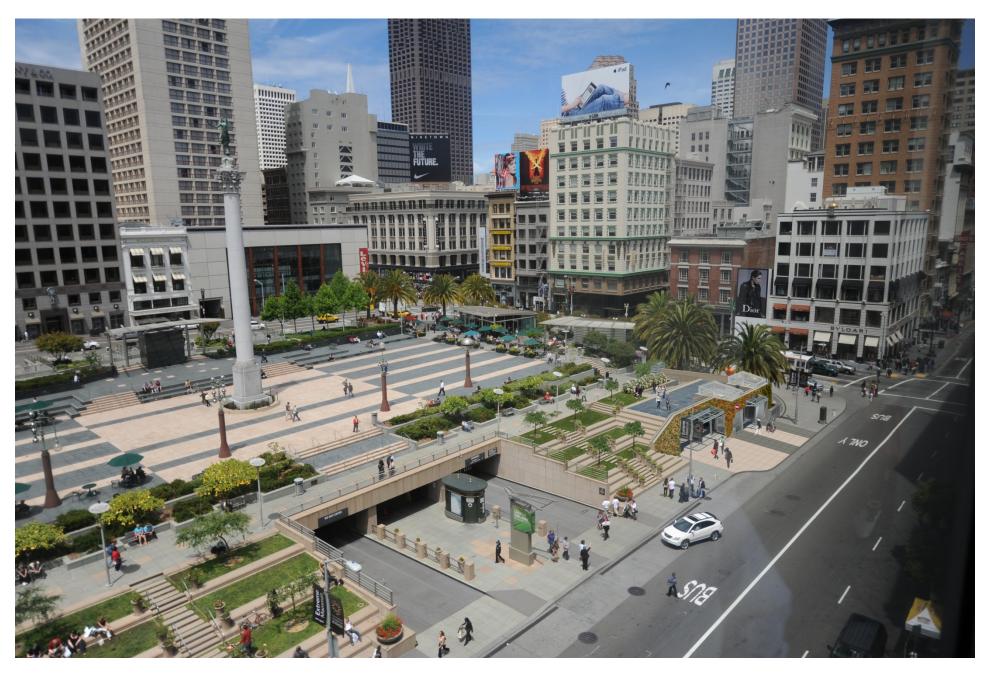
View from Intermediate Plaza Level (looking West)



View from Nieman Marcus



View from Corner of Stockton and Geary



Aerial View of Station Entrance Looking toward Stockton and Geary Streets



View from Intermediate Plaza Level looking East

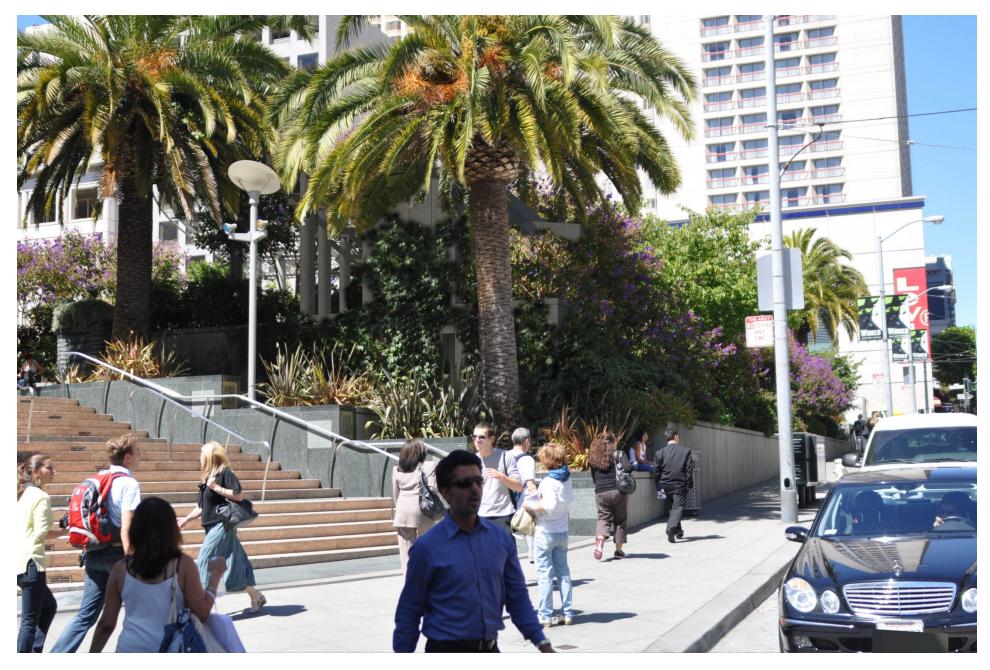


View from Glass Roof Deck looking South





Side-by-Side Views of Glass Roof Deck



View of Proposed Vent Shafts along Stockton Street

# SFMTA CENTRAL SUBWAY Union Square / Market Street Station Union Square Entrance

#### **DESIGN NARRATIVE**

Union Square is the retail heart of San Francisco and is a legacy of the Gold Rush era. The 2.6 acre site got its name from demonstrations in support of the Union Army during the Civil War. In 1850, the square was dedicated to Mayor John Geary, who was the first administrator following the discontinuation of the Spanish land grant. The square was an assemblage of dirt paths and floral planters. In 1903, the Corinthian column was erected as a monument to Admiral George Dewey's exploits in the Spanish American War. Less well known was another dedication to President McKinley, then recently assassinated. Artist Robert Aitken created the statue of "Victory" atop the tower.

In 1939, Union Square was transformed by construction of the world's first underground parking garage. Its paths and planters were elevated and set in stone and concrete above the garage. The parking structure and park were designed by the acclaimed modernist architect Timothy Pflueger (also known for 450 Sutter nearby). The layout of straight paths and elevated planters provided intimate and quiet spaces that seemed an antidote to the busy retail scene as the city flourished following World War 2. The Bay Area celebrated social freedoms of the 1960s and 70s, but Union Square suffered. A transient population brought crime and rioting that threatened shoppers, workers and tourists.

In 1998, the San Francisco Prize sponsored a competition for conceptual designs to transform Union Square. Although the proposals were not meant to be built and, therefore, most established architects and landscape architects did not submit, Mayor Willie Brown turned the competition into a real commission. The team of Fotheringham and Phillips won the competition, and their design was built in 2002. Their scheme was completely different from the existing Pflueger design. Wherein the existing square possessed the serious ambience of a monument; was made of gray Raymond granite and concrete; planted mainly with pruned shrubs in variations of green; and comprised relatively narrow paths and central terrace for viewing the Dewey column the new square was presented as an open plaza with a carnival of materials: dark to light grays and beige to pink tans along with gray, green and pink stones as well as over two dozen types of flowering shrubs including exotic fragrant trees. On the square a series of metal framed pavilions with bowed roofs house amenities and service cores. The Dewey column was resurrected in the center of the square.

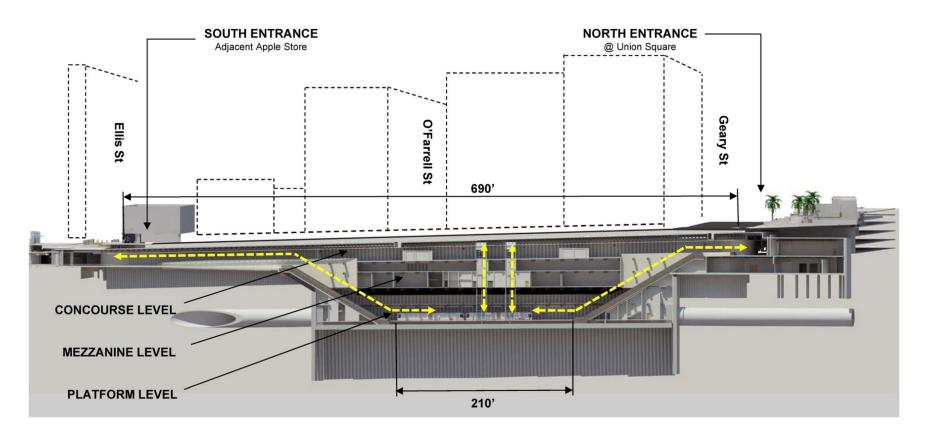
In 2019, SFMTA's Central Subway will open with station access at Union Square on Geary Boulevard. The Union Square entrance is the visible portion of Union Square / Market Street Station, a new underground light rail transit station that is over 700 feet long and nearly 100 feet deep under Stockton Street. At the south end the station connects to the Muni/BART Powell Station under Market Street, and at the north end it emerges at Union Square on Geary Boulevard near Stockton Street. The station entrance is a weather-protected room containing one staircase, one escalator, two elevators and space as needed for circulation to and from each.

Throughout the final design process, a number of city agencies and community stakeholders provided input and/or imposed constraints, often competing, that influenced the design of the Union Square Entrance:

Entity	Primary Interests/Concerns
Union Square Business Improvement District	Minimize impacts to plaza (visual and usage)
San Francisco Arts Commission Civic Design Review Committee	Architectural statement of international stature
San Francisco Recreation and Park Department	Minimize impacts to plaza (visual and usage)
San Francisco Mayor's Office of Disability	Improve accessibility; elevator redundancy (2 vs. 1)
San Francisco Municipal Transportation Agency (SFMTA)	Minimize impacts to parking garage (parking takes)
San Francisco Municipal Transportation Agency	Safety, security and maintainability of station entrance

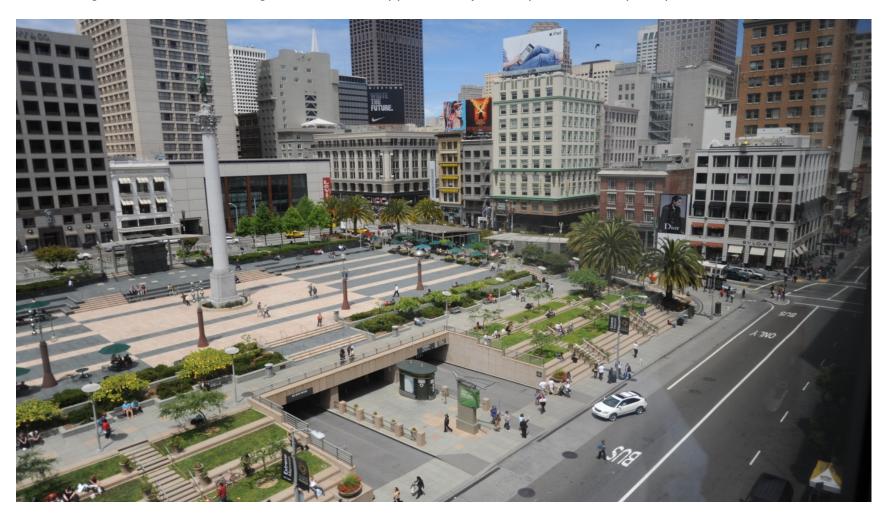
Through many workshops and design iterations, SFMTA, the Union Square Business Improvement District and the Arts Commission came to recognize that, while the new station entrance could have set a high architectural standard, the best solution was to make it invisible – to blend in with the surrounding Union Square; to design the entrance to look more like landscape than a building. Although the entrance must enclose the volume required by 2 elevators, an escalator and a staircase and, therefore, must protrude from the ground, it has been designed to mimic retaining walls and planter terraces. The passenger entrance on Geary Boulevard was fashioned more like a void than a gateway, a self-negating aesthetic similar to the vehicle entrance of the garage. The remaining sides of the building have been tucked into the Square's terraces so as to be indistinguishable, and its roof was designed to serve as a terrace and overlook. Visually, the most prominent elements of the entry will probably be the station identification sign and the public art that will decorate the elevator glass and the roof terrace.

Because the station entrance is a new building in Union Square, its design incorporates existing treatments, materials and finishes except when function or safety have required the introduction of new elements. As a new building the station entrance could have been modeled after one of the Square's pavilions and adopted their architecture. It could have incorporated a curved roof profile, included an awning comprised of narrow metal tubes, had a structure of cylindrical metal columns and exposed steel beams and been enclosed with banded concrete walls. But as a building located below the plaza level and tucked into its stepped terraces, the station entrance could also have been modeled on the Square's system of retaining walls. This latter option was selected to reduce the visual impact of the new building and to keep visitors focused on the existing plaza and its pavilion. It was decided to insert a "non building" in the form of retaining walls, steps, planters and landscape.



Union Square / Market Street station (UMS): Union Square entrance and palm trees on the right

The station entrance is tucked into Union Square's parking garage. An existing vehicle ramp must be reconfigured and the garage's existing structure must be altered to accommodate the station entrance and a portion of the station's concourse below. To minimize alteration in the parking garage and to conserve maximum open space amenity at the plaza the station entrance has been designed to be as compact as possible in both plan and elevation. Approximately 80 parking spaces are permanently impacted by the station entrance. At the surface, the station entrance permanently displaces approximately 1,200 square feet of terraced seating but incorporates approximately 950 square feet of accessible glass roof deck, resulting in a net loss of approximately 250 square feet of open space.



Union Square today: the station entry will be by the palm trees on the right



Union Square with UMS north entrance

UMS Transverse Section looking North





Existing Union Square plaza pavilions with metal trellises and striated concrete panels



Existing garage entrance with stepped wall at Union Square



Existing terraced seating at Union Square



Existing terraced wall with vines at Union Square

To integrate functionally with Union Square's surface and to provide uninterrupted open space amenity, the roof of the station entrance has been designed as a walk-on terrace. Public access to the roof deck is via steps and a short ramp along the north edge, and via terraced seating along the west edge.

A 42-inch-high guardrail is required along south and east edges of the roof deck; to reduce its bulk and mass, the top 12 inches of the guardrail are glass. The guardrail atop the parapet over the parking garage entrance was not copied because its horizontal rails are climbable.

Vertical clearance requirements for the station entrance result in the roof elevation being slightly higher than the Square's intermediate plaza level. A grass-covered roof deck was contemplated but was rejected because it would have required the roof to be raised an additional 3 feet. Instead, a translucent glass roof was selected for its thin profile and to provide daylight inside while creating an opportunity for art enrichment.



View looking east towards stepped wall with glass guardrail

The enclosures for the two required elevators protrude through the roof and above the guardrail. An operational safety clearance above the roof of the elevator cab prevented the enclosures from being lower than the guardrail. In this case the tops of the enclosures have been raised several inches as insurance against people climbing onto them. The glass facades of the enclosures are an opportunity for art enrichment.



View looking south towards Geary Street showing raised elevator enclosures above guardrail height

The station entrance must be securely closed during non-operating hours. This is being accomplished with glazed bi-fold overhead doors. During operating hours the doors serve as awnings or rain protection. The support and mechanism for such doors are less bulky than that of rolling grilles to insure maximum heights for the two openings.



View towards UMS station southeast corner

The enclosure for the station entrance is exposed on three sides: to the west, stepped terraces are integrated into and match the finish and composition of existing terraced seating; to the east, retaining walls match the finish of the existing walls enclosing the parking garage's ventilation and exit stair; to the south, concrete walls and parapets that frame the station entrance (opening) and elevators are treated to match the finish of the existing retaining walls within the plaza.



Aerial view from southwest towards UMS station entry

On the west side of the station entrance, the new steps to the roof deck are integrated, but at right angle to the existing seating terraces facing Geary Boulevard. The base of the existing seating terraces is modified with a series of right angle terraces along the front of the station entrance. The new terraces are specified to match the materials and colors of the existing terraced seating.

On the east side of the station entrance, a new enclosure wall rises behind the existing palm trees; it is of the same material, color and finish as other terraced walls within the plaza. With the exception of the portion that includes station identification signage (individual lettering), the new wall is covered by vines.



Rendering of UMS east wall stepped with glass guardrail

On the south face of the station entrance, the concrete framing the entry is identical in finish and color to the retaining walls surrounding the parking garage entrance. The concrete framing extends as a parapet over the passenger entries. Vines planted in wells at the base of the concrete walls will eventually cover them. Metal cable grids to support the vines are detailed to appear architectural until the vines grow into place. Except for fire and other functional components, the metalwork on the outside of the entry is powder-coated to match that of the existing pavilions.



World Leader in Flexible Space Management



The Hydrau-Lift is the only completely finished architectural Bi-Fold door system available for field glazing on the market today.

# Hydrau-Lift™ Bi-Fold Door System





# Hydrau-Lift Bi-Fold Door System

The Hydrau-Lift™ Bi-Fold door system uses technology that improves on the limitations of cable or strapdriven Bi-Fold systems. The Hydrau-Lift Bi-Fold utilizes a patented hydraulic operating system (SST) provided exclusively by Hufcor.

The Hydrau-Lift system can be ordered from Hufcor with an optional pre-designed storefront glass system that can be either factory or field installed. As such, the Hydrau-Lift is the only completely finished architectural Bi-Fold door system available for glazing on the market today.

#### **Product Features:**

- Welded steel frames with narrower profiles (3"-4") tubes) than the same-sized aluminum systems on the market.
- Optional stainless steel tube framing for corrosive environments (such as ocean fronts, indoor swimming pools, etc).
- Pre-designed and engineered openings to accept face materials (glass or custom skin finishes) that weigh up to 12 psf.
- Precision welds at the frame joints compared to large "industrial" welds on aluminum framed products currently in the market.
- Hydraulic lift mechanisms are located on the very edge of the door frames, eliminating cables, cable "kickouts" and lift bars on the doors -- offering the cleanest and least obstructive door faces from a commercial Bi-Fold door.
- The hydraulic operators also eliminate the pinching hazards that could happen with cable and strap systems.

- The SST hydraulic cylinder operating system applies 1000+ lbs of "active force" on the door when closed, establishing a weather tight seal against the door perimeter frame and seals.
- Hydrau-Lift Bi-Folds are equipped with a built-in roller latching system located on the very edges of the vertical door frames. The mechanical roller latch firmly secures the doors in place against the support frame. Hydrau-Lift does not require lock actuators or additional motor systems to run "automatic" locks, nor do they require electric or magnetically operated locks to pull the door frames in tight to the seals.
- The hydraulic operator provides security in off hours. Optional manual master-keyed deadbolt locking systems can be installed on the Hydrau-Lift system.
- Pre-installed, heavy-duty, mechanically fastened weather seals surround the horizontal outer edges and at the joint between the panels. The vertical weather seals are applied on the vertical support frame to ensure a tight fit after installation.
- The hydraulic cylinders provide 1000 lbs of "active force" against the doors. As such, the seals are actually compressed tight and the door held flat in the opening. In gravity based systems (those that utilize overhead cables and ceiling mounted motor units), end users have experienced problems with doors not folding flat

as shown in the photo. One root cause is the inability of the door's own weight to compress the seals and pull the door



tight. Another is the need for the door weight to pro-



World Leader in Flexible Space Management

# Hydrau-Lift Bi-Fold Door System

vide enough force against the cable kickouts and lifting cables. The Hydrau-Lift pulls the door flat in the opening, and as such eliminates the need for actuators or magnetic catches.

- Hydraulic release valves allow the doors to be lowered in the event of a power failure or system repair. The release valve is part of the hydraulic pump unit, typically remotely installed in a service or storage closet, at ground level. On cable or strap-driven models, the top mounted motor units must be hand cranked at the motor to allow the panels to be lowered in the event of power failures in some cases, as much as 30' above the floor!
- Hufcor Hydrau-Lift Bi-Fold door frames are factory finished with red oxide primer prepared for field painting. Optional factory painting is available, but not recommended due to the potential of



scratching during shipping and installation. Aluminum framed Bi-Fold doors require field priming and then a field paint coating.

- Hufcor Hydrau-Lift doors are steel and are not supplied with a clear anodized frame. (Current aluminum Bi-Fold manufacturers provide a mill finish product. If clear anodized frames are required, the welding is done after the anodizing on aluminum framed systems, thus eliminating the clean look of the clear anodized frame that an architect or client may be looking for.)
- Horizontal top and vertical support leg framing posts are designed to help plumb and square the rough open-

ing and act as a built-in guide for the guide roller.

- The top horizontal guide rail adds lateral stability to the system
- Hufcor Hydrau-Lift can be ordered with a predesigned aluminum storefront system that accepts a one-inch 1" insulated glass or ½" single lite glass or polycarb unit. The system comes standard with clear or bronze anodized finishes or optional standard RAL powder coat. Custom Kynar powder coated colors are available for an upcharge.
- The standard system contains a 1/8" EDPM thermal barrier at the pressure plates and cover. And, Hydraulift factory installs and additional thermal membrane between the storefront base plate and door frame.

#### **About Hufcor**

Hufcor is a privately held U.S.A. corporation and is the world's leading manufacturer of operable glasswall, and accordion partitions. As the world leader in flexible space management, Hufcor combines innovative engineering and design concepts to offer our customers the broadest range, most technologically advanced, high quality products available.

Hufcor partitions are available through local, factory-trained Distributors, offering design assistance, installation and service. For more information about Hufcor partitions, contact your local distributor. For the name of your nearest representative go to www.hufcor.com.

Hufcor, Inc. P. O. Box 591, 2101 Kennedy Rd., Janesville, WI 53547, USA

Phone: 800.542-2371, Ext 214 608.756.1241

FAX: 608.758.8253

Email: info@hufcor.com • www.hufcor.com

For More Information Visit: www.hufcor.com

ufcor, the world leader in the manufacture of partitions, has a reputation for products with exceptional quality and durability. Operable, accordion, portable and glass partitions provide the flexibility to quickly create large or small spaces.

Hufcor partitions are available through local, factory-trained Distributors, offering design assistance as well as installation and service.

For more information about Hufcor partitions, contact your local distributor. For the name of your nearest representative, go to www.hufcor.com.



Hufcor is committed to being an industry leader when it comes to protecting the environment, by reducing pollutants and minimizing our environmental impact on air, water and land. Today, the Hufcor commitment and progress toward Green manufacturing is greater than ever, as we continue to develop



standards that support various LEED (Leadership in Energy and Environmental Design) points to assist the achievement of LEED certification goals.





World Leader In Flexible Space Management

#### **Worldwide Headquarters**

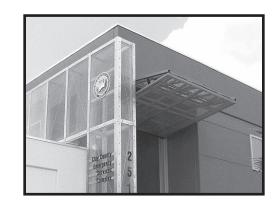
P. O. Box 591, 2101 Kennedy Rd., Janesville, WI 53547, USA Toll-Free: 800.542-2371, Ext 214 • Telephone: 608.756.1241 FAX: 608.758.8253

Email: info@hufcor.com • Website: www.hufcor.com









### **LITEFLAM: Fire Rated Glass Flooring**





#### 1. General Principles

#### a) Integrity vs Insulation

The LITEFLAM<sup>TM</sup> fire rated glass floor systems all incorporate Integrity <u>and</u> Insulating fire-resistant glass, specifically Contraflam<sup>TM</sup>, manufactured by Vetrotech Saint-Gobain. The insulating element of this glass limits heat transfer through to the structural glass enabling the structural glass to carry applied load for the specified duration.

Some Architects will request integrity only fire rated glass floor. This is generally <u>not</u> possible for the following reason. The structural glass element of a fire rated glass floor normally comprises a multi laminate glass bonded using standard poly-vinyl-butyral (pvb) membrane. This membrane starts to soften above 150 degrees Celsius and melts completely by 250 degrees Celsius. Thus an integrity only fire safety glass deployed under a structural glass will allow heat to transfer through to the structural glass allowing the pvb to soften and the multi laminate structural glass to fail under applied load. This softening/failure process under fire is relatively quick. An unprotected glass floor could fail in as short a period as 3 to 4 minutes under applied load in fire conditions. Whereas the LITEFLAM system will maintain its' integrity with up to 90 minutes of fire exposure.

#### b). Load capacity and fire-rating ASTM-E119-00

Every LITEFLAM floor system distributed by GreenLite Glass Systems (GGS) has been tested under applied load in one of two categories.

Domestic Loading : 3.0 kN/m<sup>2</sup> / 60 psf

Commercial Loading : 4.8 kN/m<sup>2</sup> / 100 psf

Intergrety and Rating : 60min and 90min systems are available

Distribution, Manufacturing and Technical Service:

#### c). Support

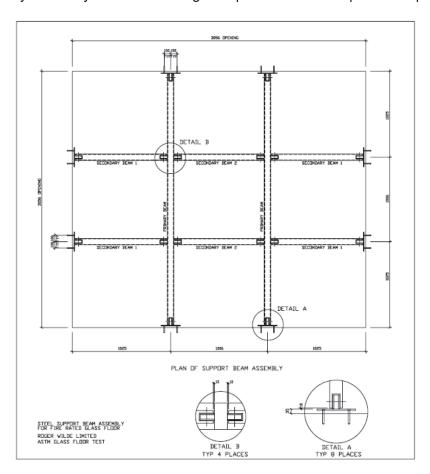
Fire rated glass floors require four sided support. The Contraflam fire rated glass used in the LITEFLAM systems is a gel filled glass (single or multilayer gel depending on fire resistance required) and is not designed to carry applied load. Therefore every LITEFLAM system includes a patented "load bypass" or "load transfer" system to isolate the fire rated glass from the floor loadings.

Additionally the supporting steel structure for the multipanel systems includes a provision for expansion at every jamb to minimise possible buckling due to steel expansion in fire conditions.

#### d). Construction

All LITEFLAM systems combine the fire rated glass and structural glass into a single mild steel frame protected by intumescent paint. This enables the fire rated and structural glass to be placed in close proximity to each other and offers a much superior aesthetic to previous systems.

All LITEFLAM multi-panel systems have been tested using mild steel rolled hollow sections (HS Tube Steel) protected with intumescent paint as primary and secondary support. It is possible to use other sections such as channels or tees subject to Fire Authority approval. An Architect proposing such variations from that tested should be encouraged to check back to his Regulatory Authority before finalising his specification for a particular project.



Distribution, Manufacturing and Technical Service:

#### e). Test Criteria

All LITEFLAM systems have been tested to ASTM E119-00 – US and Canada and either BS476 Part 21 1987 or BS EN 1365-2:2000 – the relevant British Standards.

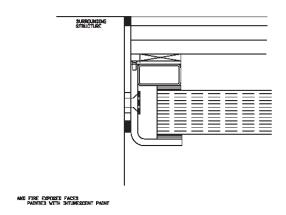
#### f). Slip Resistance

All LITELFAM systems (except the Liteflam Domestic product) are supplied as standard with LITEFLOOR top sheet which incorporates a slip resistant carborundum frit in a variety of standard colours and patterns.

#### g). Separate Sheet/Composite Sheet Systems

LITEFLAM systems are offered in both separate structural glass/fire rated glass systems and double glazed systems. The choice as to which to offer is based upon a number of not necessarily mutually compatible criteria.

#### Separate Sheet System

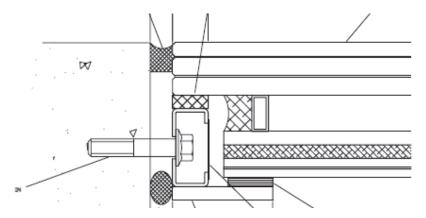


TYPICAL EDGE DETAIL

Advantages: Better for larger panel sizes due to ease of installation. Total combined weight of structural and fire rated glass can be 160Kg/M² typically. So a 2.0m by 1.0m panel would weigh 320Kg! Another good selling point is that only structural glass top sheet needs replacing if broken thus saving the cost of the fire rated sheet.

Disadvantages: Not so suitable for external use. Difficult to obtain clean environment between sheets in site conditions.

#### **Double Glazed System**



Advantages: Ease of installation. Available for both commercial market and domestic market as standard "Liteflam" unit. Factory constructed quality available with low-E hard coating to meet Part L insulation requirements if necessary. More suitable for external use.

Disadvantages: Heavy in larger panel sizes. Whole unit has to be replaced at higher cost if damaged.

#### h). Panel Sizes Available

60/60 systems

1.0m x 2.0m (39.375" x 78.75") 1.5m x 1.5m (59.0" x 59.0")

90/90 systems

1.0m x 2.0m (39.375" x 78.75")

1.5m x 1.33m (59.0" x 52.375")

Assessment letters are available for increased panel sizes by special request.

#### i). Specification sheets

Non fire rated specification sheet attached.

60/60 specification sheet attached.

90/90 specification sheet attached.

#### <u>j). Framing</u> system

The LITEFLAM frame systems have been designed to be the smallest and most aesthetically pleasing frames available in the market place. See attached schematic detail.

#### k.) External Use

The systems can be modified for external use. Particular care has to be taken to waterproof the interface between the glass floor and the surround. LITEFLAM has standard solutions to this problem.

Distribution, Manufacturing and Technical Service:

I). Further information available on our websites  $\underline{www.greenliteglass.com}$  and  $\underline{www.liteflam.com}$ 







Unit 55 - 2495 DAVIES AVE. Port Coquitlam, BC V3C 0B2

Phone: 778.285.8530 Fax: 778.285.8520

Distribution and Technical Service for SAINT-GOBAIN-GLASS

# LITEFLOOR® GLASS FLOORS, STAIRS & WALKWAYS







LITEFLOOR R 46/3 with non-slip LITEFLOOR CL 28/3 with blue opaque interlayer

LITEFLOOR CL 24/3 clear

As the leading single source manufacturer of structural glass panel systems, LITEFLOOR® offers unique and innovative product lines that can be designed into virtually any type of application to meet almost all structural, slip resistant and aesthetic design criteria.

LITEFLOOR is a walkable laminated safety glass with optional slip-resistant properties and/or structural integrity. Depending on the respective particular requirements of the application there are two types (LITEFLOOR R and CL) and various compositions available:

LITEFLOOR R A laminated glass of usually two sheets of structural layers of glass with a third slip-resistance partially transparent / translucent top layer. Coloured, transparent or opaque interlayers are also optional. LITEFLOOR CL A laminate of two or more sheets of annealed, heat-strengthen or tempered glass without slip-resistance surface. Vision-protection can be achieved using opaque interlayer options.





#### Structural Criteria:

#### Structural Concept:

LITEFLOOR laminated safety glass typically comprises three singel sheets. The (two) lower sheets withstand the normal service loads and are of Float glass or heat-strengthened glass (PLANIDUR). The upper sheet provides slip-resistance through its patented coating and is heat-strengthened.

Structural stability when overloaded:

The single sheets are bonded together, even in breakage, by a highy tear-resistant interlayer. The bond remains intact. A reduction in structural stability remains, depending on the type and amount of damage.

Examination of such structural stability (following intentional damage) has been carried out on LITEFLOOR R. The results of these investigative tests are to be considered when applying for construction approval from the regulating authority

#### Evaluation Diagram 4-side line supported

Self-weigth + Service load p = 4 kN/m²

- all σ TVG = 29 N/mm²

- all σ Float = 12 N/mm² = L/200

- without lamination action

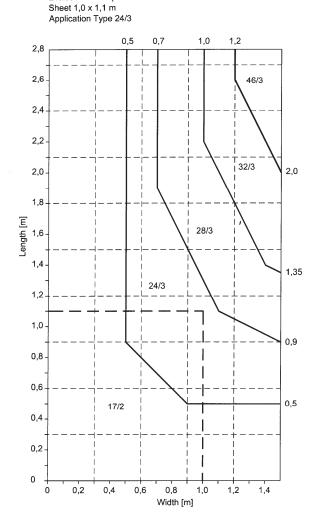
- Top sheet not structural

(excapt 17/2)

Evaluation example: ---

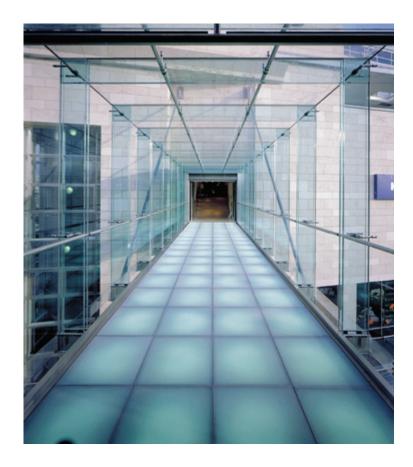
SGG LITE-FLOOR R to ÖNORM B4012

minimum size: 20 x 50 cm maximum size: 150 x 220 cm

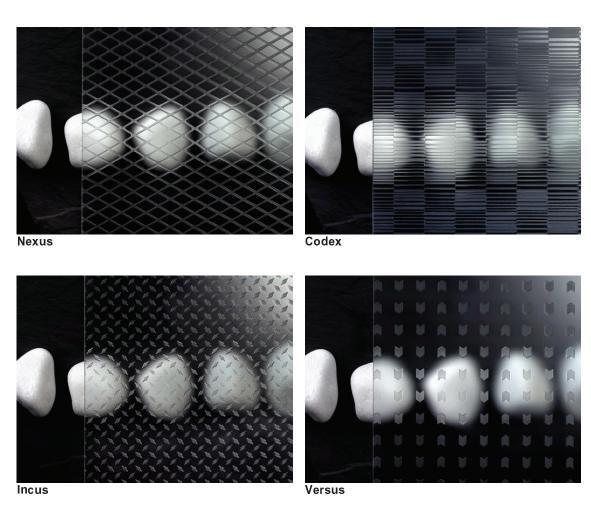


Criteria for the structural requirements are derived from the spans between the supporting members. Depending on the supporting design LITEFLOOR laminated glass can be supported on two or more points, two-sides, or all four sides of the glass. See support <u>design detail.</u> The dimension between the supporting edges or points is used to determine glass type and thickness.

Uniform Building Codes for floor loading are also used to determine the structural glass composition. Live loads, dead loads and point loads requirements are project specific.



## LITEFLOOR EXT - Raised Textured Surface \*\*\*NEW\*\*





Aluminum

#### LITEFLOOR R Slip-Resistant coatings

Special hardwearing slip-resistant screen print (specialty frit - enamel ceramic paint with sand particles), which is fused to the top layer of the glass, is available in various standard colours and screen-print patterns. This screen print and orientation can also be customized.

#### **Screen-Print Patterns**

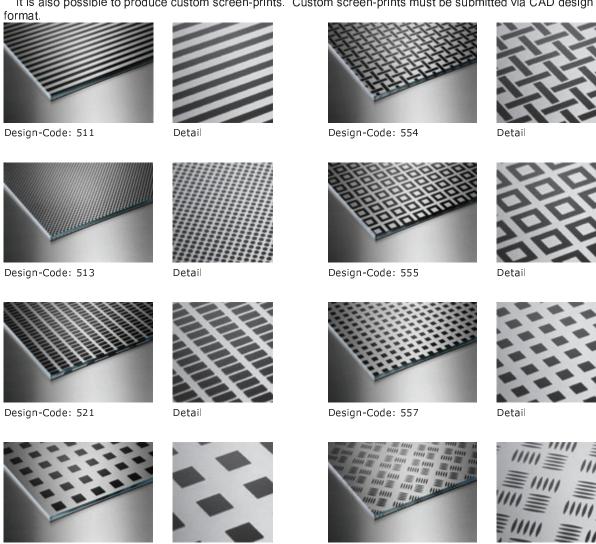
Design-Code: 541

Detail

LITEX is a partially enameled tempered safety glass in accordance with EN 12150 that is laminated to the structural element of LITEFLOOR. Litex is non-fading, light- and weather resistant, and resistant to temperature fluctuations.

Partial transparency is achieved by using the Litex Standard designs, whereby the decorative effect can be enhanced depending on the design and colour. Additional Designs can be found in our brochure "Emalit / Seralit". You can request this brochure at: <a href="mailto:info@greenliteglass.com">info@greenliteglass.com</a>

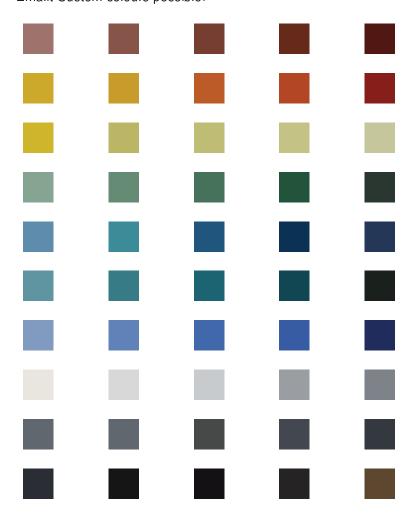
It is also possible to produce custom screen-prints. Custom screen-prints must be submitted via CAD design



Design-Code: 560

Detail

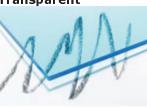
<u>Slip Resistant Screen-Print Colour Options</u> Standard Design: Standard colour 7022-5WS (brown) Emalit Custom colours possible:



#### Transparent or Opaque Coloured Interlayer:

Aesthetics can be further customized by the introduction of a transparent coloured interlayer.

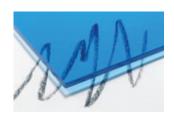
**Transparent** 

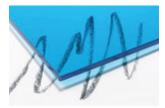


Colour: Blue-D

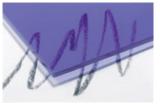


Colour: Blue-DBD





Colour: Blue-KBWB



Colour: Red-Blue-KWU



Colour: Grey-FF

Colour: Bue-KBWF



Colour: Violet-KUWU



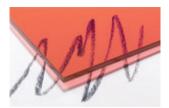
Colour: Rose-UU



Colour: Rose-U



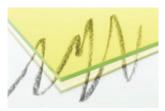
Colour: Red-UFU



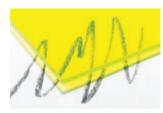
Colour: Red-UFUX



Colour: Orange-UX



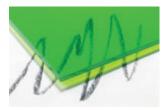
Colour: Yellow-X



Colour: Yellow-KH



Colour: Green-FWXF



Colour: Green-KHWH

For sensitive applications, obscurity can be achieved using a translucent PVB interlayer.

#### Translucent



Colour: Blue-MBWB matt



Colour: Rose-MUU matt



Colour: Orange-MUX matt



Colour: Yellow-MH matt



Colour: Green-MFWXT m



Colour: Diffused White





# **Curtain Wall**

Kawneer offers a comprehensive line of architectural aluminum building products and systems for commercial construction – entrances, framing systems, windows and curtain wall systems. For over a century, Kawneer has been recognized as an innovator. Since that time, we've balanced experience with change and ongoing improvement. We strive every day to develop solutions that promote integrated, sustainable building practices, and we are dedicated to providing the tools our customers need to succeed. Thermal breaks, condensation management and building integrated photovoltaic (BIPV) and unitized curtain walls are just a few examples of how we have responded to customer needs.

#### **Hurricane Resistant and Blast Mitigation Products**

Kawneer offers single-source responsibility with a comprehensive group of independently tested hurricane resistant and blast mitigation products. Many hurricane resistant products have received Notices of Acceptance (NOAs) issued by Miami-Dade County BCCO and Florida State Approvals. Blast mitigation products meet requirements of the General Services Administration (GSA), Interagency Security Committee (ISC) and Department of Defense (DoD). For more information, visit Kawneer.com.

#### **Custom Curtain Wall**

Selected for the world's most recognized buildings

#### 1600 PowerShade®

Provides a single-source solution and optimal shade while generating solar power and reducing energy use

Pre-engineered sunshade system effectively reduces solar heat gain | Dual-position pivot system provides optimal angle and extension for shading any location | Can be directly connected to 1600 Wall System®1

#### Versoleil™ SunShade: Outrigger System

An economical, pre-engineered and integrated sunshade with mix-and-match design choices

Standardized design compatible with 1600 Wall System®1, 1600UT System™1, 1600 Wall System®5 and 1600 SS™ I Shades interiors and conserves energy with 30" and 36" projection options I Provides a single-source solution I Outriggers, fascia caps and louvers are available in several shapes

#### Versoleil™ SunShade: Single Blade System

Shades of versatility in form and function

Standardized solution for seamless integration with 1600 Wall System®1, 1600 Wall System®2, 1600 Wall System®5, 1600 SSTM and 1600 SSTM SSG curtain wall systems I Highly versatile design allows for blades to be mounted in horizontal or vertical configurations I Innovative mounting design allows for multiple angles in both horizontal and vertical configurations I Multiple blade sizes ranging from 6" to 14" deep

#### InLighten® Light Shelf

Reduces the need for artificial lighting by passively channeling natural daylight into an occupied space

Light shelf features aluminum chassis and painted Aluminum Composite Material (ACM) panel surfaces | Attaches directly to 1600 Wall System®1 and System®2 | Two designs include fascia cap or continuous panel "rout and return" | Four standard and custom fascia profiles available



Custom 2500 PG Unitwall™ (4-side SSG), HPS® (High Performance Sliding) Doors, 2000T Terrace Doors, Alcoa – Reynobond® ACM 4mm PE and 4mm FR Panels

W Hotel, Austin, Texas LEED® Registered project

Architects: Andersson-Wise Architects, Design Architect, Austin, Texas, and BOKA Powell, Architect of Record, Dallas, Texas

Glazing Contractor: Win-Con Enterprises, New Braunfels. Texas







1600 Wall System®2 with 1600 SunShade®, Alcoa – Reynobond® and Reynolux® Panels Arkansas Department of Environmental Quality, Little Rock, Arkansas LEED® Gold certified

Architects: Taggart Foster Currence Gray Architects, Inc., North Little Rock, Arkansas, and Williams & Dean Associated Architects, Little Rock, Arkansas Glazing Contractor: ACE Glass Co., Inc., Little Rock, Arkansas







1600 Wall System®1, Trifab® VG (VersaGlaze®) 451T Framing, 1600 SunShade®, 500 Heavy Wall™ Entrances Consol Energy Center, Pittsburgh, Pennsylvania LEED® Gold certified

**Architects:** Populous, Kansas City, Missouri, and Astorino, Pittsburgh, Pennsylvania

Glazing Contractor: D-M Products, Inc., Bethel Park, Pennsylvania, and Universal Glass, Detroit, Michigan





1600 Wall System®3, 1600 Wall System®4, with AA®3900 Thermal Sliding Doors, 2000T Terrace Doors and 350 Medium Stile Entrances Glass House, Denver, Colorado Architect: The Preston Partnership, LLC, Atlanta, Georgia

Glazing Contractor: El Paso Glass Company,

Denver, Inc., Aurora, Colorado



1600 Curtain Wall, 2250 IG (Inside Glazed) Curtain Wall, 2000 Skylight, Trifab® VG (VersaGlaze®) 450 Framing, 350 Standard Entrances

Art Gallery of Alberta, Edmonton, Alberta, Canada Architects: Randall Stout Architects, Los Angeles, California, USAHIP Architects, Edmonton, Alberta,

Glazing Contractor: Flynn Canada, Acheson, Alberta, Canada



1600 SS™ Curtain Wall, 7500 Wall®, InLighten® Light Shelf, 350 Medium Stile Entrances, Alcoa -Reynobond® ACM Panels

Advocate Lutheran General Hospital and Children's Hospital Patient Care Tower, Park Ridge, Illinois LEED® Gold certified

Architect: OWP/P | Cannon Design, Chicago, Illinois Glazing Contractor: Arcadia Products, Inc., Northbrook, Illinois















#### 1600 PowerWall® and 1600 PowerSlope®

Combines 1600 Wall System®1 and 1600 Sloped Glazing and photovoltaic (PV) panels that convert light energy from the sun directly into electricity without using fossil fuels

Fully compatible with 1600 Wall System®1 and 1600 Sloped Glazing for vertical and sloped glazed applications

#### 1600 Wall System®1 and 1600 Wall System®2

Reliable curtain wall systems with versatile features

Pressure equalized systems for low- to mid-rise applications

System1 – outside glazed, captured system

System2 – outside glazed, structural silicone glazed system Concealed fastener joinery creates a smooth, monolithic appearance | Continuous thermal separator reduces heat gain and loss | Large- and small-hurricane missile impact tested | Blast tested to ASTM F 1642 standards

#### 1600UT (Ultra Thermal) System™1 and 1600UT System™2

Ultra-innovative solution raises standards for thermal performance

System1 – outside glazed, captured system

System2 – outside glazed, structural silicone glazed system Built on the success of the flagship 1600 curtain wall platform, the 1600UT System<sup>™</sup> delivers high thermal performance, versatility, reliability and value | Ideal for low- to mid-rise commercial applications where high thermal performing façades are needed | Accepts double or triple glazing

#### 1600 Wall System®3 and 1600 Wall System®4

Inside/outside glazed curtain wall system

System 3 has a 2-1/2" profile

System 4 has a 2-1/4" profile

Incorporates IsoStrut® Thermal Break for superior structural and thermal performance | Allows for a structural silicone glazing option | Integral exterior cover and thermal isolator reduce installed cost Inside glazing reduces installation costs | Outside glazing option for spandrel re-glazing

#### 1600 Wall System®5

An inside glazed curtain wall/ribbon window system

2-1/2" profile | Offered in 7-1/2" system depth and optional 6" system depth | Shear block construction for fabrication versatility | Structural silicone glazed option | Optional split mullion design with screw spline construction for ease of installation and fabrication Allows two-color design options

#### 1600 SS™ (Screw Spline) / 1600 SS Unitwall™ (Pre-glazed option)

Shop assembled for faster field installation

Outside glazed captured or SSG curtain wall | Concealed screw spline joinery allows for shop assembly | Unique interlocking mullion design eliminates the need for anti-buckling clips | System depths and sightline match 1600 Wall System®1 and System®2 | 1600 SS Unitwall™ allows units to be pre-glazed in the shop | 1600 SS™ blast tested per ASTM F 1642 and GSA -TS01-03 standards

#### Clearwall™ Curtain Wall

Achieves an all-glass monolithic aesthetic in a field glazed, screw spline application

Innovative toggle assembly captures glass, eliminating field application of structural silicone | 6 glazing options use the togglebased glass retention system | No structural silicone required for Clearwall  $^{\text{TM}}$  SS/SB glazing options, which use the toggle to directly capture recessed spacer glass | Other glazing options use a metal interface attached to standard 1" insulating glass | Screw spline joinery method allows shop assembly of ladder sections, reducing field labor | Deeper mullions with shear block joinery allow for higher free span applications

#### 7500 Wall®

Exceptional thermal performance and resistance to condensation Incorporates high-performance IsoWeb® thermal break I Accomodates 1" double-glazed or 2" triple-glazed insulating glass units I Exterior pressure glazed system



### A high-performance unitized curtain wall system

Available in stock length, fabricated or pre-assembled and glazed units | Unitized construction accelerates installation | Available systems include 4-sided captured, vertical and horizontal SSG (Structural Silicone Glazed) or 4-sided SSG | 2-1/2" x 7-1/2" profile | Suitable for new construction or remodel | Dual finish capabilities

### 1600 L-R (Low-Rise) Wall®

Economical stock length system for low-rise applications

Outside glazed pressure plate system available in captured or
two-sided vertical SSG option | Standard 5-3/4" or 7-1/4" depth
systems | Shear block construction utilizing concealed fasteners

### 2250 L-R (Low-Rise) Wall

The economical system designed for low-rise applications
Economical stick system with no-compromise performance |
Utilizes a polymer thermal clip, allowing for easier installation
and labor savings | 2-1/4" sightline | Design flexibility allows a
structural silicone glazed option | Mullion drained design

### 2250 IG (Inside Glazed)

An economical, inside glazed ribbon window/curtain wall system

Narrow 2-1/4" profile | Offered in 4-1/2", 6" and 7-1/2" system depths | Shear block and screw spline construction for easy fabrication | Structural silicone glazed option | Allows two-color design options | Thermally improved











### **Finishes**

#### **Anodized Finishes**

Long-lasting, protective coatings resist abrasion, corrosion and UV rays, and meet or exceed AAMA 611

#### **Architectural Metals**

Light satin is a Class I finish with a chrome-like brightness and light brushed texture | Available on a variety of products

#### Clear Finishes

Available in Anodized Class I (#14) or Class II (#17)

#### Permanodic® Finishes

Available in Color Anodized Class I (#40 Dark Bronze, #29 Black, #28 Medium Bronze, #26 Light Bronze and #18 Champagne)

#### **Painted Finishes**

Fluoropolymer Coatings – Enduring color with high performance and durability

Available in many standard choices and unlimited custom colors I These include Permafluor™ and Permadize® finishes, which meet or exceed AAMA 2604 or AAMA 2605

# Powder Coatings – Create a "green" element with solvent-free high performance, durability and scratch resistance

Permacoat™ finishes available in 24 standard colors 
I Powder Coatings meet or exceed AAMA 2604

#### Notice

Laws and building and safety codes governing the design and use of windows, glazed entrance, framing, curtain wall and overhead glazing products vary widely. Kawneer does not control the selection of product configuration, operating hardware or glazing materials, and assumes no responsibility thereof.

Information contained in this catalog is subject to change without notice.

### Other Products from Kawneer

Entrances & Framing 08 41 00; Windows 08 51 00

### For More Information

Visit Kawneer.com for more detailed information, including the most current Guide Specifications, CAD libraries and BIM product models.

# Overhead Glazing

### 1600 Sloped Glazing and 2000 Skylight

Curtain wall performance in overhead glazing systems

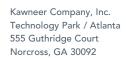
Stick system – fully factory fabricated | Silicone glazed or captured purlin options | Flush grid exterior has a 2-1/2" sightline | Various mullion depths to meet wind and snow loads | Handles hip and valley rafter applications



1600 Wall System®1, 1600 Wall System®2, Trifab® VG (VersaGlaze®) 451T Framing, Trifab® VG (VersaGlaze®) 450 Framing, 350 Medium Stile Doors, Custom 1600 SunShade®, Alcoa – Reynobond® ACM (Aluminum Composite Material) Panels Georgia Gwinnett College Library and Learning Center, Lawrenceville, Georgia LEED® Gold certified

Architect: LEO A DALY, Atlanta, Georgia

Glazing Contractor: Glass Systems, Inc., Lithonia, Georgia



kawneer.com kawneergreen.com 770 . 449 . 5555









Figure 1 - Malus Floribunda (Crab Apple)



Figure 2 - Prunus Campanulata (Flowering Cherry)



Figure 3 - Tibouchina Urvilleana (Princess Flower)



Figure 4 - Phormium Tenax (Maori Sunrise)



Figure 5 - Pieris 'Forest Flame'



Figure 6 - Rhododendron 'Creamy Chiffon'



Figure 7 - Rhododendron 'Elizabeth'



Figure 8 - Rhododendron 'Halfdan Lem'



Figure 9 - Rhododendron 'Paprika Spice'



Figure 10 - Rhododendron 'Patty Bee'



Figure 11 - Rhododendron 'Purple Splendour'



Figure 12 - Distictis Buccinatoria (Red Trumpet Vine)



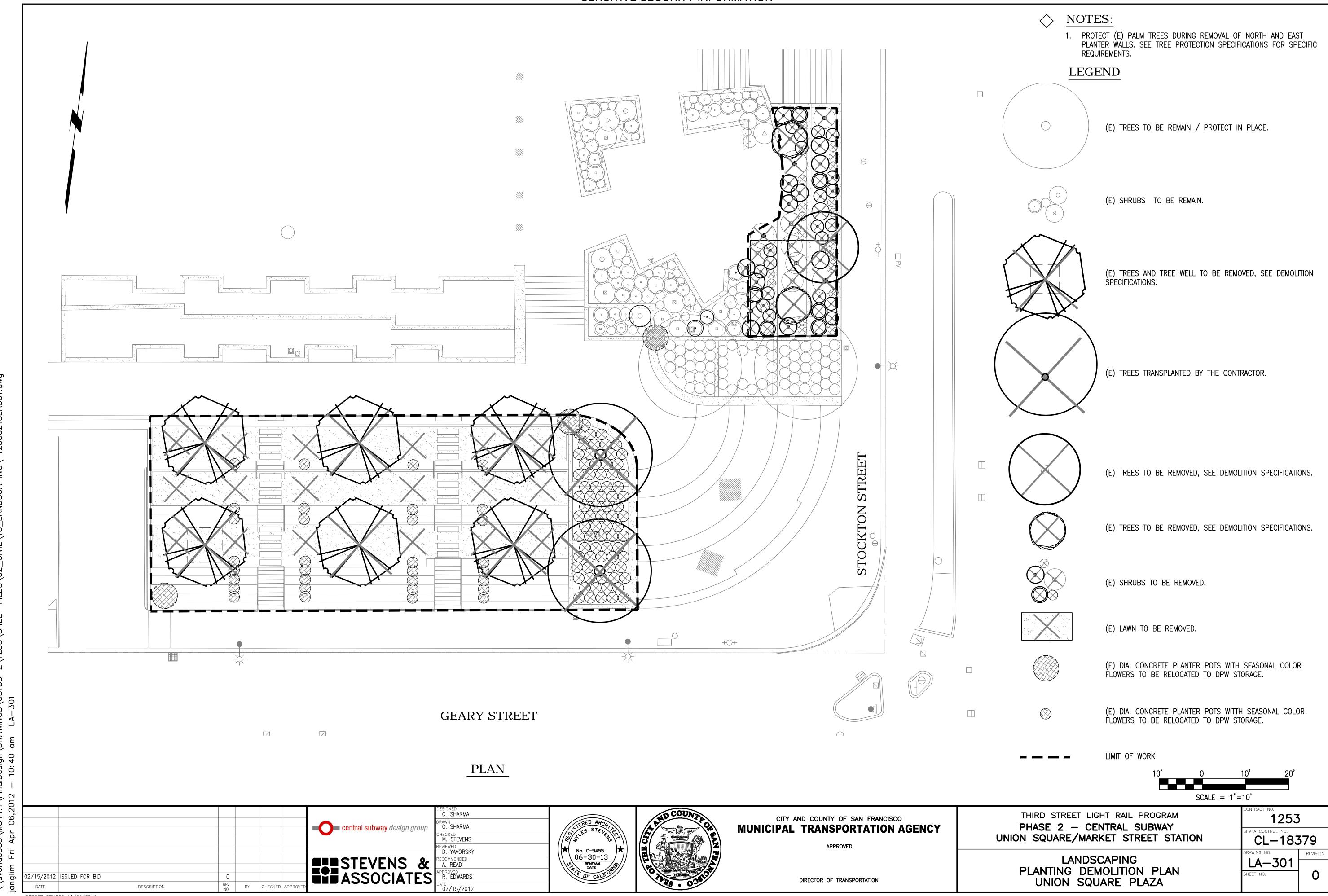
Figure 13 - Hardenbergia Violacea ' Happy Wanderer' (Lilac Vine)



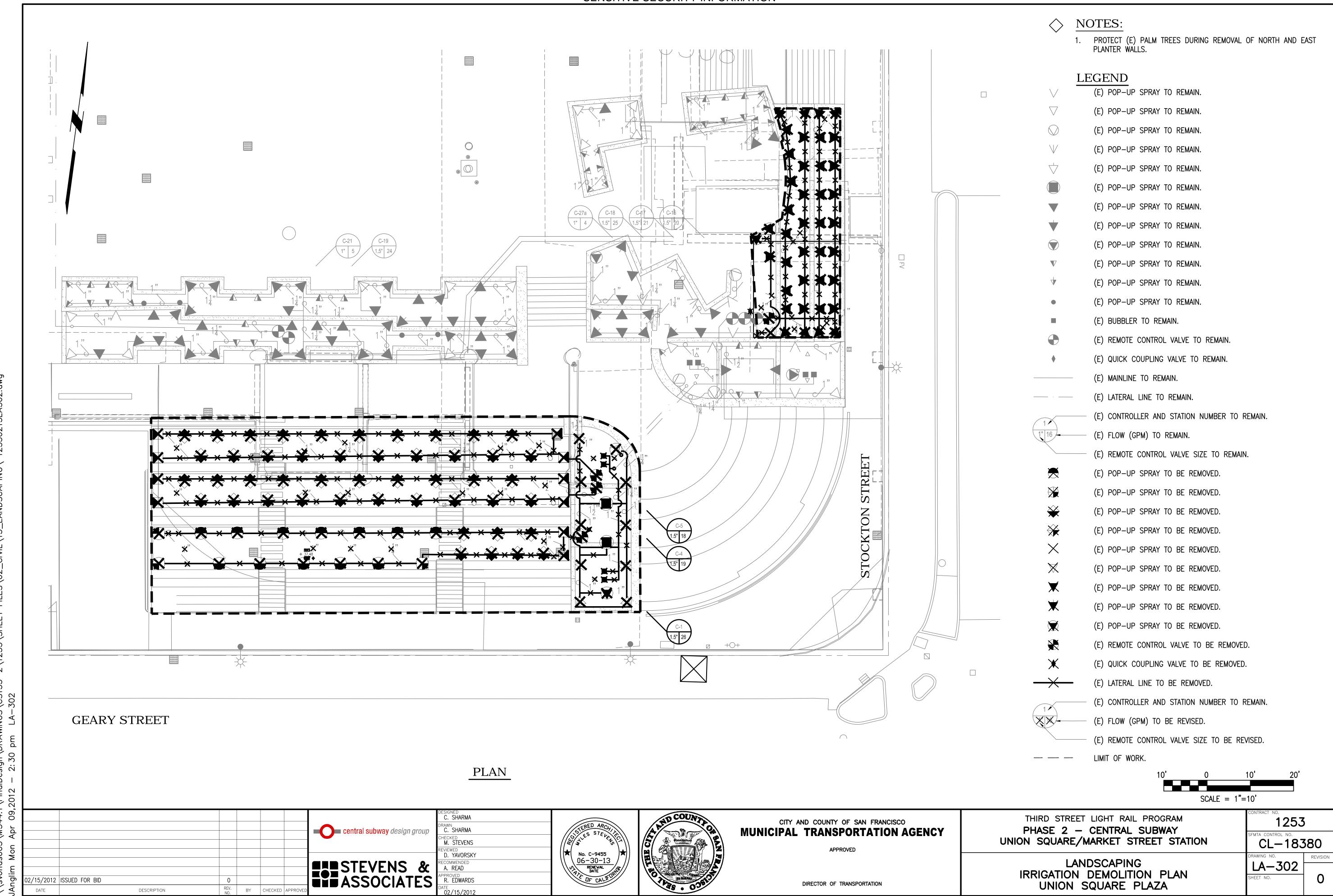
Figure 14 - Pandorea Pandorana 'Golden Shower' (Wonga Wonga Vine)

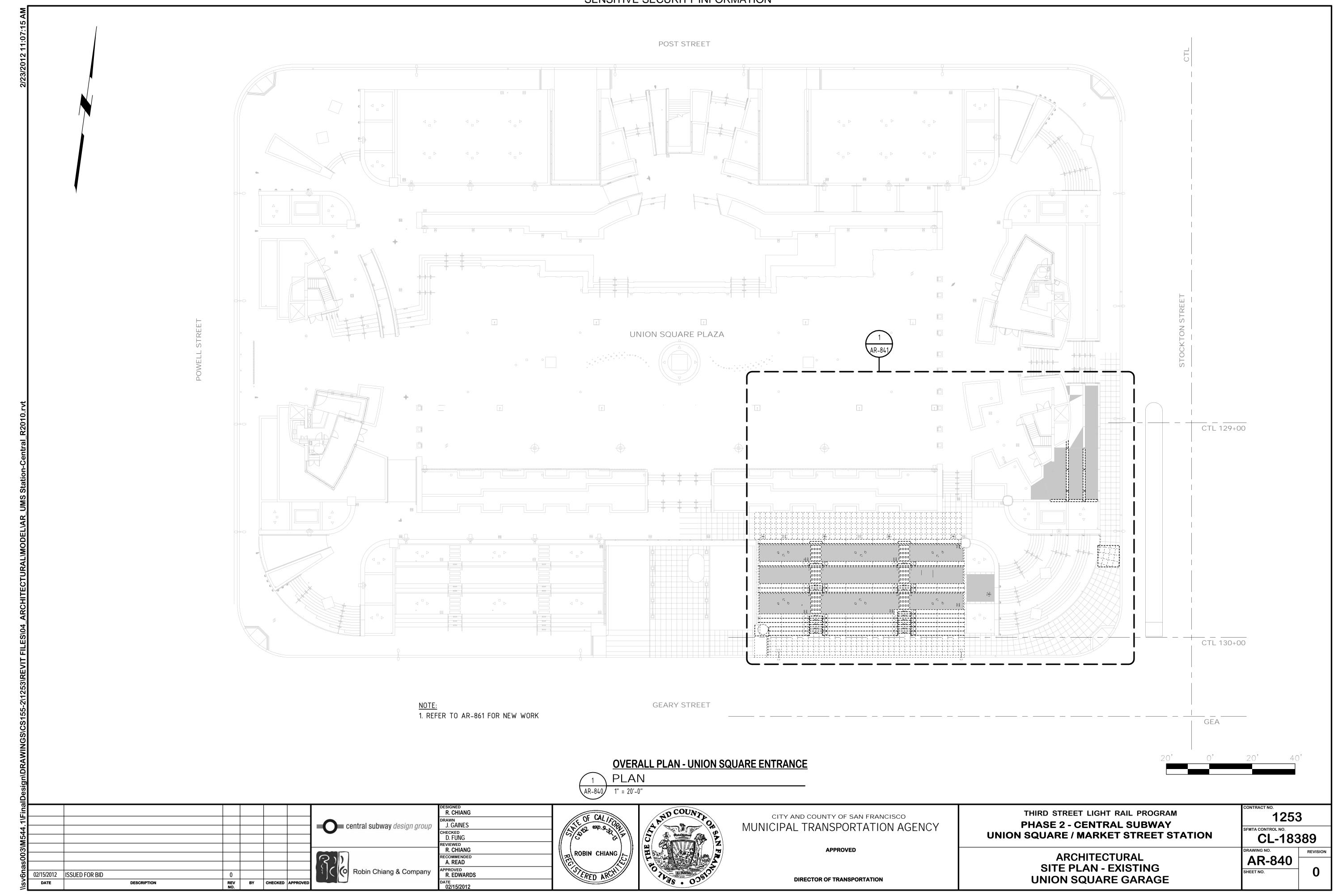


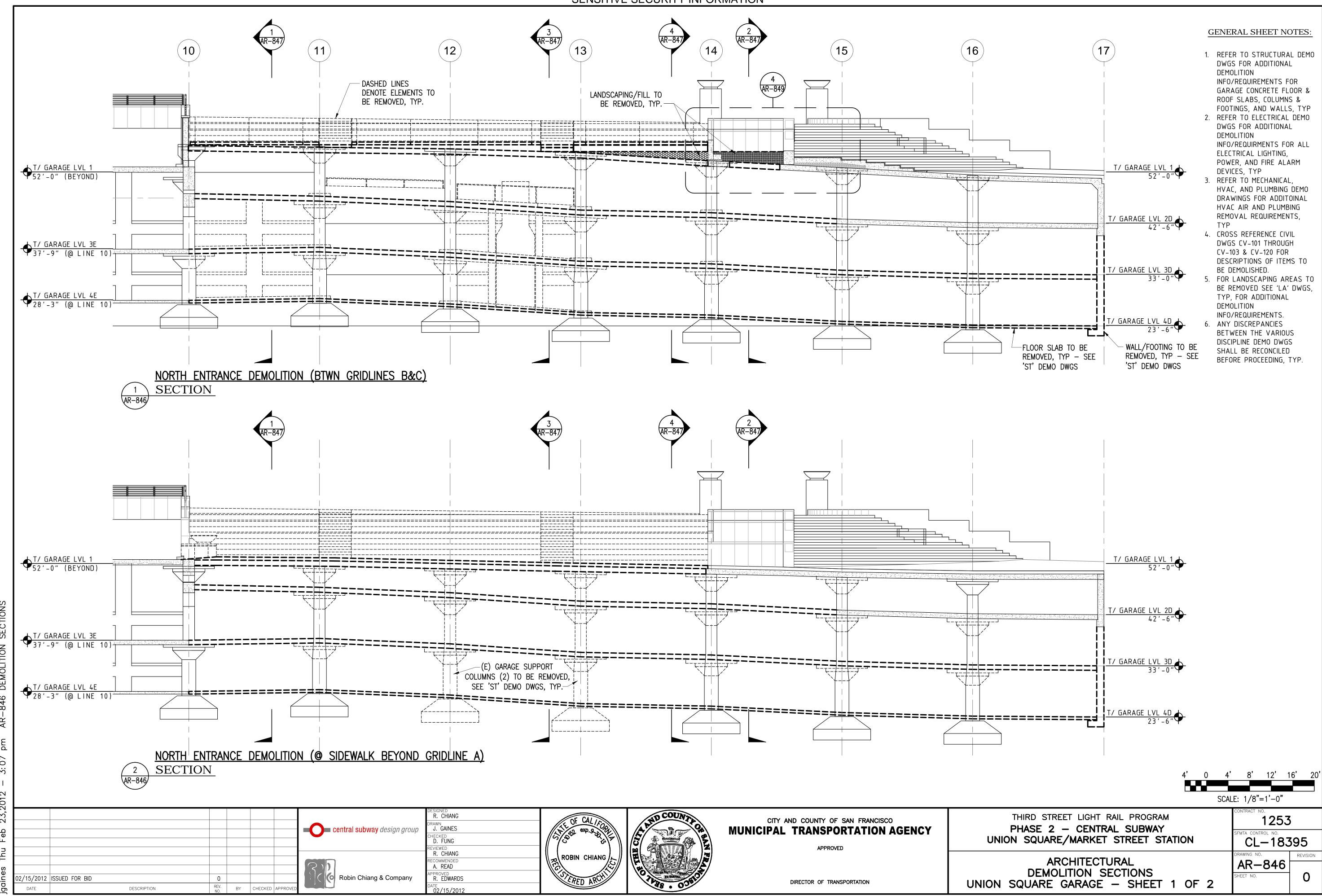
Figure 15 - Parthenocissus Tricuspidata (Boston Ivy)



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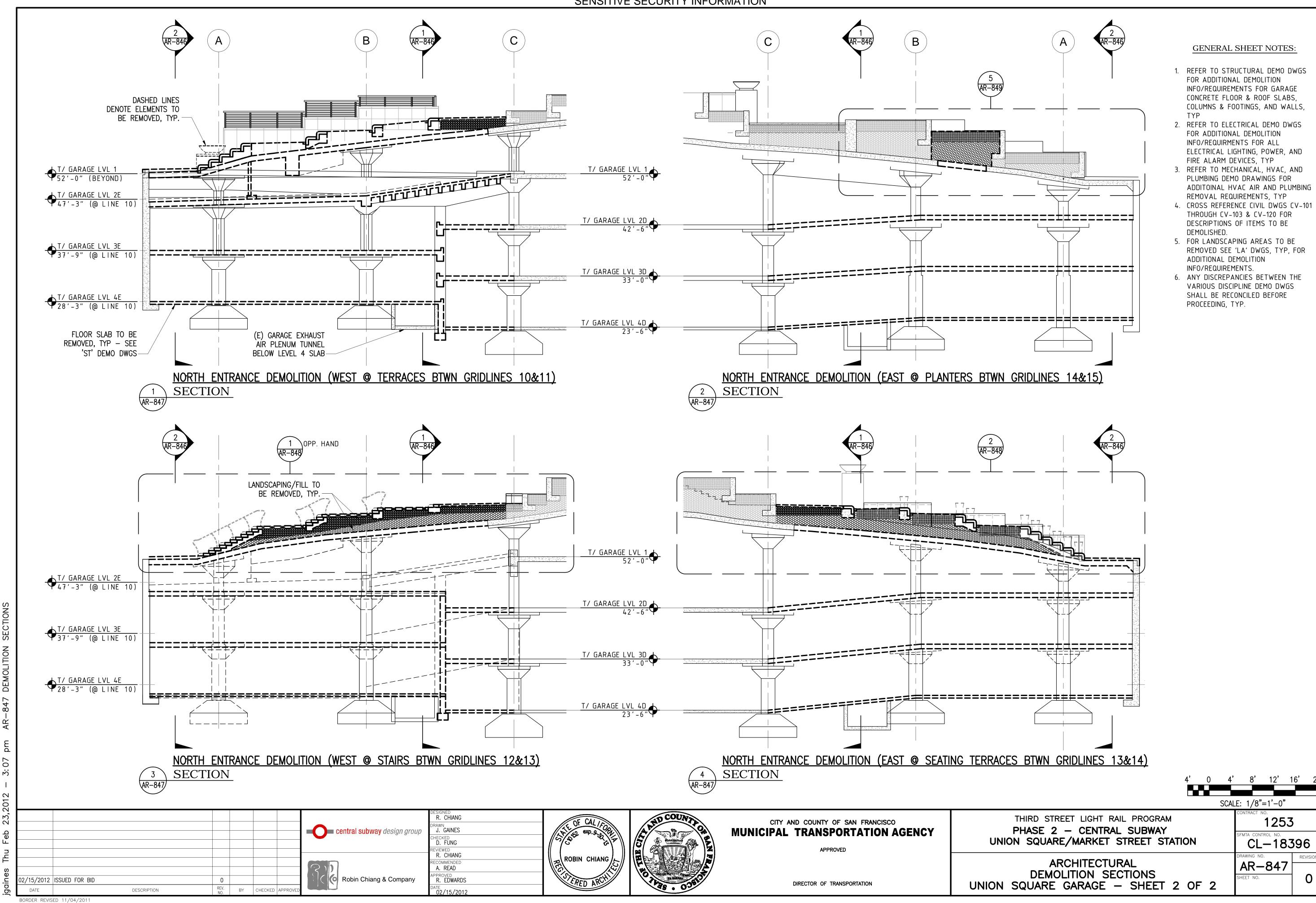


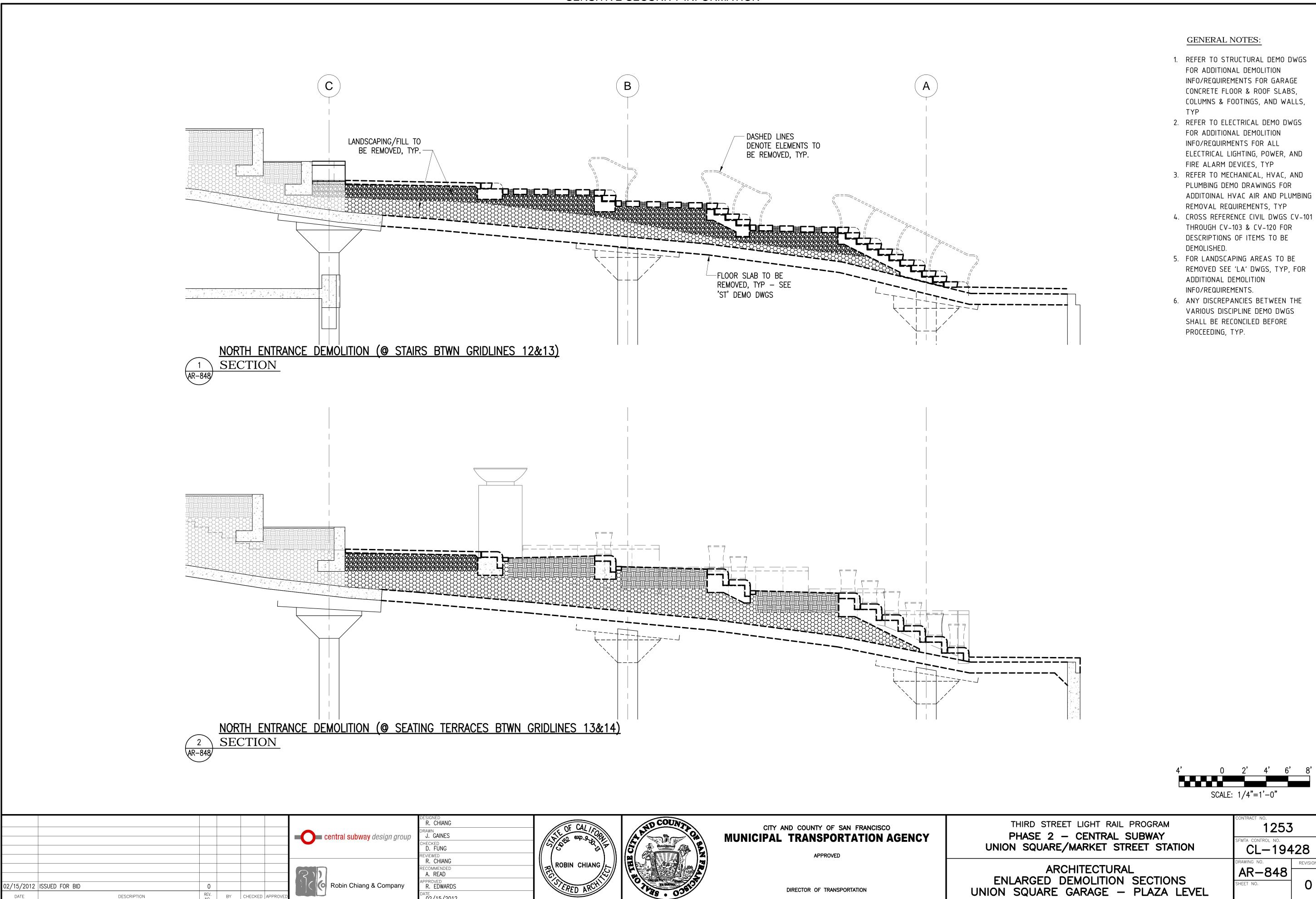




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R. CHIANG

A. READ

Robin Chiang & Company

02/15/2012 ISSUED FOR BID

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APPROVED

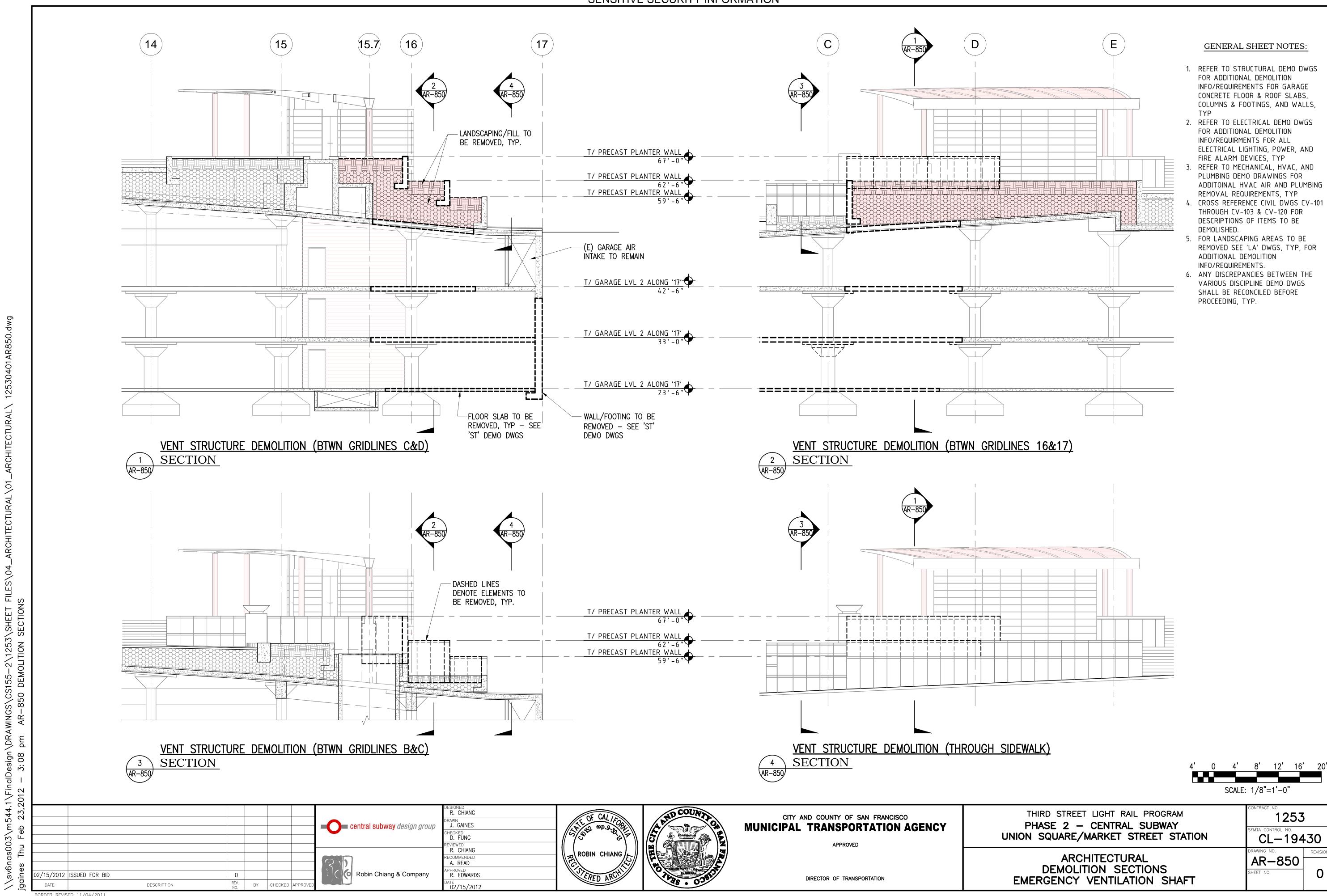
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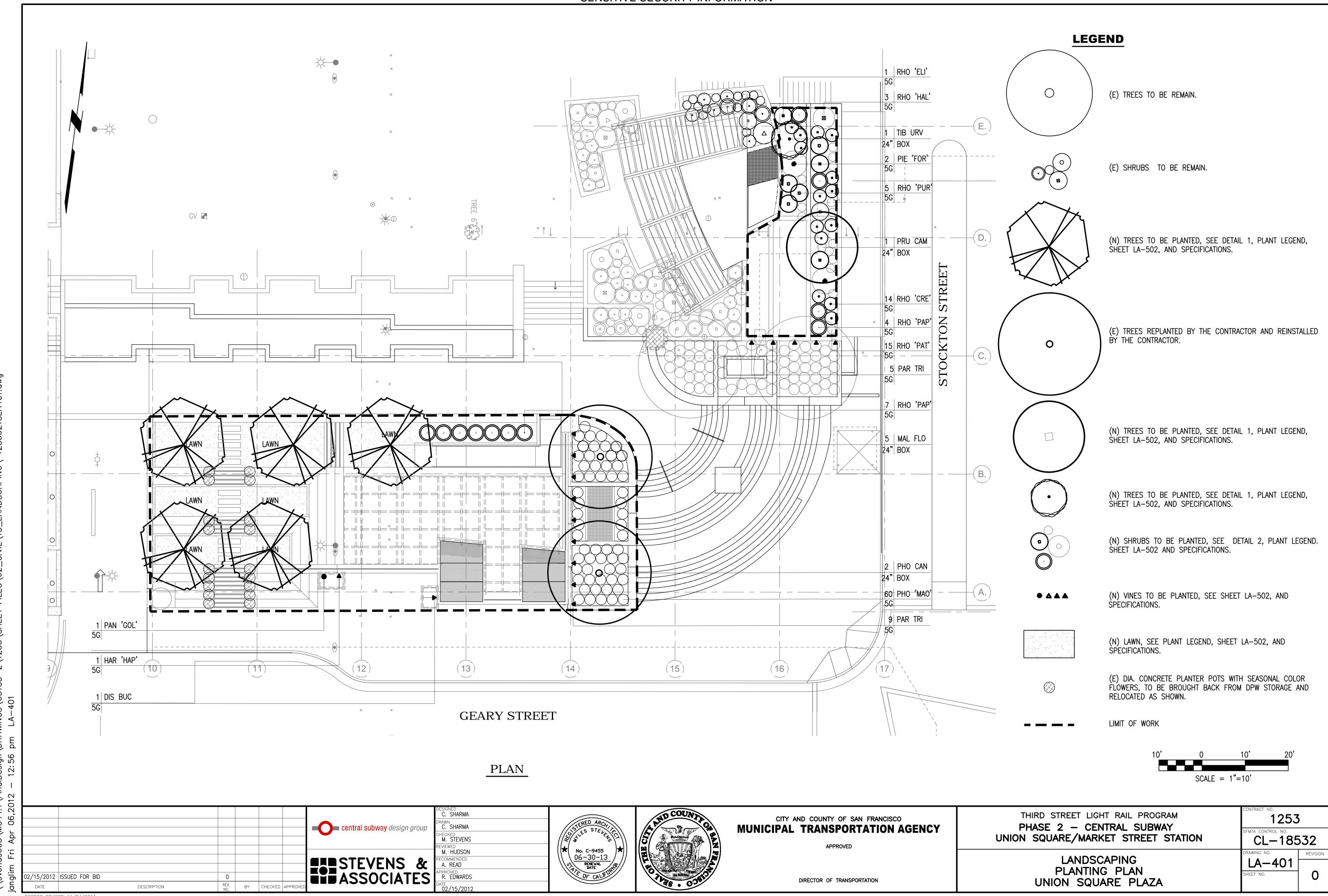
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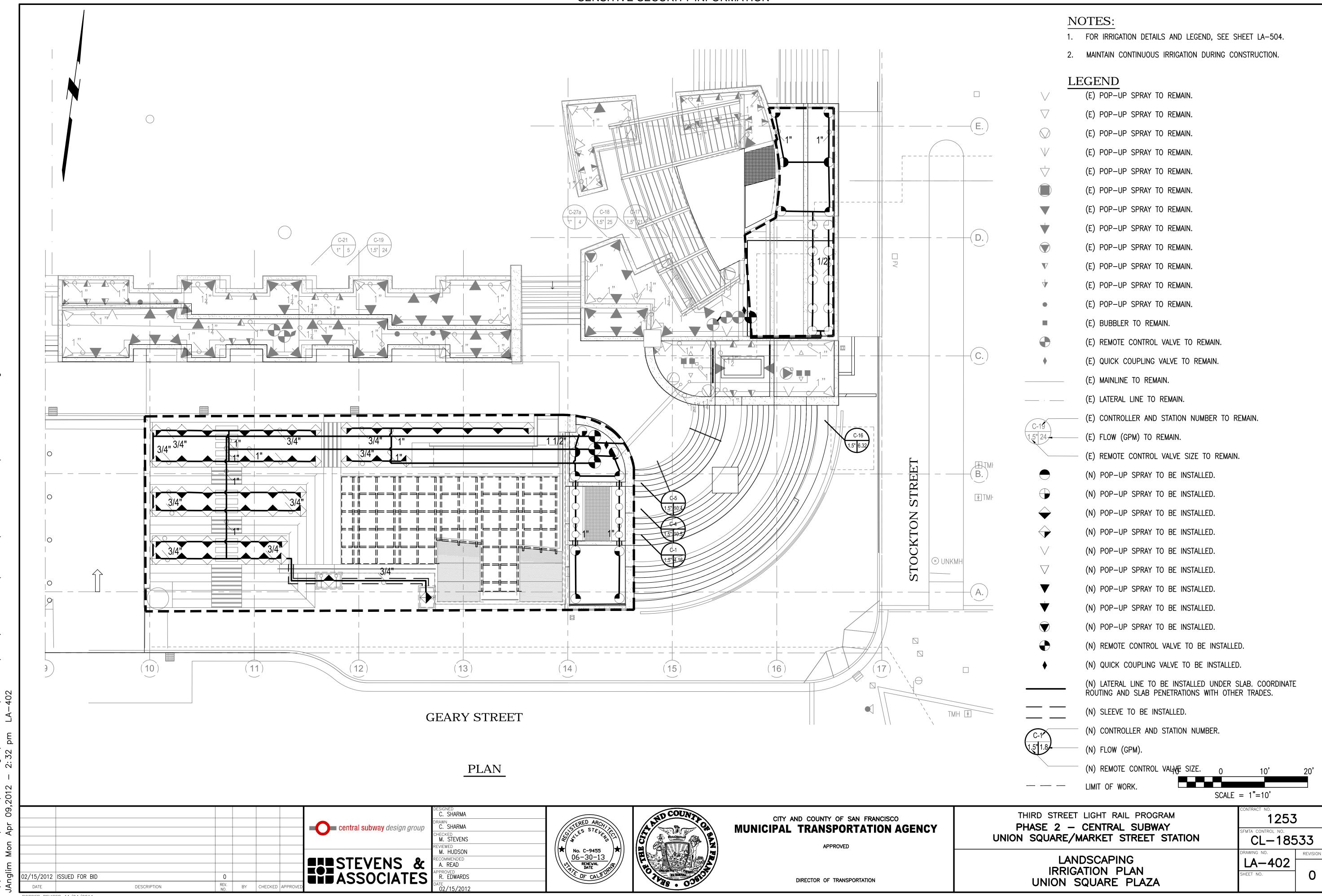
ENLARGED DEMOLITION PLANS & SECTIONS

MAINTENANCE ACCESS SHAFT & PLAZA LEVEL

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central subway design group

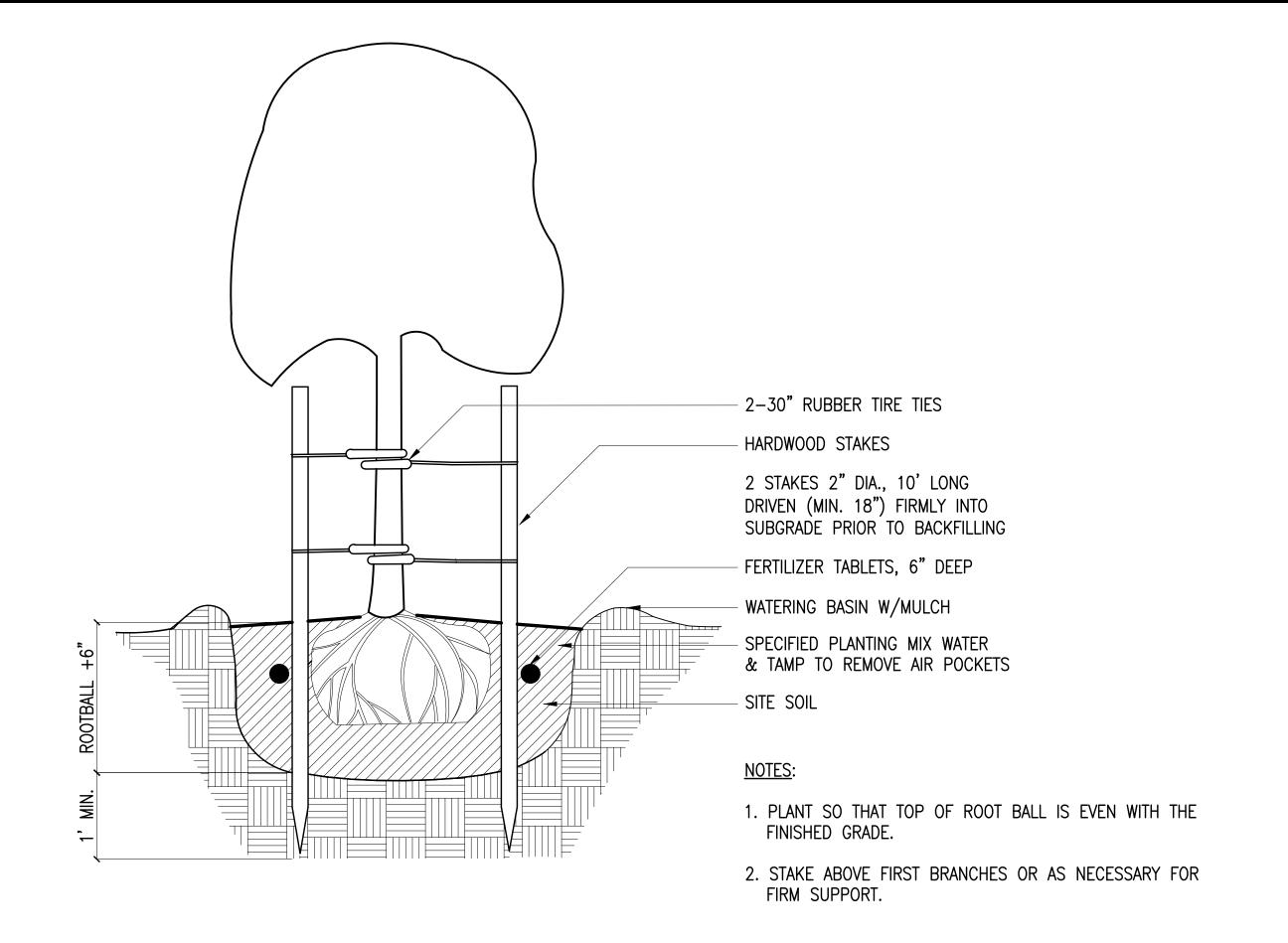
STEVENS & ASSOCIATES

M. STEVENS REVIEWED

M. HUDSON

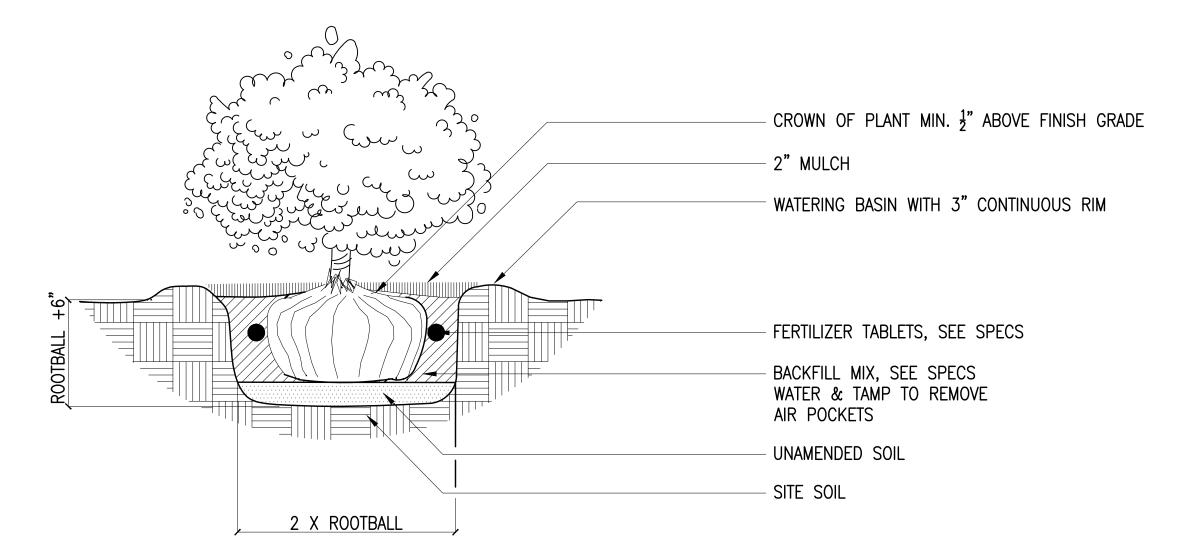
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### TREE PLANTING AND STAKING

DETAIL SCALE: NTS



### SHRUB PLANTING

DETAIL SCALE: NTS



CITY AND COUNTY OF SAN FRANCISCO **MUNICIPAL TRANSPORTATION AGENCY** 

APPROVED

DIRECTOR OF TRANSPORTATION

PLANTING DETAILS - UNION SQUARE PLAZA SHEET 1 OF 2

THIRD STREET LIGHT RAIL PROGRAM PHASE 2 - CENTRAL SUBWAY UNION SQUARE/MARKET STREET STATION

LANDSCAPING

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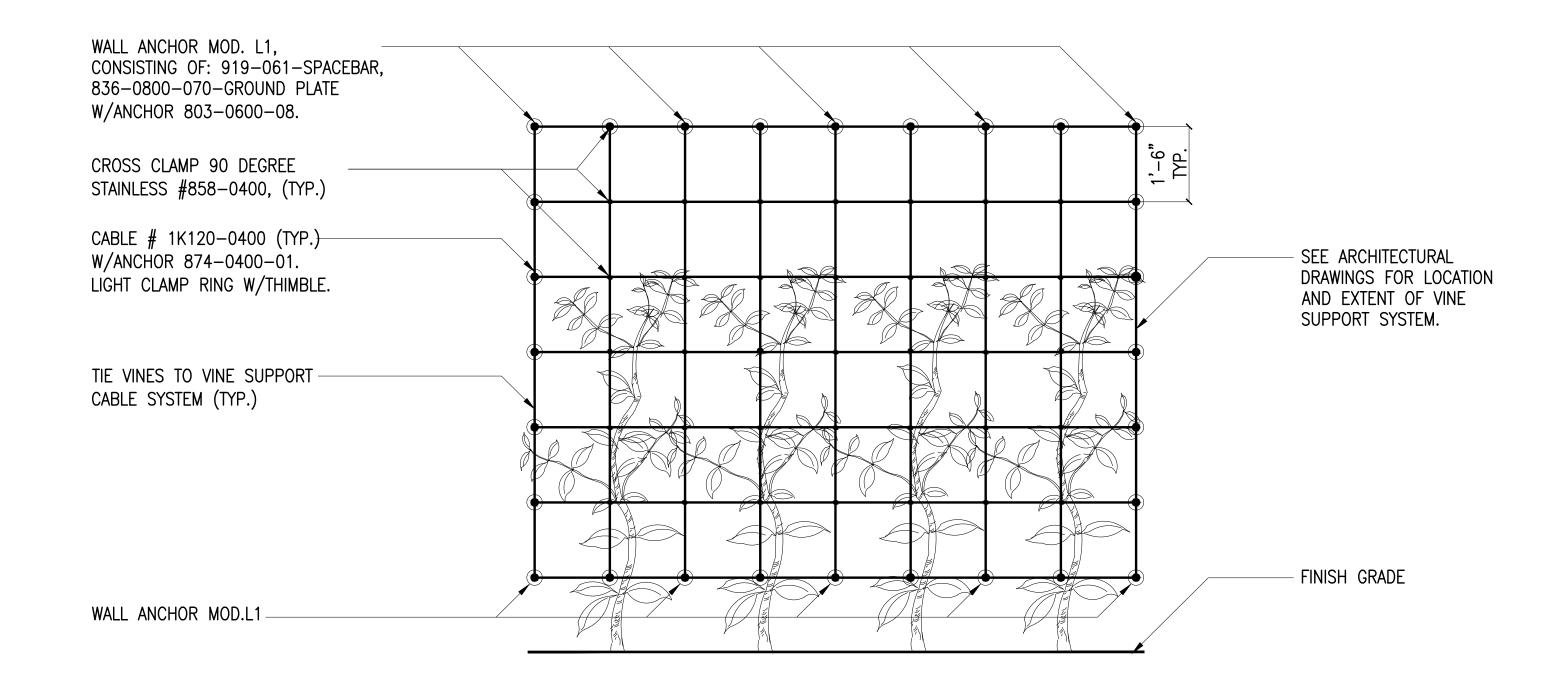
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DESCRIPTION

No. C-9455 06-30-13 RENEWAL DATE

# <u>VINE SUPPORT SYSTEM - SECTION</u>

DETAIL SCALE: NTS



### NOTES:

1. MATERIALS AND ATTACHMENTS FOR THE VINE SUPPORT SYSTEM ARE BASED ON 'FACADESCAPE' PLANT SUPPORT SYSTEM, MANUFACTURED BY 'CARL STAHL DECORCABLE', (800) 444-6271, WWW.DECORCABLE.COM. PROVIDE SAME OR APPROVED EQUAL.

### <u>VINE SUPPORT SYSTEM - ELEVATION</u>

DETAIL SCALE: NTS

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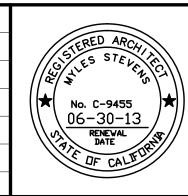
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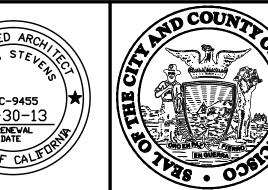
M. STEVENS

M. HUDSON

R. EDWARDS

ecommended **A. READ** 







### CITY AND COUNTY OF SAN FRANCISCO **MUNICIPAL TRANSPORTATION AGENCY**

DIRECTOR OF TRANSPORTATION

THIRD STREET LIGHT RAIL PROGRAM
PHASE 2 - CENTRAL SUBWAY
UNION SQUARE/MARKET STREET STATION
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LANDSCAPING
PLANTING DETAILS — UNION SQUARE PLAZA
SHEET 2 OF 2

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### IRRIGATION LEGEND

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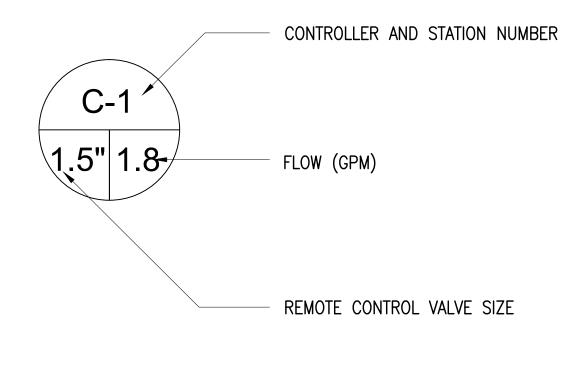
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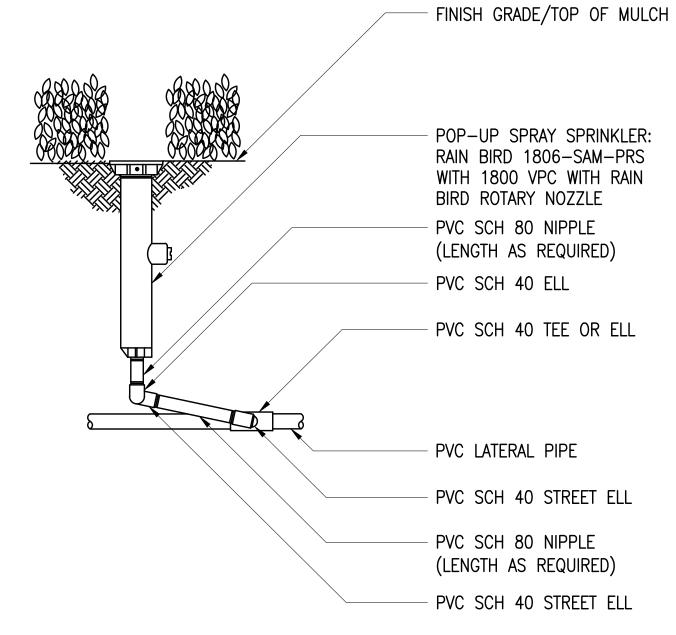
DESCRIPTION

SYMBOL	MODEL NO.	DESCRIPTION	PSI	GPM M	RADIUS IN. – MAX.
SPRINKLERS	3				
$\Diamond$ $\Diamond$	1806-SAM-PRS/MPR 8	RAIN BIRD POP-UP-SPRAY	30	0.1-1.16	6-8
▼ ▼	1812-SAM-PRS/U8H,Q	RAIN BIRD POP-UP-SPRAY	30	0.26-0.52	6-8
• •	1812-SAM PRS/12 HEVAN	RAIN BIRD POP-UP-SPRAY	30	0.59-1.18	9-12
$\bigcirc$ $\bigcirc$	1812-SAM PRS/ 5MPR H,Q	RAIN BIRD POP-UP-SPRAY	30	0.10-0.40	3.75-5
$\bigcap$	1812-SAM PRS/ SQ H,Q	RAIN BIRD POP-UP-SPRAY	30	0.12-0.20	4-5

SLEEVE, SIZE 2X LATERAL/MAINLINE

MANUFACTURE	R SYMBOL	MODEL NO.	DESCRIPTION
RAINBIRD	•	44LRC	QUICK COUPLER IN VALVE BOX.
RAINBIRD	•	PEB SERIES	RAINBIRD REMOTE CONTROL VALVE (SIZE AS INDICATED)
		CLASS 200	LATERAL LINE: 1120 SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC PLASTIC SOLVENT WELDED FITTINGS. PIPE, ROUTING AND INSTALLATION TO BE PROVIDED UNDER THIS CONTRACT. 12 INCH SOIL COVER. SIZE AS NOTED.





### CHOOSING NOZZLES AND OPTIONAL FEATURES PLASTIC MPR NOZZLE U-SERIES NOZZLE OPTION-NOZ-PLASTIC OPTION-NOZ-U-SERIES VAN NOZZLE **ROTARY NOZZLE** OPTION-NOZ-ROTARY OPTION-NOZ-VAN

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OPTION-NP

VANDAL-PROOF CAP

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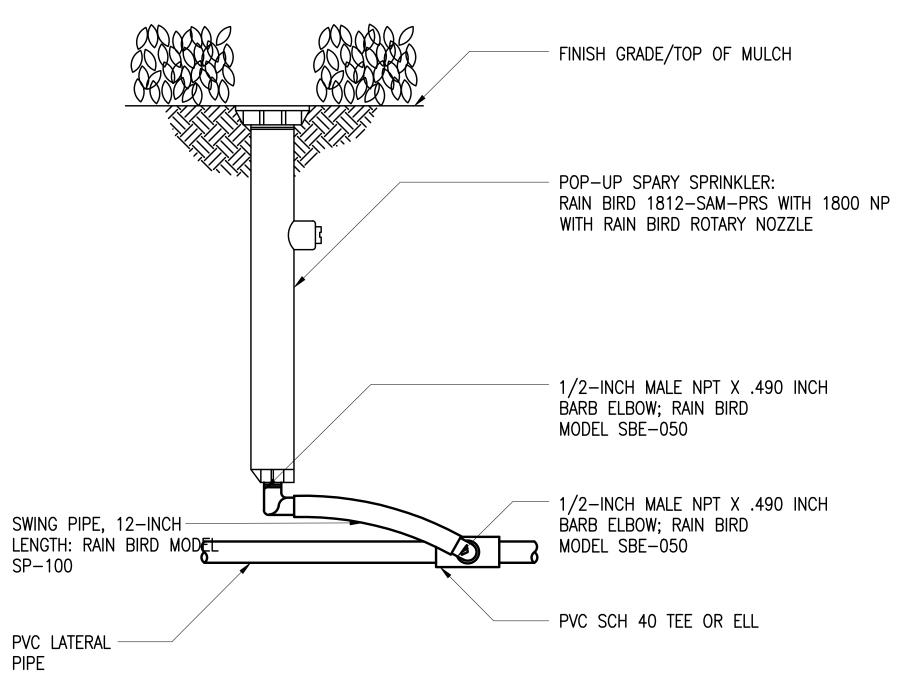
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OPTION-VPC

OPTION-SAM-NP

# POP-UP SPRAY SPRINKLER WITH 1806 SWING JOINT





OPTION-NOZ-PLASTIC OPTION-NOZ-U-SERIES VAN NOZZLE ROTARY NOZZLE OPTION-NOZ-VAN OPTION-NOZ-ROTARY SAM SERIES PRS SERIES SAM-PRS SERIES OPTION-SAM OPTION-PRS OPTION-SAM-PRS SAM SERIES WITH VANDAL-PROOF CAP NON-POTABLE CAP VANDAL-PROOF CAP OPTION-VPC OPTION-SAM-VPC OPTION-NP SAM SERIES WITH PRS SERIES WITH PRS SERIES WITH NON-POTABLE CAP VANDAL-PROOF CAP NON-POTABLE CAP OPTION-SAM-NP OPTION-PRS-VPC OPTION-PRS-NP SAM-PRS SERIES WITH SAM-PRS SERIES WITH NON-POTABLE CAP VANDAL-PROOF CAP OPTION-SAM-PRS-VPC OPTION-SAM-PRS-NP SELECT THE DESIRED SWING ASSEMBLY BY TURNING ON THE APPROPRIATE LAYER: CONTRACTOR ASSEMBLED SWING ASSEMBLY OPTION—SA <u>AND EITHER</u> TEXT—SA—LEADERS <u>OR</u> TEXT—SA—BUBBLES RAIN BIRD SWING ASSEMBLY

U-SERIES NOZZLE

CHOOSING NOZZLES AND OPTIONAL FEATURES

PLASTIC MPR NOZZLE

POP-UP SPRAY SPRINKLER 1812 WITH SWING PIPE



						SCALE: NTS
		central subway design group	DESIGNED C. SHARMA  DRAWN C. SHARMA  CHECKED M. STEVENS  REVIEWED	STERED ARCHITECT	ALMO COUNTAO	CITY AND COUNTY OF S MUNICIPAL TRANSPOI
JED FOR BID  DESCRIPTION RE	O CHECKED APPROVED	STEVENS & ASSOCIATES	M. HUDSON  RECOMMENDED A. READ  APPROVED R. EDWARDS  DATE	No. C-9455 06-30-13 RENEWAL DATE OF CALEDON	HA COSO	DIRECTOR OF TRANS

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DIRECTOR OF TRANSPORTATION

LANDSCAPING IRRIGATION DETAILS SHEET 1 OF 3

THIRD STREET LIGHT RAIL PROGRAM

UNION SQUARE/MARKET STREET STATION

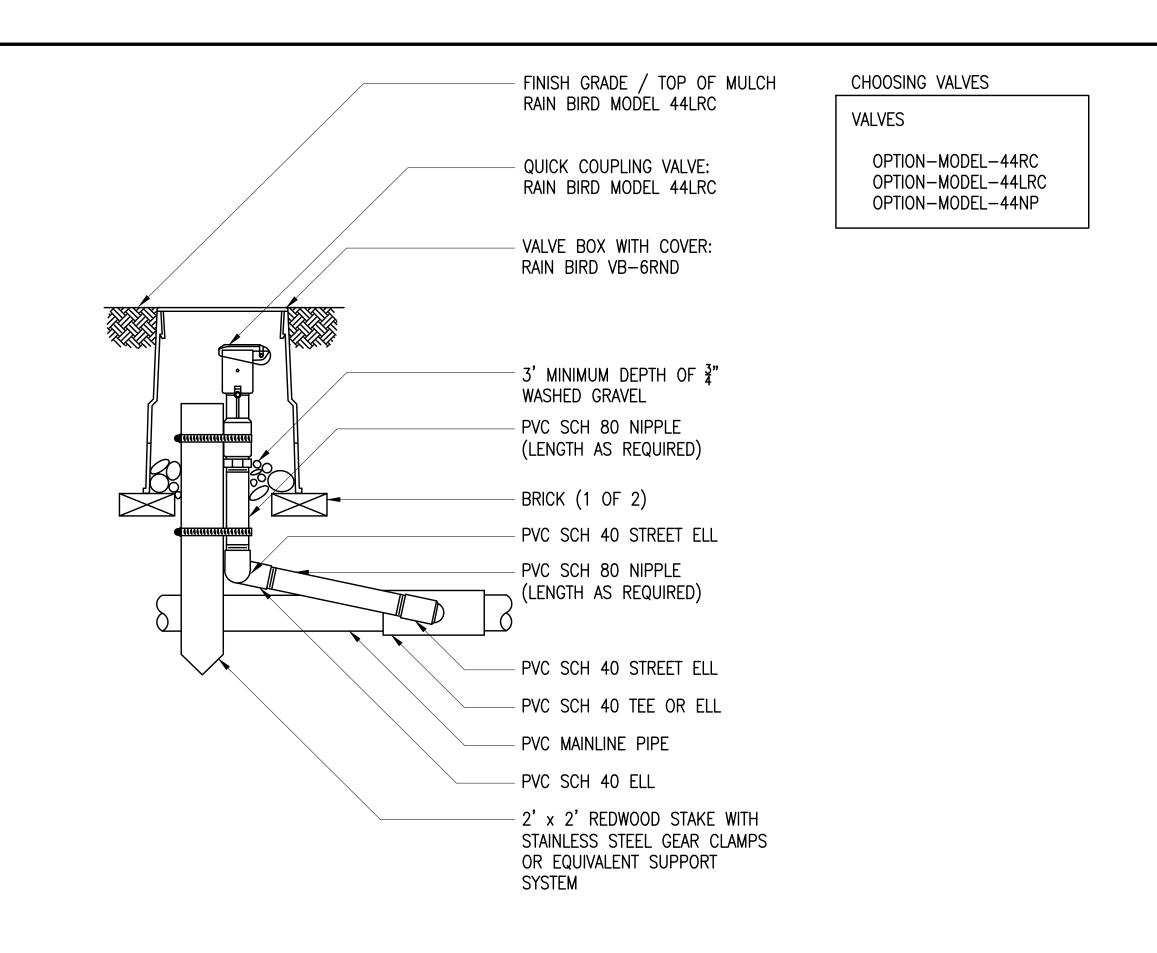
PHASE 2 - CENTRAL SUBWAY

OPTION-RB-SA AND EITHER TEXT-RB-SA-LEADERS

OR TEXT-RB-SA-BUBBLES

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SFMTA CONTROL NO.  CL—185	37
DRAWING NO.	REVISION
LA-504 SHEET NO.	0

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LATERAL MAINLINE, LATERAL, MAINLINE WIRING IN AND WIRING IN PIPE PIPE CONDUIT THE SAME TRENCH

<u>SECTION</u>

RUN WIRING BENEATH AND BESIDE MAINLINE. TAPE AND BUNDLE AT 10-FOOT INTERVALS.

NOTES:

WIRE W/O CONDUIT

ALL SOLVENT WELD

TRENCH AS SHOWN.

TRENCHING DETAIL

DETAIL

SCALE: NTS

PLASTIC PIPING TO

BE SNAKED IN

- 1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
  - 2. UTILITY TRENCHES SHOULD BE EXCAVATED A MINIMUM OF FOUR INCHES BELOW THE BOTTOM OF PIPES OR CONDUITS AND HAVE CLEARANCES OF AT LEAST FOUR INCHES ON BOTH SIDES.
- 3. PIPES OR CONDUITS SHALL BE BEDDED ON A MINIMUM OF FOUR INCHES OF SAND OR FINE GRAVEL.
- 4. AFTER PIPES AND CONDUITS HAVE BEEN TESTED AND APPROVED, THEY SHOULD BE COVERED TO A DEPTH OF 6 INCHES WITH SAND OR FINE GRAVEL, AND THEN SHALL BE MECHANICALLY TAMPED.

TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30 DEGREES OR GREATER. UNTIL AFTER ALL CONNECTIONS HAVE BEEN

<u>PLAN</u>

### QUICK COUPLING VALVE MODEL 44RC SERIES





REMOTE CONTROL VALVE OPTION—SOLENOID AND EITHER: TEXT-PEB-LEADERS OR TEXT-PEB-BUBBLES

CHOOSING VALVES AND OPTIONS

SCRUBBER VALVE OPTION—SOLENOID AND EITHER:

TEXT-PESB-LEADERS OR TEXT-PESB-BUBBLES

BSP THREADS EITHER: TEXT-BSP-LEADERS OR TEXT-BSP-BUBBLES

PRESSURE REGULATING REMOTE CONTROL VALVE OPTION—PRS—D AND EITHER: TEXT-PRS-D-LEADERS OR TEXT-PRS-D-BUBBLES

PRESSURE REGULATING SCRUBBER VALVE OPTION-PRS-D AND EITHER:

TEXT-PESB-PRS-D-LEADERS OR TEXT-PESB-PRS-D-BUBBLES

NP HANDLE EITHER: TEXT-NPHAN-LEADERS OR TEXT-NPHAN-BUBBLES

VALVE BOX WITH COVER: WITH NP-HAN RAIN BIRD VB-STD ID TAG:RAIN BIRD VID SERIES FINISH GRADE/TOP OF MULCH WATERPROOF CONNECTION RAIN BIRD SPLICE-1 (1 OF 2) PVC SCH 80 NIPPLE (CLOSE) 30-INCH LINEAR LENGTH OF WIRE, COILED PVC SCH 40 ELL PVC SCH 80 NIPPLE PVC LATERAL PIPE (LENGTH AS REQUIRED) 30-INCH MINIMUM DEPTH OF BRICK (1 OF 4) 3" WASHED GRAVEL

ELECTRIC REMOTE CONTROL VALVE PEB OR PEBS SERIES

DESCRIPTION

DETAIL SCALE: NTS

central subway design group

RAWN C. SHARMA M. STEVENS M. HUDSON STEVENS & ASSOCIATES A. READ PROVED R. EDWARDS

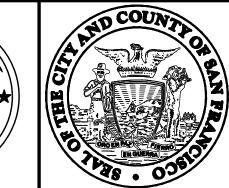
SCH 80 NIPPLE (2" LENGTH

C. SHARMA

HIDDEN) AND SCH 40 ELL

—— PVC SCH 40 TEE OR ELL





### CITY AND COUNTY OF SAN FRANCISCO **MUNICIPAL TRANSPORTATION AGENCY**

**APPROVED** 

DIRECTOR OF TRANSPORTATION

THIRD STREET LIGHT RAIL PROGRAM
PHASE 2 - CENTRAL SUBWAY
UNION SQUARE/MARKET STREET STATION

LANDSCAPING IRRIGATION DETAILS SHEET 2 OF 3

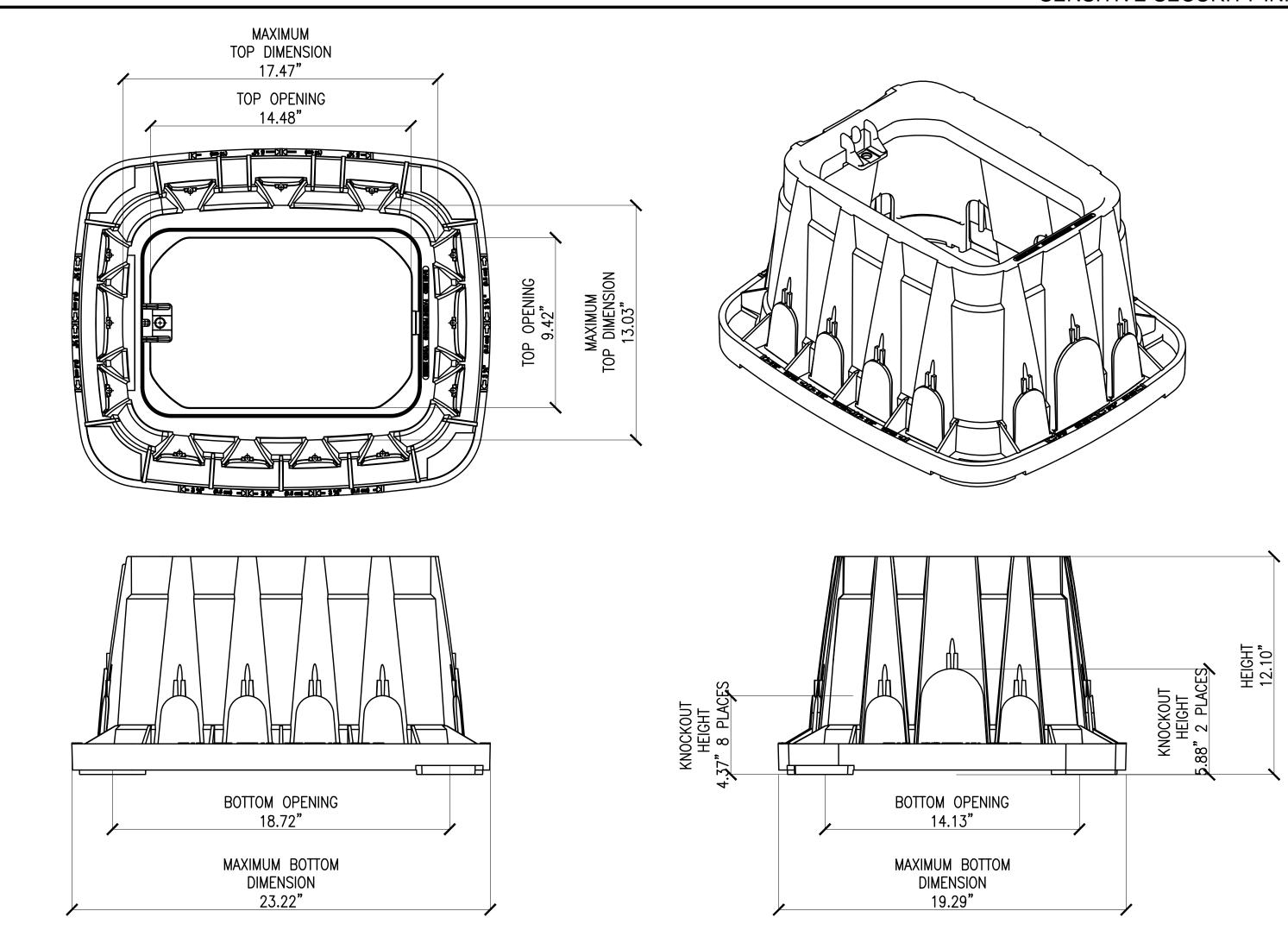
1253	1253		
SFMTA CONTROL NO.  CL-185	SFMTA CONTROL NO.  CL-18538		
DRAWING NO.	REVISION		
LA-505 SHEET NO.	0		

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REMOTE CONTROL VALVE -RAIN BIRD PESB-PRS-D

PVC SCH 40 MALE ADAPTER

02/15/2012 ISSUED FOR BID

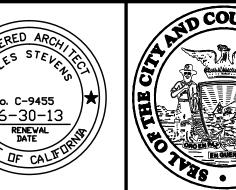


## STANDARD VALVE BOX DIMENSIONS

DETAIL SCALE: NTS

central subway design group STEVENS & ASSOCIATES 02/15/2012 ISSUED FOR BID

M. STEVENS REVIEWED
M. HUDSON
RECOMMENDED
A. READ
APPROVED
R. EDWARDS



# CITY AND COUNTY OF SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY

APPROVED

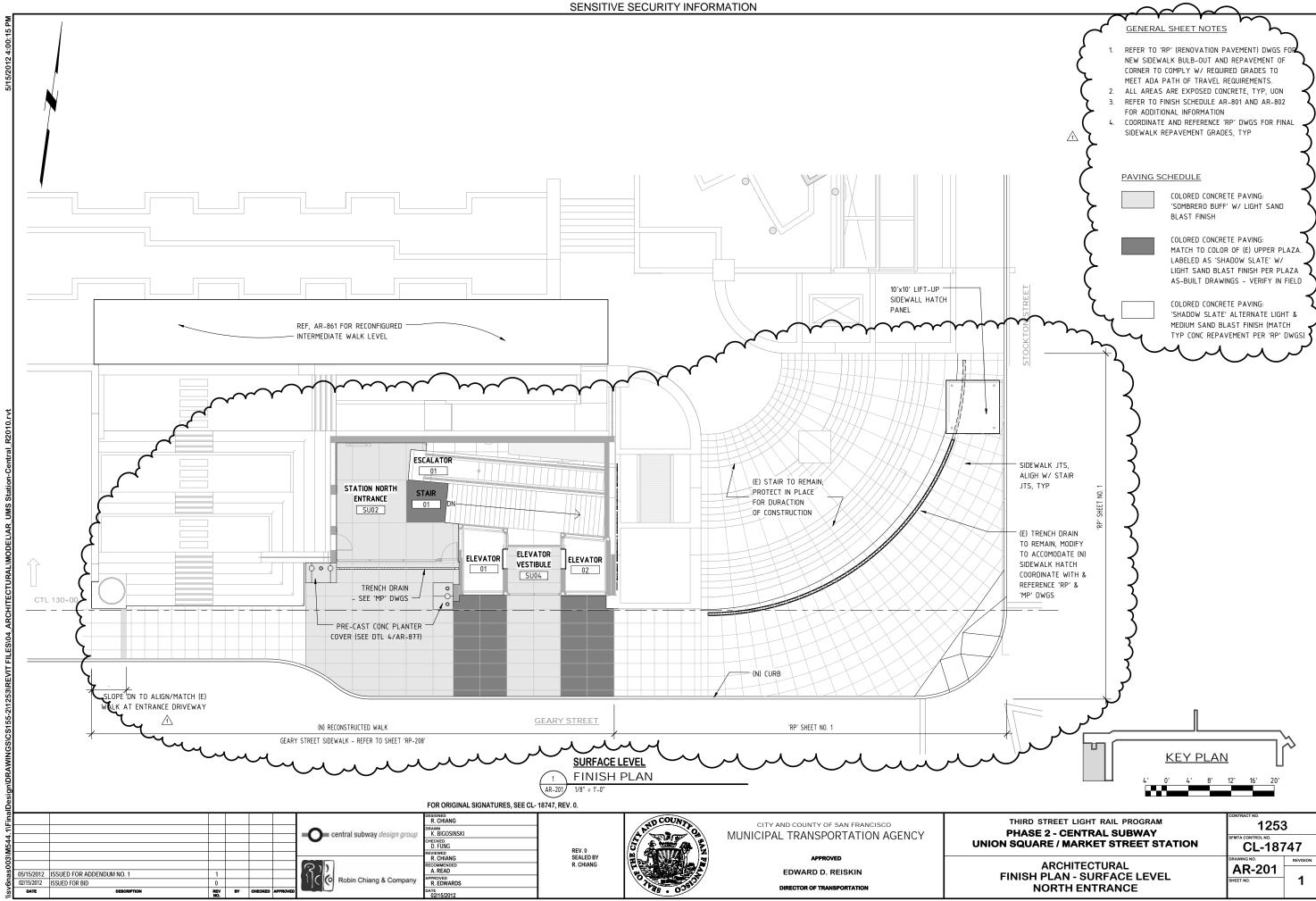
DIRECTOR OF TRANSPORTATION

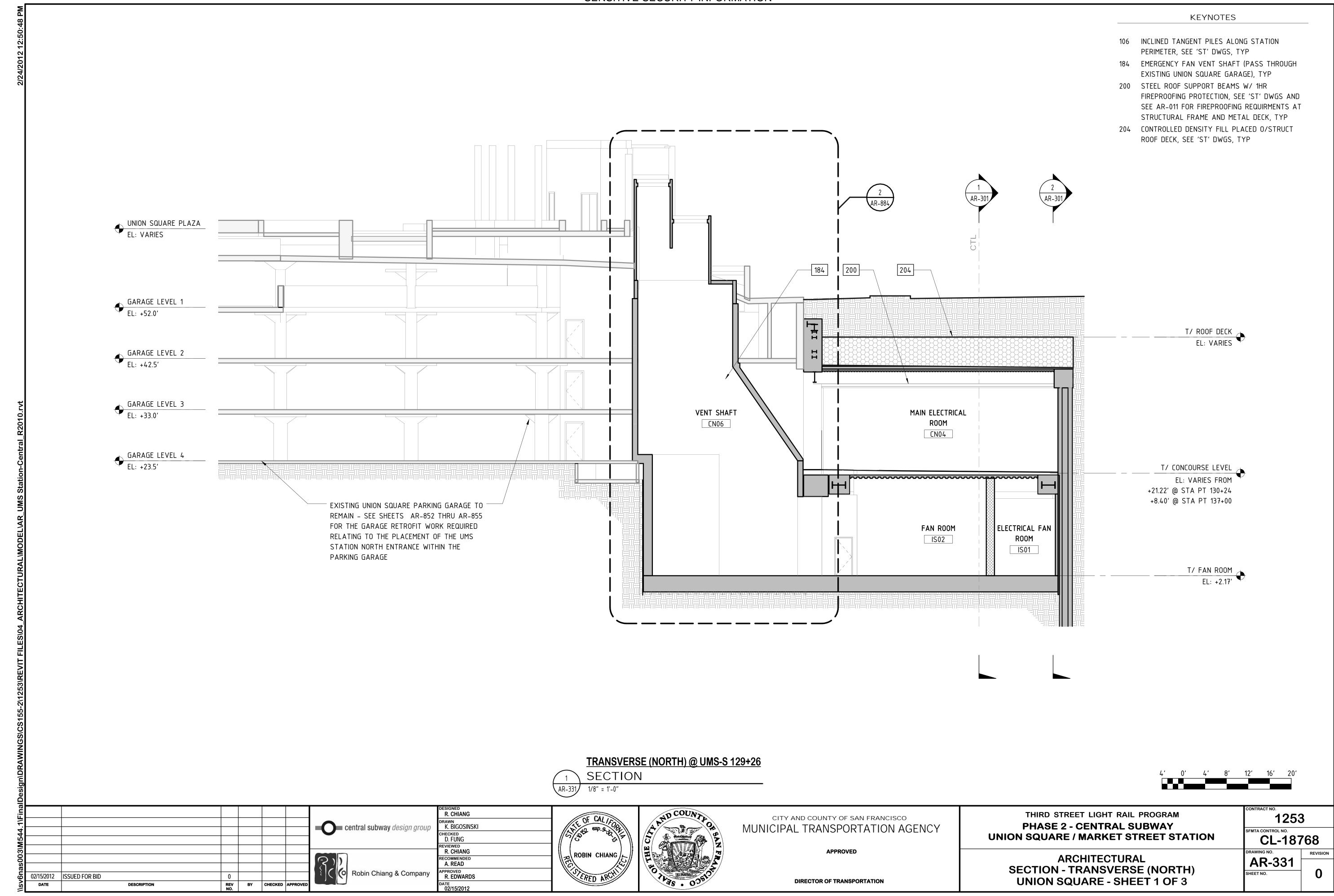
THIRD STREET LIGHT RAIL PROGRAM	
PHASE 2 — CENTRAL SUBWAY UNION SQUARE/MARKET STREET STATION	

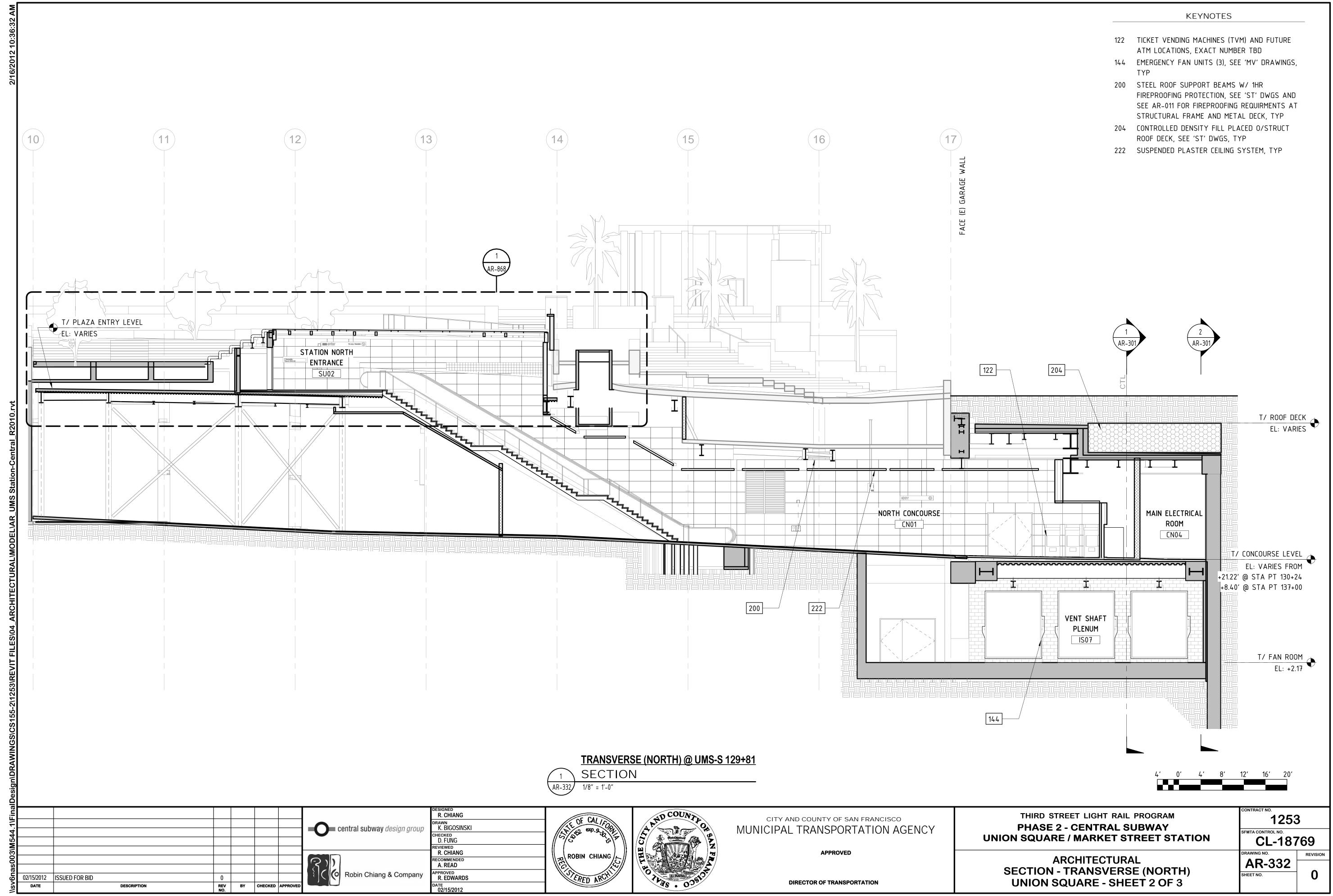
LANDSCAPING IRRIGATION DETAILS SHEET 3 OF 3

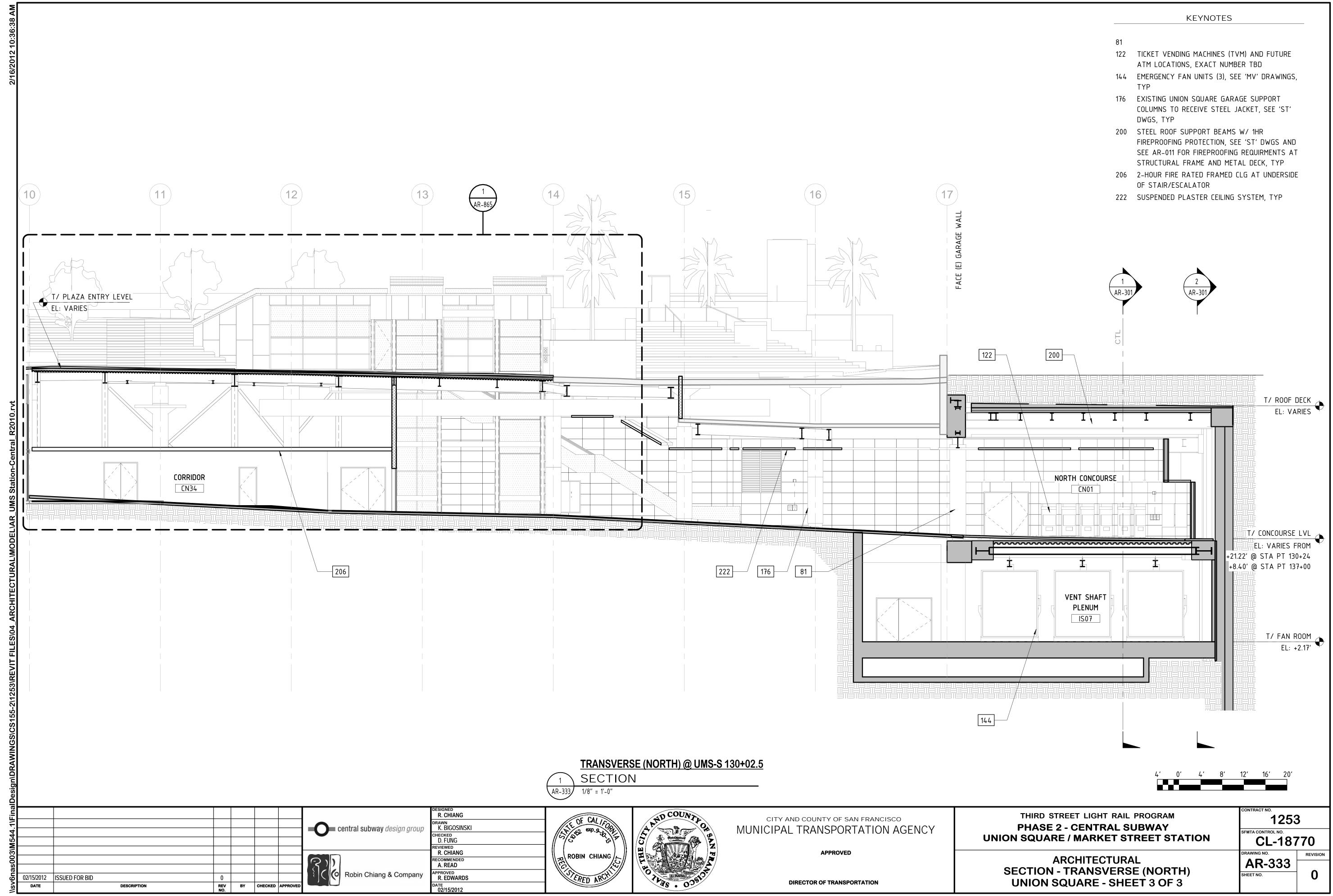
ET STATION	SFMTA CONTROL NO.  CL—18	SFMTA CONTROL NO.  CL-18539		
	DRAWING NO.	REVISION		
C	LA-506			
S	SHEET NO.	<b>│ 0</b>		

1253

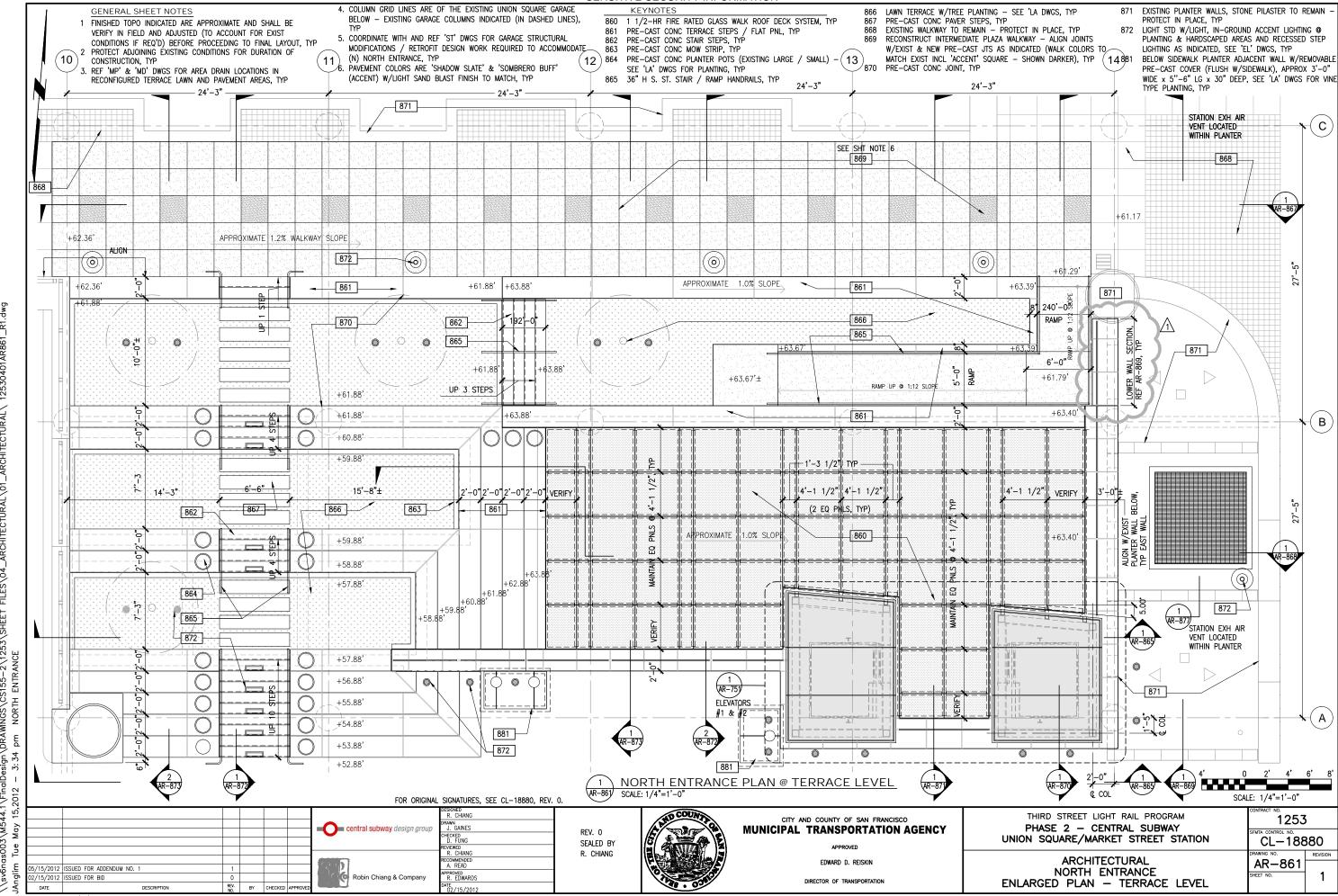


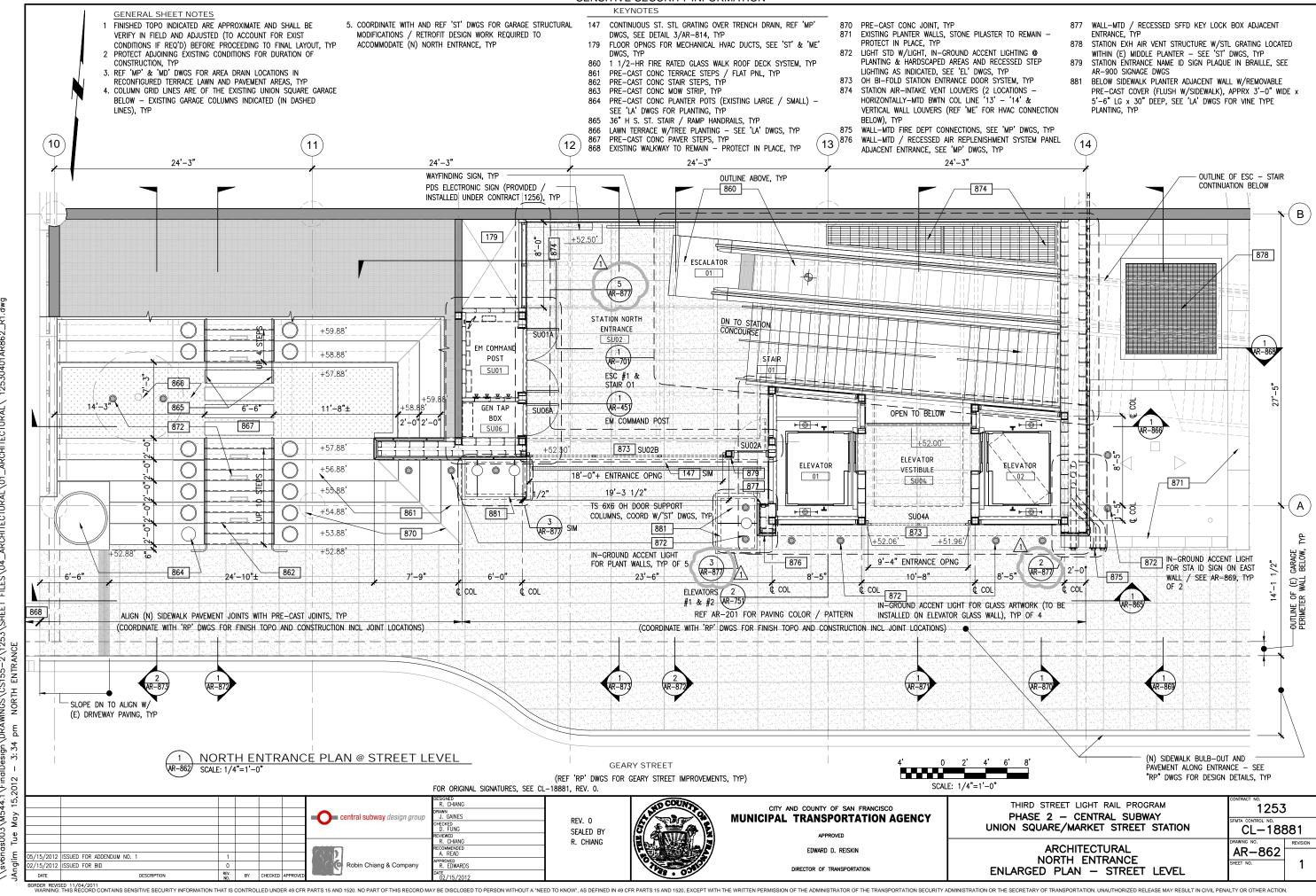


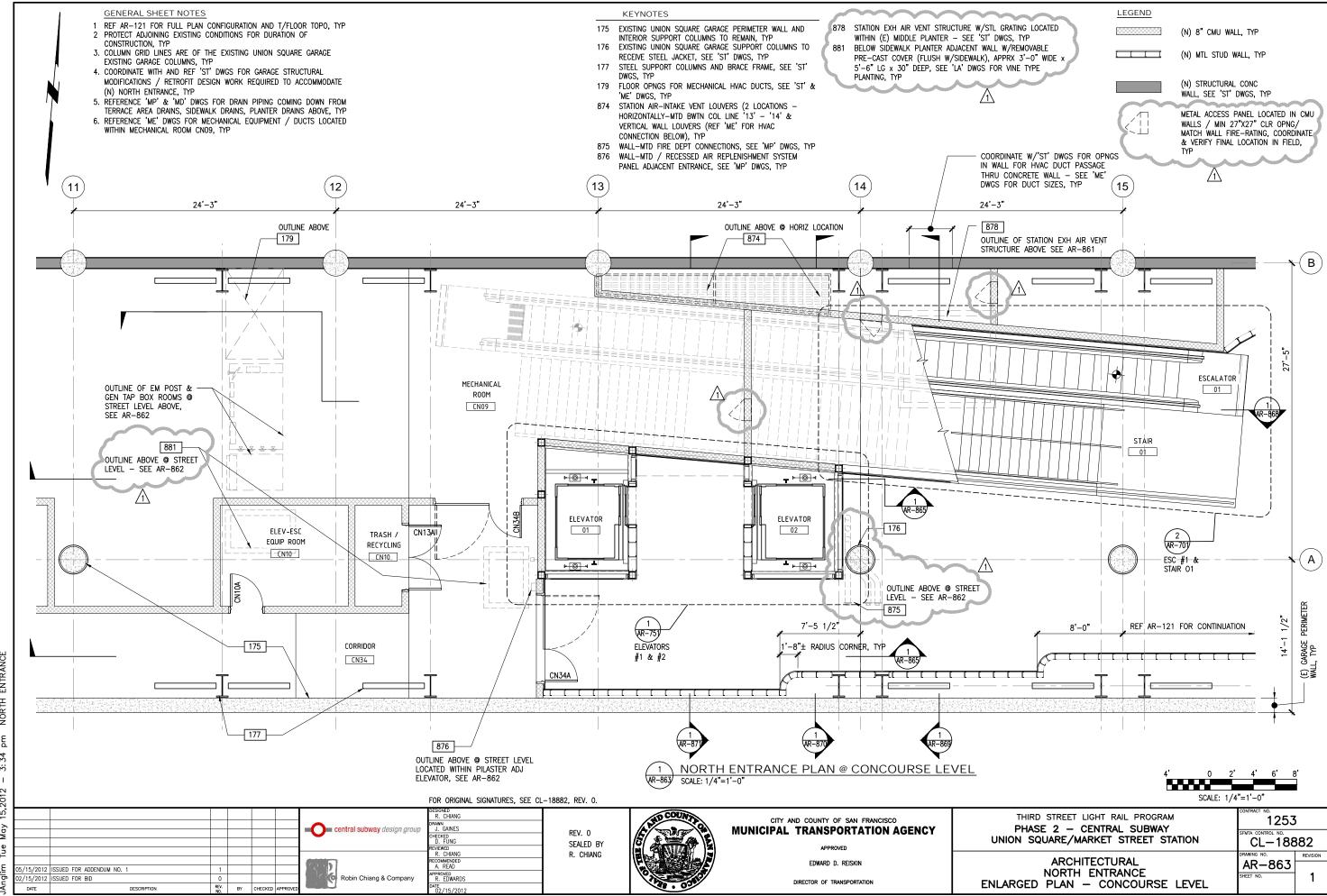




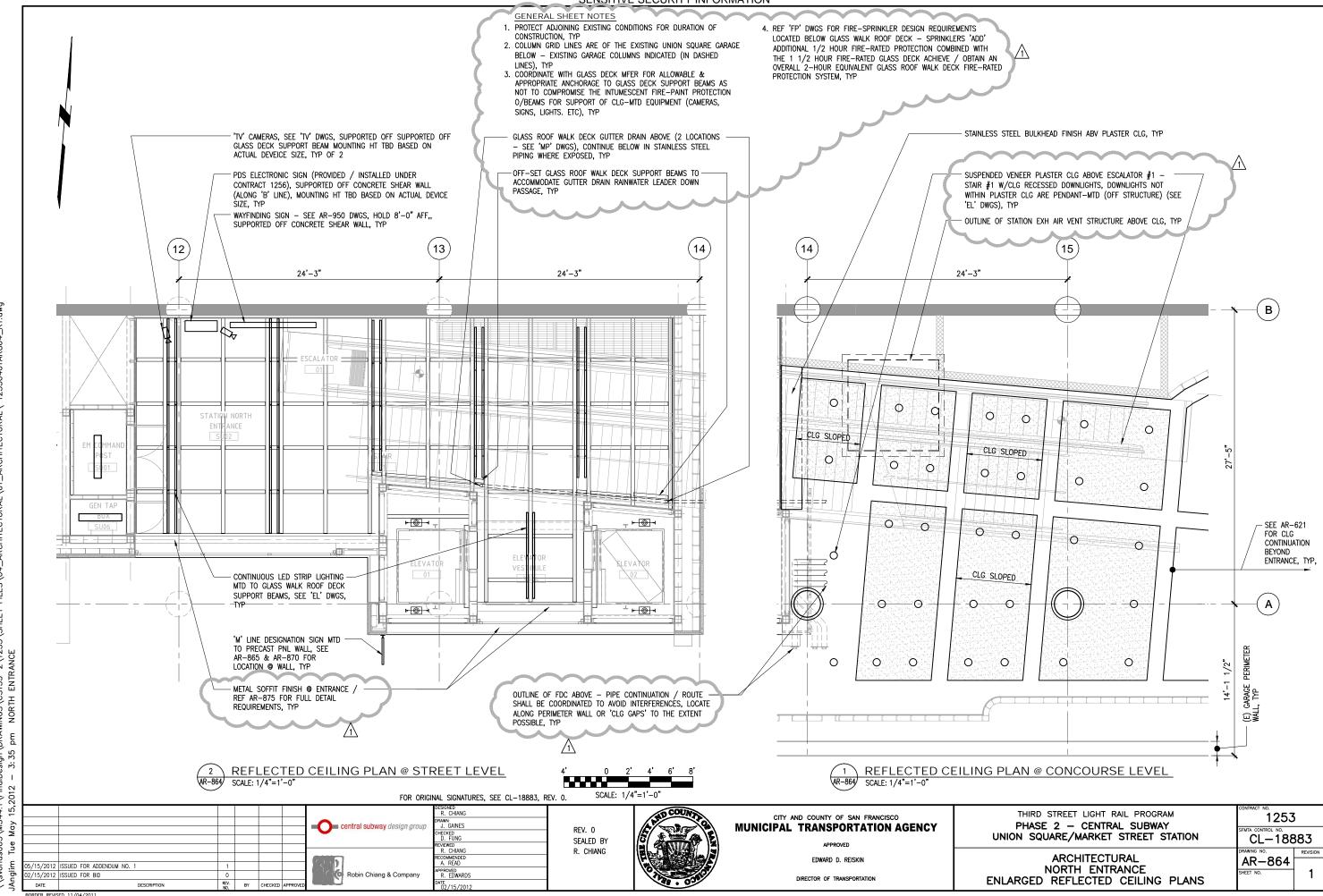
# SENSITIVE SECURITY INFORMATION KEYNOTES 123 STD FAREGATES + (1) ACCESSIBLE FAREGATE ARRAY, TYP 144 EMERGENCY FAN UNITS (3), SEE 'MV' DRAWINGS, TYP 200 STEEL ROOF SUPPORT BEAMS W/ 1HR FIREPROOFING PROTECTION, SEE 'ST' DWGS AND SEE AR-011 FOR FIREPROOFING REQUIRMENTS AT STRUCTURAL FRAME AND METAL DECK, TYP 222 SUSPENDED PLASTER CEILING SYSTEM, TYP T/ PLAZA ENTRY LEVEL EL: VARIES STATION NORTH 200 ENTRANCE SU02 T/ ROOF DECK MECHANICAL ROOM CN09 NORTH CONCOURSE CN01 T/ CONCOURSE LVL T/ CONCOURSE ENTRY LEVEL EL: VARIES FROM EL: VARIES FROM +25.67' @ ENTRY +21.22' @ N. CONCOURSE STA PT 137+00 VENT SHAFT PLENUM IS07 T/ FAN ROOM EL: +2.17' 144 TRANSVERSE (SOUTH) @ GEARY STREET SECTION 1/8" = 1'-0" VIEW ALIGNED TO STAIR/ESCALATOR 5° OFF STRUCTURAL GRID R. CHIANG THIRD STREET LIGHT RAIL PROGRAM 1253 CITY AND COUNTY OF SAN FRANCISCO K. BIGOSINSKI central subway design group PHASE 2 - CENTRAL SUBWAY MUNICIPAL TRANSPORTATION AGENCY SFMTA CONTROL NO. CL-18771 UNION SQUARE / MARKET STREET STATION REVIEWED R. CHIANG ECOMMENDED A. READ ARCHITECTURAL SECTION - TRANSVERSE (SOUTH) AR-334 R. EDWARDS Robin Chiang & Company 02/15/2012 ISSUED FOR BID UNION SQUARE ENTRANCE **DIRECTOR OF TRANSPORTATION**



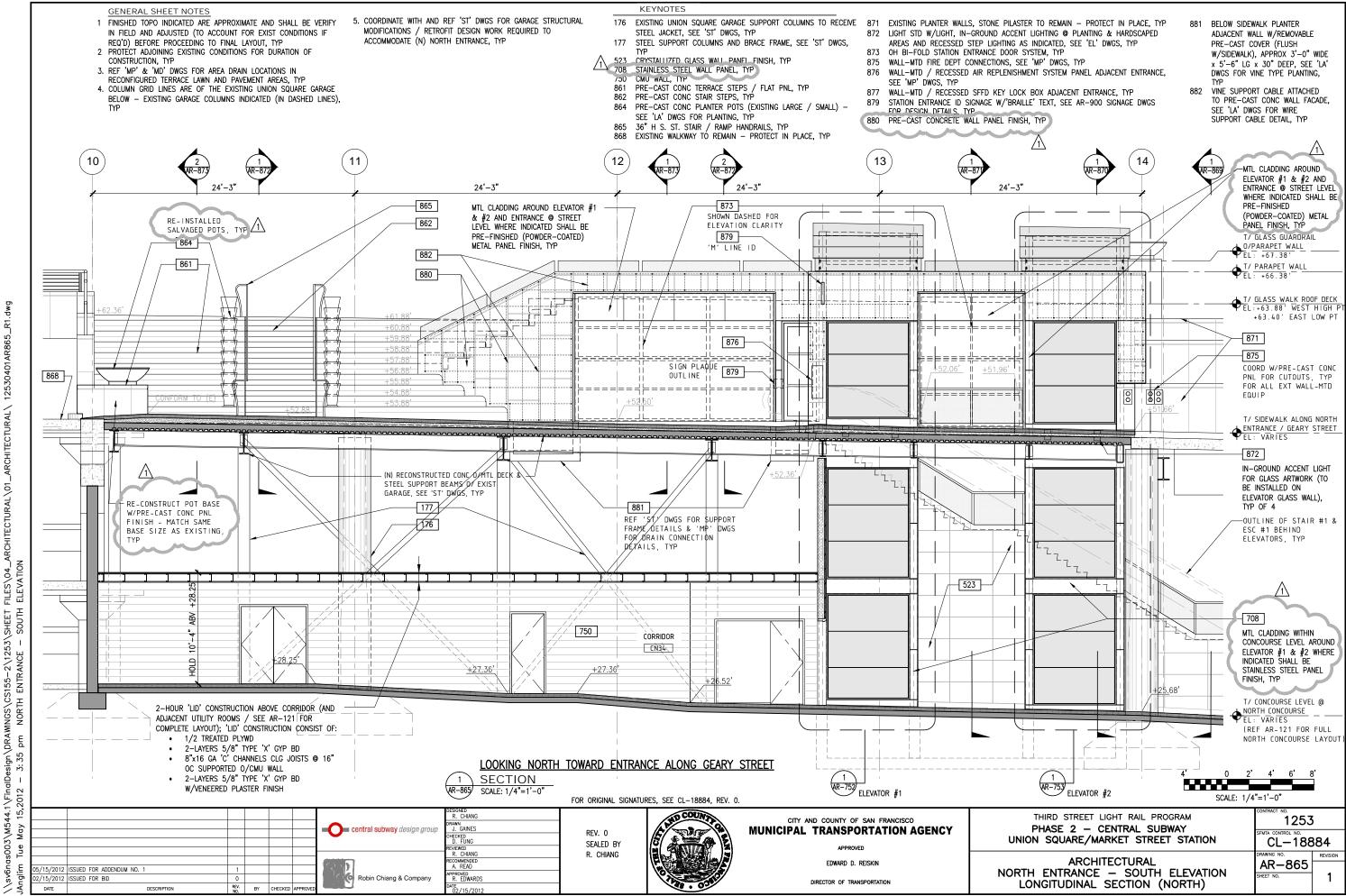


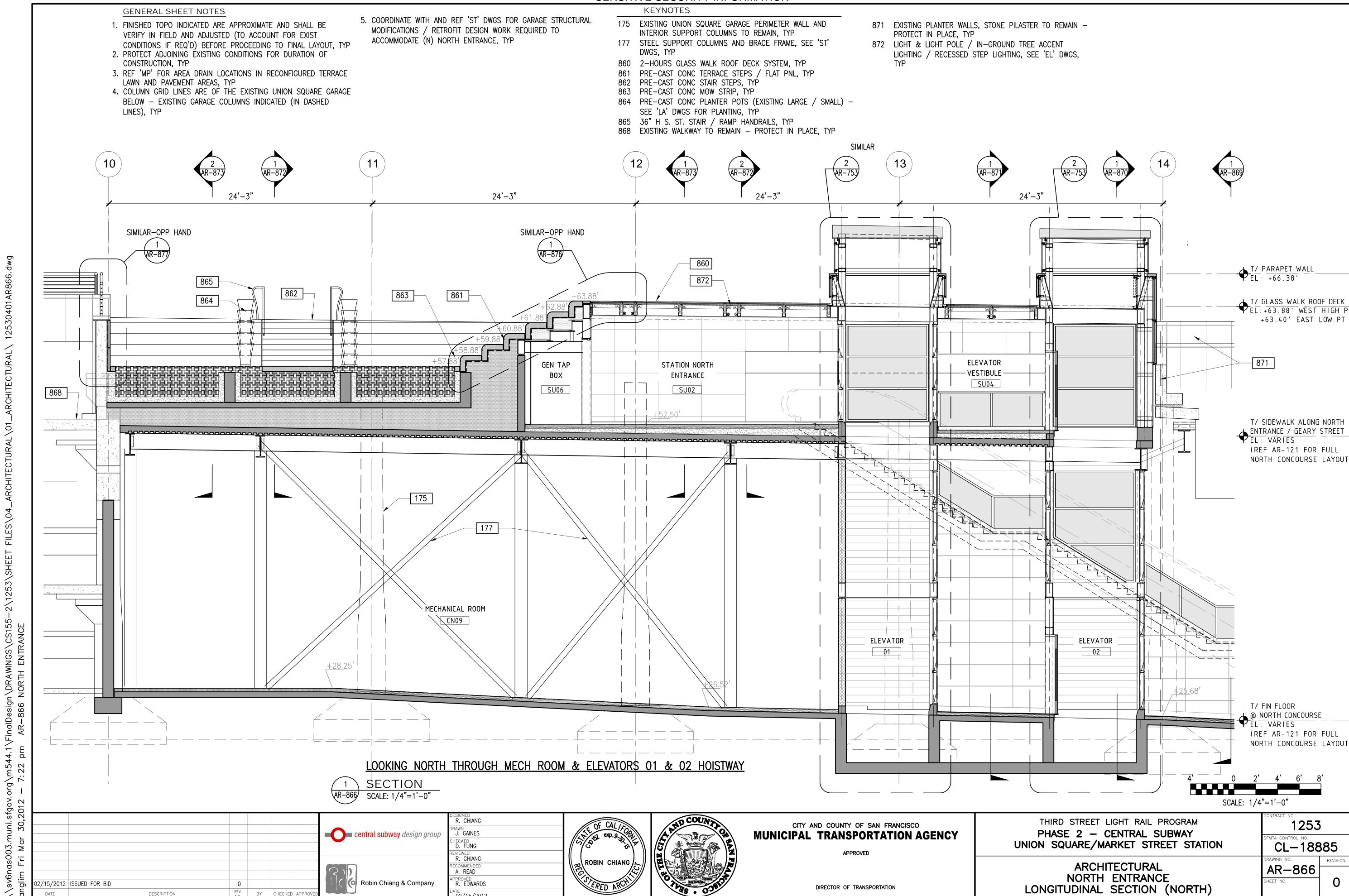


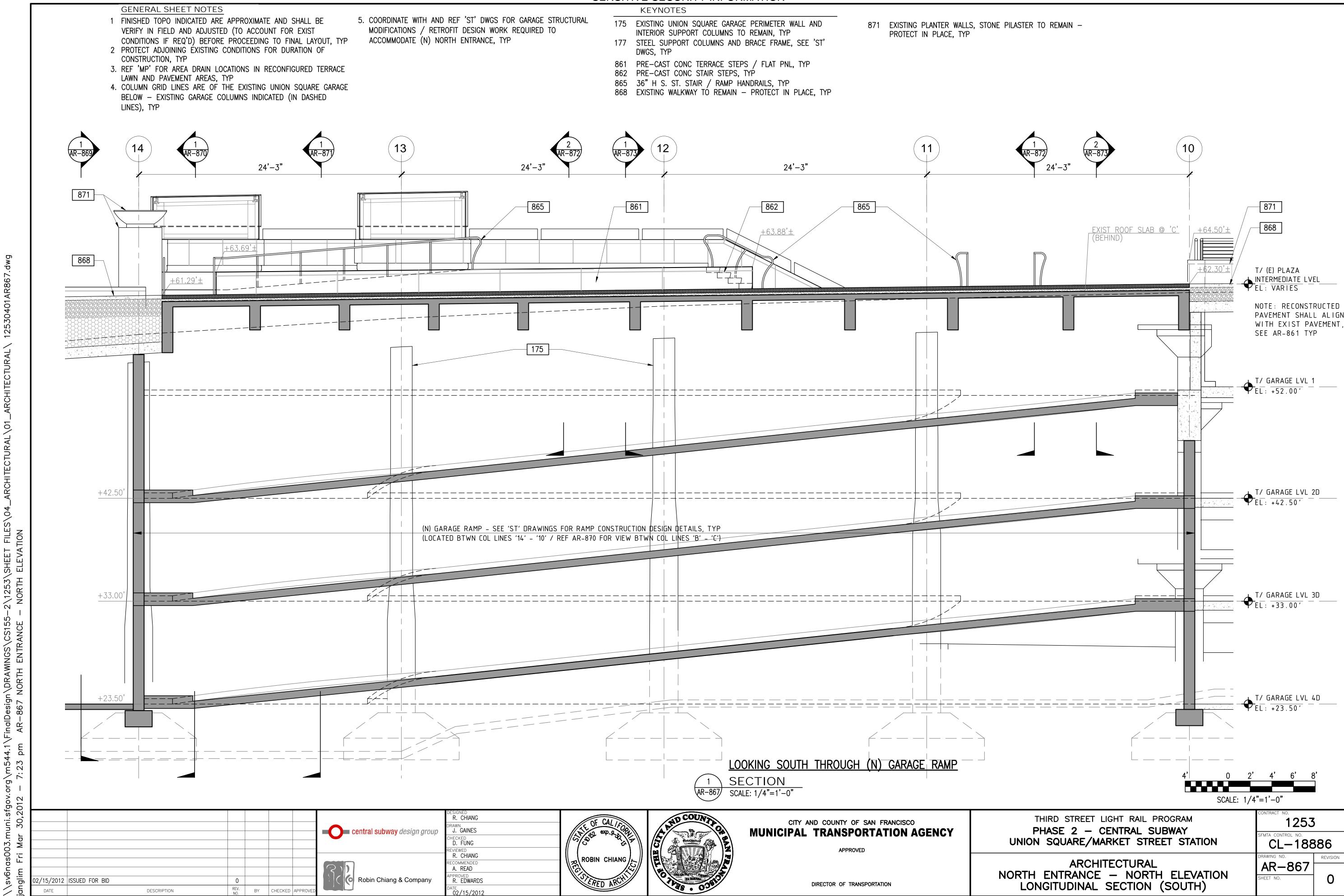
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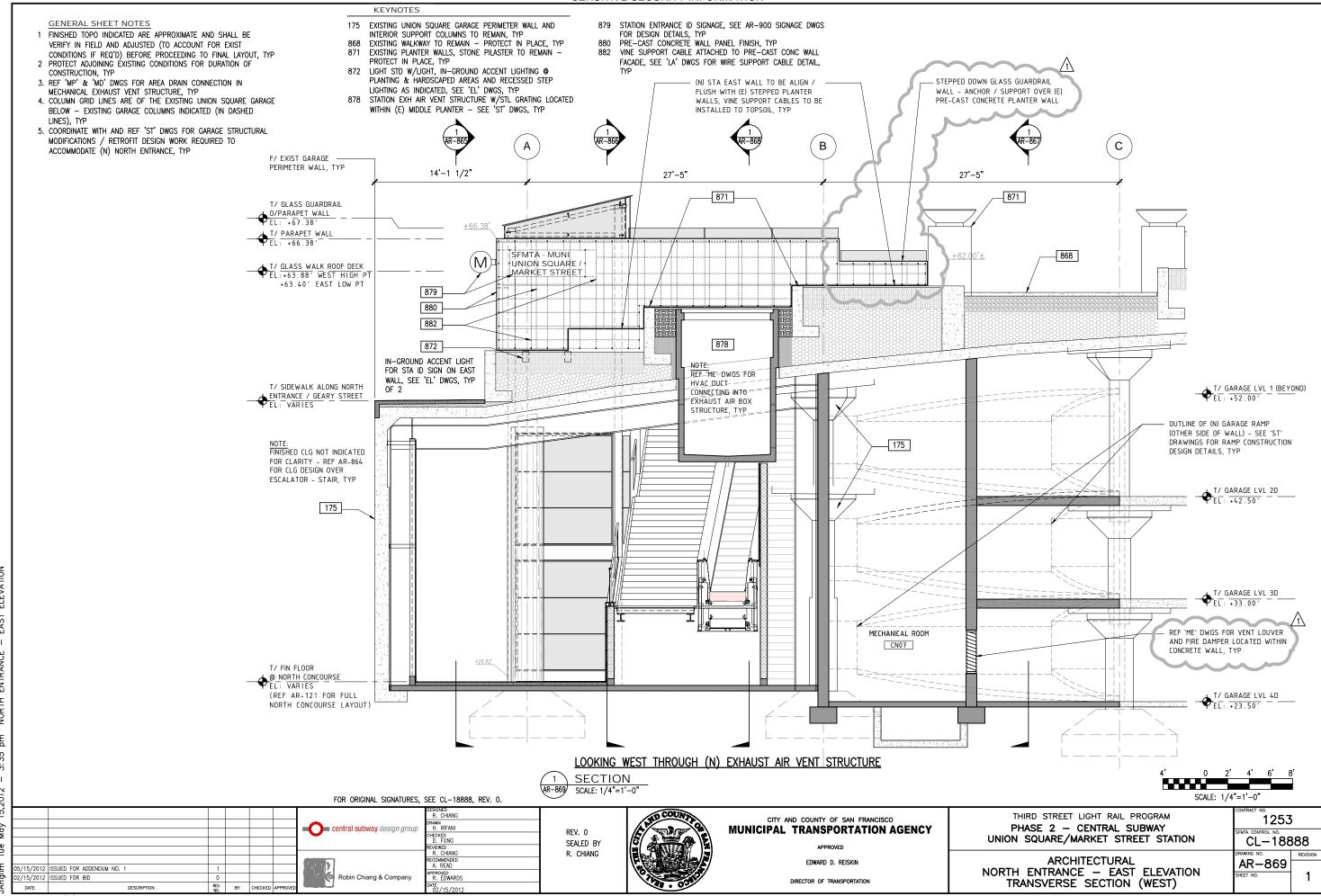
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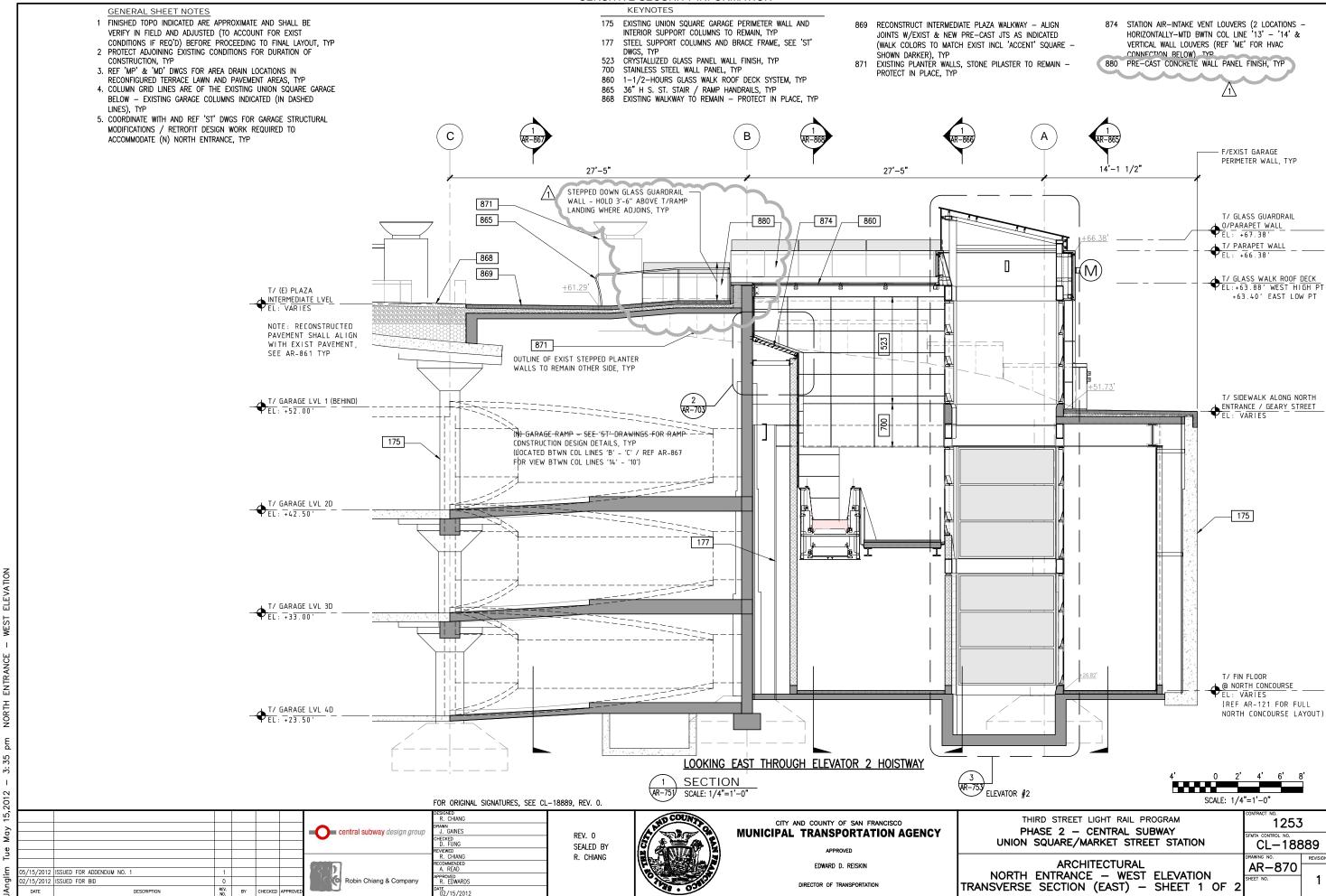




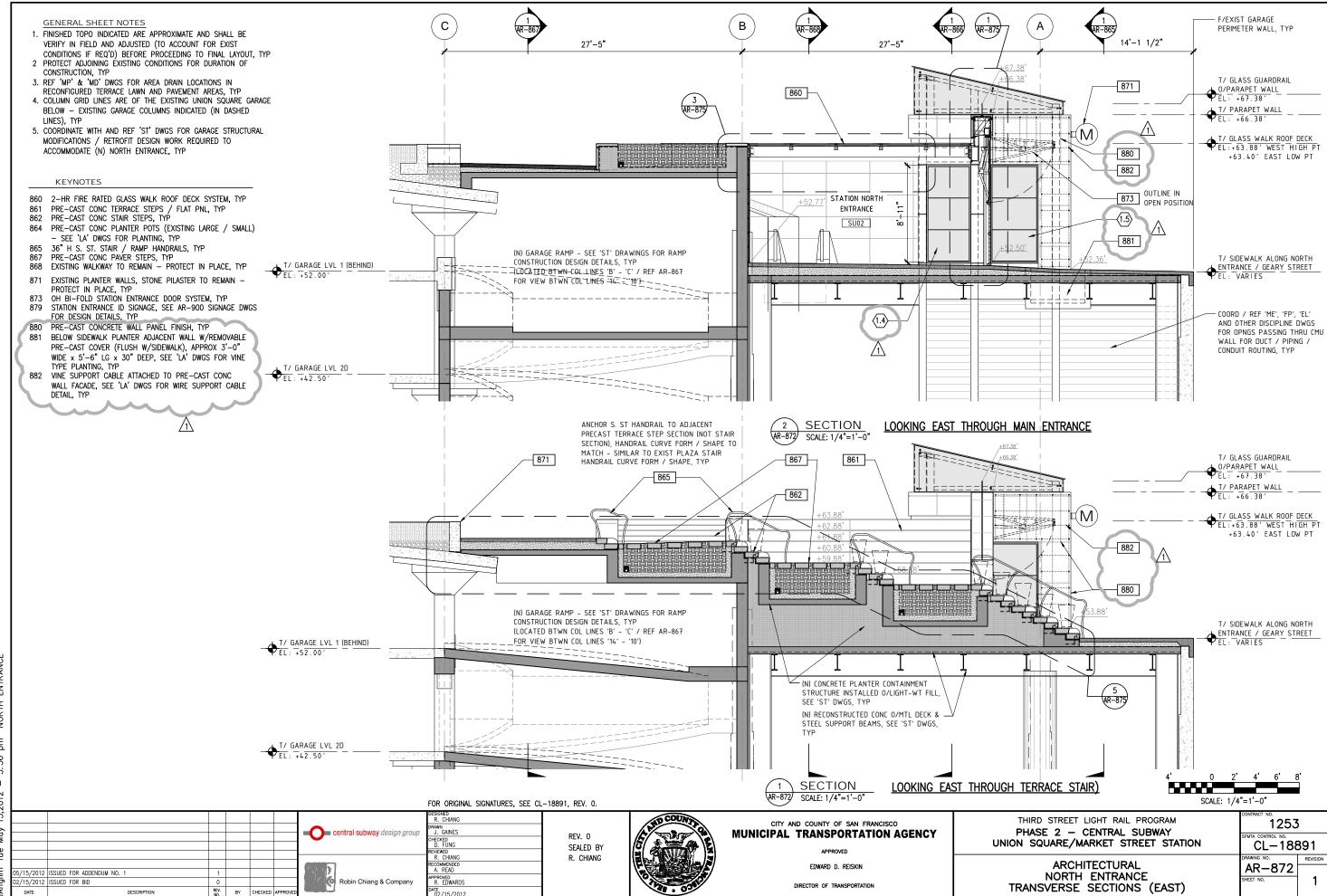


#### GENERAL SHEET NOTES **KEYNOTES** 5. COORDINATE WITH AND REF 'ST' DWGS FOR GARAGE STRUCTURAL 1 FINISHED TOPO INDICATED ARE APPROXIMATE AND SHALL BE 120 42" FLOOR-MT GLASS RAIL BARRIER, TYP 176 EXISTING UNION SQUARE GARAGE SUPPORT COLUMNS TO 871 EXISTING PLANTER WALLS, STONE PILASTER TO REMAIN -VERIFY IN FIELD AND ADJUSTED (TO ACCOUNT FOR EXIST MODIFICATIONS / RETROFIT DESIGN WORK REQUIRED TO PROTECT IN PLACE, TYP CONDITIONS IF REQ'D) BEFORE PROCEEDING TO FINAL LAYOUT, TYP ACCOMMODATE (N) NORTH ENTRANCE, TYP RECEIVE STEEL JACKET, SEE 'ST' DWGS, TYP STATION EXH AIR VENT STRUCTURE W/STL GRATING 2 PROTECT ADJOINING EXISTING CONDITIONS FOR DURATION OF LOCATED WITHIN (E) MIDDLE PLANTER - SEE 'ST' DWGS, STEEL SUPPORT COLUMNS AND BRACE FRAME, SEE 'ST' DWGS, TYP 3. COORDINATE WITH AND REF 'MP' & 'MD' DWGS FOR AREA DRAINS STAINLESS STEEL WALL PANEL, TYP 880 PRE-CAST CONCRETE WALL PANEL FINISH, TYP LOCATED WITHIN RECONFIGURED TERRACE LAWN PLANTER CMU WALL, TYP STRUCTURES AND PAVEMENT AREAS, TYP 1 1/2-HOURS GLASS WALK ROOF DECK SYSTEM, TYP 4. COLUMN GRID LINES ARE OF THE EXISTING UNION SQUARE GARAGE PRE-CAST CONC TERRACE STEPS / FLAT PNL, TYP BELOW - EXISTING GARAGE COLUMNS INDICATED (IN DASHED PRE-CAST CONC MOW STRIP, TYP 15 11 24'-3" 24'-3" 24'-3" 24'-3" MTL CLADDING AROUND ELEVATOR #1 & #2 AND ENTRANCE @ STREET LEVEL WHERE INDICATED SHALL BE PRE-FINISHED (POWDER-COATED) METAL PANEL FINISH, TYP T/ GLASS GUARDRAIL O/PARAPET WALL 860 880 EL: 67.38' T/ PARAPET WALL EL: 66.38' T/ GLASS WALK ROOF DECK COORD FINAL DEPTH W/'ME' DWGS -AND MAINTAIN ABOVE THE 10' HT EL: VARIES CLEARANCE LINE (@ ESC), TYP (E) MONUMENTAL CORNER STAIRS TO REMAIN & PROTECT IN ELEVATOR STATION NORTH (N) CONCRETE PLANTER VESTIBULE ENTRANCE CONTAINMENT STRUCTURE 878 SU04 SU02 INSTALLED O/LIGHT-WT NOTE: REF 'ME' DWGS FOR FILL, SEE 'ST' DWGS, TYF HVAC DUCT 120 T/ SIDEWALK @ CONNECTING INTO ENTRANCE EXHAUST AIR BOX EL: 52.50' @ DOOR STRUCTURE, TYP (SEE AR-852) (N) RECONSTRUCTED CONC INSTALL 2-HOUR FIRE-RATED O/MTL DECK & STEEL WALL AT OPEN SIDE SUPPORT BEAMS, SEE 708 COORDINATE W/'ME' DWGS FOR 'ST' DWGS, TYP DUCT PASSAGE, TYP MTL CLADDING WITHIN CONCOURSE LEVEL AROUND 177 ELEVATOR #1 & #2 WHERE INDICATED SHALL BE STAINLESS 176 STEEL PANEL FINISH, TYP 750 (E) GARAGE LVL 2 SLAB TO REMAIN SUSPENDED VENEER PLASTER CLG ABOVE ESCALATOR #1 STAIR #1, HOLD MIN 9'-0" MECHANICAL ROOM ABOVE ESC-STAIR NOSING (9) CN09 LOWEST POINT, SEE AR-864 FOR FULL CLG LAYOUT @ ENTRANCE, TYP T/ CONCOURSE LEVEL @ MECH ROOM EL: VARIES (REF AR-121 FOR FULL MECH ROOM LAYOUT) LOOKING SOUTH TOWARD ELEVATORS 1 & 2 - THROUGH ENTRANCE STAIR 1 SECTION SCALE: 1/4"=1'-0" FOR ORIGINAL SIGNATURES, SEE CL-18887, REV. O. THIRD STREET LIGHT RAIL PROGRAM 1253 CITY AND COUNTY OF SAN FRANCISCO central subway design group **MUNICIPAL TRANSPORTATION AGENCY** PHASE 2 - CENTRAL SUBWAY REV. 0 UNION SQUARE/MARKET STREET STATION CL-18887 SEALED BY R. CHIANG **ARCHITECTURAL** EDWARD D. REISKIN AR-868 15/2012 ISSUED FOR ADDENDUM NO. 1 NORTH ENTRANCE /15/2012 ISSUED FOR BID Robin Chiang & Company DIRECTOR OF TRANSPORTATION LONGITUDINAL SECTION (SOUTH)





## GENERAL SHEET NOTES KEYNOTES 175 EXISTING UNION SQUARE GARAGE PERIMETER WALL AND 869 RECONSTRUCT INTERMEDIATE PLAZA WALKWAY - ALIGN 1. FINISHED TOPO INDICATED ARE APPROXIMATE AND SHALL BE 874 STATION AIR-INTAKE VENT LOUVERS (2 LOCATIONS -INTERIOR SUPPORT COLUMNS TO REMAIN, TYP VERIFY IN FIELD AND ADJUSTED (TO ACCOUNT FOR EXIST JOINTS W/EXIST & NEW PRE-CAST JTS AS INDICATED HORIZONTALLY-MTD BWTN COL LINE '13' - '14' & STEEL SUPPORT COLUMNS AND BRACE FRAME, SEE 'ST' CONDITIONS IF REQ'D) BEFORE PROCEEDING TO FINAL LAYOUT, TYP (WALK COLORS TO MATCH EXIST INCL 'ACCENT' SQUARE -VERTICAL WALL LOUVERS (REF 'ME' FOR HVAC DWGS, TYP 2 PROTECT ADJOINING EXISTING CONDITIONS FOR DURATION OF SHOWN DARKER), TYP CONNECTION BELOW), TYP CRYSTALLIZED GLASS PANEL WALL FINISH, TYP CONSTRUCTION, TYP 871 EXISTING PLANTER WALLS, STONE PILASTER TO REMAIN -880 PRE-CAST CONCRETE WALL PANEL FINISH, TYP STAINLESS STEEL WALL PANEL, TYP 3. COORDINATE WITH AND REF 'MP' FOR AREA DRAINS LOCATED PROTECT IN PLACE, TYP 873 OH BI-FOLD STATION ENTRANCE DOOR SYSTEM, TYP 1-1/2-HOURS GLASS WALK ROOF DECK SYSTEM, TYP WITHIN RECONFIGURED TERRACE LAWN PLANTER STRUCTURES AND PAVEMENT AREAS. TYP 36" H S. ST. STAIR / RAMP HANDRAILS. TYP COLUMN GRID LINES ARE OF THE EXISTING UNION SQUARE GARAGE BELOW — EXISTING GARAGE COLUMNS INDICATED (IN DASHED 868 EXISTING WALKWAY TO REMAIN - PROTECT IN PLACE, TYP 5. COORDINATE WITH AND REF 'ST' DWGS FOR GARAGE STRUCTURAL MODIFICATIONS / RETROFIT DESIGN WORK REQUIRED TO ACCOMMODATE (N) NORTH ENTRANCE, TYP F/EXIST GARAGE PERIMETER WALL, TYP 14'-1 1/2" 27'-5" 27'-5" STEPPED DOWN GLASS GUARDRAIL WALL - HOLD 3'-6" ABOVE T/RAMP 871 874 860 \_\_\_880 LANDING WHERE ADJOINS, TYP T/ GLASS GUARDRAIL O/PARAPET WALL EL: +67.38' 869 T/ PARAPET WALL EL: +66.38' T/ GLASS WALK ROOF DECK EL:+63.88' WEST HIGH PT +63.40' EAST LOW PT T/ (E) PLAZA INTERMEDIATE LVEL 873 OUTLINE IN OPEN MTL CLADDING AROUND NOTE: RECONSTRUCTED ELEVATOR #1 & #2 AND ENTRANCE @ STREET LEVEL PAVEMENT SHALL ALIGN WITH EXIST PAVEMENT, 871 WHERE INDICATED SHALL BE SEE AR-861 TYP OUTLINE OF EXIST PLANTER TO REMAIN OTHER SIDE (POWDER-COATED) METAL PANEL FINISH, TYP T/ SIDEWALK ALONG NORTH ENTRANCE / GEARY STREET EL: VARIES T/ GARAGE LVL 1 (BEHIND) EL: +52.00' (AR-703) 175 (N) GARAGE-RAMP = SEE 'ST'-DRAWINGS FOR RAMP CONSTRUCTION DESIGN DETAILS, TYP (IOCATED BTWN COLLINES 'B' - 'C' / REE AR-863 FOR VIEW BTWN COL LINES '14' - '10') 175 T/ GARAGE LVL 2D EL: +42.50' 177 177 BEHIND WALL FINISH 523 708 MTL CLADDING WITHIN CONCOURSE LEVEL AROUND T/ GARAGE LVL 3D ELEVATOR #1 & #2 WHERE EL: +33.00' INDICATED SHALL BE STAINLESS STEEL PANEL FINISH, TYP T/ FIN FLOOR @ NORTH CONCOURSE EL: VARIES (REF AR-121 FOR FULL T/ GARAGE LVL 4D NORTH CONCOURSE LAYOUT) EL: +23.50 AR-752 LOOKING EAST THROUGH ELEVATOR WAITING AREA SECTION AR-871 SCALE: 1/4"=1'-0" FOR ORIGINAL SIGNATURES, SEE CL-18890, REV. O. THIRD STREET LIGHT RAIL PROGRAM 1253 CITY AND COUNTY OF SAN FRANCISCO central subway design group **MUNICIPAL TRANSPORTATION AGENCY** PHASE 2 - CENTRAL SUBWAY REV. 0 UNION SQUARE/MARKET STREET STATION CL-18890 SEALED BY R. CHIANG **ARCHITECTURAL** EDWARD D. REISKIN AR-871 15/2012 ISSUED FOR ADDENDUM NO. 1 NORTH ENTRANCE - WEST ELEVATION /15/2012 ISSUED FOR BID Robin Chiang & Company DIRECTOR OF TRANSPORTATION TRANSVERSE SECTION (EAST) - SHEET 2 OF



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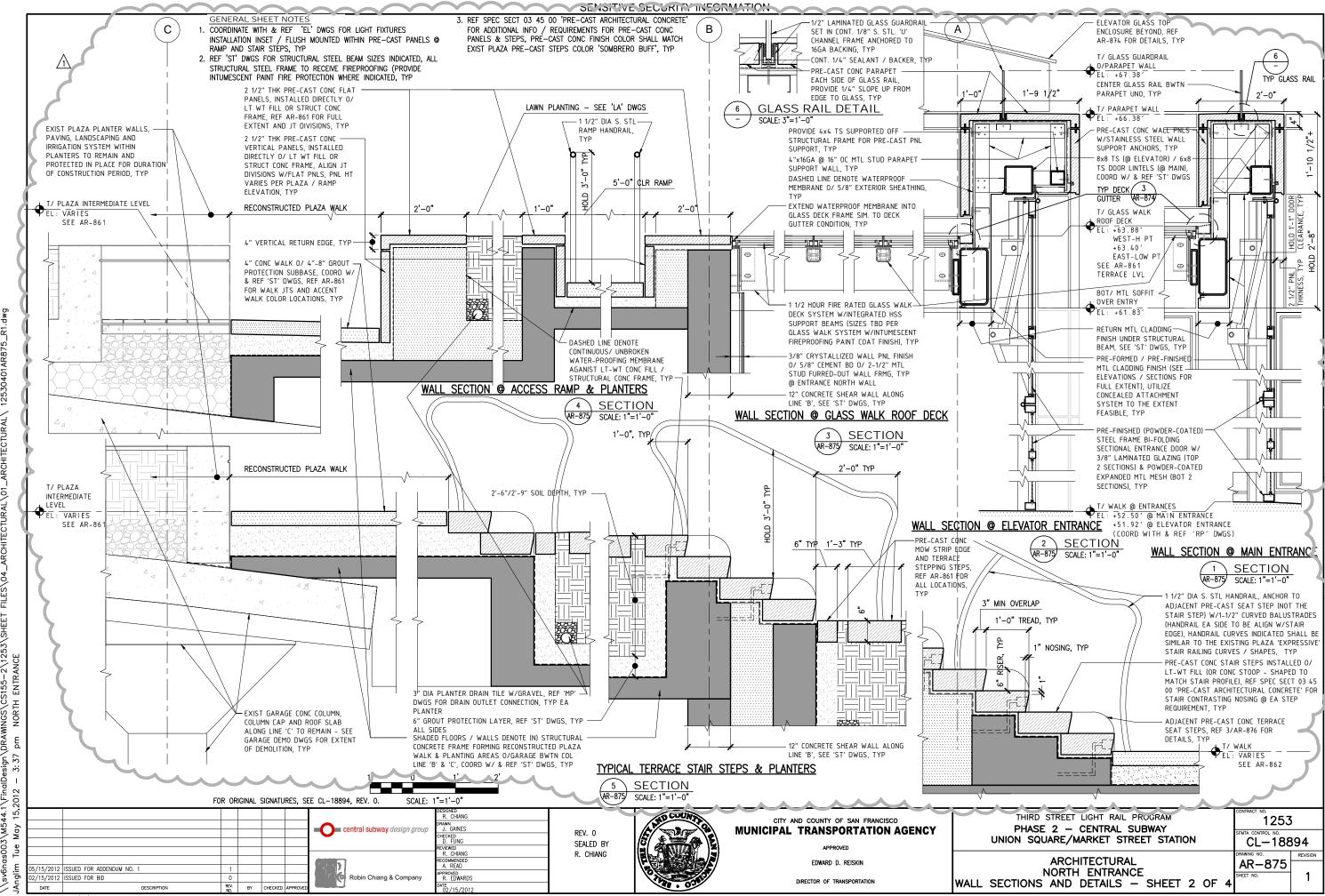
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UNION DESCRIPTION DESCRIPTION

GENERAL SHEET NOTES

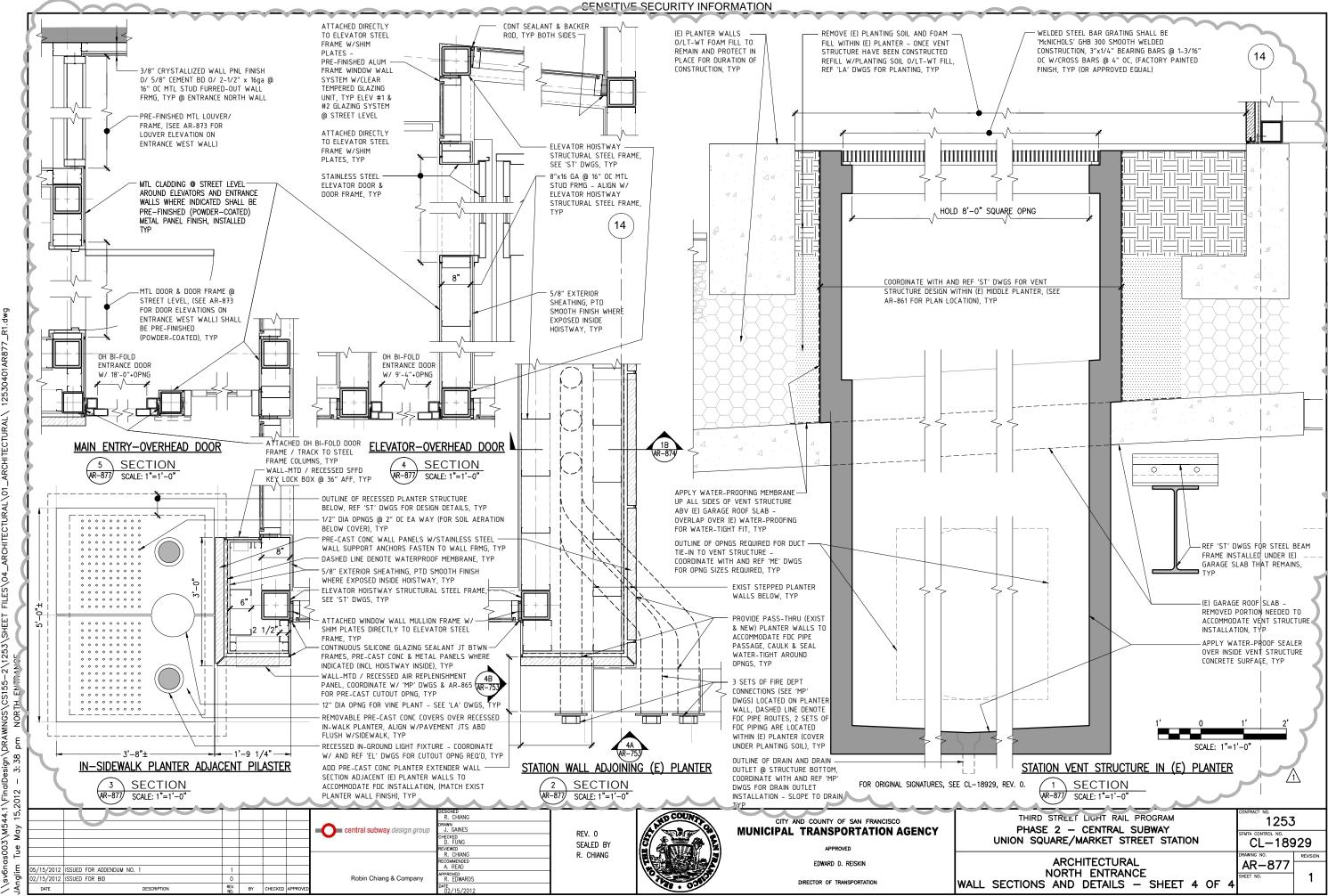
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REF 'ST' DWGS FOR STRUCTURAL STEEL BEAM SIZES INDICATED, ALI STRUCTURAL STEEL FRAME TO RECEIVE FIREPROOFING (PROVIDE INTUMESCENT PAINT FIRE PROTECTION WHERE INDICATED, TYP WALL SECTIONS AND DETAILS - SHEET 1 OF



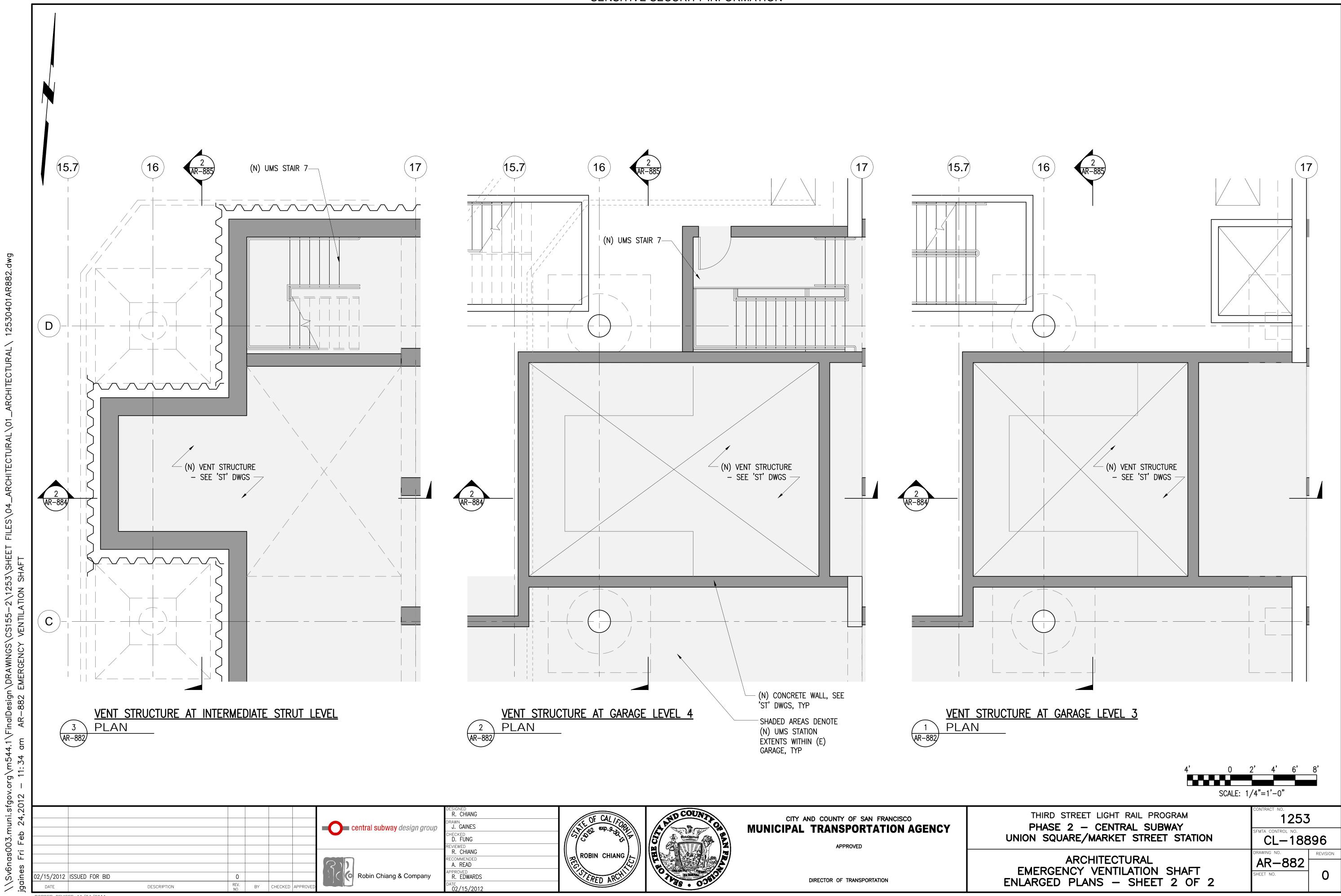
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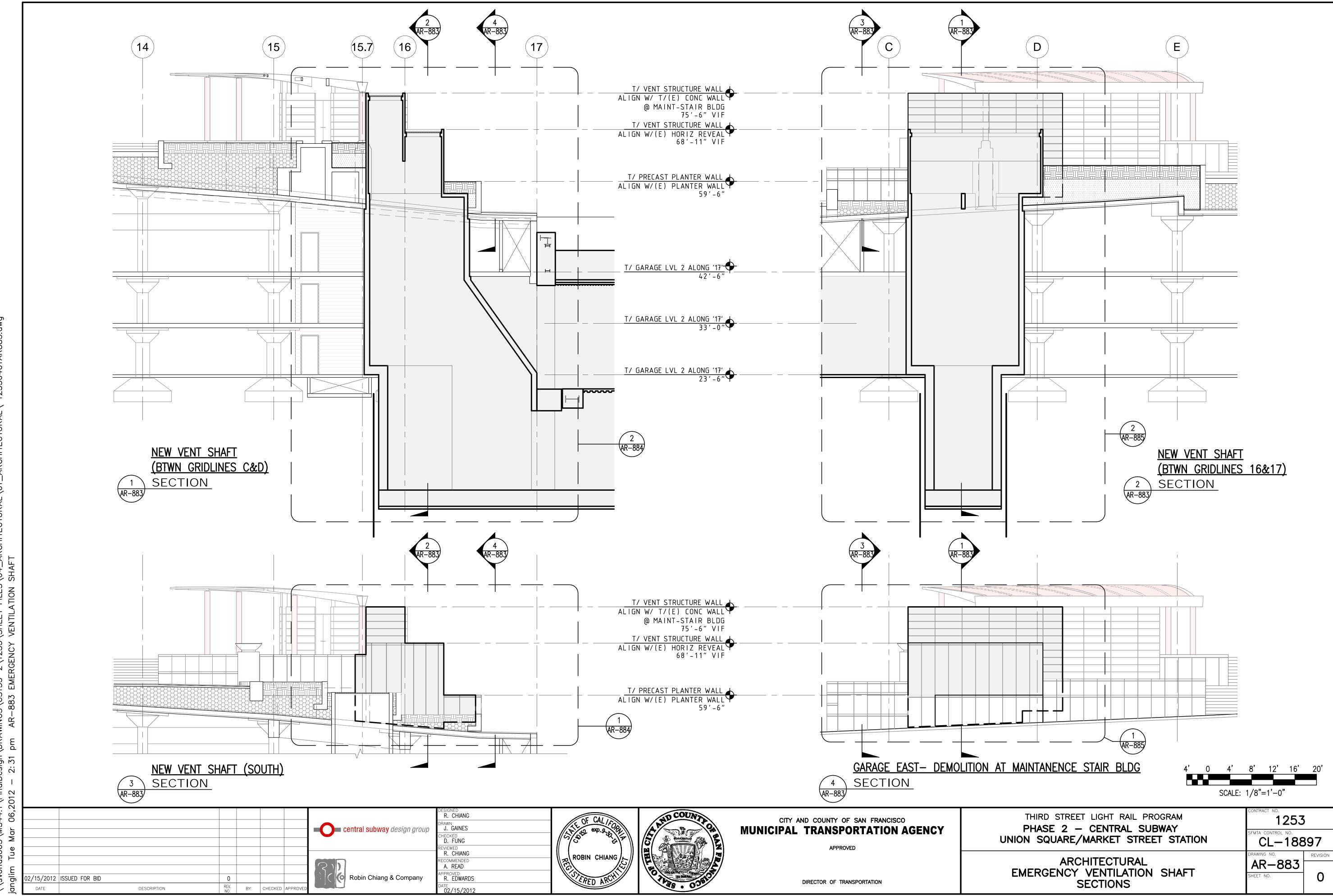


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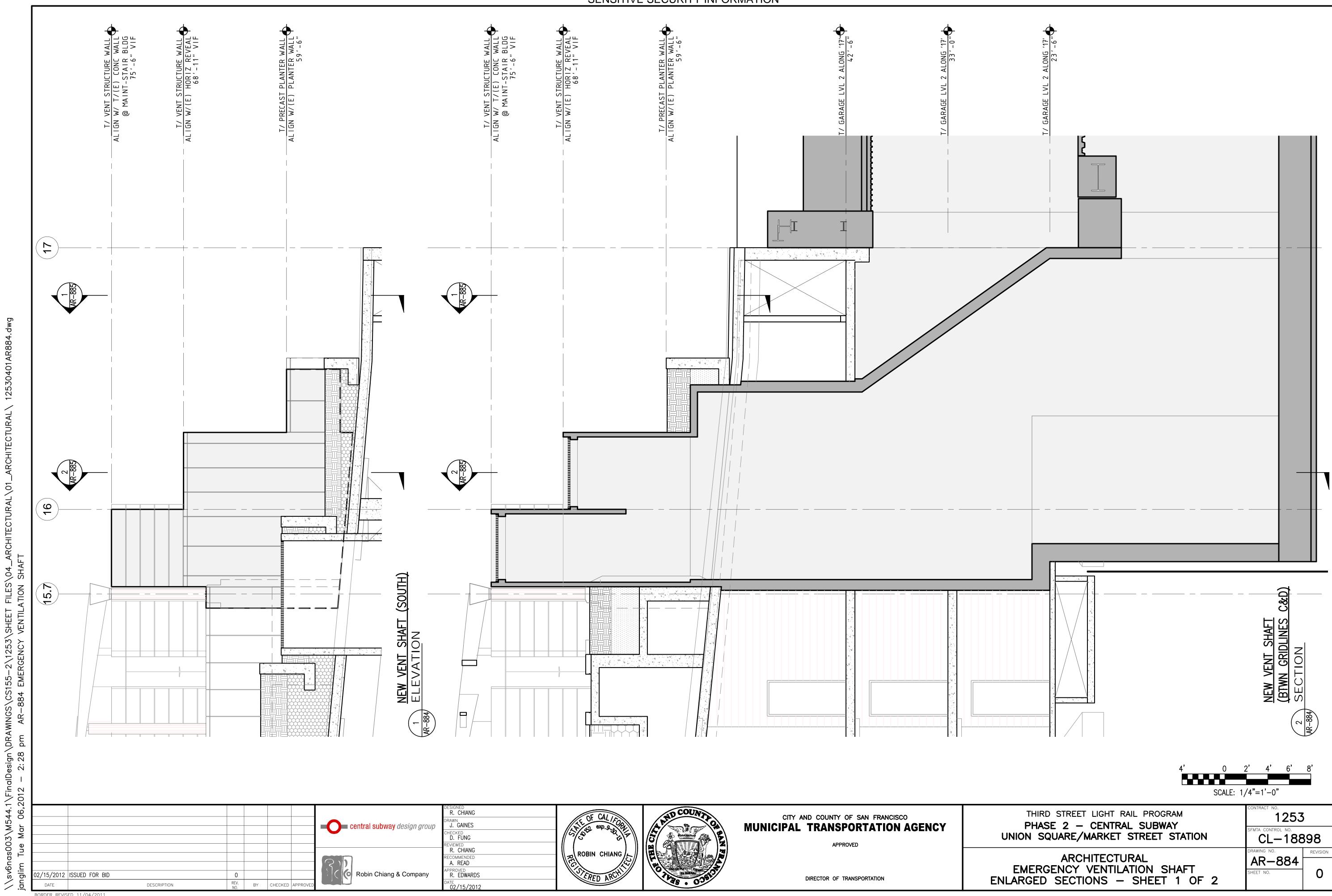
DIRECTOR OF TRANSPORTATION



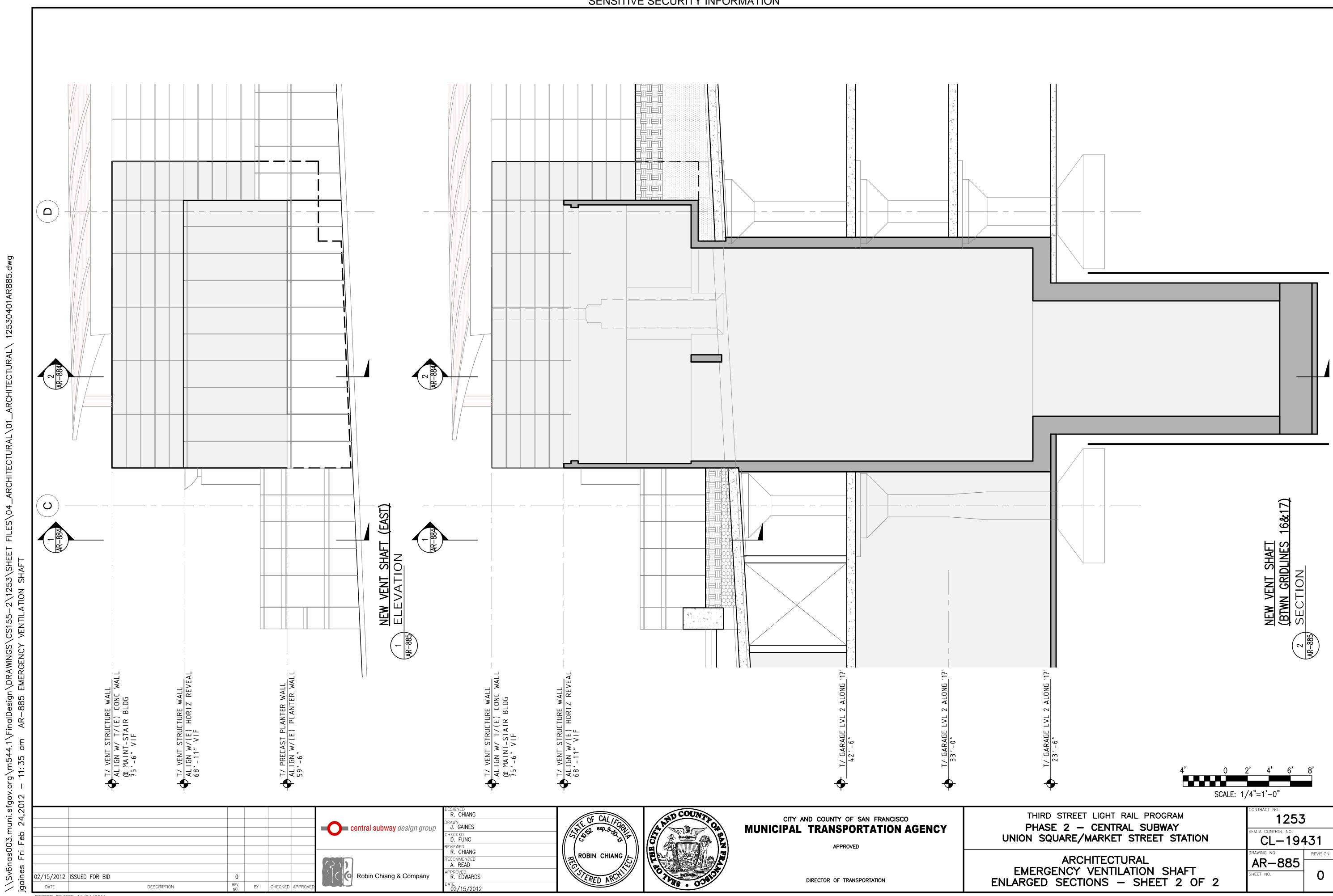
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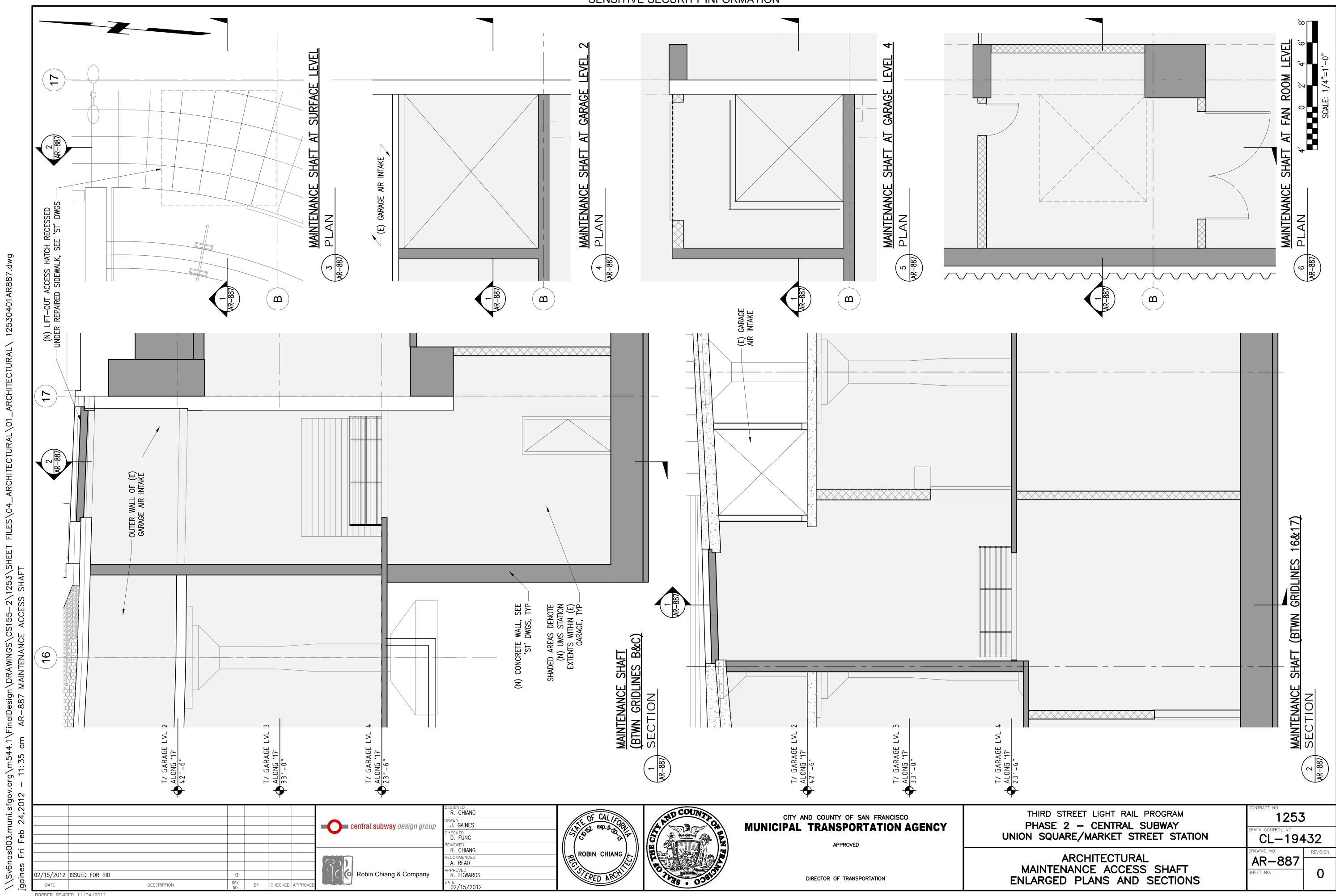
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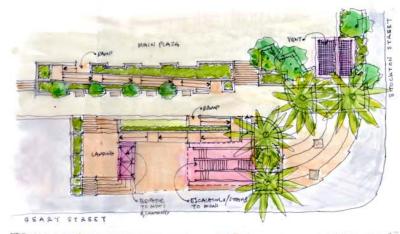


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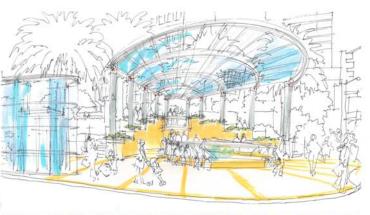






















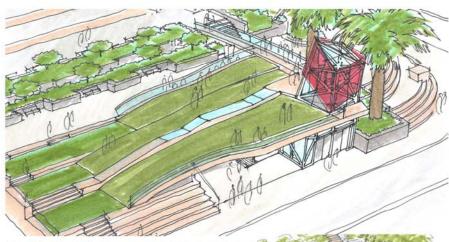






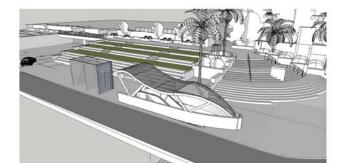




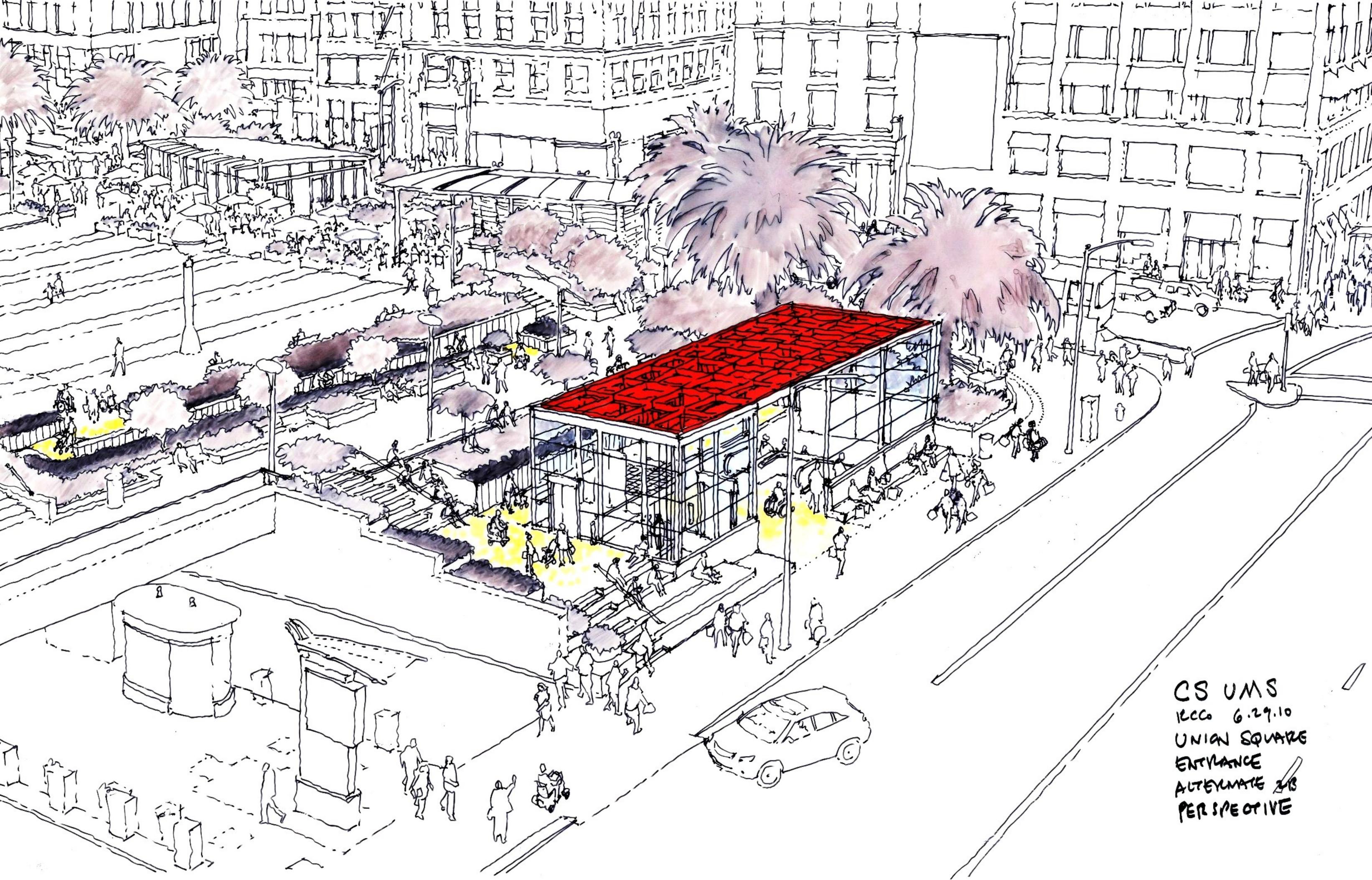


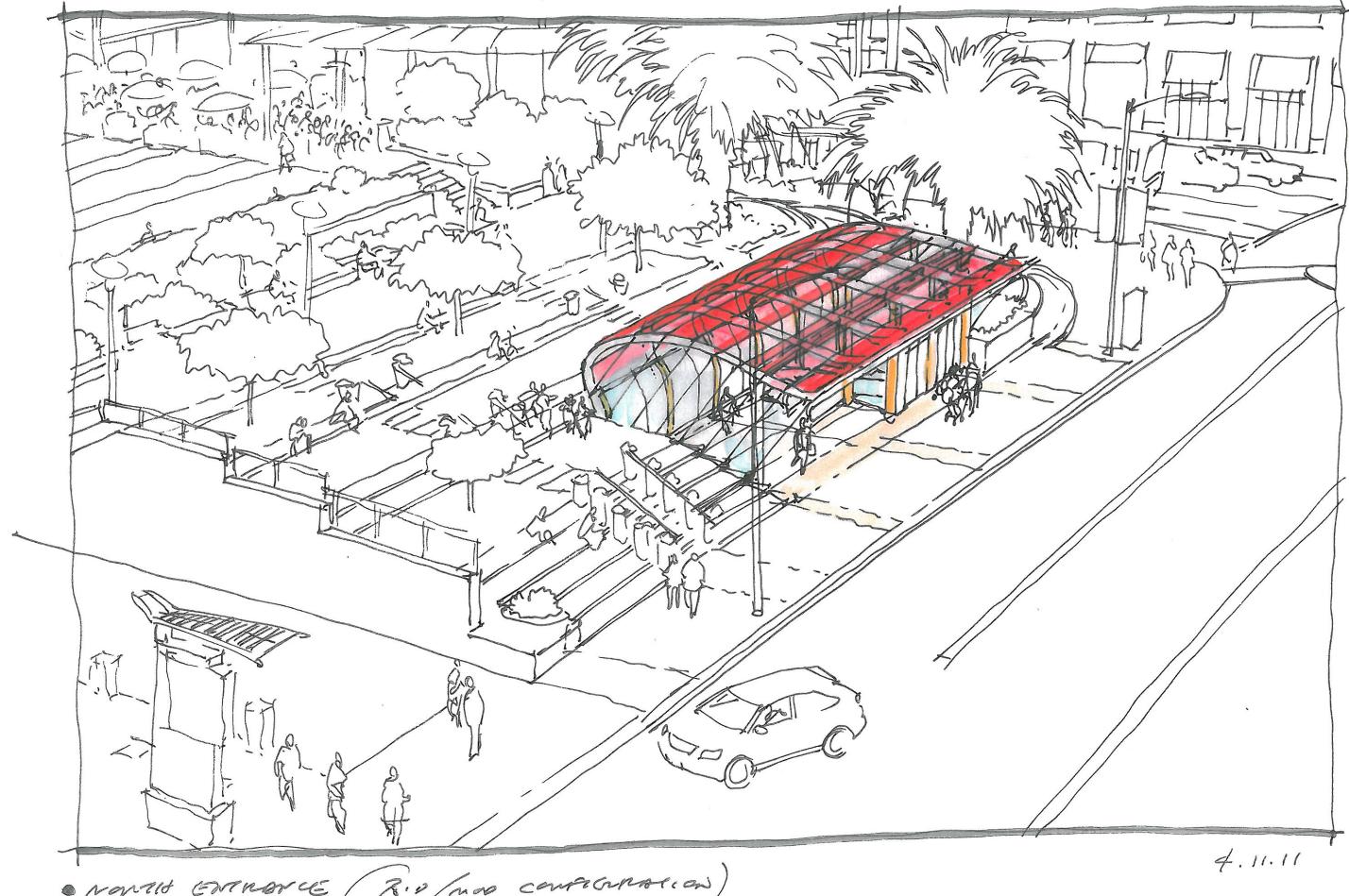


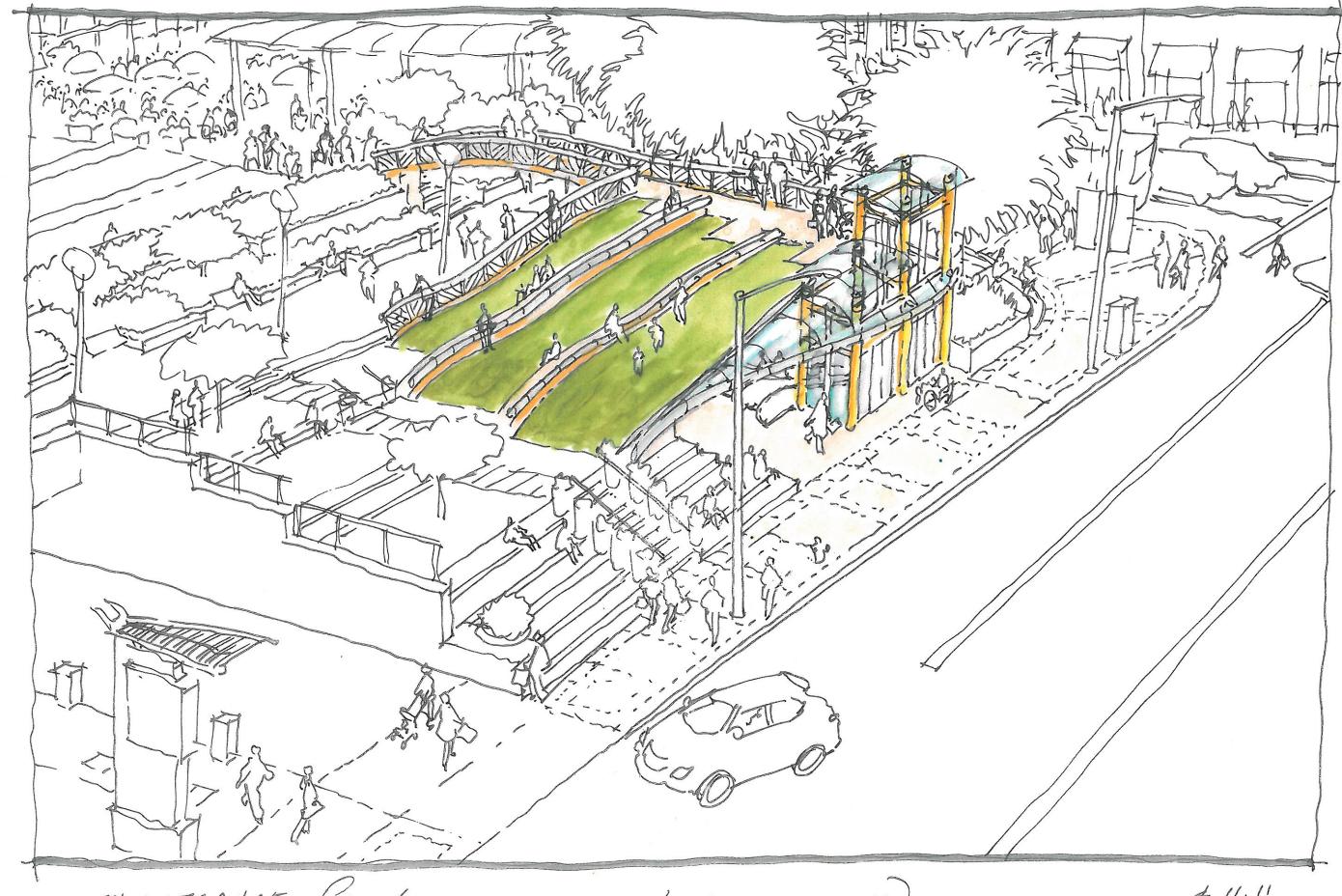






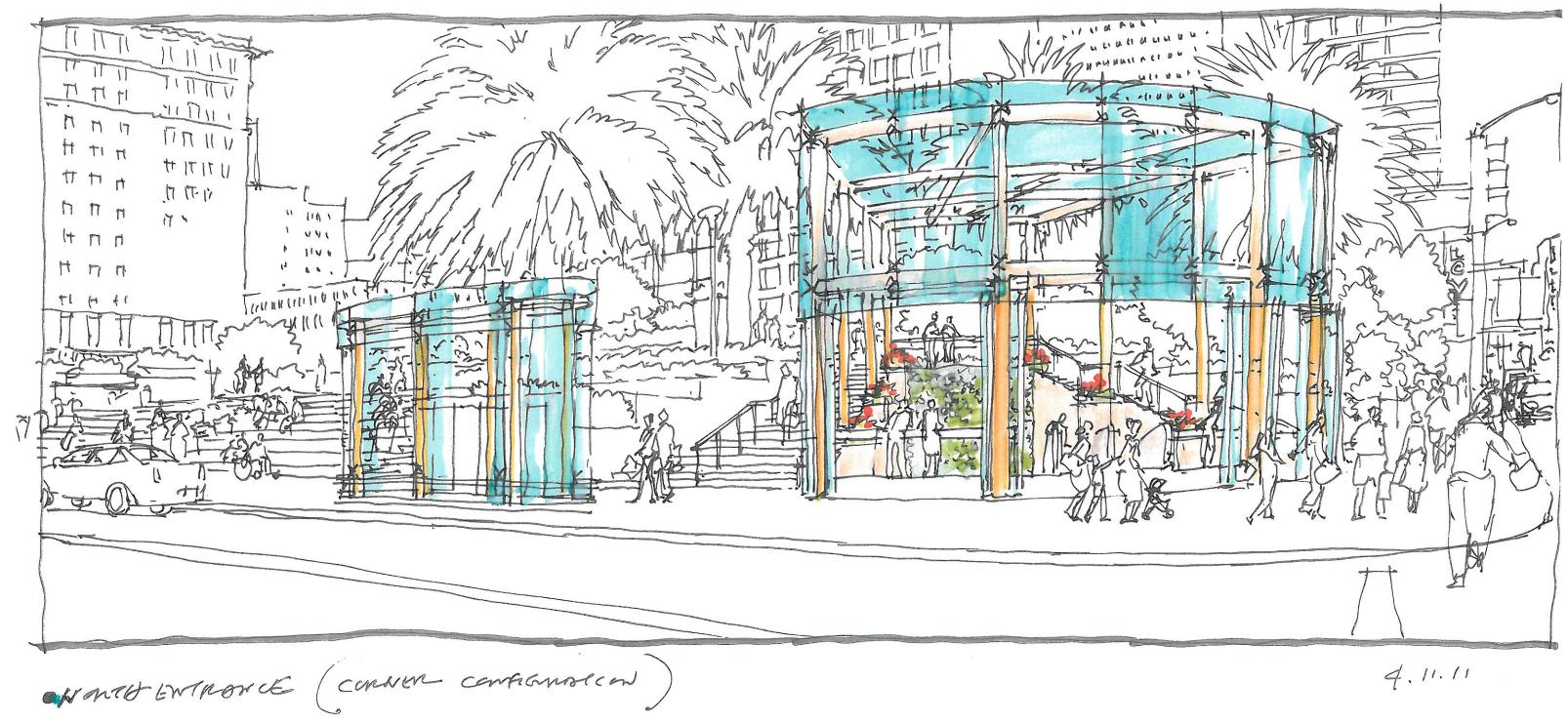






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