APRIL 2015

SR 202 SOUTH MOUNTAIN FREEWAY

LANDSCAPE ARCHITECTURE & AESTHETICS DESIGN CONCEPT REPORT

VALLEY OF THE SUN FROM TALIESIN WEST **EUGENE MASSELINK** MURAL 1940 | DIGITAL REMIX BY ARIS GEORGES 1 / 2012

April 3, 2015

H5764 01L SR202L South Mountain Freeway
Landscape Architecture and Aesthetics Design Concept Report

Enclosed is the Landscape Architecture and Aesthetics Design Concept Report for the SR 202L South Mountain Freeway. The document is comprised of 3 sections- 1) This prelude letter & acknowledgements, 2) Text – Project design criteria and work to be performed by the developer and 3) Exhibits – examples and back up documents for written text.

Text

There are two primary text sections – 1) Design criteria and 2) Work to be performed by the developer.

The design criteria section has two sections. The first provides a summary of the project elements that are required by the project. The second section provides a description of the corridor character areas.

The Work to be performed by the developer section provides detailed guidance for the work that is to be completed. The section starts with a description of the submittals and reviews, then changes, alterations or substitutions. This is followed by the work descriptions for the tasks by the individual character area. The individual tasks are:

- Aesthetics
- Plant Material
- Native Plant Salvage
- Granite Mulch and Decomposed Granite
- Irrigation
- Erosion Control
- Alternative Transportation and Recreation
- Topsoil Plating and Agronomy

The next to last section in the text report is the Alternative Transportation and Recreation. This is an overview of the multi-use and equestrian trails and retention basin parks that could be developed in the project right-of-way in the future.

Exhibits

The exhibit section is visual back up for the concepts and tasks described in the text report section. It provides photo simulations of a representative TI from each of the character areas which show the plants, graphics, colors, and granite. The various aesthetic patterns and how they could be utilized on the bridge piers, barriers and sound walls are also included. There are also back up reports, details and representative plan samples of the different work tasks that will be included in the landscape and aesthetics for this project.

ACKNOWLEDGEMENTS

Thank you to all the participants, management, engineering, landscape and architectural aesthetics design team members for their time, expertise, and effort in developing and reviewing the contents of this report.

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Exhibit List

Design Criteria

Landscaping

Establishing the landscape character for a new 26-mile freeway corridor is a unique opportunity and one that requires a great deal of thought and consideration. The purpose of this report is to provide direction for the Developer in the design of the landscape and aesthetics elements of the project. The goals for the SR202 South Mountain Freeway landscape include:

- Establish a cohesive, unique and visually appealing landscape theme for the entire freeway corridor.
- Blend the freeway landscape with the landscape character of adjacent open desert areas, agricultural fields and urban development.
- Maximize the use of available resources.
- Minimize future maintenance.
- Minimize impacts of the freeway on adjacent communities.
- Improve alternative transportation and recreation for the surrounding communities.
- Meet the goals and objectives of the Environmental Impact Statement (EIS) and Visual Resources Report.
- Define Developer responsibilities for landscape construction and maintenance.

1. PROJECT ELEMENTS

The Project Elements below are the methods of achieving the above mentioned goals:

- Aesthetic treatments are required on all bridge structures, wall structures, and barrier fencing. The installation of land form graphics along the freeway corridor is also required. The treatments shall match the color, pattern and materials specified in the aesthetics section of the Work to be Performed by the Developer.
    - Developer shall be responsible for the development and incorporation into the plans of elevations, details, cross-sections, construction specifications and cost estimates of various aesthetic treatments, rustication patterns and icon concepts provided in this report and approved by the Engineer for application to the structures identified.
- The landscaping shall consist of salvaging native trees and cacti, installation of nursery grown and salvaged plant material, native desert seeding, decomposed granite mulch, and top soil plating.
- The Developer shall provide a landscaping water tap stub-out and irrigation power source for each of the required irrigation controllers at approximately one-mile intervals, where available or applicable.
- The Developer shall provide a fully functional automatic drip irrigation system to all plant material within the freeway corridor, where applicable. A separate drip irrigation system shall be required for all plant material within the city cross street right-of-way. A typical drip irrigation system shall include master valve, flow meter, isolation valves, automatic control valves, drip emitters, flush caps, PVC mainline, sub-main and lateral pipes, pipe sleeves under roadways, air relief valves and an automatic irrigation controller.

2. CHARACTER AREA DESCRIPTIONS

The South Mountain Freeway Environmental Impact Statement (EIS) divides the 26-mile freeway corridor into eastern and western sections. The character areas below further subdivide the two sections based on the City of Phoenix Village Planning Committee boundaries and the Visual Assessment Units (VAU) defined in the EIS Visual Resources Report. Variations in the surrounding land use, land forms, architectural / cultural elements, development density and vegetation patterns help to define each of the five character areas. Below is a brief description of each character area. **See Exhibit L1.1 Character Area Map.**

- Ahwatukee Neighborhoods: A 4.5 mile segment located between the I-10 & Santan SR 202L TI and a half a mile east of Desert Foothills Parkway near the Horizon Presbyterian Church along the Pecos Road alignment just to the north of the Gila River Indian Community. It resides within the Ahwatukee Foothills Village boundary and corresponds to a portion of VAU 37 and all of VAU 38. This character area is an integration of the I-10 TI and adjacent residential neighborhoods' landscape character. It is defined by the proximity of the existing medium density residential developments. A plant palette should be developed that pulls heavily from the surrounding residential developments to the north of the proposed alignment. **See Exhibit L1.2 for intersection photo simulation.**

- Ahwatukee Foothills: A 7.5 mile segment located between a half mile east of Desert Foothills Parkway near Horizon Presbyterian Church and just east of 51st Avenue along the Pecos Road alignment just to the north of the Gila River Indian Community. It resides within the Ahwatukee Foothills Village boundary and corresponds to VAUs 34 to 36 and a majority of 37. This character area is defined by lower density residential developments, increased topography and large areas of undisturbed native open desert. The plan is to salvage a large portion of the existing material and re-plant that material in the disturbed areas to maintain a native open desert look that will seamlessly blend in with the unique Sonoran Desert of the South Mountain Park / Preserve. **See Exhibit L1.3 for intersection photo simulation.**

- Laveen Village: A 5.75 mile segment located between just east of 51st Avenue and the Salt River along the 59th Avenue alignment and crosses the Laveen Conveyance Channel. It resides within the Laveen Village boundary and corresponds to VAUs 8, 9, 33 and half of 7. This character area is defined by agricultural fields, pastures and low density residential developments. This section is a place unique in both natural beauty and agricultural heritage. Nestled between South Mountain and the Salt River, the area has long been valued by farmers, equestrians, and those looking for solitude and mountain access. **See Exhibit L1.4 for intersection photo simulation.**

- Estrella Village: A 4.25 mile segment located between the Salt River and the I-10 (Papago) along the 59th Avenue alignment that includes crossings of the Union Pacific railroad and the Roosevelt Irrigation District Canal. It resides within the Estrella Village boundary and corresponds to VAUs 1 to 6 and half of 7. This character area is defined as a mix of agricultural fields, pastures, medium density

residential developments and industrial land uses. This character area has been and continues to be in transition from agricultural based to more residential and commercial/industrial land use. Industrial development is one of the strongest drivers of growth in the region and it serves as one of the valley's hubs for warehouses and trucking. This area has become a node for regional distribution throughout the valley and the nation. **See Exhibit L1.5 for intersection photo simulation.**

- I-10 TI: A 4 mile segment along the existing I-10 (Papago) from 75th Avenue to 43rd Avenue. It resides between the Estrella Village and Maryvale Village boundaries. This character area is defined by the existing freeway landscape character as well as the adjacent residential developments to the north and industrial land uses to the south of I-10 (Papago). This freeway to freeway interchange will serve for many as a gateway to Phoenix. The aesthetics of this vitally important interchange needs to serve as a transition from both the I-10 (Papago) aesthetic vocabulary and the South Mountain Freeway aesthetic vocabulary. The transition and blending of these two aesthetics will be paramount to the success of this interchange design. **See Exhibit L1.6 for photo simulation.**

Transitions between the character areas shall occur between the city cross street intersections and shall be designed to blend the plants and inert materials to create a gentle & seamless merging of the adjacent character areas.

Work performed by Developer

Landscape Architectural Design, Aesthetic Design and Erosion Control

1. INTRODUCTION / DESIGN REQUIREMENTS

The Developer shall develop and implement landscape and irrigation design, land form graphics, bridge, wall and barrier aesthetics to meet requirements as outlined in this section. All landscape architectural plans, drawings and reports shall be sealed by a Registered Landscape Architect.

Developer shall be responsible for the development and incorporation into the plans elevations, details, cross-sections, construction specifications and cost estimates of various aesthetic rustication patterns and icon concepts provided in this report and approved by the Engineer for application to various structures.

Submittals & Reviews:

This scope calls for review of the landscape and irrigation design at preliminary, pre-final and final stages. Since aesthetic and maintenance considerations will directly influence several project components, it is important for the Developer and ADOT to reach concurrence on a landscape design concept and provide for its incorporation into the design of other project components.

Soon after Notice to Proceed is granted, the Department will provide the Developer with comments on its proposed improvements and, following further discussion with the Developer, determine the preferred design to implement.

Design plans for landscape and irrigation shall include at a minimum:

- Schedule of all plant materials (botanical names and common names), sizes, spacing and source of plant materials.
- Planting Plans & Details.
- Inert Material Plans.
- Aesthetic Treatment Plans & Details.
- Irrigation Master Plan, Point of Connection, Details including water and electric meters and a List of Suppliers and Materials.
- Irrigation Plans & Details.
- Erosion Control Plans & Details.
- Native Plant Salvage Operation Plan.
- Topsoil Management Plan.

Prior to completion of the landscape design segments, the Developer shall submit written confirmation from the nurseries, on their letterhead, that the source(s) for the contract specified plants has been secured. If any of the contract specified plant materials are expected to be unavailable prior to the time specified for planting installation, the Developer shall notify the Engineer at this same time.

Aesthetic Changes, Alterations or Substitutions:

The Developer shall obtain approval from the ADOT Roadside Development prior to implementation of a proposed change, alteration, or substitution that may affect the original design or design intent of the project.

The Developer shall direct all requests for any change, alteration, or substitution to ADOT Roadside Development and will receive approval or denial for any such request directly from ADOT Roadside Development.

The Developer shall be held accountable and liable for any change, alteration, or substitution made or implemented without obtaining prior approval.

Examples of design-aesthetic changes, alterations, or substitutions shall include, but not be limited to the following:

- Granite mulch, decomposed granite, and rock mulch - color, size, and shape.
- Plant material - variety, species, type, structure, size, location, quality, and quantity.
- Irrigation components - specified type, size, layout, location, and quantity.
- Landform graphics - layout shape, size, location, and materials
- Paint colors – tone, finish and quality of any paint finish.

2. AESTHETIC TREATMENTS

ADOT has worked with Kimley-Horn, Taliesin, and Arcosanti on the development of the architectural rustication patterns for bridges, overpasses & walls to provide greater unification to a visually complex landscape. Frank Lloyd Wright's original desert camp was established between South Mountain and the proposed corridor. Historical sketches and buildings that were inspired by this area are well documented. Paolo Soleri is a renowned designer with roots in Arizona who established his studios in the desert north of Camelback Mountain. Throughout his 70 years as an Arizona architect, Soleri utilized the desert soil, water and human labor to cast concrete buildings, roofs, columns, and piers directly on the shaped desert surface.

Objectives for Aesthetic Treatments:

The objectives of the Aesthetic Treatment design are as follows:

- Utilize a consistent design language to unify the aesthetic treatments of the corridor.
- Develop context sensitive designs relating to the surroundings, natural environment, and history of the area.
- Utilize unique patterns, forms and textures to create visual interest for both the users of the facility and the adjacent lands the view the facility.

Aesthetic Treatments Requirements:

Below is a general list of the various types of aesthetic treatments being considered for the SR202 South Mountain Freeway. All aesthetic treatments shall meet or exceed all federal and state highway safety standards.

Rustication:

Rustication is defined as any change in the pattern or texture of a concrete or masonry structure as compared to a standard smooth finish. For concrete features, this will be done through the use of prefabricated formliners and controlled placement of concrete. For masonry features, this will be done through the use of varied block size, type, and placement. Project elements that could have rustication on them include bridge and roadway barrier walls, bridge abutments, bridge wing walls, bridge piers, noise walls, retaining walls, head walls, or other site structures. The rustication can protrude out or cut into the wall but they need to follow safety and structural guidelines. Rustication can occur on one side or both sides of a structure depending on its visibility on or off the freeway.

Fencing:

Developer shall propose alternative fence designs to enhance the aesthetic appearance of the right-of-way fencing and other security enclosure fencing. Fencing shall be metal (tube steel, welded wire fabric or chain link) with an all-weather, corrosion free coating. Fencing shall be a minimum of 6' high, have a minimum of 11 gauge steel with open pickets (4" o.c. max) or mesh (2" opening max.) and capable of preventing persons or animals from easily breaching the barrier. Developer shall minimize the placement of fencing to right-of ways and other access control locations.

Landform Graphics:

Landform graphics may be used throughout the corridor where site conditions or visual prioritization analyses lend themselves to this treatment. Conditions favorable for landform graphics include highly visible slopes and areas that do not have access to irrigation water. The design of landform graphics should be context sensitive relating to the area. Landform graphics should be constructed of multiple gradients and colors of decomposed granite, steel edging, with a subsurface drainage system. Concrete pavers and stained or painted rock may also be incorporated into the design. Landform graphics are to be laid out in the field by a Department approved graphic layout artist that has completed the layout of at least 10 similar size and complexity projects. This layout is to be spray painted onto the ground and approved by ADOT Roadside Development prior to installation.

Paint:

All aesthetic treatments shall receive the same base field color. Each character area shall have unique accent colors. Paint for concrete surfaces shall be a water borne acrylic emulsion exterior paint that conforms to the requirements of Federal Specification TT-P-19 Paint, Acrylic Emulsion Exterior. Metal surfaces can be painted with three coat system (primer, intermediate & topcoat), galvanized metal or stainless steel.

Freeway Corridor Base Field Color =	Silt
Ocatillo Settlement Pattern Accent Color =	Ocotillo Bloom
Cholla Ocotillo Pattern Accent Color =	Earth Red
River Bank Pattern Accent Color =	Yellow Ochre
Leaf Portal Pattern Accent Color =	Field Green
Mountain Urban Link Pattern Accent Color =	Ocotillo Bloom and Warm Earth
Salt River Bridge Accent Color =	Slate Red

Aesthetic Area Treatment Concepts

There are several elements that occur throughout the freeway corridor and serve to tie the various aesthetic areas together into one project. These elements include horizontal bands on the sound walls and bridge abutments, a standard base paint color, and the right-of-way fencing. However, each aesthetic area has separate and unique features that reflect the history and context within the freeway corridor.

- Aesthetic Area 1 – Ocatillo Settlement Pattern:
  Patterns to occur from the beginning project to station 22+20.00. **See Exhibits L2.1 to L2.2 and L2.14 to L2.17.**
- Aesthetic Area 2- Cholla Ocotillo Pattern:
  Patterns to occur from stations - 22+20.00 to 26+20.00. **See Exhibits L2.3 to L2.4 and L-2.18 to L2.21.**
- Aesthetic Area 3- River Bank Pattern:
  Patterns to occur from stations 26+20.00 to 31+20.00. **See Exhibits L2.5 to L2.6 and L2.22 to L2.25.**
- Aesthetic Area 4- Leaf Portal Pattern:
  Patterns to occur from stations 31+20.00 to 32+85.00. **See Exhibits L2.7 to L2.8 and L2.26 to L2.29.**
- Aesthetic Area 5- Mountain Urban Link Pattern:
  Patterns to occur from stations 32+85.00 to end project. **See Exhibits L2.9 to L2.11 and L2.30 to L2.33.**
- Sound Walls:
  Patterns per aesthetic area throughout the corridor. **See Exhibits L2.34.**
- Salt River Bridge: ADOT Wave Pattern:
  Pattern to occur along Salt River Bridge. **See Exhibits L2.12 and L2.35.**

- Retaining Walls:
  Pattern per aesthetic area throughout the corridor. **See Exhibits L2.36.**
- Right-of-Way Fence Design:
  Fence design is consistent throughout the freeway corridor. The fence paint color shall match the accent color provided for each aesthetic area. **See Exhibits L2.37.**
- Landform Graphics:
  Patterns per aesthetic area throughout the corridor. **See Exhibits L2.38 to L2.44.**
- Slope Paving:
  As needed throughout the corridor. **See Exhibit L2.45.**
- Concrete Landforms:
  Pattern per aesthetic area throughout the corridor. **See Exhibits L2.46.**
- Pedestrian Fencing for Bridge Railing:
  Fence design is consistent throughout the freeway corridor. The fence paint color shall match the accent color provided for each aesthetic area. **See Exhibits L2.47.**

3. PLANT MATERIALS

Objectives for Landscape:

The landscape improvements shall be designed and constructed to perform in a manner to meet or exceed current ADOT and City of Phoenix requirements. The plant material shall provide an evident sense of uniformity and continuity in pattern, material, size, color, and intensity throughout the five character areas. Landscape shall be designed to address the following broad objectives:

- Use vegetative buffers to screen views both of the roadway and from the roadway.
- Use strategic gaps in plantings to frame positive views.
- Transplant large saguaros, mature trees, and cacti to visually sensitive or critical roadway areas.
- Use measures to blend retention basins and their landscape treatments into the surroundings.
- Place landscape treatments on the periphery of right-of-way areas, at overpass locations, as well as on areas adjacent to residential development.
- Cluster groupings of plant material in an informal pattern to break up the linear form of the freeway.
- Emphasize shade in key pedestrian area along city cross streets.
- Consider ease and efficiency of landscape and irrigation maintenance.
- Avoid the creation of “hidden” areas for transient habitation.
- Ensure that maintenance access areas, pull boxes, light poles, sign foundations and impact devices are free of vegetation.

Trees shall be used in mass plantings and groups, where possible, to provide vertical structure and relief, vegetative texture accent, and seasonal interest, while breaking up

the monotony of the horizontal plane. Tree plantings shall be used to focus desirable views while screening undesirable ones.

Shrubs and accents shall be used to provide a year round layer of texture and color that shall serve to articulate the ground plane and provide intermediate vertical relief. Given limited right-of-way and plant spacing requirements, mass plantings of shrubs shall further delineate naturalistic or geometric forms as identified by the surrounding landscape configuration.

The Developer shall submit planting and granite plans for review and approval by the ADOT Roadside Development Department or their appointed representative.

All landscape plans shall be completed in accordance with current ADOT drafting guidelines. QA/QC requirements shall apply. The Developer shall provide ADOT with electronic CAD files in Microstation software .dgn format.

The Developer shall develop and maintain accurate record drawings of the landscape and irrigation system following ADOT's as-built plan requirements. These record drawings will be turned over to ADOT prior to project acceptance.

Plant materials shall be selected in accordance with aspect ratio, slope considerations, soil conditions, drought tolerance, and low water use requirements. Irrigate to establish and maintain new and existing plant materials in a healthy condition. Trees are prohibited from being planted in city cross street medians. **See Exhibit L3.1 Plant Matrix.**

Plant Size & Density Requirements:

Below is a list of the minimum plant sizes and minimum plant densities for the typical freeway Character Areas (CA 1, CA 3 to 5), Character Area 2 - Ahwatukee Foothills, and the city cross streets. Refer to details for acceptable methods of installing plant material. **See Exhibits L3.2 to L3.4 Typical Planting Details.**

	Size	Density
• Trees:		
Typical Freeway -	15 gallon, min.	12-14 per acre
CA 2 Freeway -	Salvaged	1-2 per acre
CA 2 Freeway (Saguaro) -	Salvaged	.75-1 per acre
City Cross Street -	15 gallon, min	1 tree per 40 LF
• Shrubs		
Typical Freeway -	1 gallon, min.	25-30 per acre
City Cross Street -	1 gallon, min.	5 shrubs per tree
• Accents/ Cacti:		
Typical Freeway -	5 gallon, min.	5-10 per acre
CA 2 Freeway -	Salvaged	1-2 per acre
City Cross Street -	5 gallon, min.	* see above

* The required quantity provided for shrubs/ groundcovers can also include the quantity of accents/ cacti.

Character Area Planting Concepts:

In order to create a cohesive project and a feeling of unity along the SR 202L South Mountain Freeway, a variety of native Prosopis (Mesquites) and Parkinsonia (Palo Verdes) tree species will be used to tie the different "Character Areas" together. **See Exhibits L3.5 & L3.6 Typical Planting Plan and Exhibits L3.7 & L3.8 Character Area 2 – Ahwatukee Foothills Typical Planting Plan.**

- Character Area 1 – Ahwatukee Neighborhoods:
  The planting concept for the Ahwatukee Neighborhood will blend the existing landscape theme of the I-10 / SR202L T.I and the existing residential neighborhoods. Gateway plantings of large cacti or groves of desert trees will create an experience of exiting and entering the freeway for the motorist. Bright colors and unique shapes that are found within the surrounding residential developments will provide a visually appealing landscape for this Character Area.
- Character Area 2 – Ahwatukee Foothills:
  The Ahwatukee Foothills Character Area will have a native desert theme. The plan is to salvage a large number of the existing native plants and re-plant in the disturbed areas and to salvage and stockpile the existing desert pavement materials and re-apply to the ground plane after construction to keep the native desert look that will seamlessly blend in with the unique Sonoran Desert of the South Mountain Preserve. Hydro seeding will also be utilized to replace the smaller vegetation that is not salvaged to create the vitally important understory vegetation and ground plane treatment that is common in the surrounding desert.
- Character Area 3 – Laveen Village:
  Due to the heavy influence of agriculture history, the Laveen Village Character Area will have an agricultural theme through this portion of the SR202L Freeway. The plantings will be long straight lines to mimic the furrows and hedge rows found in the adjacent farm fields. Vegetation should be lush, dark green, and have variable heights. Trees should be deciduous or semi deciduous. Palm trees are discouraged.
- Character Area 4 – Estrella Village:
  The Estrella Village Character area will use vegetation that have brilliant colors, shapes and fullness that will allow for an easy blending with the current approved plant pallet for the City of Phoenix's Estrella Urban Village and the surrounding residential or industrial development. Chinese Pistache has been established as the theme tree for Lower Buckeye Road by the City of Phoenix.
- Character Area 5 – I-10 T.I.:
  In this section the Developer should make every effort to minimize disturbance of the existing landscape. New landscape will be installed to blend with the existing I-10 landscape character. The plant palette will also incorporate plants from Character Area 4 Estrella Village to allow for a smooth transition from the I-10 aesthetics to the SR202L aesthetic. Gateway plantings of large cacti/ yucca or groves of eucalyptus at this primary traffic interchange will create an experience of exiting and entering the freeway for the motorist. The plant palette for the TI will incorporate the existing material utilized on the exiting I-10 corridor which will be supplemented by new colorful plantings and large accents.

Seeding:

Seeding shall be used as a ground cover, dust palliative and to provide a low-maintenance alternative for use in expressing consistency with the corridor design concept in low-maintenance areas or areas to receive future landscaping items.

- Low Grass & Forbs Seed Mix
  A low grasses & forbs seed mix shall be provided in the bottom of all retention basins and within the traffic clear zone/recovery areas (first 30' from roadway edge) within the Ahwatukee Foothills Character Area. Below is a representative seed mix:

LOW GRASS AND FORB MIX			
Botanical Name	**Common Name**	**PLS Rate (Pounds Per Acre)**	**Per Pound Value for Substitution**
Abronia villosa	Sand Verbena	0.25	$100
Argemone platyceras	Prickly Poppy	0.25	$85
Aristida purpurea	Purple Threeawn	2	$45
Baileya multiradiata	Desert Marigold	2	$70
Bouteloua aristidoides	Needle Grama	2	$20
Bouteloua rothrockii	Rothrock's Grama	0.5	$45
Bothriochloa barbinodis	Cane Beardgrass	1	$45
Distichlis stricta	Desert Saltgrass	1	$65
Encelia farinosa	Incienso Brittlebush	1	$18
Encelia frutescens	Button Brittlebush	1	$19
Eschscholtzia mexicana	Mexican Poppy	2	$40
Larrea tridentata	Creosote Bush	0.5	$20
Lesquerella gordonii	Gordon's Bladderpod	1	$40
Lupinus sparsiflourus	Desert Lupine	1.5	$65
Lupinus succulentus	Arroyo Lupine	5	$13
Phacelia crenulata	Arizona Desert Bluebell	2	$30
Plantago ovata	Desert Indian Wheat	1	$5
Salvia Columbariae	Desert Chia	1	$55
Senna covesii	Desert Senna	1	$40
Sphaeralcea ambigua	Desert Globemallow	2	$55
Sporobolus cryptandrus	Sand Dropseed	0.5	$10
Verbena goodingii	Desert Verbena	0.5	$79

- Tall Background Seed Mix:
  A tall background seed mix shall be applied to re-vegetation areas beyond the traffic clear zone/recovery areas as well as all unpaved disturbed areas. The seed mix is designed to blend the freeway corridor with the adjacent desert within the Ahwatukee Foothills Character Area. The Tall Background Seed Mix shall not

be applied within 20 feet behind guardrails/barrierwalls, or within 20 feet of the inlets and outlets of drainage facilities or to the flow paths of the inlets and outlets of drainage facilities. Below is a representative seed mix:

TALL BACKGROUND MIX			
Botanical Name	**Common Name**	**PLS Rate (Pounds Per Acre)**	**Per Pound Value for Substitution (see text)**
Abronia villosa	Sand Verbena	0.25	$100
Acacia greggii	Catclaw Acacia	0.25	$17
Ambrosia dumosa	White Bursage	1	$30
Argemone platyceras	Prickly Poppy	0.5	$85
Aristida purpurea	Purple Threeawn	2	$45
Atriplex canescens	Fourwing Saltbush	1	$13
Baileya multiradiata	Desert Marigold	2	$70
Bothriochloa barbinodis	Cane Beardgrass	1	$45
Bouteloua aristidoides	Needle Grama	2	$20
Bouteloua rothrockii	Rothrock's Grama	0.5	$45
Calliandra eriophylla	Fairy Duster	0.25	$240
Cercidium floridum	Blue Palo Verde	0.5	$13
Cercidium microphyllum	Foothills Palo Verde	0.5	$10
Distichlis stricta	Desert Saltgrass	1	$65
Encelia farinosa	Incienso Brittlebush	1	$17
Encelia frutescens	Button Brittlebush	1	$19
Eschscholtzia mexicana	Mexican Poppy	2	$40
Kallstroemia grandiflora	Arizona Poppy	0.25	$90
Larrea tridentata	Creosote Bush	0.5	$20
Lesquerella gordonii	Gordon's Bladderpod	1	$40
Lupinus sparsiflorus	Desert Lupine	1.5	$65
Lupinus succulentus	Arroyo Lupine	5	$13
Olneya tesota	Desert Ironwood	3	$30
Phacelia crenulata	Arizona Desert Bluebell	2	$30
Prosophis juliflora velutina	Velvet Mesquite	0.25	$19
Salvia Columbariae	Desert Chia	1	$55
Senna covesii	Desert Senna	1	$40
Sphaeralcea ambigua	Desert Globemallow	2	$55
Sporobolus cryptandrus	Sand Dropseed	0.5	$10
Vewrbena goodingii	Desert Verbena	0.5	$79

- Wash Seed Mix:
  A wash seed mix shall be applied as a landscape ecological restoration buffer next to the edge of drainage areas along the flow path and beyond the traffic clear zone/recovery areas within the Ahwatukee Foothills Character Area. The Wash Seed Mix shall not be applied within 20 feet behind guardrails/barrierwalls, or within 20 feet of the inlets and outlets of drainage facilities or to the flow paths of the inlets and outlets of drainage facilities. Below is a representative seed mix:

SEED MIX H4 – WASH SEED MIX			
Botanical Name	**Common Name**	**PLS Rate (Pounds Per Acre)**	**Per Pound Value for Substitution (see text)**
Ambrosia dumosa	White Bursage	1	$30
Aristida purpurea	Purple Threeawn	2	$45
Atriplex canescens	Fourwing Saltbush	2	$13
Baileya multiradiata	Desert Marigold	0.5	$70
Bothriochloa barbinodis	Cane Beardgrass	1	$45
Bouteloua aristidoides	Needle Grama	2	$20
Bouteloua rothrockii	Rothrock's Grama	0.5	$45
Calliandra eriophylla	Fairy Duster	0.25	$240
Celtis pallida	Desert Hackberry	2	$55
Cercidium floridum	Blue Palo Verde	0.5	$13
Chilopsis linearis	Desert Willow	0.5	$50
Distichlis stricta	Desert Saltgrass	3	$65
Encelia farinosa	Incienso Brittlebush	1	$17
Encelia frutescens	Button Bottlebrush	1	$19
Eschscholtzia mexicana	Mexican Poppy	2	$40
Larrea tridentata	Creosote Bush	0.5	$20
Lupinus sparsiflorus	Desert Lupine	1.5	$65
Lupinus succulentus	Arroyo Lupine	5	$13
Lycium andersonii	Wolfberry	2	$55
Olneya tesota	Desert Ironwood	3	$30
Phacelia crenulata	Arizona Desert Bluebell	2	$30
Prosophis juliflora velutina	Velvet Mesquite	0.25	$19
Salvia Columbariae	Desert Chia	1	$55
Senna covesii	Desert Senna	1	$40
Sphaeralcea ambigua	Desert Globemallow	2	$55
Sporobolus airoides	Alkali Sacaton	2	$9
Sporobolus cryptandrus	Sand Dropseed	0.5	$10
Verbena goodingii	Desert Verbena	0.5	$79

4. NATIVE PLANT SALVAGE

This project requires the salvage of native trees, saguaros and miscellaneous cacti which shall be moved to a nursery holding yard where they will be maintained and then replanted by the Developer on the project. The plant salvage operation and movement to the nursery holding yard(s) are to be considered a critical path schedule item wherein time is of the essence. The salvage work will only be allowed to occur between April 1 and September 30.

Native Plant Inventory:

A native plant inventory has been completed for the project. The project plans identify plants (including saguaros, palo verdes, mesquites, ironwood trees, and miscellaneous cacti) to be moved twice, first to the nursery location and then to their final location on the project. All plants identified as part of the native plant inventory have been tagged and located through the use of GPS equipment as part of the inventory process. Native plant inventory data sheets that contain this information and additional information are shown on the plans. ADOT shall provide a list of salvaged plant material to Developer's Landscape Architect for incorporation into the planting plans.
See Exhibits L4.1 to L4.6 for Native Plant Inventory Data Sheets & Exhibits L4.7 to L4.17 for Native Plant Inventory Plans.

Salvage Operation Plan:

The Developer shall submit a Salvage Operations Plan for the review and approval of the Engineer prior to the beginning of any ground breaking work by the Developer. The Salvage Operations Plan shall be contained in three ring binder(s) and shall be typed on 8 ½ inch x 11 inch sheets. The Developer shall submit four (4) copies of the Salvage Operations Plan to the Engineer at the pre-construction meeting.

The Salvage Operations Plan shall contain as a minimum the following items:

- The Salvage Operations Plan shall clearly demonstrate how the Developer's salvage operations methods and approach will be accomplished from April 1 through September 30.
- Methods for coordinating the salvage and replanting of all salvaged stock with anticipated phasing and sequencing of construction and the development of temporary nursery(ies). A nursery shall consist of a minimum quantity of two hundred plants.
- Existing and final location of each salvaged stock (if different than shown on the plans).
- Identification numbers of each salvaged stock item (if different than shown on the plans).
- Sources of plant material stock (if required to supply replacements for the materials that are lost due to excessive mortality on this project).
- A section that identifies all proposed nursery locations.
- A list of all materials and equipment proposed for incorporation into the work.
- List of mechanical and hand equipment to be used to accomplish all salvage and replanting operations.
- Shop drawing(s) of all bracing, transport bracing and cradle details.

- A detailed description of the hardware and materials, stock removal and replanting procedures, and transporting methods plus all other methods to accomplish the salvaging and replanting of salvaged plant material.
- Prepare a Watering Plan that shall include applicable drawings, details and documentation to demonstrate how the salvage nursery's plant material will be watered from the initiation of the salvaging activities through the plant establishment period. The Plan shall identify the source of water; its capability to deliver water in sufficient quantity to meet the project needs; the proposed layout of piping for delivering water from the source to the stored and replanted plants; the total quantity of water anticipated to be used on the project; monthly estimates of water consumption by species type (in the field-boxed, nursery and replanted condition) including, at a minimum, a breakout of monthly adjustments for seasonal conditions; and protection of the watering method from damage by animals, insects and/or other detrimental conditions.
- A description of the maintenance activities and anticipated total quantity of water to be supplied during the landscape establishment period.

The Engineer will be the sole judge of the acceptability of the recommendations within the Salvage Operations Plan and will notify the Developer within 21 days of the acceptability of the plan.

The Department reserves the right to reject at any time the Developer's Salvage Operations Plan based on the review of the qualifications statement and/or performance of the work herein.

Salvage Process:

All plants to be salvaged were marked with numbered identity tags during the original inventory process. These tags may or may not still be attached to the plants. The Developer shall be responsible for ensuring that all plants to be salvaged are identified with original identification numbers assigned in the plant inventory prior to removal of the plant. The Developer shall also be responsible for retagging all plants with missing plant tags. All new and replacement tags shall be heavy-duty vinyl tags.

The Developer shall mark the north exposed surface of all plants to be salvaged and replanted by a method acceptable to the Engineer. The mark must be capable of withstanding poor weather and expected working conditions without the possibility of erasure or detachment throughout the duration of the contract.

Damage or destruction of any plant to be salvaged during pioneering, clearing or other means shall be replaced with equal-sized, like-kind stock. Replacement stock may be sourced from other on site plants within the limits of disturbance that are not designated for salvage or from offsite nursery sources as approved by the Engineer. All labor and costs for replacing the damaged plants shall be at the Developer's expense.

<u>Pruning:</u>

Pruning of trees shall be done in a way that removes an amount of foliage proportionate to the root system that will be eliminated by boxing. Pruning shall be done so that an aesthetic framework of branches is left which preserves the size and best features of the

tree so that the tree will fill in for a balanced appearance. Current standards for arboriculture shall be used.

Pruning cuts shall be made as smooth as possible and flush with trunks. All final cuts to local and/or salvage plant material shall be made above the root collar. All cuts shall be accomplished by the use of lopping shears, pruning saw and/or by the method in the Salvage Operations Plan as approved by the Engineer. All wounds and/or cuts made to the stock shall be treated with powdered sulfur or bactericide on the same day that the cut and/or wound was made.

Side Boxing:

Side boxing shall be done to expose and preserve an intact root ball to be enclosed by a four-sided, tapered box in a manner that will cause limited damage to the surviving root system. Final cuts to roots during transplanting shall be accomplished to provide sufficient root lengths by use of lopping shears, pruning saw, and/or other equipment and methods approved in the Salvage Operations Plan. After the final cut, the remaining root attached to the stock shall be structurally sound with no signs of splintering or shredding.

The excavation and removal of all salvage stock shall be accomplished in accordance with the Salvage Operations Plan method approved by the Engineer. The Developer shall demonstrate that the proposed excavation process will provide sufficient root lengths and locate and expose the roots without damage of the stock from the equipment and machinery used for the excavating and transporting of the plants.

The Developer shall secure the box sides with horizontal banding every 6 inches. Banding shall be ¾ inch x .025 steel straps minimum. Pack soil tightly into any space between box sides and root ball. Water thoroughly and repack soil as needed.

Plants shall be left side-boxed for minimum of 6-8 weeks or as approved in the Salvage Operations Plan. Watering of boxed plants shall be done as determined by the Developer based on seasonal considerations. While in the field-boxed condition, the Developer shall label the caliper size and I.D. number of tree on two sides of the box. These items shall correspond to the tag numbers on the tree.

Placing Supporting Topwood:

Topwood shall be placed so as to minimize movement of the plant and its root stem by anchoring it securely to the box and to reduce loss of soil during transportation and handling. Topwood shall be tight against trunk but not causing scarring.

Top bracing shall consist of at least (2) flat 1 x 6's with 2 x 6's or 2 x 4's on top. All top bracing members shall be nailed into box sides and each other. The Developer shall take care not to harm trunk or roots.

Bottoming:

Each plant shall be bottomed after cutting the remaining roots, minimizing the loss of soil from the bottom of the root ball. Box bottoms shall be nailed to the box sides and secured with a minimum of (4) vertical metal bands equally spaced across the box bottom.

Shipping and Handling Plants:

The boxed plants shall be removed and transported to the nursery without damaging the box or the plant. Care shall be taken so that branches are not broken or otherwise damaged by the equipment or the operation involved in transporting the plant materials.

Saguaros 7 feet in height and taller shall require bracing and protection during removal and transportation that is capable of reasonably eliminating harmful twisting and bending of the saguaro's trunk and/or arms during each removal and transport by the Developer. The use of styrofoam and/or similar materials is required to support saguaro arms 3 feet or longer. The Salvage Operations Plan as approved by the Engineer will represent the materials and methods required to appropriately brace, protect, remove and transport all local stock. The methods and/or materials shall not damage and/or mar the surface or internal structure of any local stock.

Cactus (all species) shall not be excavated, transported or removed during rainy weather conditions as determined by the Engineer.

Transporting of any plant materials for the project shall be in compliance with all State and local requirements. The Developer shall be responsible to obtain all necessary permits and tags for transporting plant materials on public roadways. Copies of all permits and tags shall be provided to the Engineer.

Salvage Nursery & Temporary Water:

The nursery(ies) shall be located at sites approved by the Engineer. The Developer shall have completed the protection of the plants to remain and construction of the nursery per the Salvage Operations Plan as approved by the Engineer prior to the excavation of any stock. The nursery(ies) shall be separately gated and fenced with temporary chain link fence or approved materials; graded to prevent ponding and promote positive drainage away from the salvaged stock, and to control off-site run-off to prevent damage to the salvaged vegetation, boxes, and/or transplanting operations; and shall be equipped with a storage tank, water distribution and irrigation system.

Salvaged cacti may be planted and maintained in the nursery in containers of sizes commensurate to the plant height, width and root system, or planted in the ground to be maintained in the nursery. The Developer shall provide this information with the nursery and Salvage Operations Plan.

The nursery water distribution and irrigation system shall be capable of meeting the irrigation requirements of all salvaged stock occupying the nursery during a twenty-four hour period without refilling the storage tank. Water storage volume shall be based on the nursery being filled to capacity with salvaged stock.

No single emission point from any proposed drip irrigation system shall have the capability of emitting water in flows greater than 2 gallons per hour.

The nursery water distribution and irrigation system shall be constructed with materials and methods to prevent damage or impede the intent of the system's operations by rodents, insects and pests of the area. The use of chemicals or herbicides to combat

weeds will not be allowed within a 6 foot radius of all salvaged plant material. At the completion of the nursery use period, the Developer shall remove all temporary tanks, fences, or other equipment used during the nursery operation and shall re-grade the site to return it to its pre-construction conditions including the seeding as specified on the plans.

Re-Planting:

The Developer shall lay out the planting pits in accordance with the project Replanting Plan.

All plantings shall be located in accordance with the ADOT recovery zone requirements, as approved by the Engineer.

Prior to plant layout, all grasses and weeds shall be removed from the planting areas.

For the Engineer's approval, the Developer shall flag/stake the proposed locations of each individual plant to be replanted as part of the project. Each species type shall be represented by a single flag or stake color. Adjust the planting locations as directed by Engineer. The flagging shall remain in the center of the planting pit until the plant is planted.

Planting pits shall be excavated to a depth and width that insures all tap, buttress and lateral roots of the local or if approved for use collected/open stock have a minimum clearance as shown in the details.

All salvaged materials shall be replanted at their original growing depth to not more than 2 inches deeper than their original growing depth.

All salvaged plant materials are to be replanted in the same solar orientation and as near as possible to their vertical growth habit found prior to their initial removal and transport.

Salvaged cacti stock will require a thorough application of powdered sulfur to the roots of the stock.

All planting pits shall be filled completely with water from the new temporary irrigation system and allowed to drain completely to ensure that the entire depth of the planting pits are thoroughly watered. Planting shall be accomplished within three days of the pre-watering specified above or the pit(s) shall be re-watered.

The planting pits shall be backfilled with dry site soil only.

Within 24 hours after the plants are planted and planting pits are filled with soil the irrigation system shall be used to water a minimum duration of 8 hours. Following this watering the Developer shall water as approved in the Replanting Work Plan.

5. GRANITE MULCH AND DECOMPOSED GRANITE

The inert material shall be designed and selected to complement the following objectives of the landscape design:

- Use granite mulch and riprap that blends with the surrounding rocks and exposed soil color.
- Incorporate newly exposed rock face characteristics of the adjacent natural rock features, including scale, shape, slope, and fracturing.
- Use shotcrete that matches the adjacent rocks.
- Require the Developer to round and blend new slopes to mimic the existing contours to highlight the natural formations.
- Adjust and warp slopes at intersections of cuts and natural grades to flow into each other or transition with the natural ground surfaces without noticeable breaks.

Inert Materials:

Granite Mulch:

Granite Mulch (3" minus) shall be placed by Developer along the freeway mainline, in the infields and all other landscape areas within Character Areas 1, 3, 4 & 5. The depth shall be a nominal 2 inches. **See Exhibits L5.1 & L5.2 Typical Inert Materials Plan.**

Decomposed Granite:

Decomposed granite (3/4" screened) shall be placed by the Developer along sides and the median of the city cross streets in all Character Areas. The depth shall be a nominal 2 inches.

Desert Pavement:

Desert Pavement (3" minus) refers to the native ground cover found in undisturbed desert areas. The salvage and placement of the Salvage Surface Soil (SSS) within the Ahwatukee Foothills Character Area (CA 2) is being performed to approximate the appearance of the surrounding native desert pavement and provide a friable growing medium for plant materials and seeding. The appearance is a unique combination of cobble, vegetation and dirt (soil) that cannot be duplicated through traditional landscape material sources. The Developer shall remove and stockpile sufficient surface soil to be used to plate the final embankment and cut slopes. The surface soil shall be salvaged from within the top 4 to 8 inches of the on-site soil horizon from within the CA2 work zone. The material shall be stockpiled in temporary erosion sediment control berms and other locations within the project limits subject to the approval of the Engineer. Upon completion of earthwork operations, the Salvaged Surface Soil shall be used for plating the project slopes as indicated on the project plans. Supplement the Salvaged Surface Soil as needed with inert materials obtained from the removal of the mountain ridge lines and screened to the proper sizes. The depth shall be a nominal 2 inches. **See Exhibits L5.3 & L5.4 CA 2 Ahwatukee Foothills Typical Inert Materials Plan.**

Slope Sculpting:

The Developer shall slope the rock cuts and create rock fall containment ditches through the mountain ridgelines. The Developer shall blend the appearance of the cuts through

the mountain ridgelines with the surrounding natural environment. The degree of slope treatment will depend on the interaction of the following conditions:

- The angle of the cut slope and geological conditions.
- The receptivity of the cut rock to sculpting and rounding to mimic existing conditions and allow for staining.

See Exhibits L5.5 & L5.6 Slope Sculpting Details.

Inert Material Colors by Character Area:

Granite mulch and decomposed granite colors available for each Character Area are as follows:

Character Area 1- Ahwatukee Neighborhoods:

COLOR	GRANITE NAME	SOURCE
Coral	Yavapai Coral	Pioneer Landscape Materials
Coral	Pink Coral	Red Mountain Mining
Coral	Palomino Coral	Kalamazoo Materials
Coral	Grande Rose	Pioneer Landscape Materials

Character Area 2- Ahwatukee Foothills:
Colors will match the existing desert pavement color due to the Salvage Surface Soil process and blending with extra material processed from the mountain ridgeline removal.

Character Area 3- Laveen Village:

COLOR	GRANITE NAME	SOURCE
Brown	Express Brown	Granite Express
Brown	Mountain Vista Brown	Kilauea Crushers
Brown	Apache Brown	Kalamazoo Materials
Brown	Table Mesa Brown	Pioneer Landscape Materials

Character Area 4- Estrella Village & Character Area 5- I-10 TI:

COLOR	GRANITE NAME	SOURCE
Gold	Express Gold	Granite Express
Gold	Madison Gold	Madison Granite
Gold	Palomino Gold	Kilauea Crushers
Gold	Desert Gold	Red Mountain Mining

6. IRRIGATION

The irrigation system shall maximize water conservation by delivering the water to the plant material in the most efficient manner possible and it shall be designed and constructed to perform in a manner to meet or exceed current ADOT and City of Phoenix requirements. The objectives of the irrigation design shall include:

- System uniformity.
- Longevity of equipment & piping.
- 86% distribution uniformity (min.).

- Flow monitoring and flow control.
- Remote monitoring of controllers (central control).
- Ability to operate system with hand held devices.

Typically, each freeway irrigation station provides water for approximately a half-mile on either side of the station to the freeway roadsides and infields. Each city cross street station provides water to the sides of the street and the median on both sides of the freeway. A typical freeway system layout includes a mainline that feeds the control valves and a sub-main line from the control valve feeding multiple pressure regulators that provide water to the emitters through the lateral pipes. Trees and shrubs shall be valved separately. One valve can cover about ¼ mile if it is split into multiple pressure zones.

Equipment & Pipes:

Below is a description of the equipment and pipes that will be required to construct the required automatic pressure-compensating drip emitter irrigation system. **See Exhibits L6.1 to L6.7 Typical Irrigation Details.**

- Water Meter- The water utility provider will furnish and install the new water meters complete. All work under these items shall be completed within existing ADOT or City right of way. New water meters will be installed after the Developer makes proper application and pays the prevailing installation fees.
- Backflow Preventer- A reduced pressure backflow prevention device located in a pre-manufactured steel enclosure shall be installed to City standards.
- Irrigation Station Enclosure- A fenced security enclosure with a fabric shade canopy containing master valve, flow meter assembly, and irrigation controller shall be required. Aesthetic treatments shall be incorporated into the irrigation station enclosure that complement the character area aesthetic treatments.
- Automatic Controller- The controller shall be a solid state, computer based central controller with the number of stations as needed in a stainless steel enclosure. Required features include flow sensing, ability to operate multiple mainlines, optional pump start, ability to communicate through any modern communication methods to central control, ability to operate controller with a hand held remote unit, and ET based programming and/ or soil moisture sensing capability.
- Master Valve- The master valve shall be a normally closed electrically actuated control valve capable of effectively stopping all water flow to the irrigation system upon signal from the field satellite.
- Flow Sensor- The flow sensors shall be of the inline, non-magnetic, impeller (paddle wheel) type capable of transmitting an electronic pulse through conductors to the back indicator function of the field satellite for subsequent transmission to the central computer. Each flow sensor shall consist of a bronze meter body with threaded end connections, an impeller, and electronic sensor assembly containing a pulse generator and shall be specifically designed for installation in underground vaults. The sensor and impeller assembly shall be contained within the meter body.
- Filter- The filter units shall be welded stainless steel tube fabricated in a wye configuration and containing a filter screen element of stainless steel.

- Pressure Transducer- The pressure sensor shall be of the pressure transducer type with a ¼ inch NPT connection. The pressure sensor shall be equipped with a pressure snubber to moderate fluctuations in pressure and shall contain a pressure transducer. The pressure sensor shall be fully compatible with the satellite controller, fully automatic and non-adjustable.
- Rain Gauge- The rain gauge shall consist of the rain gauge that is compatible with the controller, communication cable, mounting hardware, junction box and constructed of weather resistant anodized aluminum.
- Electric Service- The Developer shall contact the appropriate power company representatives to arrange for power supply to the utility meter cabinets. Power from meter to irrigation equipment shall be provided by the Developer.
- Air Release Valve- Air/vacuum release valves shall be gravity type constructed of cast iron. Air/vacuum release valve shall have an o-ring sealing device that positively seals at 3 P.S.I. and releases air once the water pressure inside the tubing drops below one P.S.I. Assembly shall include a 1" bronze ball valve with stainless steel handle.
- Gate Valve- Gate valves shall be used as isolation valves on mainline pipes 2 inches and larger shall have a resilient wedge, square operating nut, and meet the requirements of AWWA C-509-80. Body shall be epoxy-coated, conforming to AWWA C-550).
- Ball Valve- Ball valves shall be used as isolation valves on any lines smaller that 2" and shall be constructed of bronze conforming to ASTM B 584. Valves shall be full port featuring a chrome plated brass ASTM 16 ball. Valve seats, stem packing and thrust washer shall be TFE virgin Teflon. Handle shall be stainless steel. Valve shall be rated to 600 psi WOG.
- Remote Control Valve- The remote control valve shall have a self-cleaning stainless steel screen that cleans itself continuously during flow/operation, as provided by ordering the optional automatic filter system. The remote control valve body shall be constructed of glass filled nylon and shall have a working pressure rating of 220 psi and an operational flow range of 0.1 to 40 gallons per minute. The solenoid plunger and the bonnet bolts shall be captive. All remote control valves and automatic controllers shall be compatible and fully functional in all modes. All valves shall include a plastic scrubber to clean the stainless steel screen of grit and other debris.
- Pressure Regulator- The pressure regulator shall be of the non-adjustable pre-set type consisting of a two-piece, sonic welded body molded from Acrylonitrile Butadiene Styrene containing a valve housing of Acetyl plastic and a rolling diaphragm of Ethylene Propylene (EPDM) material. The internal spring shall be of stainless steel. Each regulator shall have a flow range from 0.33 GPM to 12 GPM with a regulated nominal outlet pressure of 25 PSI with an inlet pressure range of 0 to 120 PSI. The pressure regulators shall have 3/4 inch FPT inlet and 3/4 inch MHT outlet for installation.
- Multi Outlet Emitter- The emitter case shall be made of durable black, heat resistant acetyl plastic material. It shall be resistant to temperature variation, ultraviolet radiation, smog, (ozone), and common liquid fertilizer and weed spray. The case shall completely encompass the silicone diaphragm, protecting it from potentially harmful environmental factors. The emitters shall be of the non-compensating, continuous flushing type, based on the pressure cascade principal using a series of flexible orifices. The emitter shall be capable of continuous, clog free operation with 30- mesh (minimum) filtration. The emitter

shall be capable of being installed in any position and maintain its given flow characteristics. The emitter shall be non-adjustable and the flow regime shall be maintained by flexible orifice silicone diaphragms. The emitter shall function with a system pressure range of 15 PSI minimum to 30 PSI maximum. The emitter flow variation of the one G.P.H emitter shall not exceed 1.06 G.P.H at 120 degrees F. or 1.07 G.P.H at 150 degrees F. Emitter manufacturing variability shall not exceed 0.05 G.P.H. The multi-outlet emitter shall be capable of delivering one of the following quantities from each of the six outlets of the emitter regardless of the number of outlets open:

G.P.H.	at	P.S.I.
0.6		20
0.7		25
0.8		30
	or	
1.00		20
1.15		25
1.34		30
	or	
2.00		20
2.30		25
2.68		30

- Palm Bubbler- The bubbler body shall be constructed of durable UV-resistant plastic and have a plastic inlet filter to protect the nozzle against clogging. The bubbler shall have a ½" female thread for connecting to the ½" schedule 80 riser. The bubbler shall have a 0.25 gallon per minute pre-set flow rate.
- Moisture Sensor- The moisture sensor shall measure approximately 7.7 inches in length by 0.8 inches by 0.2 inches wide and shall come with a cable 9.8 feet in length and shall be suitable for direct burial. The moisture sensor shall have an output of 4-20mA and an accuracy of greater than +/- 1 percent and the moisture range of the sensor shall be from 0% to 50%. The moisture sensor shall use Time Domain Transmissometry (TDT) technology. The moisture sensor shall be compatible with the irrigation control system.PVC Pipe- All mainline pipe shall be schedule 40 pipe with Schedule 80 solvent weld fittings. All sub-mainline and lateral pipes shall be Class 200 with Schedule 40 fittings. All PVC pipe 3 inches and smaller shall be bell-end solvent weld PVC pipe.
- End Caps- The end cap riser piping shall be flexible PVC hose shall be manufactured from 100 percent virgin polyvinyl chloride resin and shall have the following physical characteristics:

  O.D. 0.840 inches
  I.D. 0.546 inches (min.)
  Wall 0.147 inches (min.)
- Sleeves- 12" pipe sleeves shall meet the requirements of Corrugated High Density Polyethylene Plastic Pipe.

Point of Connection:

The irrigation points of connections (POC) consist of metered water and power services. The typical POC consists of two water and two power meters at each location. One of the sets of services would be for the ADOT freeway irrigation and the other set of services would be to serve the City of Phoenix crossroad.

On occasion there are locations where an individual set of services are required. This occurs for instance within the Ahwatukee Foothills section where a City of Phoenix crossroad exists that needs water for the cross road landscape and the surrounding ADOT landscape consists of native salvaged material that is not on a permanent irrigation system.

The following locations are anticipated to have two sets of services and are anticipated to have water and power distribution lines within reasonable range to provide the services:

- 40th Street
- 32nd Street
- 24th Street
- Estrella Drive
- Baseline Road
- Southern Avenue
- Broadway Road
- Lower Buckeye Road
- Buckeye Road
- Van Buren Street

Total 20 water and power services (10-2" water meters & 10-1" water meters)

The following locations are anticipated to only require one set of services for the City of Phoenix roadways:

- Desert Foothills Parkway
- Chandler Boulevard
- 17th Avenue

Total 3 water and power services (3-1" water meters)

The following locations have existing points of connections that will be protected in place and connected to the new irrigation system for the I-10 corridor:

- 43rd Avenue
- 51st Avenue
- 59th Avenue
- 67th Avenue
- 75th Avenue

The following locations will require two sets of services. These locations don't currently have adequate water or power transmission facilities and will require off site extensions of services to the right-of-way:

- Elliot Road – Closest water- 24" transmission at 59th Avenue
- Dobbins Road – Closest water- 12" at 59th Avenue

Total 4 water and power services (2-2" meters & 2-1" water meters)

Total services for entire corridor: 27 each water and power

The installation of the water meters (tap of service mainline, corporation stop, copper tube, curb stop, meter box, and necessary pavement repairs) are typically paid by ADOT. The City is responsible for providing water to the landscape during the landscape construction and during the ongoing freeway and cross road maintenance phases at their own cost. ADOT does not pay any impact or development fees. The requirement for the City to supply the water shall be consistent whether the services in the project area are City of Phoenix owned or obtained through a private provider. Should any supply mainline be required to be extended to the project area, the extension and all associated costs will be the responsibility of the City.

SRP Power is the purveyor of electrical power throughout the corridor. Power for the irrigation controllers shall consist of 120 volt single phase 100 amp metered services. The ADOT and City services shall be supplied and metered separately. The design of the electrical supply shall be performed in conjunction with the lighting and signal services electrical design that will be performed by the Developer.
See Exhibit L6.8 Typical Point of Connection.

System Layout:

Typical System Layout:

Within Character Areas 1, 3, & 4 all new plant material shall be irrigated through a typical system layout by means of an automatic pressure-compensating drip emitter system for the freeway and city cross street landscaping. In Character Area 5, the Developer should protect in place as much of the existing irrigation system as possible. All new irrigation installations in CA 5 shall be irrigated through a typical system layout utilized in the other character areas. **See Exhibits L6.9 to L6.10 Typical Irrigation Plan.**

Temporary System Layout:

Within Character Area 2 – Ahwatukee Foothills all salvaged plant material within the freeway corridor shall be irrigated with a temporary system layout through an above ground automatic pressure drip emitter system connected to a water tank for a two year establishment period. The City cross street landscape within Character Area 2 – Ahwatukee Foothills shall be irrigated with a typical permanent drip emitter system similar to City cross streets in the other character areas.

7. EROSION CONTROL

The Developer's Landscape Architect shall prepare temporary and permanent Storm Water Pollution Prevention Plans (SWPPP) and submit the N.O.I. and N.O.T. per the NPDES permitting requirements. The Developer shall be responsible for completing all temporary and permanent erosion control plans and storm water pollution prevention plans in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction. **See Exhibits L7.1 to L7.13 Typical Erosion Control Summaries, Details & Plans.**

8. ALTERNATIVE TRANSPORTATION & RECREATION

The design of the South Mountain Freeway corridor shall include allowances for the potential future construction of alternative transportation and recreation facilities.

ADOT will work with the City of Phoenix to develop multi-use pathways and equestrian trails which would parallel the SR 202 freeway. The City would also have the option to enhance the freeway's retention basins for use as park facilities.

Design considerations would include:
Retention Basin Parks:

- Grade basins with 6:1 side slopes where possible.
- Maximize level grade areas in bottom of basins that provide opportunities for play fields.
- Provide a minimum of 4 acres per basin that would be high and dry for parking lots, restrooms, and other facilities.

Multi-use Pathways:

- Space is allocated for a future shared use pathway.
- Future Shared Use Pathway is 10' wide with maximum longitudinal slope of 5% and a maximum cross slope grade of 2%. Also maintain a 5' horizontal clearance from other obstacles such as sound walls, fences, utility boxes, and other fixed objects.
- No additional freeway right-of-way will be required to accommodate the alternative transportation and recreation elements.

Equestrian Trails:

- Minimum width of 10'.
- ¼" minus granite or rock free native soil 6" deep minimum.
- Positive drainage away from trail.
- Link to existing and proposed South Mountain Park and Preserve, arterial street and housing development trails.

The development of the pathways, equestrian trails and basin parks will be the City of Phoenix's responsibility. Phoenix would provide all design, construction and maintenance responsibilities. ADOT would provide the area for the facilities to the City at no cost contingent upon the City's ongoing management of the facilities under a Joint Project Agreement (JPA). The City facilities would be separated from the ADOT facilities by a control fence.

9. TOPSOIL PLATING & AGRONOMY

The Developer is responsible for furnishing topsoil plating for the landscape areas of the project as a part of this project. The Developer has the option of salvaging the existing topsoil on the project and amending it per the attached topsoil agronomy report (see Summary Tables) or may choose to utilize alternative sources for the topsoil. Should the Developer choose to utilize alternative sources for the topsoil, they shall be required to provide independent soil laboratory results stating that the soil meets the standards included in this report. The Developer shall furnishing all labor, material and equipment for tilling, applying soil amendment materials and complete mixing of the amendments into the topsoil. Work shall include the chemical amendment material required to amend the topsoil.

Topsoil Management Plan:

The Developer shall submit a Topsoil Management Plan for providing suitable topsoil material on the project for approval at the preconstruction conference. This plan shall include details of the source of the topsoil, how the topsoil will be excavated, transported, stockpiled, placed and amended. Proposed equipment shall also be a part of the plan.

The Developer shall allow a minimum of three (3) weeks for ADOT to review the plan and provide direction, if changes are deemed necessary by the Engineer. No project excavation shall commence until the Topsoil Management Plan is approved.

Onsite Topsoil:

Within Character Areas 1, 3, 4, & 5, the Developer shall scrape and stock pile the top 2 feet of topsoil within the project grading limits. This topsoil shall be plated over all the landscape areas within the project limits after roadway construction but prior to starting planting operations. The selection of the topsoil source shall be included in the Topsoil Management Plan.

Topsoil shall be free of refuse, roots, sticks, brush, hazardous materials, litter, rubble, rocks in excess of 2 inches in maximum dimension and other deleterious materials or substances as may be determined by the Engineer.

The **South Mountain Freeway Soil Report**, dated December 2014, contained in this report, shall provide soil amendment recommendations for Character Areas 1, 3, 4, & 5 (sample #2 to #5.2 & #20 to #40) that are considered suitable to create topsoil materials after application of recommended soil amendments. Application of the soil amendments recommended in this report for Character Area 2 (samples #6 to #19) are not required due to the usage of Salvaged Surface Soils described in Section 5.

Topsoil limits specified herein are approximate. The actual limits of excavation shall be determined by the Engineer and can be expected to vary from the depths and limits given above.

Onsite Topsoil Construction Requirements:

Topsoil may be amended prior to or after the excavation of the topsoil from its current location. The Developer shall specify the proposed amendment methodology in the Topsoil Management Plan.

Topsoil amendments may be applied during excavation of the topsoil. The Developer shall not spread any more soil amendment materials than can be mixed into the soil during one workday. The various broadcast applications of soil amendment can either be made by calibrating the applicator for the full rate or by making multiple passes to achieve the full recommended application. Incorporation of amendments to the topsoil obtained from onsite sources shall be accomplished through the use of a disc plow with gauge wheels.

Topsoil may be amended after excavation and stockpiling of the topsoil. The topsoil can be placed in measured rows that would allow front loader access from two sides. Where a known volume of loader accessible topsoil occurs the required volume of elemental sulfur can be applied to the soil and thoroughly mixed and integrated into the stockpile.

Any clods which arise to the surface shall be fractured and reconsolidated to leave the surface nearly smooth, somewhat corrugated. The final condition of the plated surfaces shall be as approved by the Engineer.

Other methods, that will render equivalent results, may be used if approved by the Engineer and shall be identified in the Topsoil Management Plan. A final light grading shall leave the surface in a semi-smoothed, crumbly condition. Moisture shall be added as required to insure pulverizing and breaking of all large clods arising to the surface during the topsoil plating process.

Topsoil from Alternative Sources:

Topsoil to be utilized from alternative sources shall meet the specifications provided in the Summary Tables of the South Mountain Freeway Soils Report in the following categories:

- pH
- Soluble Salts
- Organic matter
- Exchange Sodium – ESP
- Exchange Sodium – PPM
- Sodium Absorption Rate
- Boron
- Gravel

Topsoil shall be tested in 20,000 cubic yard lots (approximate).

SOUTH MOUNTAIN FREEWAY
SOIL REPORT

By

Ag-Scientific
10943 E. Bella Via Ave
Mesa, AZ 85212

For

J2 Engineering and Environmental Design L.L.C.
4649 East Cotton Gin Loop, Suite B-2
Phoenix, AZ 85040

December 2014

E Ray Bigler

E. Ray Bigler CPAg

12/4/2014
Date

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APPENDICES

1.0 BACKGROUND

The proposed Loop 202 freeway, also known as the South Mountain Freeway, would run east and west along Pecos Road and then turn north between 55th and 63rd avenues, connecting with Interstate 10 on each end. The South Mountain Freeway is the last piece to complete the Loop 202 and Loop 101 freeway system necessary for high-quality regional mobility.

The project has been a critical part of the Maricopa Association of Governments Regional Freeway Program since it was first included in funding through Proposition 300 approved by Maricopa County voters in 1985. The freeway was also part of the Regional Transportation Plan funding passed by Maricopa County voters in 2004 through Proposition 400.

1.1 PROJECT LOCATION

This freeway in a continuation of the 202 loop from I-10 south of South Mountain adjacent to the Gila River Indian Community then north between 55th and 63rd avenues through Laveen to I-10 Phoenix west side, in Maricopa County, Arizona. A Project Vicinity Map is provided as Figure 1 and a project location map is provided as Figure 2.

1.2 DESCRIPTION

This report is submitted pursuant to a subsurface sampling and testing program of existing near-surface soils for their potential use as topsoil along the South Mountain Freeway. This work was performed by Mr. Ray Bigler, Certified Professional Agronomist with Ag-Scientific, as a subconsultant to J2 Engineering and Environmental Design L.L.C.. The purpose of this testing program was to obtain subsurface data regarding the suitability of the existing near-surface soils present within the design segment for their potential use as topsoil. The intent of this report is to provide the landscape contractor with information regarding the condition of the existing soil, the amount of amendments and/or fertilizers required, if any, to meet the requirements for topsoil, and the limits of the differing materials within the design segment.

Included within this report is a description of the field investigation, the agronometric tests performed, and a summary of the test results with recommendations for amendment of the soils, where required. It is not intended that this report direct the contractor as to where topsoil must be developed, but rather to provide the information necessary that the contractor may decide how to best sequence the work and apply soil amendments to soils in this project.

Figure 1 Vicinity Map

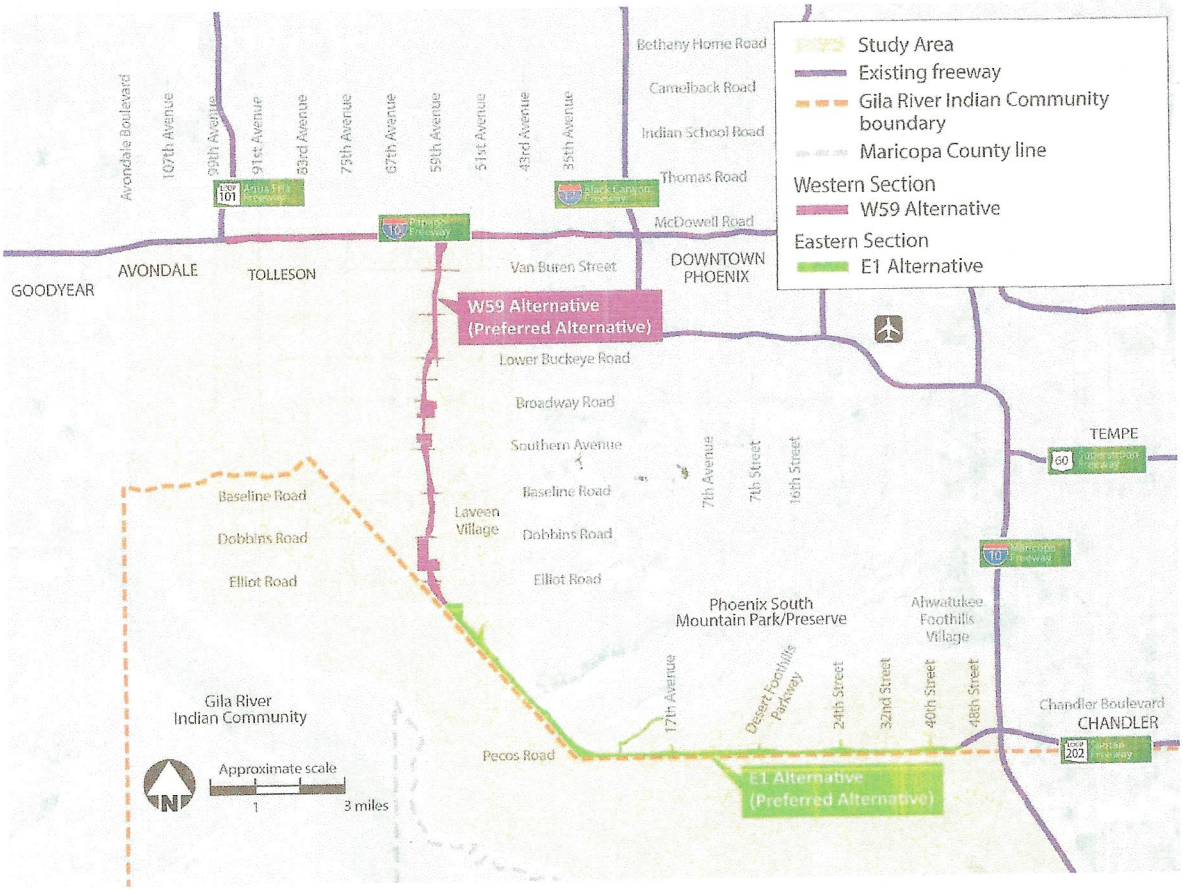
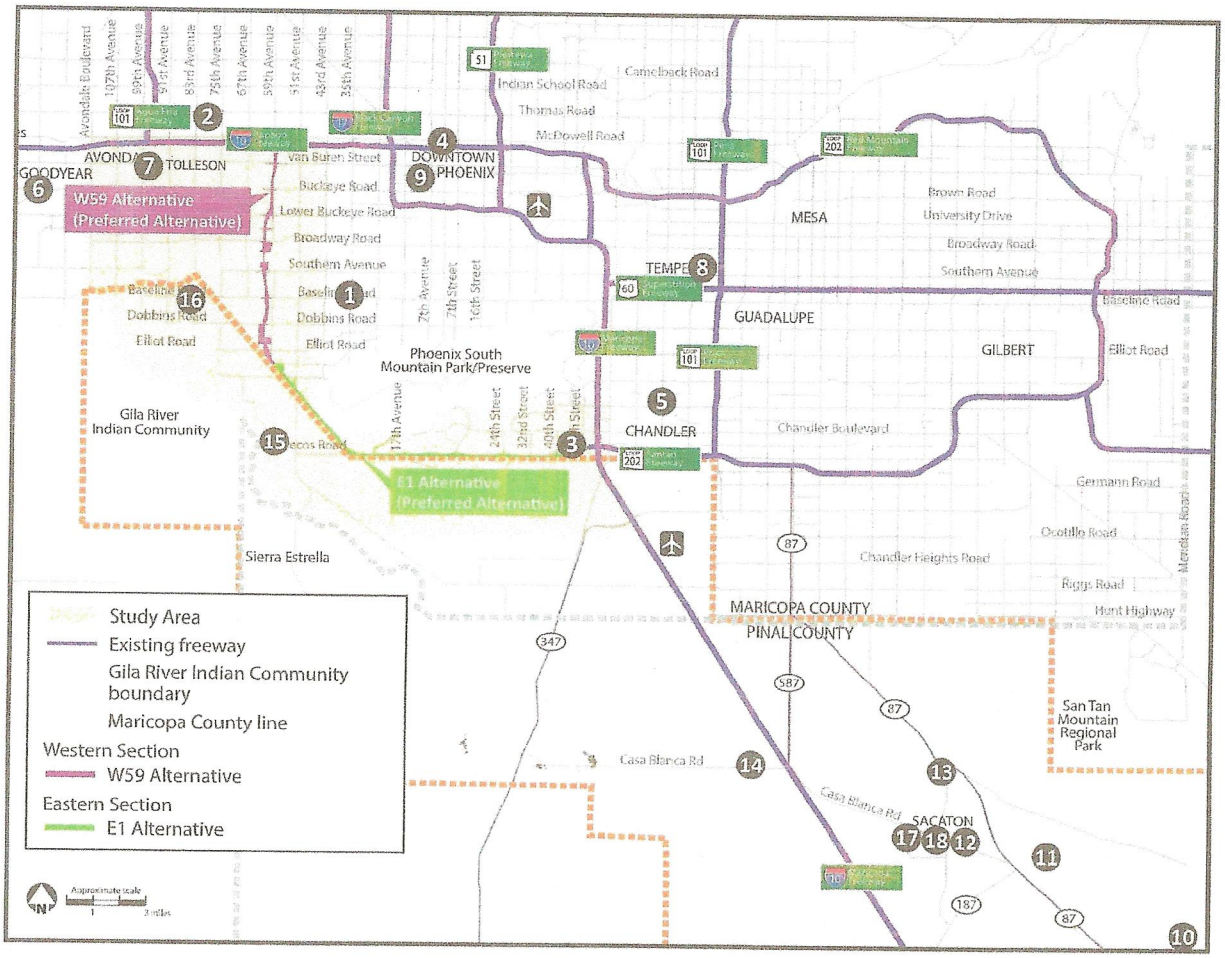


Figure 2 Location Map



2.0 REVIEW OF EXISTING SOIL CONSERVATION MAPS

Prior to the sampling program, a review of varying soil types within the freeway design segment was performed based on existing Soil Conservation Service (SCS) maps prepared for the project area. As shown in Table 1 below, the freeway area mapped by SCS contain twelve soil types that were free of rock enough to be sampled. This is shown in the map unit descriptions provided by the Natural Resources Conservation Service in Appendix B.

Table 1 Mapped Soil Type in Freeway Corridor

Soil Type	Texture	Permeability	Drained	Land capability irrigated	Land capability non irrigated	Depth	Available Water Capacity
		inches/ hr				inches	inches
Va – Valencia	sandy loam	Moderately high 0.02 to 0.57	well	1	7c	80	7.7
AnA -- Antho	sandy loam	Moderately high to high 0.57 to 1.98	well	2s	7s	80	7.9
Gm – Gilman	loam	Moderately high to high 0.57 to 1.98	well	1	7c	80	10.2
AoB -- Antho	gravelly sandy loam	Moderately high to high 0.57 to 1.98	well	2e	7s	80	5.4
AfA – Antho-Carrizo complex	sandy loam loamy sand	High 1.98 to 5.95	somewhat excessively	4s	7s	80	6.0
Es -- Estrella	loam	Moderately high to high 0.57 to 1.98	well	1	7c	80	11.2
Mo -- Mohall	sandy loam	Moderately high 0.20 to 0.57	well	1	7c	80	11.0
Tg -- Tremant	clay loam	Moderately low to moderately high 0.06 to 0.20	well	2s	7s	80	6.9
LcA -- Laveen	loam	Moderately high to high 0.57 to 1.98	well	1	7c	80	9.0
GgA -- Gilman	loam	Moderately high to high 0.57 to 1.98	well	1	7c	80	10.2
Ao -- Avondale	clay loam	Moderately high 0.20 to 0.57	well	1	7c	80	10.0
Gt -- Glenbar	clay loam	Moderately high 0.20 to 0.57	well	1	7c	80	12.0

3.0 FIELD SAMPLING AND LABORATORY TESTING

Soil samples were collected by Mr. Bigler between October 3rd and 17th, 2014. A two-inch diameter hand bucket auger was used to collect samples in one foot increments from one to six feet below existing site grades at locations selected based upon Mr. Bigler's review of soil maps and of general use patterns. The project was divided into forty-six sections for soil sampling. The sections were identified by station number in Tables A-1 through A-42 in appendix A. Multiple (between four and six) soil borers were taken in each section. The depth of sampling was limited to the upper 6 feet or less because of the large amount of rock. The soil samples analyzed for the forty-six project sections are deemed to be representative of the soils in that section. Final recommendations for treatment of the existing near-surface soils will be prepared by the final designer.

The collected soil samples were split by Mr. Bigler. One portion (a total of 180 samples from 46 locations and various depths) was submitted by UPS to Olsen's Agricultural Laboratory, Inc. in McCook, Nebraska for analysis on October 18, 2014. The other portion will be stored for 120 days by Ag-Scientific should additional testing be required.

The analyses performed are consistent with agronomic-based saturated paste determinations of pH, EC (soluble salts), SAR (Sodium Adsorption Ratio), and estimated ESP (exchangeable sodium percent). The organic matter, nitrate, bicarbonate phosphorus, potassium, sulfur: DTPA soluble zinc, iron, manganese, and copper; boron, gypsum requirement, and gravel was determined.

4.0 RESULTS OF TESTING AND RECOMMENDATIONS

The analytical results of all agronometric tests performed are summarized in Tables A-1 through A-42 in Appendix A. The sample numbers are shown at the top of the table. The locations of soil sampling, identified by section range, are shown along the top row. The depths and stations of soils are shown repeatedly throughout Table A in appendix A. The gravel content ranged from 0 and 52% and the only gravelly textured soil are between 24th Street and Elliot road. The gravel from Dobbins and Broadway averages about 1% and the soil type is Gillman loam. From Broadway to I-10 the gravel content increases from 5 to 20%. The Cation Exchange Capacity increases to near 20 mel/l north of the Salt River. This indicating that the Gilman loam and Glenbar clay loam are the heaviest soils in the South Mountain corridor. The reduced leaching in the heaver soils has resulted in high level of soluble salt including sodium in the lower depth of the soil profiles in some areas. The top soils have been classified as primary, secondary, and tertiary. The quality of the soils is shown by shading from white (best) to darkest. The darkest should not be used for plating. Soil classification are given in tables A-7, A-14, A-21, A-28, A-35, and A-42 in

in tables A-7, A-14, A-21, A-28, A-35, and A-42 in appendix A. The area between station 2465 to 2500 in the 3rd and 4th foot, which is not recommended for use is also very high in boron. Major nutrient are variable with phosphors general low below the first foot. The trace elements of zinc, and iron, are low in most areas. Manganese is in the desirable range. Copper varies radically at the surface, but should not create a problem. The levels of pH, soluble salts, exchangeable sodium percentage, sodium adsorption ratio (SAR) and gypsum requirement (GR) indicate areas were soil amendments are needed. It appears that the major nutrients, nitrogen, phosphorus, potassium and sulfates are somewhat low in some areas, but can be easily supplied. The locations of areas that need soil sulfur and fertilizer are also shown below in the SUMMARY TABLE (between page 8 and 9). Both the sulfur (96%) and the fertilizer (Fertizona 6-20-20 iron 1.6% zinc 1.7% or its equivalent) should be broadcast before an acre-slice is excavated and stock piled for plating. Once the plating is complete broadcast 15 cubic yards of ADOT compost, per acre and incorporate it with a disk. The SUMMARY TABLE also shows the areas (non-shaded) which meet the soil test characteristics given in Table 2.

Table 2

STANDARD WITH SOIL AMENDMENTS		
Characteristics	**Test Method**	**Requirement Average of 6 Samples**
pH	ARIZ 237	6.0 – 8.6
Soluble Salts: (PPM)	ARIZ 237	109 - 2560
Calcium Carbonate: (%)	ARIZ 732	0 - 15
Exchangeable Sodium: (%)	ARIZ 729	0.5 - 10
Exchangeable Sodium: (PPM)	ARIZ 729	30 - 600
Sodium Adsorption Ratio:	SAR	.5 - 10
Boron: (PPM)	Hot Water	.2 – 4
P.I.	AASHTO T 90	5 - 20
Gradation: 2 inch ½ inch No. 10 No. 40	ARIZ 201	% Passing 100 85 – 100 65 – 100 35 - 100

Also request a Gypsum Requirement by the Schoonovers' method : (tons/acre).

Apply Gypsum or Sulfur as a soil amendment based on the Gypsum Requirement.

Divide the weight of gypsum by 5.35 to get the equivalent amount of sulfur.

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2	
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB	
TOPSOIL CLASSIFICATION													
1													
2											1		
3							3				1		
4							2	1					
5								1					

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)										
1	0	0	0		0	0	0	0	0	0
2	0	0	0		0	200	200	0	0	0
3	0	0	200		200	200	0	0	0	
4	0	0	200		200	200	200	0	0	
5	0	0	0		0	200	200	0	200	

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%										
1	200	100	100		100	100	100	100	100	0
2	300	200	200		200	200	200	200	0	0
3	300	200	200		200	0	100	0	0	
4	300	300	200		200	0	200	0	0	
5	300	200	200		200	200	0	0	200	

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2	
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB	
TOPSOIL CLASSIFICATION												
1			1				1				1	
2		2	2				3				1	
3		2				3	4					
4												
5												

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)											
1	0	0	0	0	0	0					0
2	200	200			0	400					0
3	200				400	600					
4											
5											

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%											
1	100	200	0	0	200	300					100
2	200	200			300	300					200
3	200				200	300					
4											
5											

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1	
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M	
TOPSOIL CLASSIFICATION															
1		1	3												
2		3	5	4					2						
3		4	5	6					2			1		1	
4		5	5	5					3				1	1	
5													1	1	

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)									
1	0	200	0	200	0	0	0	0	
2	800	200	200	400	400	200	0	400	
3	1000	600	600	400	800	0	200	400	
4	600	1000	400	200	600	400	400	400	
5					400	400	200	200	

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%									
1	100	100	100	100	0	0	0	0	
2	100	100	200	200	0	200	200	0	
3	100	200	200	200	0	300	300	100	
4	200	200	200	200	100	300	300	100	
5					100	200	300	200	

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29	
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave
ft		LcA						GgA			GgA Ac	GgA		
TOPSOIL CLASSIFICATION														
1								2		4	3	1	2	
2								3		4	3	3	3	
3							1	2		2	3	3	4	
4		1					1	2		2	3	4	4	
5		2	1											

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)											
1	0	200	0	0	0	400	1000	600	800	800
2	400	200	0	0	200	600	800	800	1700	1700
3	200	200	0	0	200	600	600	1300	2300	3000
4	200	400	0	0	200	1000	600	1500	2700	3000
5	200	200	0	200						

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%										
1	0	0	0	0	100	0	0	600	0	100
2	100	0	100	0	300	0	0	800	300	300
3	300	0	0	0	300	200	200	300	300	100
4	200	0	0	100	200	300	200	300	300	200
5	300	0	200	100						

Sample #		31		32	33	33.1		34	34.1		35	35.1
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363
ft		GgA		M	Gt	GgA						
TOPSOIL CLASSIFICATION												
1		1		1					1			1
2		3							2		1	2
3		3									1	1
4									2		1	2
5												

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)									
1	400	0	0	0	0	200	0	600
2	800	0	200	200	0	400	400	400
3	200	0	200	200	0	400	200	200
4	200	0	200	200	200	200	200	400
5								

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%								
1	0	100	100	0	200	0	100	200
2	0	300	300	100	300	0	300	100
3	300	300	300	200	300	100	300	300
4	300	300	300	300	100	0	300	300
5								

Sample #		36		38		39		40	
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10
ft		Gt		Gt					
TOPSOIL CLASSIFICATION									
1									
2									
3									
4									
5									

Number = the number of soil charaterists outside the desired range

STANDARD WITH SOIL AMENDMENTS

pH (6 - 8.6)
`Soluble salts (320 - 2560) PPM
Organic Matter (0.3 - 4) %
Exchangeable Sodium - ESP (1 - 10) %
Exchangeable Sodium (30 - 600) PPM
Sodium Adsorption Ratio - SAR (0.5 - 10)
Boron - hot water (.3 to 3) PPM
Gravel (0 - 35) % by Wt

Recommended applied 96% SULFUR (pounds/Acre)				
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5				

Recommended applied Fertilizer 6-20-20 PLUS IRON=1.6% + ZINC=1.7%				
1	0	0	100	100
2	200	100	300	200
3	0	100	300	100
4	300	100	300	300
5				

Therefore soils used for plating obtain off site must meet the requirements in table 2 and be amended according to the Gypsum Requirement of the imported soils.

5.0 REFERENCES

"Soil Survey of Eastern Maricopa and Northern Pinal Counties Areas, Arizona; Gila River Reservation, Arizona, Parts of Maricopa and Pinal Counties; and Maricopa County, Arizona, Central Part", USDA Natural Resources Conservation Service, National Cooperative Soil Survey.

http://websoilsurvey.nrcs.usda.gov/app/

6.0 CLOSURE

The information and recommendations presented in this report are based on a limited number of collected samples and laboratory test data, our understanding of this project, and our general experience in the project area. The subsurface conditions identified are based on the conditions encountered at the specific test locations and it is anticipated that the subsurface conditions may vary between test locations.

This report was prepared for the exclusive use of ADOT, in accordance with the generally accepted standard of practice in Arizona, and no warranty, expressed

or implied, is made. The intent of this report is to provide ADOT with sufficient information relative to soil fertility in order to establish and sustain native vegetation. The scope of this project did not include an investigation for contaminated or hazardous materials. If ADOT is concerned about the potential for such conditions, additional studies could be performed.

APPENDIX A

TABLES A-1 THROUGH A-42

Table A -1 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
pH 1:1 (soil:water)														
1		8.6	8.4	8.6		8.6	8.4	8.4	8.5		8.6	8.4		8.50
2		8.0	8.1	8.5		8.5	8.1	8.1	8.5		8.8	8.3		8.32
3		8.0	8.2	8.3		8.3	7.8	7.9	8.0		8.6			8.14
4		8.4	8.3	8.5		8.5	7.9	7.9	7.9		8.3			8.21
5		8.5	8.4	8.3		8.3	7.9	7.9	8.1		8.1			8.19
SOLUBLE SALTS (mmhos/cm)														
1		0.58	0.44	0.48		0.48	0.36	1.02	0.26		0.56	0.90		0.564
2		1.30	1.28	0.92		0.92	2.18	2.34	0.94		0.62	1.38		1.320
3		1.28	1.00	1.44		1.44	5.34	3.50	2.06		1.20			2.158
4		0.86	1.20	1.40		1.40	4.52	4.98	2.62		2.20			2.398
5		0.82	1.14	1.48		1.48	2.90	4.08	2.48		2.30			2.085
ORGANIC MATTER %														
1		0.5	0.5	0.6		0.6	0.6	0.5	0.5		0.5	0.6		0.54
2		0.5	0.5	0.5		0.5	0.6	0.5	0.4		0.5	0.5		0.50
3		0.4	0.3	0.5		0.5	0.7	0.5	0.4		0.4			0.46
4		0.4	0.4	0.5		0.5	0.6	0.5	0.4		0.4			0.46
5		0.5	0.5	0.5		0.5	0.4	0.6	0.3		0.4			0.46
NITRATE-N (ppm)														
1		9.4	14.3	4.5		4.5	5.0	6.8	3.1		1.8	14.7		7.12
2		56.7	32.6	14.4		14.4	56.8	24.0	12.9		2.2	30.0		27.11
3		42.8	27.7	32.9		32.9	200	56.0	52.3		16.0			57.54
4		17.5	27.3	35.9		35.9	123	106	62.5		23.8			53.95
5		8.4	24.9	40.1		40.1	48.0	118	35.1		55.6			46.26

Table A -2 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
PHOSPHORUS bicarbonate (ppm)														
1		3	6	5		5	7	5	7		7	9		6.0
2		2	3	4		4	4	4	4		5	44		8.2
3		2	3	4		4	11	5	5		4			4.8
4		2	2	3		3	10	3	4		3			3.8
5		2	3	3		3	3	8	3		2			3.4
SULFATES-S (ppm)														
1		6	12	7		7	5	31	3		2	14		9.7
2		25	29	16		16	89	56	23		3	15		30.2
3		15	13	18		18	141	91	61		9			45.8
4		10	24	21		21	108	66	54		70			46.8
5		7	12	30		30	89	95	54		94			51.4
NH4OAc EXCHANGABLE POTASSIUM (ppm)														
1		181	215	188		188	246	190	234		245	236		213.7
2		112	147	141		141	123	140	161		136	432		170.3
3		95	127	129		129	186	157	169		117			138.6
4		122	92	130		130	218	170	125		131			139.8
5		126	122	113		113	126	243	124		128			136.9
NH4OAc EXCHANGABLE CALCIUM (ppm)														
1		2120	1840	1800		1800	2010	2120	1950		1880	1960		1942.2
2		1810	1880	1900		1900	1990	2010	1900		1830	1970		1910.0
3		2090	1900	1860		1860	2410	2130	2060		1800			2013.8
4		2250	1960	1990		1990	2410	2240	1860		2140			2105.0
5		2010	1910	1890		1890	2270	2480	1990		2020			2057.5

Table A -3 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
NH4OAc EXCHANGABLE MAGNESIUM (ppm)														
1		253	263	220		220	267	315	228		225	159		238.9
2		232	301	259		259	370	374	309		289	242		292.8
3		269	256	277		277	550	427	365		295			339.5
4		327	256	296		296	556	515	374		347			370.9
5		327	310	330		330	472	600	372		340			385.1
NH4OAc EXCHANGABLE SODIUM (ppm)														
1		118	134	82		82	64	137	36		46	92		87.9
2		156	203	185		185	418	302	182		105	158		210.4
3		153	136	227		227	697	394	288		178			287.5
4		186	183	271		271	621	504	263		249			318.5
5		173	198	211		211	433	594	263		353			304.5
DTPA EXTRACTABLE ZINC (ppm)														
1		0.3	0.3	0.4		0.4	0.4	0.5	0.7		0.4	1.0		0.49
2		0.2	0.2	0.2		0.2	0.3	0.5	0.4		0.4	0.8		0.36
3		0.2	0.2	0.3		0.3	0.6	0.5	0.4		0.2			0.34
4		0.2	0.1	0.2		0.2	0.6	0.4	0.3		0.2			0.28
5		0.2	0.2	0.2		0.2	0.2	0.5	0.2		0.2			0.24
DTPA EXTRACTABLE IRON (ppm)														
1		1.8	2.6	1.7		1.7	3.0	3.0	2.2		1.9	2.9		2.31
2		2.0	2.0	1.8		1.8	3.4	2.7	1.8		1.5	7.0		2.67
3		2.9	1.8	2.0		2.0	9.3	3.1	2.0		1.6			3.09
4		3.0	2.0	1.9		1.9	6.6	1.6	1.5		2.4			2.61
5		3.2	2.5	2.4		2.4	2.0	6.2	1.9		1.8			2.80

Table A -4 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
DTPA EXTRACTABLE MANGANESE (ppm)														
1		1.4	1.5	1.3		1.3	1.9	1.4	1.9		1.5	1.7		1.54
2		1.3	1.2	0.9		0.9	1.0	0.9	1.0		0.9	1.4		1.06
3		1.3	1.0	1.1		1.1	1.6	1.1	1.0		0.7			1.11
4		1.0	1.0	1.0		1.0	1.7	0.8	0.7		1.1			1.04
5		1.0	0.9	1.3		1.3	0.8	1.5	0.9		0.8			1.06
DTPA EXTRACTABLE COPPER (ppm)														
1		0.4	0.5	0.4		0.4	0.7	0.7	0.6		0.6	1.0		0.59
2		0.5	0.5	0.4		0.4	0.5	0.6	0.5		0.6	2.7		0.74
3		0.4	0.5	0.5		0.5	1.1	0.8	0.6		0.6			0.63
4		0.5	0.3	0.5		0.5	1.0	0.7	0.5		0.5			0.56
5		0.4	0.4	0.5		0.5	0.5	1.0	0.5		0.4			0.53
BORON sorbitol (ppm)														
1		0.8	0.8	0.7		0.7	1.1	1.4	0.7		0.8	0.8		0.87
2		0.7	0.6	0.9		0.9	2.4	2.0	1.4		1.3	0.9		1.23
3		0.5	0.6	1.5		1.5	4.3	2.4	1.6		1.5			1.74
4		0.5	0.6	1.5		1.5	3.8	1.8	1.4		1.7			1.60
5		0.5	0.6	0.7		0.7	1.7	3.5	1.1		1.3			1.26
SOLUBLE (SAT. EXT.) CALCIUM (me/L)														
1		1.02	1.38	0.84		0.84	1.65	3.03	1.11		1.00	3.26		1.570
2		9.92	6.98	2.17		2.17	13.11	6.06	3.19		0.23	4.81		5.404
3		8.93	4.59	2.35		2.35	45.21	25.26	16.25		1.53			13.309
4		2.64	4.70	3.25		3.25	37.02	41.21	29.55		10.64			16.533
5		1.41	3.98	5.56		5.56	34.14	39.33	21.99		19.64			16.451

Table A -5 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)														
1		0.86	0.98	0.78		0.78	1.06	1.69	0.83		0.76	1.30		1.004
2		4.27	3.69	1.41		1.41	8.63	5.75	2.01		0.49	2.14		3.311
3		3.76	2.28	1.49		1.49	30.25	15.56	9.88		1.19			8.238
4		1.47	2.40	1.96		1.96	24.91	28.35	19.12		6.46			10.829
5		1.10	2.25	3.38		3.38	21.00	27.11	14.25		12.24			10.589
SOLUBLE (SAT. EXT.) SODIUM (me/L)														
1		3.53	3.99	2.66		2.66	1.88	3.88	0.82		1.35	3.80		2.730
2		9.72	11.23	6.98		6.98	21.91	16.35	7.45		1.78	7.01		9.934
3		7.65	6.14	8.20		8.20	45.33	24.33	17.64		6.02			15.439
4		5.40	7.79	10.48		10.48	38.53	35.56	23.79		15.70			18.466
5		4.77	8.83	9.59		9.59	31.35	38.60	18.92		24.08			18.216
SODIUM ADSORPTION RATIO (SAR)														
1		3.64	3.67	2.96		2.96	1.62	2.53	0.83		1.44	2.52		2.463
2		3.65	4.86	5.22		5.22	6.65	6.01	4.62		2.97	3.76		4.773
3		3.04	3.31	5.92		5.92	7.38	5.39	4.88		5.16			5.125
4		3.77	4.13	6.49		6.49	6.92	6.03	4.82		5.37			5.503
5		4.26	4.83	4.54		4.54	5.97	6.70	4.44		6.03			5.164
EXCHANGEABLE SODIUM PERCENT (ESP)														
1		4	4	3		3	1	2	1		1	2		2.3
2		4	6	6		6	9	8	6		3	4		5.8
3		3	4	8		8	10	7	6		6			6.5
4		4	5	8		8	9	8	6		7			6.9
5		5	6	5		5	8	9	5		8			6.4

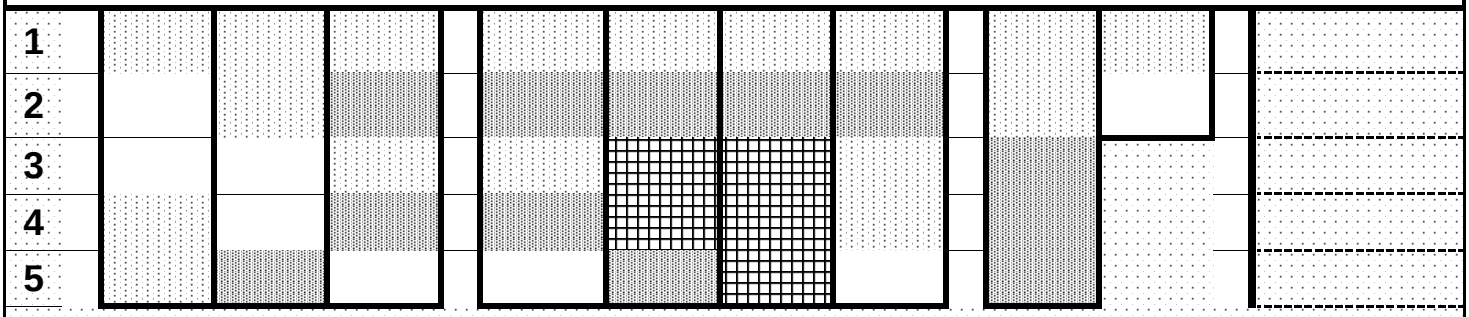
Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		
GYPSUM REQUIREMENT (Tons/Acre)														
1		0	0	0		0	0	0	0		0	0		0.00
2		0	0	0		0	0.3	0.3	0		0	0		0.07
3		0	0	0.3		0.3	0.3	0	0		0			0.11
4		0	0	0.3		0.3	0.3	0.3	0		0			0.15
5		0	0	0		0	0.3	0.3	0		0.3			0.11
Cation Exchange Capacity (me/l)														
1		13.7	12.5	11.7		11.7	13.2	14.3	12.4		12.1	12.1		12.63
2		11.9	13.2	12.8		12.8	15.2	14.8	13.3		12.4	13.7		13.34
3		13.6	12.6	12.9		12.9	20.1	16.3	15.0		12.5			14.49
4		15.1	13.0	13.9		13.9	19.9	18.1	13.9		15.0			15.35
5		13.9	13.3	13.4		13.4	17.5	20.6	14.5		14.8			15.18
GRAVEL %														
1		14.91	17.61	15.69		15.70	22.35	15.70	25.68		16.98	33.13		19.750
2		13.25	11.66	11.10		11.10	23.72	17.65	22.82		12.14	23.72		16.351
3		14.58	15.30	8.65		8.65	19.37	14.24	17.55		14.92			14.158
4		11.02	9.97	21.38		21.40	9.32	8.27	21.59		28.49			16.430
5		10.11	9.34	21.92		21.90	6.72	7.93	22.24		23.89			15.506
SOLUBLE SALTS (ppm)														
1		371	282	307		307	230	653	166		358	576		361.2
2		832	819	589		589	1395	1498	602		397	883		844.8
3		819	640	922		922	3418	2240	1318		768			1380.8
4		550	768	896		896	2893	3187	1677		1408			1534.4
5		525	730	947		947	1856	2611	1587		1472			1334.4

Table A -7 Ag-Scientific

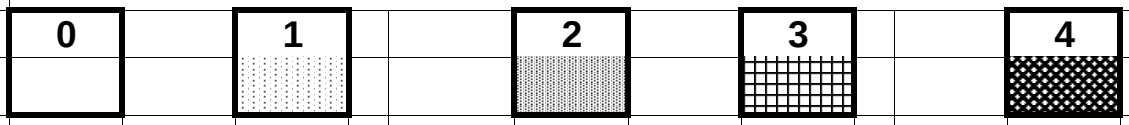
South Mountain Freeway H5764 03D

Sample #		2	3	3.1		3.1	4	4.1	5		5.1	5.2		
	I-10 & 202L	2040-2060	2060-2070	2070-2080	40th Street	2080-2095	2095-2107	2107-2120	2120-2134	32nd Street	2134-2160	2160-2185	24th Street	Average
ft		VA	AnA	AnA		AnA	Gm	Gm	AnA		AoB	AoB		

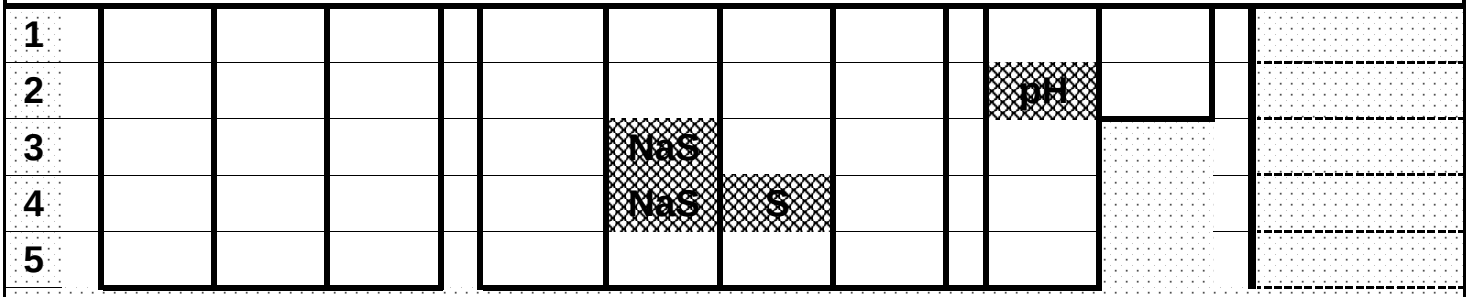
TOPSOIL CLASSIFICATION



NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS



TOPSOIL CLASSIFICATION



Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments

PRIMARY	SECONDARY	TERTIARY	DISCARD

Table A -8 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		6	7	7.1	7.2	7.3	7.4	8		9	13		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		Ana	mixed=M					RS		M	AfA		
pH 1:1 (soil:water)													
1		8.2	8.4	8.5	8.5	8.5	8.8				8.3		8.46
2		8.3	8.2			8.4	9.6				8.5		8.60
3		8.0				8.2	9.1						8.43
4													0.00
5													0.00
SOLUBLE SALTS (mmhos/cm)													
1		1.42	1.18	0.52	0.64	0.38	0.44				0.44		0.717
2		2.22	2.46			1.26	0.58				0.42		1.388
3		3.26				3.70	1.42						2.793
4													0.000
5													0.000
ORGANIC MATTER %													
1		0.4	0.5	0.6	0.6	0.6	0.4				0.6		0.53
2		0.4	0.5			0.6	0.3				0.5		0.46
3		0.4				0.5	0.4						0.43
4													0.00
5													0.00
NITRATE-N (ppm)													
1		12.2	25.9	8.1	11.6	5.5	2.3				6.7		10.33
2		46.9	100			2.4	1.2				1.4		30.38
3		169				9.1	17.3						65.13
4													0.00
5													0.00

Table A -9 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		
PHOSPHORUS bicarbonate (ppm)													
1		5	3	8	10	4	2				7		5.6
2		3	3			2	2				3		2.6
3		3				4	2						3.0
4													0.0
5													0.0
SULFATES-S (ppm)													
1		55	32	3	10	15	4				3		17.4
2		63	74			85	4				2		45.6
3		170				162	44						125.3
4													0.0
5													0.0
NH4OAc EXCHANGABLE POTASSIUM (ppm)													
1		149	102	163	162	133	74				231		144.9
2		82	84			72	39				154		86.2
3		105				56	61						74.0
4													0.0
5													0.0
NH4OAc EXCHANGABLE CALCIUM (ppm)													
1		2110	2120	2080	2150	2230	2150				2250		2155.7
2		2150	2050			2270	1670				2310		2090.0
3		2630				2880	1900						2470.0
4													0.0
5													0.0

Table A -10 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		
NH4OAc EXCHANGABLE MAGNESIUM (ppm)													
1		110	102	123	126	108	91				132		113.1
2		116	127			118	66				115		108.4
3		168				147	109						141.3
4													0.0
5													0.0
NH4OAc EXCHANGABLE SODIUM (ppm)													
1		153	201	44	71	28	125				26		92.6
2		346	485			166	358				18		274.6
3		603				612	687						634.0
4													0.0
5													0.0
DTPA EXTRACTABLE ZINC (ppm)													
1		0.7	0.3	1.9	0.9	0.4	0.3				0.5		0.71
2		0.3	0.2			0.1	0.2				0.2		0.20
3		0.3				0.2	0.2						0.23
4													0.00
5													0.00
DTPA EXTRACTABLE IRON (ppm)													
1		2.2	1.6	2.4	1.9	1.7	1.8				2.4		2.00
2		2.3	1.8			1.6	2.0				2.0		1.94
3		1.8				2	1.8						1.87
4													0.00
5													0.00

Table A -11 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		
DTPA EXTRACTABLE MANGANESE (ppm)													
1		1.7	1.0	2.0	2.1	1.2	0.8				2.1		1.56
2		1.0	0.7			0.7	0.7				1.2		0.86
3		1.0				0.9	0.5						0.80
4													0.00
5													0.00
DTPA EXTRACTABLE COPPER (ppm)													
1		0.8	0.5	0.8	0.6	0.7	0.4				0.7		0.64
2		0.7	0.7			0.5	0.3				0.4		0.52
3		0.8				0.5	0.3						0.53
4													0.00
5													0.00
BORON sorbitol (ppm)													
1		1.0	0.8	0.5	1.1	0.5	0.3				0.4		0.66
2		1.3	1.3			0.8	0.7				0.3		0.88
3		1.6				5.8	1.0						2.80
4													0.00
5													0.00
SOLUBLE (SAT. EXT.) CALCIUM (me/L)													
1		7.37	6.92	1.68	3.07	2.45	0.50				2.17		3.451
2		8.54	16.47			10.10	0.01				1.79		7.382
3		33.09				25.99	0.66						19.913
4													0.000
5													0.000

Table A -12 Ag-Scientific **South Mountain Freeway H5764 03D**

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)													
1		1.60	1.44	0.73	0.97	0.86	0.50				0.77		0.981
2		2.04	3.76			2.14	0.36				0.66		1.792
3		5.87				5.82	0.56						4.083
4													0.000
5													0.000
SOLUBLE (SAT. EXT.) SODIUM (me/L)													
1		7.42	9.74	1.02	2.45	1.16	2.54				0.33		3.523
2		17.01	32.63			9.39	4.94				0.51		12.896
3		27.57				45.00	16.50						29.690
4													0.000
5													0.000
SODIUM ADSORPTION RATIO (SAR)													
1		3.50	4.76	0.93	1.72	0.90	3.59				0.27		2.239
2		7.40	10.26			3.80	11.49				0.46		6.682
3		6.25				11.28	21.13						12.887
4													0.000
5													0.000
EXCHANGEABLE SODIUM PERCENT (ESP)													
1		4	6	1	1	1	4				1		2.6
2		10	14			4	16				1		9.0
3		8				16	30						18.0
4													0.0
5													0.0

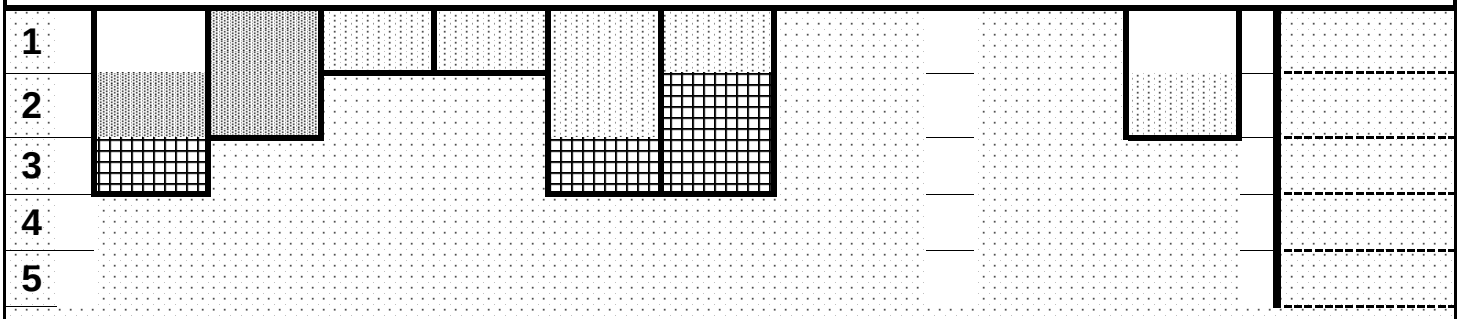
Table A -13 Ag-Scientific

South Mountain Freeway H5764 03D

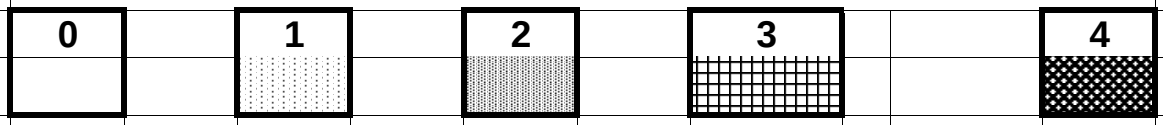
Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		
GYPSUM REQUIREMENT (Tons/Acre)													
1		0	0	0	0	0	0				0		0.00
2		0.3	0.3			0	0.6				0		0.24
3		0.3				0.6	1.5						0.80
4													0.00
5													0.00
Cation Exchange Capacity (me/l)													
1		12.5	17.4	12.0	12.5	12.5	12.2				13.1		13.17
2		13.4	12.6			13.2	10.6				13.0		12.56
3		17.4				18.4	13.6						16.47
4													0.00
5													0.00
GRAVEL %													
1		30.35	39.47	30.19	24.60	26.91	25.37				42.82		31.387
2		37.54	33.98			34.29	24.67				48.22		35.740
3		36.12				28.41	28.74						31.090
4													0.000
5													0.000
SOLUBLE SALTS (ppm)													
1		909	755	333	410	243	282				282		459.0
2		1421	1574			806	371				269		888.3
3		2086				2368	909						1787.7
4													0.0
5													0.0

Sample #		2	3	3.1	3.1	4	4.1	5		5.1	5.2		
	24th Street	2180-2202	2202-2214	2214-2223	2223-2232	2232-2239	2239-2255	2255-2280	Desert Foothills	2280-2335	2412-2447	S Chandler	Average
ft		VA	AnA	AnA	AnA	Gm	Gm	AnA		AoB	AoB		

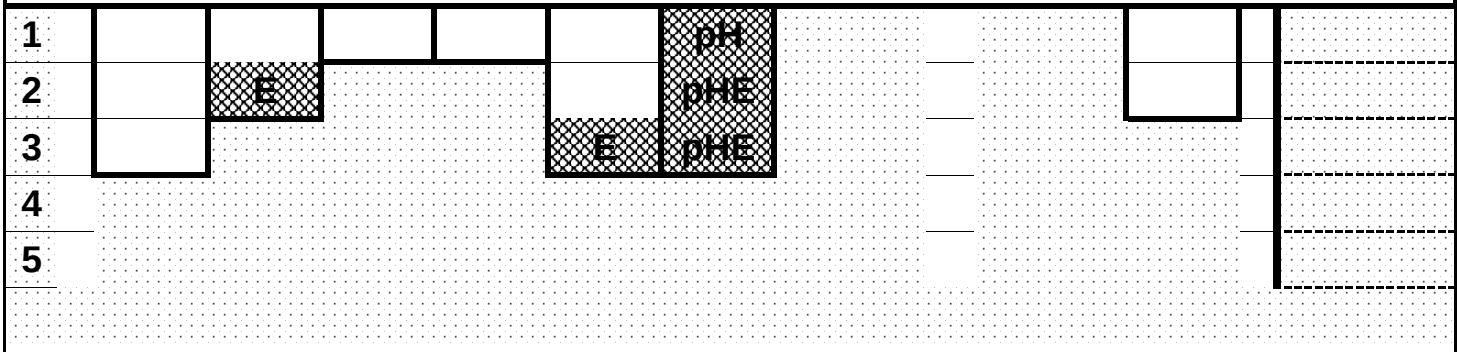
TOPSOIL CLASSIFICATION



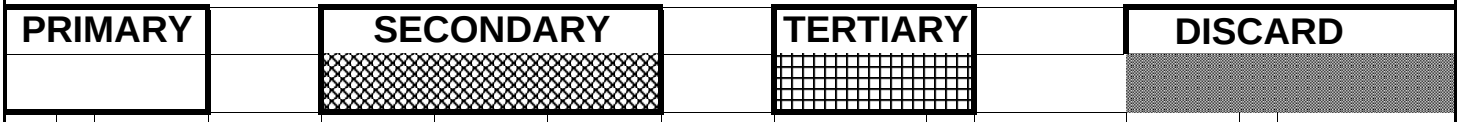
NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS



TOPSOIL CLASSIFICATION



Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments



Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
pH 1:1 (soil:water)																
1		8.8	8.5	8.3					8.4		8.4	8.5	8.6	8.3		8.48
2		8.5	8.3	8.3					8.8		8.4	8.3	8.5	8.6		8.46
3		8.4	8.2	8.3					8.3		8.5	8.4	8.4	8.7		8.40
4		8.2	8.2	8.2					8.7		8.5	8.3	8.7	8.7		8.44
5											8.3	8.5	8.8	8.7		8.58
SOLUBLE SALTS (mmhos/cm)																
1		0.54	3.78	0.66					1.12		0.96	0.58	0.86	0.86		1.170
2		3.26	6.56	4.28					1.20		0.94	1.52	1.04	1.08		2.485
3		3.44	19.9	5.20					2.80		1.34	1.64	1.30	1.02		4.580
4		8.44	22.4	7.96					1.50		1.88	1.68	1.22	1.08		5.770
5											1.84	1.24	1.10	1.04		1.305
ORGANIC MATTER %																
1		0.5	0.4	0.5					1.0		1.0	0.8	0.8	1.2		0.78
2		0.5	0.5	0.5					0.7		0.6	0.6	0.7	0.8		0.61
3		0.6	0.6	0.5					0.7		0.6	0.6	0.6	0.7		0.61
4		0.6	0.7	0.5					0.6		0.7	0.7	0.6	0.7		0.64
5											0.7	0.6	0.6	0.7		0.65
NITRATE-N (ppm)																
1		3.1	15.3	6.9					8.7		13.5	5.9	5.2	10.8		8.68
2		18.7	31.2	31.9					6.0		3.7	12.8	2.8	4.3		13.93
3		20.9	22.7	35.7					3.8		3.1	2.9	1.9	2.5		11.69
4		16.1	12.3	22.9					3.7		2.9	1.1	0.8	1.9		7.71
5											0.9	0.6	0.9	2.3		1.18

Table A -16 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
PHOSPHORUS bicarbonate (ppm)																
1		6	7	5					6		13	9	6	14		8.3
2		5	5	4					2		11	4	3	8		5.3
3		5	4	4					2		11	2	1	6		4.4
4		3	3	3					2		7	2	1	5		3.3
5											6	3	2	4		3.8
SULFATES-S (ppm)																
1		2	84	4					14		7	8	8	10		17.1
2		19	85	38					16		15	18	8	10		26.1
3		58	194	97					59		24	18	15	11		59.5
4		327	330	605					29		44	26	11	17		173.6
5											50	24	11	23		27.0
NH4OAc EXCHANGABLE POTASSIUM (ppm)																
1		504	449	357					168		213	252	277	274		311.8
2		273	316	263					136		166	361	322	255		261.5
3		142	159	192					112		188	353	152	309		200.9
4		91	126	170					128		230	250	116	225		167.0
5											227	146	108	163		161.0
NH4OAc EXCHANGABLE CALCIUM (ppm)																
1		1910	1900	2140					2000		1670	1650	1910	2150		1916.3
2		1970	1970	1950					1850		1800	2060	2280	1980		1982.5
3		1920	1870	2000					1870		1970	2300	2000	1820		1968.8
4		2000	1930	5610					1770		2040	2270	2000	1780		2425.0
5											2080	2040	1890	1650		1915.0

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
NH4OAc EXCHANGABLE MAGNESIUM (ppm)																
1		185	228	205					392		371	334	428	478		327.6
2		241	365	288					336		377	389	451	398		355.6
3		313	418	312					349		361	419	382	369		365.4
4		319	374	326					314		398	483	373	324		363.9
5											415	390	351	275		357.8
NH4OAc EXCHANGABLE SODIUM (ppm)																
1		87	976	70					276		212	170	170	241		275.3
2		941	1685	787					366		300	290	266	257		611.5
3		1838	2744	1249					524		360	323	272	268		947.3
4		2243	2883	1619					426		415	364	293	265		1063.5
5											419	319	294	262		323.5
DTPA EXTRACTABLE ZINC (ppm)																
1		0.4	0.3	0.3					1.0		1.3	0.6	0.6	1.7		0.78
2		0.3	0.3	0.2					0.4		0.5	0.3	0.3	0.4		0.34
3		0.2	0.3	0.2					0.2		0.2	0.1	0.1	0.2		0.19
4		0.2	0.2	0.2					0.2		0.2	0.1	0.2	0.2		0.19
5											0.1	0.2	0.2	0.2		0.18
DTPA EXTRACTABLE IRON (ppm)																
1		1.9	2.1	2.2					3.6		4.2	3.5	4.1	6.4		3.50
2		2.5	2.4	1.9					2.6		2.9	2.7	4.2	4.1		2.91
3		2.7	2.6	2.2					2.3		2.5	2.9	2.2	3.7		2.64
4		2.2	2.5	2.6					2.1		2.6	2.6	2.8	3.0		2.55
5											2.0	2.5	3.0	3.7		2.80

Table A -18 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
DTPA EXTRACTABLE MANGANESE (ppm)																
1		1.5	0.8	2.1					2		2	1.7	1.9	2.9		1.86
2		1.4	0.9	1.6					1.2		1.1	1.2	1.6	1.4		1.30
3		0.9	0.8	1.1					0.8		0.9	1.1	1.1	1.1		0.98
4		0.6	0.4	0.9					0.9		0.9	1.1	1.1	0.8		0.84
5											0.7	1.3	1	1		1.00
DTPA EXTRACTABLE COPPER (ppm)																
1		0.6	0.6	0.5					1.1		1.0	0.9	1.1	1.1		0.86
2		0.6	0.6	0.5					0.7		0.8	0.7	0.7	0.9		0.69
3		0.6	0.5	0.5					0.4		0.7	0.7	0.5	0.7		0.58
4		0.4	0.3	0.3					0.5		0.6	0.5	0.4	0.4		0.43
5											0.4	0.5	0.4	0.3		0.40
BORON sorbitol (ppm)																
1		0.8	2.5	0.7					1.4		1.1	0.9	1.0	1.3		1.21
2		1.3	2.5	2.7					1.4		1.0	0.7	0.8	0.9		1.41
3		2.0	5.1	7.1					1.5		1.1	0.7	0.6	1.0		2.39
4		4.0	7.7	10.7					1.5		0.9	0.8	0.6	0.9		3.39
5											0.6	0.7	0.6	0.8		0.68
SOLUBLE (SAT. EXT.) CALCIUM (me/L)																
1		0.47	13.83	2.00					1.08		1.20	0.55	0.97	1.71		2.726
2		5.56	29.75	13.50					0.62		1.04	3.53	1.09	1.01		7.013
3		12.18	36.02	11.28					3.72		1.37	2.92	1.08	0.86		8.679
4		25.10	21.55	33.41					2.30		2.52	2.36	0.80	0.46		11.063
5											3.81	2.06	0.68	0.38		1.733

Table A -19 Ag-Scientific

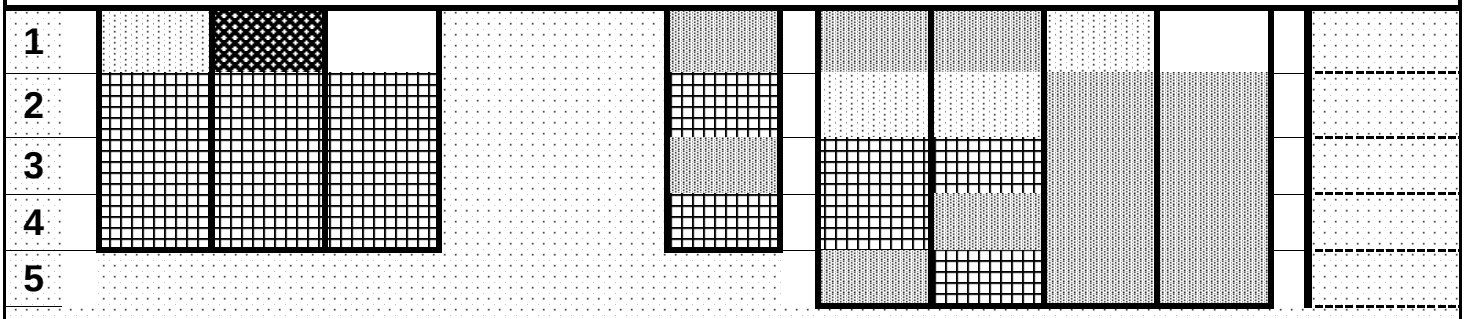
South Mountain Freeway H5764 03D

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)																
1		0.58	5.68	0.99					1.06		1.11	0.75	1.02	1.30		1.561
2		2.44	18.89	5.92					0.74		0.97	2.41	1.05	1.02		4.180
3		7.20	25.48	5.77					2.48		1.12	1.87	1.07	0.91		5.738
4		14.14	14.31	15.08					1.63		1.72	1.73	0.86	0.66		6.266
5											2.58	1.57	0.70	0.66		1.378
SOLUBLE (SAT. EXT.) SODIUM (me/L)																
1		2.35	60.73	2.21					6.63		5.64	4.05	3.87	5.17		11.331
2		44.71	134.8	47.14					7.25		7.74	10.51	5.75	6.18		33.010
3		122.6	261.7	65.49					18.33		9.30	9.06	6.62	6.24		62.414
4		136.8	164.0	109.0					15.21		11.17	9.53	6.08	4.91		57.088
5											14.02	10.09	5.23	5.65		8.748
SODIUM ADSORPTION RATIO (SAR)																
1		3.24	19.44	1.81					6.41		5.25	5.02	3.88	4.21		6.158
2		22.35	27.33	15.13					8.79		7.72	6.10	5.56	6.13		12.389
3		39.39	47.19	22.43					10.41		8.33	5.85	6.38	6.63		18.326
4		30.89	38.72	22.14					10.85		7.67	6.66	6.67	6.56		16.270
5											7.84	7.49	6.30	7.84		7.368
EXCHANGEABLE SODIUM PERCENT (ESP)																
1		4	28	1					8		7	6	5	5		8.0
2		32	39	21					12		10	8	7	8		17.1
3		57	69	32					14		11	7	8	9		25.9
4		45	56	32					15		10	9	9	9		23.1
5											10	10	8	10		9.5

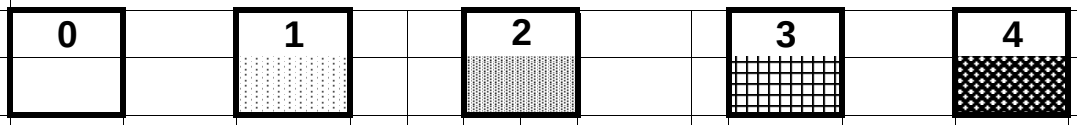
Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		
GYPSUM REQUIREMENT (Tons/Acre)																
1		0	0.3	0					0.3		0	0	0	0		0.08
2		1.2	0.3	0.3					0.6		0.6	0.3	0	0.6		0.49
3		1.5	0.9	0.9					0.6		1.2	0	0.3	0.6		0.75
4		0.9	1.5	0.6					0.3		0.9	0.6	0.6	0.6		0.75
5											0.6	0.6	0.3	0.3		0.45
Cation Exchange Capacity (me/l)																
1		12.8	16.8	13.6					14.9		12.9	12.4	14.6	16.5		14.31
2		16.6	16.8	16.2					14		13.9	15.7	17.1	15		15.66
3		16.6	16.8	16.2					14.8		14.9	17.3	14.8	14.1		15.69
4		16.6	16.8	16.2					13.6		15.9	17.6	14.7	13.3		15.59
5											16.3	15.2	13.9	12.1		14.38
GRAVEL %																
1		27.15	34.97	35.19					32.60		16.85	23.73	20.16	6.45		24.638
2		25.81	36.99	37.23					50.81		15.65	14.72	15.54	28.66		28.176
3		40.96	32.41	39.70					52.36		22.22	16.61	18.56	25.06		30.985
4		35.15	33.66	33.58					46.49		28.73	33.37	24.91	18.80		31.836
5											30.79	40.42	32.23	12.16		28.900
SOLUBLE SALTS (ppm)																
1		346	2419	422					717		614	371	550	550		748.8
2		2086	4198	2739					768		602	973	666	691		1590.4
3		2202	12736	3328					1792		858	1050	832	653		2931.2
4		5402	14336	5094					960		1203	1075	781	691		3692.8
5											1178	794	704	666		835.2

Sample #		13.1	13.2	14	15	16	17	18	19		20	20.1	22	22.1		
	S Chandler	2447-2465	2465-2477	2477-2500	2500-2520	2520-2548	2548-2582	2582-2640	2640-2660	51st Avenue	2660-2680	2680-2697	2697-2733	3000-3035	Elliot Road	Average
ft		AfA	AfA Es	Es	RS	M	RS	M	Mo Tg		Va	Va	Mo	M		

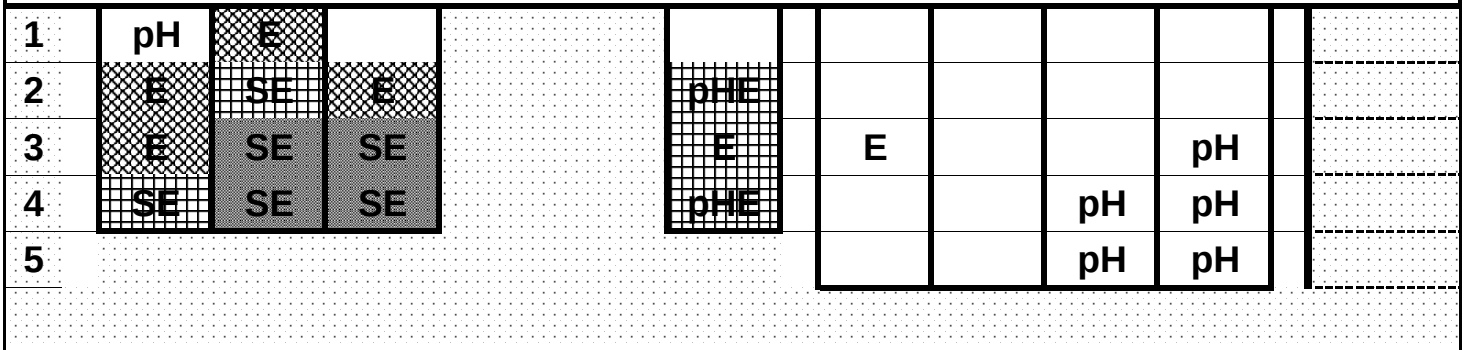
TOPSOIL CLASSIFICATION



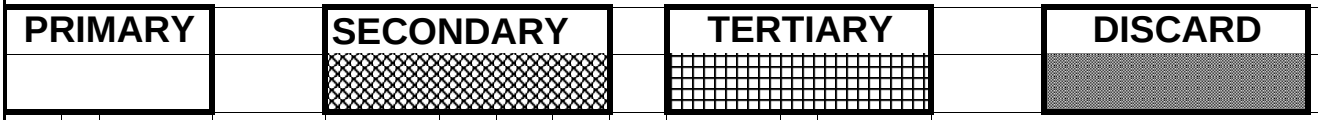
NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS



TOPSOIL CLASSIFICATION



Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments



Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
pH 1:1 (soil:water)															
1		8.4	8.0	8.0	8.5		8.3	8.7		9.0	8.7	8.6	8.9		8.51
2		8.2	8.4	8.2	8.5		8.5	8.7		8.7	8.7	9.0	9.1		8.60
3		8.1	8.5	8.4	8.5		8.5	8.5		8.4	9.0	9.2	9.1		8.62
4		8.3	8.5	8.4	8.6		8.3	8.5		8.4	8.8	9.0	8.8		8.56
5		8.7	8.4	8.2	8.6										8.48
SOLUBLE SALTS (mmhos/cm)															
1		1.20	2.46	2.08	0.98		0.90	0.92		1.72	1.98	1.62	1.36		1.522
2		1.56	1.32	1.30	0.78		1.08	1.98		2.38	1.14	1.98	2.24		1.576
3		2.24	1.28	0.94	1.02		1.62	2.26		3.98	1.94	3.16	3.90		2.234
4		1.90	1.24	0.96	0.76		2.12	3.00		3.34	1.90	3.40	2.14		2.076
5		1.32	1.50	0.68	0.86										1.090
ORGANIC MATTER %															
1		1.1	1.3	1.1	1.3		1.0	1.3		1.3	1.3	1.3	1.2		1.22
2		0.8	0.8	0.7	0.8		0.7	0.6		0.8	0.7	0.8	0.8		0.75
3		0.7	0.7	0.7	0.7		0.7	0.5		0.6	0.5	0.7	0.6		0.64
4		0.6	0.7	0.7	0.7		0.7	0.5		0.6	0.5	0.6	0.6		0.62
5		0.6	0.7	0.7	0.6										0.65
NITRATE-N (ppm)															
1		12.3	56.8	65.5	5.8		12.2	19.3		18.7	21.5	7.1	7.9		22.71
2		6.7	18.3	21.4	4.3		9.2	9.1		7.9	7.5	2.7	2.5		8.96
3		4.0	6.0	9.1	4.0		6.9	3.9		11.7	4.8	1.0	1.4		5.28
4		3.4	4.4	5.4	3.1		3.2	2.3		12.8	4.7	1.2	0.8		4.13
5		5.2	2.8	4.1	2.0										3.53

Table A -23 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
PHOSPHORUS bicarbonate (ppm)															
1		10	9	16	11		6	26		17	32	8	6		14.1
2		5	8	6	17		2	11		10	9	2	2		7.2
3		2	14	9	10		1	3		3	2	2	5		5.1
4		3	12	18	5		4	2		4	2	2	3		5.5
5		3	8	3	6										5.0
SULFATES-S (ppm)															
1		7	35	22	10		10	8		28	22	22	11		17.5
2		20	15	16	13		21	45		61	27	34	48		30.0
3		30	19	13	13		38	51		62	25	61	86		39.8
4		25	24	13	12		50	62		77	26	58	105		45.2
5		19	21	15	11										16.5
NH4OAc EXCHANGABLE POTASSIUM (ppm)															
1		317	206	255	199		135	247		382	393	202	153		248.9
2		272	165	133	174		103	345		251	189	166	164		196.2
3		137	145	135	165		88	444		277	189	201	230		201.1
4		116	153	167	151		91	474		285	202	206	277		212.2
5		127	145	147	109										132.0
NH4OAc EXCHANGABLE CALCIUM (ppm)															
1		2040	2220	2180	2120		2010	2200		2180	2280	2080	2250		2156.0
2		2060	2000	1980	1940		1970	1900		2180	2030	1880	1940		1988.0
3		1730	1820	1910	1900		1820	2020		2050	1780	1740	1900		1867.0
4		1750	1730	2000	1820		1760	1820		2110	1780	1750	1760		1828.0
5		1750	1690	1770	1690										1725.0

Table A -24 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
NH4OAc EXCHANGABLE MAGNESIUM (ppm)															
1		419	468	345	401		345	525		519	548	562	543		467.5
2		342	390	294	309		303	519		476	554	606	632		442.5
3		310	324	273	262		250	532		573	506	644	610		428.4
4		291	293	289	242		259	565		632	541	635	580		432.7
5		274	283	259	194										252.5
NH4OAc EXCHANGABLE SODIUM (ppm)															
1		277	433	277	236		223	563		973	672	526	479		465.9
2		39	305	207	187		288	864		989	827	952	1113		577.1
3		312	284	185	186		328	870		1009	816	1511	2047		754.8
4		326	279	192	195		405	864		1080	946	1477	2290		805.4
5		381	296	168	182										256.8
DTPA EXTRACTABLE ZINC (ppm)															
1		1.3	2.0	1.1	1.5		0.8	1.2		1.0	0.9	1.0	0.7		1.15
2		0.5	0.5	0.3	0.5		0.4	0.4		0.5	0.3	0.3	0.3		0.40
3		0.2	0.2	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2		0.20
4		0.2	0.1	0.1	0.2		0.2	0.2		0.2	0.2	0.2	0.3		0.19
5		0.2	0.1	0.1	0.2										0.15
DTPA EXTRACTABLE IRON (ppm)															
1		8.2	4.2	4.0	6.3		3.6	7.0		9.1	6.3	6.7	4.3		5.97
2		6.9	2.8	3.1	3.8		2.6	4.3		6.1	5.0	5.1	7.9		4.76
3		4.1	2.2	2.2	2.7		2.7	3.1		10.2	3.8	5.6	5.1		4.17
4		2.9	2.1	2.2	2.9		2.0	2.7		6.4	5.0	5.8	5.6		3.76
5		3.7	1.9	2.0	2.2										2.45

Table A -25 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
DTPA EXTRACTABLE MANGANESE (ppm)															
1		3.6	3.2	2.5	2.2		2.1	1.9		3.0	2.2	2.2	1.5		2.44
2		2.5	1.6	1.7	1.5		1.3	0.9		1.6	1.0	1.2	1.5		1.48
3		1.3	1.1	1.1	1.1		0.9	0.6		2.1	0.6	1.0	0.7		1.05
4		0.9	1.0	0.9	0.9		0.8	0.6		1.3	0.8	0.7	0.8		0.87
5		1.1	0.9	0.9	0.8										0.93
DTPA EXTRACTABLE COPPER (ppm)															
1		1.0	0.9	0.9	1.4		0.8	2.0		1.6	1.0	1.0	0.8		1.14
2		0.8	0.7	0.7	0.8		0.7	0.9		1.1	0.7	0.7	0.6		0.77
3		0.5	0.5	0.6	0.6		0.6	0.7		0.8	0.5	0.6	0.6		0.60
4		0.4	0.4	0.5	0.5		0.4	0.7		0.9	0.6	0.7	0.6		0.57
5		0.4	0.3	0.4	0.3										0.35
BORON sorbitol (ppm)															
1		1.4	1.5	0.9	1.1		1.2	2.0		4.4	2.8	3.0	2.1		2.04
2		1.0	0.8	0.5	0.6		0.9	1.5		3.1	1.9	2.3	2.4		1.50
3		0.8	0.7	0.4	0.5		0.8	1.1		2.0	1.3	3.0	3.4		1.40
4		0.8	0.6	0.4	0.6		0.7	1.3		2.1	1.5	3.2	4.1		1.53
5		0.8	0.6	0.4	0.5										0.58
SOLUBLE (SAT. EXT.) CALCIUM (me/L)															
1		2.66	6.01	8.56	1.55		1.57	1.03		1.30	2.16	1.30	1.12		2.726
2		2.50	1.90	4.54	1.40		1.95	2.61		3.85	1.59	1.28	1.22		2.284
3		4.77	0.80	3.05	1.19		3.26	4.27		6.70	0.93	0.85	1.24		2.706
4		3.80	1.98	3.16	1.03		5.32	4.53		6.32	1.05	1.53	1.82		3.054
5		1.23	2.51	2.77	0.89										1.850

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)															
1		2.06	4.36	4.19	1.22		1.23	1.06		1.25	1.91	1.32	1.04		1.964
2		1.94	1.60	2.40	1.13		1.39	2.65		3.41	1.80	1.59	1.62		1.953
3		3.66	0.93	1.79	1.03		2.13	4.88		6.48	1.23	1.27	1.81		2.521
4		2.87	1.59	1.91	0.92		3.53	5.53		7.07	1.34	1.99	2.43		2.918
5		1.11	1.97	1.81	0.84										1.433
SOLUBLE (SAT. EXT.) SODIUM (me/L)															
1		8.81	15.10	10.89	5.84		5.96	8.88		14.79	13.69	11.66	9.62		10.524
2		10.52	8.41	7.60	5.43		7.81	23.98		27.76	17.88	22.50	25.72		15.761
3		13.90	6.50	6.53	5.27		14.00	26.67		38.57	16.49	25.30	41.06		19.429
4		14.58	9.28	7.10	5.24		18.80	33.09		37.27	19.32	34.42	53.60		23.270
5		12.84	11.90	6.60	5.77										9.278
SODIUM ADSORPTION RATIO (SAR)															
1		5.73	6.63	4.31	4.96		5.04	8.69		13.10	9.60	10.19	9.26		7.751
2		7.06	6.36	4.08	4.83		6.04	14.79		14.57	13.73	18.78	21.58		11.182
3		6.77	6.99	4.20	5.00		8.53	12.47		15.02	15.87	24.57	33.25		13.267
4		7.98	6.95	4.46	5.31		8.94	14.75		14.40	17.67	25.95	36.77		14.318
5		11.87	7.95	4.36	6.20										7.595
EXCHANGEABLE SODIUM PERCENT (ESP)															
1		7	9	5	6		6	12		18	13	14	13		10.3
2		9	8	5	6		8	21		20	19	27	31		15.4
3		9	9	5	6		11	17		21	22	35	48		18.3
4		11	9	5	7		12	21		20	25	37	54		20.1
5		16	11	5	8										10.0

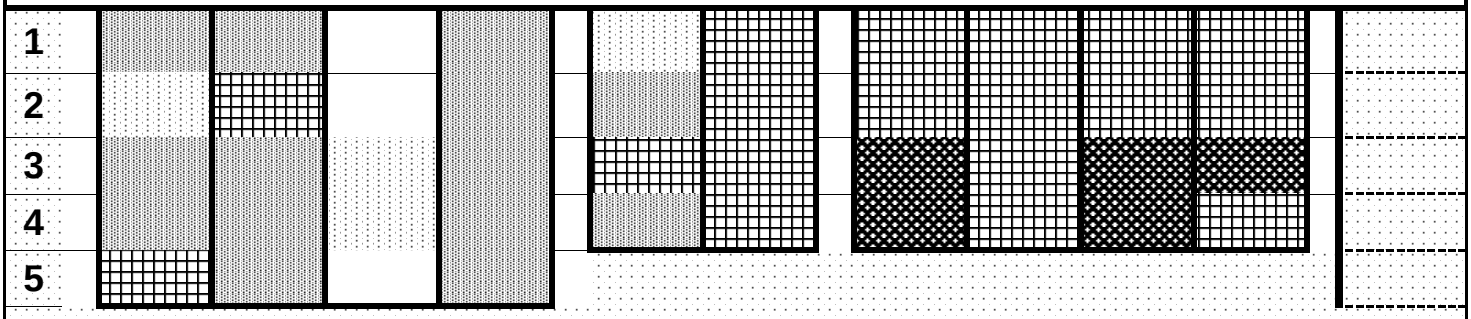
Table A -27 Ag-Scientific

South Mountain Freeway H5764 03D

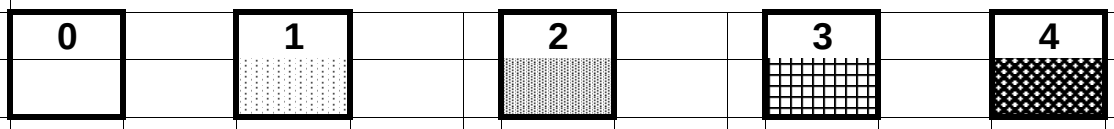
Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			
GYPSUM REQUIREMENT (Tons/Acre)															
1		0	0.3	0	0		0	0.6		1.5	0.9	1.2	1.2		0.57
2		0.6	0.3	0	0		0.3	0.9		1.2	1.2	2.5	2.5		0.95
3		0.3	0.3	0	0		0.3	0.9		0.9	1.9	3.4	4.3		1.23
4		0.3	0.6	0	0		0.3	1.5		0.9	2.2	4.0	4.3		1.41
5		0.3	0.3	0	0.3										0.23
Cation Exchange Capacity (me/l)															
1		15.7	17.4	15.6	15.5		14.2	18.5		20.4	19.9	17.9	18.2		17.33
2		14.0	15.0	13.6	13.5		13.9	18.5		19.8	18.8	19.0	18.2		16.43
3		12.9	13.4	13.0	12.9		12.8	19.5		19.8	17.1	19.0	18.2		15.86
4		12.9	12.7	13.7	12.4		13.0	18.8		19.8	18.0	19.0	18.2		15.85
5		13.0	12.5	12.1	11.1										12.18
GRAVEL %															
1		8.72	10.35	9.83	11.66		15.24	1.41		0.57	0.14	0.07	0.00		5.799
2		21.68	19.87	21.64	10.62		7.99	0.00		0.13	0.00	0.37	0.00		8.230
3		26.21	22.03	31.20	16.92		17.98	0.31		1.18	0.00	0.00	0.00		11.583
4		17.85	27.99	31.68	30.71		25.11	0.13		0.08	0.00	0.00	0.00		13.355
5		26.89	24.25	29.23	23.33										25.925
SOLUBLE SALTS (ppm)															
1		768	1574	1331	627		576	589		1101	1267	1037	870		974.1
2		998	845	832	499		691	1267		1523	730	1267	1434		1008.6
3		1434	819	602	653		1037	1446		2547	1242	2022	2496		1429.8
4		1216	794	614	486		1357	1920		2138	1216	2176	1370		1328.6
5		845	960	435	550										697.6

Sample #		23	23.1	24	24.1		25	26		26.1	27	28	29		
	Elliot Road	3035-3047	3047-3060	3060-3075	3075-3085	Dobbins Rd	3085-3110	3120-3140	Baseline Rd	3140-3153	3153-3170	3170-3182	3182-3195	Southern Ave	Average
ft		LcA						GgA			GgA Ac	GgA			

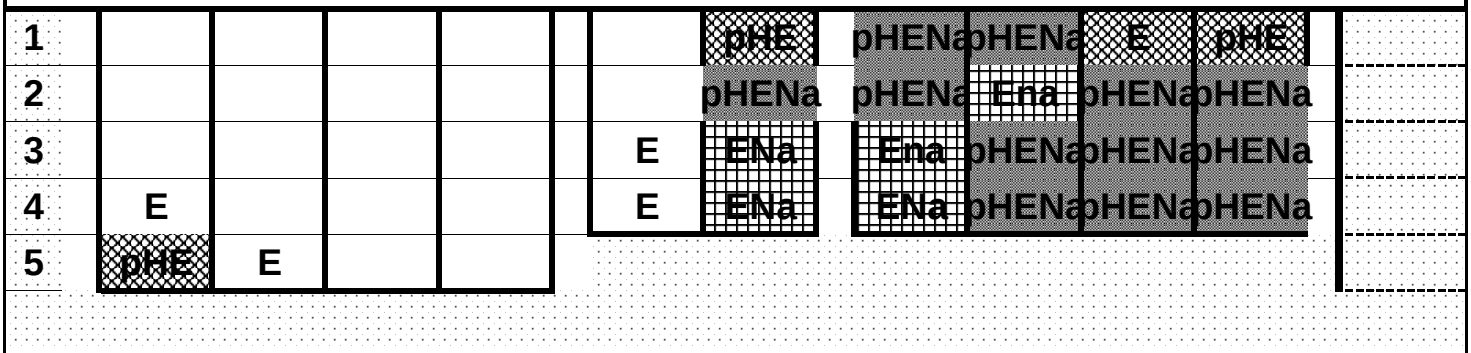
TOPSOIL CLASSIFICATION



NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS



TOPSOIL CLASSIFICATION



Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments

PRIMARY	SECONDARY	TERTIARY	DISCARD

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
pH 1:1 (soil:water)													
1		8.8		8.7	8.5	8.3		8.0	8.0		8.5	8.7	8.44
2		8.4		8.6	8.3	8.4		8.3	8.0		8.6	8.4	8.38
3		8.0		8.6	8.4	8.2		8.3	8.2		8.3	8.3	8.29
4		8.1		8.5	8.4	8.2		8.3	8.2		8.3	8.2	8.28
5													
SOLUBLE SALTS (mmhos/cm)													
1		1.28		1.02	1.08	1.16		2.78	5.62		0.96	0.60	1.81
2		2.98		1.24	1.16	2.36		1.98	5.48		1.72	1.66	2.32
3		7.16		1.14	1.60	2.52		1.60	4.14		2.74	3.02	2.99
4		4.34		1.50	1.74	2.50		0.90	4.80		2.86	3.22	2.73
5													
ORGANIC MATTER %													
1		1.2		0.8	1.2	1.2		1.2	1.1		0.9	1.3	1.11
2		0.8		0.6	0.7	0.8		0.8	0.7		0.5	0.7	0.70
3		0.7		0.6	0.6	0.5		0.7	0.6		0.5	0.5	0.59
4		0.7		0.6	0.6	0.5		0.7	0.6		0.5	0.4	0.58
5													
NITRATE-N (ppm)													
1		4.8		7.2	5.0	15.1		33.1	247.3		1.8	3.5	39.73
2		2.1		4.7	1.8	39.2		12.2	126.9		0.9	1.3	23.64
3		1.4		1.4	0.9	31.5		14.1	65.8		1.7	2.1	14.86
4		1.3		2.4	0.4	21.5		18.0	69.2		19.5	4.7	17.13
5													

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
PHOSPHORUS bicarbonate (ppm)													
1		20		5	5	11		4	154		5	4	26.0
2		10		2	2	5		2	15		2	5	5.4
3		2		2	2	4		2	6		2	2	2.8
4		2		2	1	2		7	8		2	2	3.3
5													
SULFATES-S (ppm)													
1		16		6	11	10		33	97		9	9	23.9
2		70		13	31	36		27	75		36	39	40.9
3		96		17	31	34		28	105		65	80	57.0
4		80		20	35	42		22	61		38	49	43.4
5													
NH4OAc EXCHANGABLE POTASSIUM (ppm)													
1		303		326	211	297		185	2019		167	198	463.3
2		190		206	168	219		167	1765		119	114	368.5
3		191		270	180	216		188	1402		132	106	335.6
4		176		318	161	224		238	639		131	107	249.3
5													
NH4OAc EXCHANGABLE CALCIUM (ppm)													
1		2420		2670	2550	2510		2660	2330		2270	2510	2490.0
2		2200		2250	2210	2330		2580	1990		1960	2130	2206.3
3		2820		2230	2190	1990		2570	2040		2040	2080	2245.0
4		2450		2350	2110	2030		2580	2060		2090	1890	2195.0
5													

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
NH4OAc EXCHANGABLE MAGNESIUM (ppm)													
1		541		493	516	486		501	429		419	518	487.9
2		577		481	496	494		542	391		385	395	470.1
3		675		552	490	463		564	500		549	436	528.6
4		731		645	549	498		627	545		536	456	573.4
5													
NH4OAc EXCHANGABLE SODIUM (ppm)													
1		435		174	282	267		347	574		259	387	340.6
2		871		244	333	475		328	530		427	542	468.8
3		757		255	350	382		353	509		490	491	448.4
4		593		277	397	394		394	572		559	550	467.0
5													
DTPA EXTRACTABLE ZINC (ppm)													
1		1.0		0.3	0.8	0.9		0.6	2.1		0.6	0.9	0.90
2		0.4		0.2	0.4	0.5		0.5	0.8		0.3	0.5	0.45
3		0.2		0.2	0.2	0.2		0.2	0.4		0.1	0.2	0.21
4		0.2		0.2	0.2	0.2		0.2	0.2		0.1	0.2	0.19
5													
DTPA EXTRACTABLE IRON (ppm)													
1		5.8		4.9	5.0	5.3		5.0	7.1		3.9	4.8	5.23
2		8.7		5.1	4.3	4.2		6.2	4.9		4.8	3.7	5.24
3		6.2		5.5	3.4	3.7		6.2	6.0		3.2	2.8	4.63
4		5.2		6.6	4.4	3.8		7.3	7.0		3.2	3.3	5.10
5													

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
DTPA EXTRACTABLE MANGANESE (ppm)													
1		1.7		1.8	2.2	2.5		2.4	1.9		2.1	2.1	2.09
2		1.5		1.3	1.3	1.8		1.6	1.4		1.3	1.2	1.43
3		1.0		0.9	0.9	1.1		0.9	1.0		0.6	0.7	0.89
4		0.7		1.0	0.7	0.8		0.9	1.2		0.6	0.6	0.81
5													
DTPA EXTRACTABLE COPPER (ppm)													
1		1.1		0.8	1.4	1.5		1.5	1.9		1.3	1.5	1.38
2		0.7		0.7	1.2	1.3		1.4	1.2		0.9	1.2	1.08
3		0.6		0.6	0.7	0.8		1.1	0.9		0.6	0.6	0.74
4		0.6		0.7	0.5	0.6		0.8	0.5		0.5	0.5	0.59
5													
BORON sorbitol (ppm)													
1		1.6		0.9	1.3	1.6		1.5	3.2		1.1	1.5	1.59
2		1.4		0.7	1.0	1.3		1.2	1.6		1.1	1.4	1.21
3		0.7		0.6	0.8	0.8		0.9	1.4		0.7	0.8	0.84
4		0.6		0.7	0.7	0.7		0.8	1.2		0.7	0.8	0.78
5													
SOLUBLE (SAT. EXT.) CALCIUM (me/L)													
1		1.51		1.06	1.55	2.17		7.42	44.77		1.82	1.47	7.721
2		3.99		0.99	4.67	7.26		4.28	30.64		2.92	3.12	7.234
3		18.60		1.07	5.20	9.42		4.25	22.18		11.23	10.05	10.250
4		15.37		1.54	3.73	7.33		3.70	22.79		8.80	10.32	9.198
5													

Table A -33 Ag-Scientific

South Mountain Freeway H5764 03D

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)													
1		1.25		0.87	1.25	1.64		4.31	23.26		1.58	1.27	4.429
2		3.08		1.02	3.38	5.25		2.81	20.46		2.15	2.29	5.055
3		13.99		1.10	4.16	7.43		2.99	18.02		10.34	7.84	8.234
4		12.91		1.49	3.19	6.04		2.80	19.73		8.31	8.40	7.859
5													
SOLUBLE (SAT. EXT.) SODIUM (me/L)													
1		8.42		3.12	5.74	6.56		12.58	40.74		7.19	8.48	11.604
2		25.22		5.38	12.49	18.98		10.11	43.29		16.05	20.03	18.944
3		32.46		4.63	14.04	21.02		10.17	33.72		27.19	28.21	21.430
4		26.30		5.23	13.65	18.32		11.33	39.07		28.98	32.89	21.971
5													
SODIUM ADSORPTION RATIO (SAR)													
1		7.17		3.18	4.85	4.75		5.19	6.99		5.51	7.24	5.610
2		13.41		5.37	6.23	7.56		5.37	8.56		10.08	12.18	8.595
3		8.04		4.44	6.49	7.24		5.35	7.52		8.28	9.43	7.099
4		6.99		4.25	7.34	7.09		6.28	8.47		9.91	10.75	7.635
5													
EXCHANGEABLE SODIUM PERCENT (ESP)													
1		9		3	6	6		6	9		7	10	7.0
2		19		7	8	10		7	11		14	17	11.6
3		11		5	8	10		7	10		11	13	9.4
4		9		5	10	9		8	11		13	15	10.0
5													

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							
GYPSUM REQUIREMENT (Tons/Acre)													
1		0.6		0	0	0		0	0.3		0	0.9	0.2
2		1.2		0	0.3	0.3		0	0.6		0.6	0.6	0.45
3		0.3		0	0.3	0.3		0	0.6		0.3	0.3	0.3
4		0.3		0	0.3	0.3		0.3	0.3		0.3	0.6	0.3
5													
Cation Exchange Capacity (me/l)													
1		19.3		19.1	18.8	18.5		19.5	22.9		16.4	19.1	19.20
2		20.1		16.8	17.1	18.4		19.3	20		15.2	16.6	17.94
3		23.5		17.6	17	16		19.6	20.2		17.2	16.4	18.44
4		21.4		19.1	17.3	16.6		20.4	19		17.7	15.9	18.43
5													
GRAVEL %													
1		0.00		8.82	5.57	5.74		15.82	11.57		17.24	8.03	9.099
2		0.00		5.49	6.63	5.49		22.58	11.81		13.25	13.80	9.881
3		0.39		4.87	8.79	11.22		16.92	10.38		14.59	16.41	10.446
4		0.25		0.74	4.90	8.66		11.07	13.49		14.05	11.73	8.111
5													
SOLUBLE SALTS (ppm)													
1		819		653	691	742		1779	3597		614	384	1160.0
2		1907		794	742	1510		1267	3507		1101	1062	1486.4
3		4582		730	1024	1613		1024	2650		1754	1933	1913.6
4		2778		960	1114	1600		576	3072		1830	2061	1748.8
5													

Sample #		31		32	33	33.1		34	34.1		35	35.1	
	Salt River	3240-3255	Broadway Rd	3255-3281	3281-3295	3295-3507	Lower Buckeye	3307-3322	3322-3336	R.I.D. Canal	3336-3348	3348-3363	Average
ft		GgA		M	Gt	GgA							

TOPSOIL CLASSIFICATION

1
2
3
4
5

NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS

0	1	2	3	4

TOPSOIL CLASSIFICATION

1	pH	pH				S		pH	
2	ENa					SE	E	E	
3	SENa						E	E	
4						SE	E	E	
5									

Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments

PRIMARY	SECONDARY	TERTIARY	DISCARD

Sample #		36		38		39		40			GRAND AVERAGE
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	
ft		Gt		Gt							
pH 1:1 (soil:water)											
1		8.4		7.9		8.3		8.0		8.15	8.45
2		8.5		8.0		8.4		8.1		8.25	8.44
3		8.4		8.1		8.5		8.1		8.28	8.37
4		8.5		8.1		8.3		8.1		8.25	8.36
5											8.36
SOLUBLE SALTS (mmhos/cm)											
1		1.12		4.20		1.48		2.54		2.335	1.290
2		0.78		3.56		1.84		2.88		2.265	1.888
3		0.72		1.88		1.64		2.78		1.755	2.853
4		0.78		2.60		1.58		2.80		1.940	3.090
5											1.652
ORGANIC MATTER %											
1		1.0		1.2		1.4		1.0		1.15	0.89
2		0.7		0.9		0.9		1.0		0.88	0.65
3		0.7		0.8		0.8		1.0		0.83	0.60
4		0.6		0.8		0.6		0.8		0.70	0.59
5											0.56
NITRATE-N (ppm)											
1		18.1		176.9		11.7		73.6		70.08	22.81
2		3.3		79.9		13.8		70.0		41.75	21.83
3		1.3		70.2		2.0		55.1		32.15	25.42
4		2.1		76.1		1.1		34.0		28.33	20.24
5											23.25

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
PHOSPHORUS bicarbonate (ppm)											
1		10		11		5		6		8.0	11.9
2		3		5		2		3		3.3	5.9
3		9		6		2		7		6.0	4.4
4		2		6		2		2		3.0	3.9
5											3.9
SULFATES-S (ppm)											
1		15		63		21		29		32.0	18.5
2		5		65		23		35		32.0	33.7
3		6		69		22		39		34.0	54.8
4		6		56		17		45		31.0	72.0
5											37.0
NH4OAc EXCHANGABLE POTASSIUM (ppm)											
1		378		612		446		371		602.3	294.3
2		390		515		379		318		534.0	242.5
3		361		439		237		334		457.0	221.9
4		251		318		251		250		356.7	203.0
5											143.6
NH4OAc EXCHANGABLE CALCIUM (ppm)											
1		2450		2620		3040		3080		3730.0	2194.9
2		2390		2820		3040		3070		3773.3	2103.5
3		2340		2770		2730		3190		3676.7	2126.8
4		2510		2480		2500		2950		3480.0	2176.5
5											1942.0

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
NH4OAc EXCHANGABLE MAGNESIUM (ppm)											
1		381		415		694		565		513.8	355.0
2		400		578		735		722		608.8	381.0
3		519		670		618		849		664.0	423.9
4		625		601		568		910		676.0	464.9
5											346.1
NH4OAc EXCHANGABLE SODIUM (ppm)											
1		84		327		329		219		239.8	264.5
2		41		451		385		324		300.3	434.8
3		50		379		350		303		270.5	594.3
4		58		293		314		354		254.8	637.7
5											303.1
DTPA EXTRACTABLE ZINC (ppm)											
1		2.9		5.0		2.1		1.4		2.85	1.01
2		0.7		1.5		0.6		0.6		0.85	0.41
3		0.4		1.2		0.2		0.4		0.55	0.26
4		0.3		0.8		0.3		0.2		0.40	0.23
5											0.20
DTPA EXTRACTABLE IRON (ppm)											
1		6.6		5.0		12.0		6.2		7.45	4.28
2		6.0		5.9		11.2		7.4		7.63	4.07
3		6.6		7.7		8.7		6.6		7.40	3.94
4		7.1		7.2		6.7		5.3		6.58	3.89
5											2.73

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
DTPA EXTRACTABLE MANGANESE (ppm)											
1		1.9		4.2		3.6		2.9		3.15	2.05
2		1.5		3.7		2.7		3.1		2.75	1.41
3		1.2		2.2		1.4		2.5		1.83	1.07
4		1.0		1.6		1.3		1.0		1.23	0.92
5											0.99
DTPA EXTRACTABLE COPPER (ppm)											
1		3.0		3.4		2.3		1.7		2.60	1.09
2		1.4		1.5		1.5		1.2		1.40	0.84
3		1.0		1.5		0.9		1.2		1.15	0.68
4		0.6		1.2		0.7		0.7		0.80	0.57
5											0.45
BORON sorbitol (ppm)											
1		0.9		1.7		1.6		1.4		1.40	1.34
2		0.9		1.5		1.0		1.4		1.20	1.29
3		0.9		1.3		0.8		1.3		1.08	1.62
4		0.7		1.2		0.7		1.0		0.90	1.72
5											0.96
SOLUBLE (SAT. EXT.) CALCIUM (me/L)											
1		4.70		34.20		2.91		12.15		13.490	4.494
2		1.95		19.49		3.45		11.80		9.173	5.974
3		1.74		12.77		3.12		10.26		6.973	9.256
4		1.57		13.16		4.51		10.04		7.320	9.484
5											9.359

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
SOLUBLE (SAT. EXT.) MAGNESIUM (me/L)											
1		2.54		13.31		2.08		5.74		5.918	2.364
2		1.38		10.49		2.43		7.44		5.435	3.547
3		1.41		8.10		2.26		7.01		4.695	5.811
4		1.57		9.21		3.28		7.94		5.500	6.726
5											6.171
SOLUBLE (SAT. EXT.) SODIUM (me/L)											
1		4.10		19.73		7.72		9.17		10.180	8.356
2		1.25		20.83		9.84		13.64		11.390	17.807
3		1.65		16.90		9.62		11.48		9.913	27.727
4		1.62		14.95		9.56		14.62		10.188	28.194
5											13.883
SODIUM ADSORPTION RATIO (SAR)											
1		2.15		4.05		4.89		3.07		3.540	4.904
2		0.97		5.38		5.74		4.40		4.123	8.543
3		1.31		5.23		5.87		3.91		4.080	10.653
4		1.29		4.47		4.84		4.88		3.870	10.471
5											6.441
EXCHANGEABLE SODIUM PERCENT (ESP)											
1		2		5		6		3		4.0	6.1
2		1		7		7		5		5.0	11.5
3		1		7		7		5		5.0	14.6
4		1		5		6		6		4.5	14.4
5											8.3

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
GYPSUM REQUIREMENT (Tons/Acre)											
1		0		0		0		0		0.0	0.18
2		0		0		0		0		0.0	0.44
3		0		0		0		0		0.0	0.59
4		0		0		0		0		0.0	0.63
5											0.24
Cation Exchange Capacity (me/l)											
1		16.80		19.50		23.60		22.00		20.475	15.942
2		16.50		22.20		24.00		23.60		21.575	16.109
3		17.20		22.20		20.90		25.20		21.375	16.738
4		18.70		19.50		19.20		24.50		20.475	16.795
5											14.280
GRAVEL %											
1		24.98		23.69		18.01		26.72		23.350	17.845
2		19.42		20.03		12.12		15.67		16.810	17.878
3		17.72		14.69		17.68		2.33		13.105	17.440
4		9.07		16.39		10.50		5.14		10.275	16.332
5											21.430
SOLUBLE SALTS (ppm)											
1		717		2688		947		1626		1494.4	825.458
2		499		2278		1178		1843		1449.6	1208.260
3		461		1203		1050		1779		1123.2	1825.920
4		499		1664		1011		1792		1241.6	1977.427
5											1057.280

Sample #		36		38		39		40			
	Buckeye Rd	3363-3389	UPRR	3389-3415	VAN BUREN	400-410	Fillmore St		I-10	Average	GRAND AVERAGE
ft		Gt		Gt							
TOPSOIL CLASSIFICATION											
1											
2											
3											
4											
5											

NUMBER OF SOIL CHARACTERISTICES EXCEDING STANDARD LEVELS

0	1	2	3	4

TOPSOIL CLASSIFICATION					
1					
2					
3					
4					
5					

Toxic effects of pH, S=Soluble salt, and Na=Sodium even after adding soil ammendments

PRIMARY	SECONDARY	TERTIARY	DISCARD

APPENDIX B

MAP UNIT DESCRIPTION

Sample numbers are in the upper right corner showing where each soil type occurs

Eastern Maricopa and Northern Pinal Counties Area, Arizona

Va—Valencia sandy loam

Map Unit Setting

National map unit symbol: 1spp
Elevation: 1,100 to 1,700 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Valencia and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valencia

Setting

Landform: Alluvial fans, plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 13 inches: sandy loam
C - 13 to 26 inches: sandy loam
2Btkb - 26 to 45 inches: sandy clay loam
2Bk - 45 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: C

Data Source Information

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 7, Sep 14, 2014

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Eastern Maricopa and Northern Pinal Counties Area, Arizona

AnA—Antho sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1snp
Elevation: 1,100 to 1,700 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Antho and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Antho

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 17 inches: sandy loam
C - 17 to 46 inches: sandy loam
2Btkb - 46 to 60 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Data Source Information

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 7, Sep 14, 2014

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Eastern Maricopa and Northern Pinal Counties Area, Arizona

Gm—Gilman loam

Map Unit Setting

National map unit symbol: 1sp1
Elevation: 1,080 to 1,600 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Gilman and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilman

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 13 inches: loam
C - 13 to 60 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: B

Data Source Information

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 7, Sep 14, 2014

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Eastern Maricopa and Northern Pinal Counties Area, Arizona

AoB—Antho gravelly sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1snr
Elevation: 1,100 to 1,700 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Antho and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Antho

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 17 inches: gravelly sandy loam
C - 17 to 46 inches: gravelly sandy loam
2Btkb - 46 to 60 inches: gravelly loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Data Source Information

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 7, Sep 14, 2014

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

AfA—Antho-Carrizo complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1sgg
Elevation: 750 to 1,400 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 69 to 74 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Antho and similar soils: 50 percent
Carrizo and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Antho

Setting

Landform: Stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Recent mixed alluvium

Typical profile

A/C1 - 0 to 13 inches: sandy loam
C2 - 13 to 36 inches: sandy loam
C3 - 36 to 47 inches: loamy sand
2Btb - 47 to 60 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A
Ecological site: Limy fan 7-10" p.z. (R040XB207AZ)

Description of Carrizo

Setting

Landform: Channels, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Recent mixed alluvium

Typical profile

A - 0 to 5 inches: gravelly sandy loam
C - 5 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: Sandy wash 7-10" p.z. (R040XB216AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Eastern Maricopa and Northern Pinal Counties Area, Arizona

Es—Estrella loam

Map Unit Setting

National map unit symbol: 1snz
Elevation: 1,080 to 1,600 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Estrella and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Estrella

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Recent mixed alluvium over old mixed alluvium

Typical profile

Ap - 0 to 15 inches: loam
C - 15 to 26 inches: loam
2Btkb - 26 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 11.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: C

Data Source Information

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 7, Sep 14, 2014

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

Mo—Mohall sandy loam

Map Unit Setting

National map unit symbol: 1sjm
Elevation: 1,000 to 1,450 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 68 to 74 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mohall and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mohall

Setting

Landform: Alluvial fans, plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 12 inches: sandy loam
Bt - 12 to 26 inches: clay loam
Btk1 - 26 to 35 inches: clay loam
Btk2 - 35 to 42 inches: loam
Ck - 42 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C

Ecological site: Sandy loam upland 7-10 p.z. (R040XB218AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

Tg—Tremant clay loam

Map Unit Setting

National map unit symbol: 1skl
Elevation: 800 to 1,800 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 69 to 74 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Tremant and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tremant

Setting

Landform: Stream terraces, alluvial fans
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly mixed alluvium

Typical profile

Ap - 0 to 1 inches: clay loam
Bt - 1 to 8 inches: clay loam
Btk - 8 to 23 inches: gravelly clay loam
Bk - 23 to 60 inches: gravelly loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C

Ecological site: Clay loam upland 7-10" p.z. (R040XB205AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

LcA—Laveen loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1sjc
Elevation: 800 to 1,400 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 69 to 73 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Laveen and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Laveen

Setting

Landform: Alluvial fans, plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 15 inches: loam
Bk1 - 15 to 50 inches: loam
Bk2 - 50 to 72 inches: gravelly loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B

Ecological site: Limy fan 7-10" p.z. (R040XB207AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

GgA—Gilman loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1shr
Elevation: 800 to 1,400 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 60 to 73 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Gilman and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilman

Setting

Landform: Alluvial fans, plains, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Recent mixed alluvium

Typical profile

Ap - 0 to 18 inches: loam
C1 - 18 to 37 inches: loam
C2 - 37 to 64 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B

Ecological site: Limy fan 7-10" p.z. (R040XB207AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

Ao—Avondale clay loam

Map Unit Setting

National map unit symbol: 1sgl
Elevation: 750 to 1,350 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 69 to 74 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Avondale and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avondale

Setting

Landform: Plains, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Recent mixed alluvium

Typical profile

Ap - 0 to 12 inches: clay loam
C1 - 12 to 37 inches: loam
C2 - 37 to 60 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C

Ecological site: Prosopis velutina-prosopis glandulosa var. torreyana/sporobolus wrightii (F040XB214AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014

Maricopa County, Arizona, Central Part

Gt—Glenbar clay loam

Map Unit Setting

National map unit symbol: 1shz
Elevation: 700 to 1,250 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 68 to 71 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Glenbar and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenbar

Setting

Landform: Plains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 15 inches: clay loam
C - 15 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

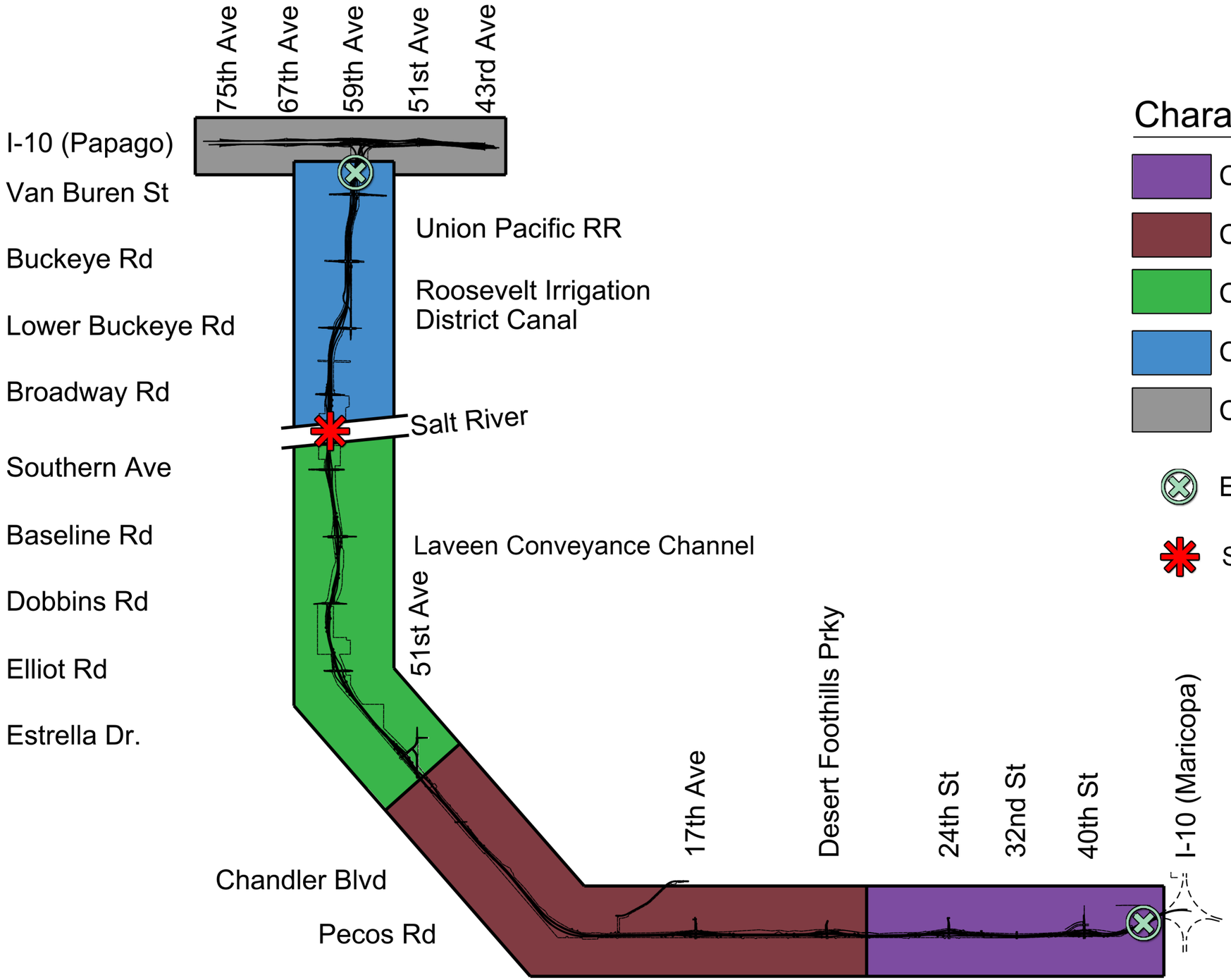
Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C

Ecological site: Clay loam upland 7-10" p.z. (R040XB205AZ)

Data Source Information

Soil Survey Area: Gila River Indian Reservation, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 9, Sep 14, 2014

Soil Survey Area: Maricopa County, Arizona, Central Part
Survey Area Data: Version 8, Sep 14, 2014



Character Area (CA) Legend

- CA 1 - Ahwatukee Neighborhoods
- CA 2 - Ahwatukee Foothills
- CA 3 - Laveen Village
- CA 4 - Estrella Village
- CA 5 - I-10 TI

- Entry Gateway
- Salt River Bridge

N

Exhibit L1.1

Character Area Map

Exhibit L1.2

Character Area 1-
Ahwatukee Neighborhoods

SR 202 - South Mountain Freeway

04.03.2015

ADOT

J2 engineering and environmental design

Exhibit L1.3

Character Area 2-
Ahwatukee Foothills

SR 202 - South Mountain Freeway

04.03.2015

ADOT

J2 engineering and environmental design

Exhibit L1.4

Character Area 3-
Laveen Village

SR 202 - South Mountain Freeway

04.03.2015

ADOT

J2 engineering and environmental design

Exhibit L1.5

Character Area 4-
Estrella Village

SR 202 - South Mountain Freeway

04.03.2015

ADOT

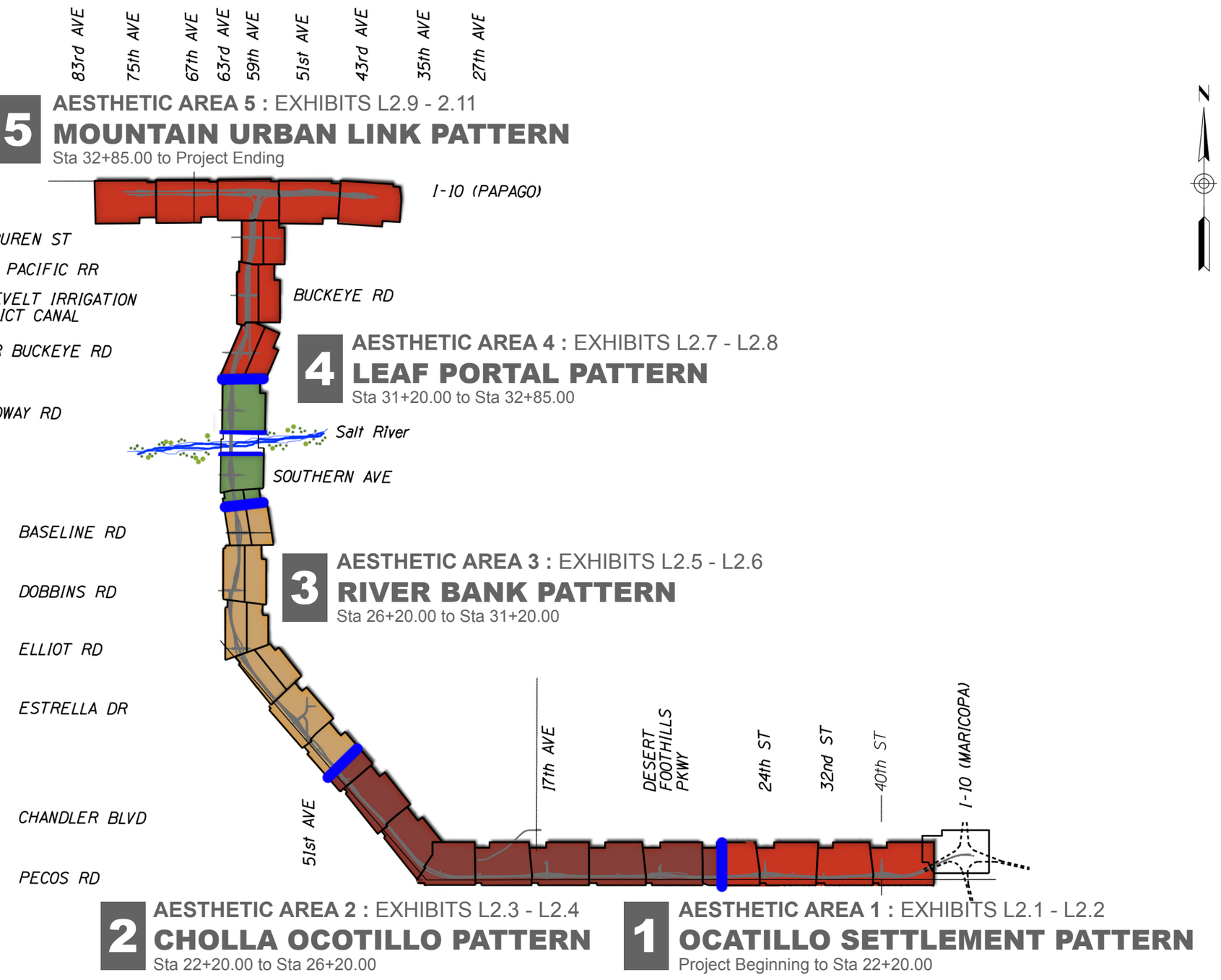
J2 engineering and environmental design

Exhibit L1.6

Character Area 5-
I-10 T. I.

Paint Color Legend

- Corridor Base Color — **Silt**
- 1 — Aesthetic Area 1 — **Ocotillo Bloom**
- 2 — Aesthetic Area 2 — **Earth Red**
- 3 — Aesthetic Area 3 — **Yellow Ochre**
- 4 — Aesthetic Area 4 — **Field Green**
- Salt River Bridge — **Earth Red**
- 5 — Aesthetic Area 5 — **Ocotillo Bloom**
- 5 — Aesthetic Area 5 — **Warm Earth**

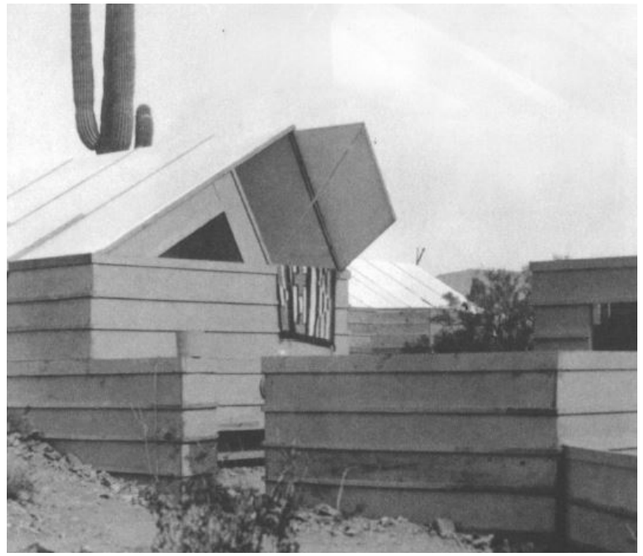


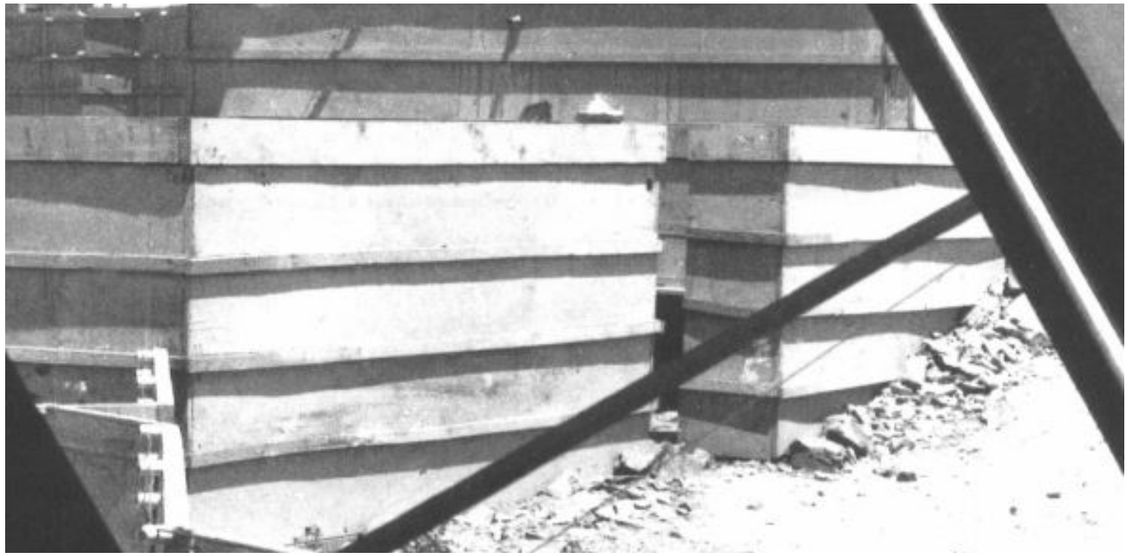
Aesthetic Area Map

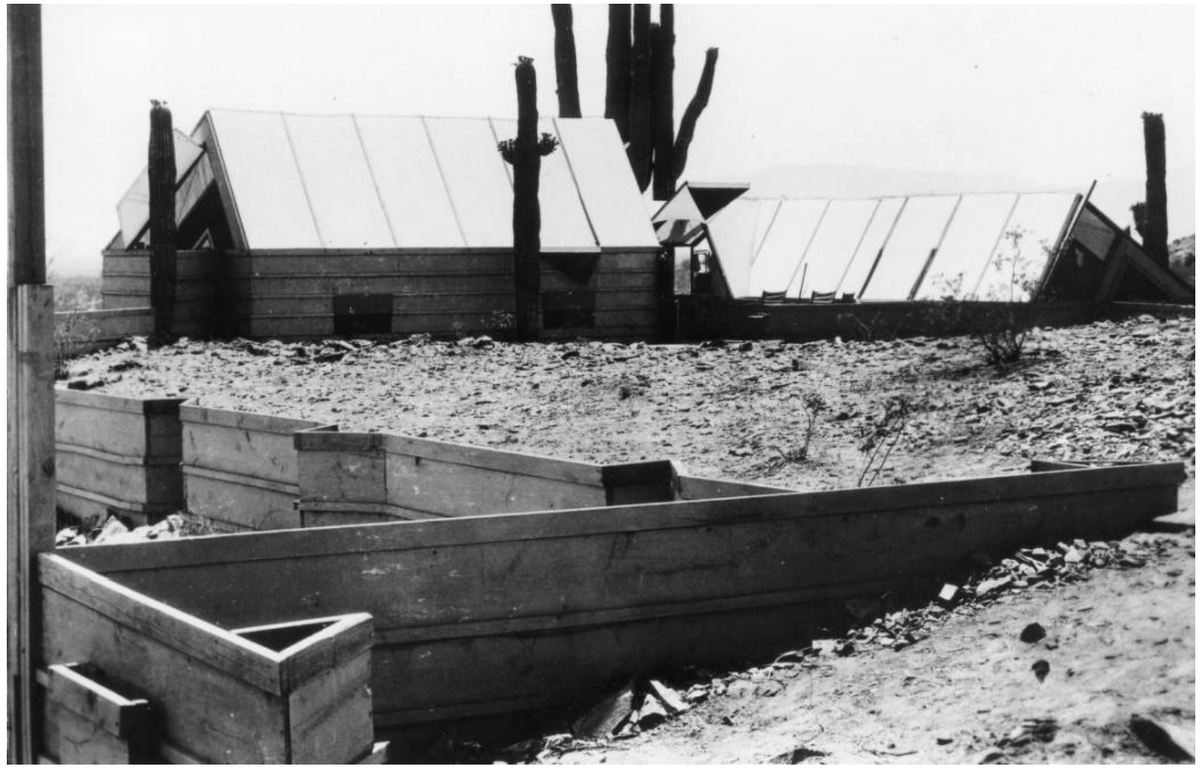
Exhibit L2.0

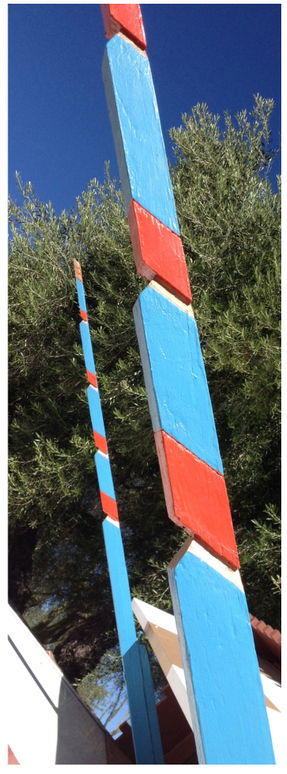
OCATILLO SETTLEMENT PATTERN

area 1









The South Mountain Freeway designs provided by the Frank Lloyd Wright School of Architecture celebrate the early experiments by Frank Lloyd Wright in desert architecture in the area now known as Ahwatukee. In the late 1920's, Alexander Chandler invited the Wisconsin-based architect Frank Lloyd Wright to design a luxurious desert resort at the base of the South Mountains, to be named the "San Marcos in the Desert." Wright was so fascinated by the resort project and the desert that he built a temporary winter camp for his family and entire architectural operation at the base of the South Mountains, near to where the resort was to be. This camp was called Ocotillo, and lasted until the stock market crash in 1929, when the San Marcos project was terminated. Despite this premature ending, this period of was a turning point for Wright's design work and set the tone for the final, prolific, period of his career - providing Wright with the seeds of future masterworks, such as Taliesin West in Scottsdale.

In Wright's designs for Ocotillo and the San Marcos resort, he uses simple materials to celebrate the spare geometric forms of the desert landscape and the crisp geometry of the vegetation. Wright was enamored with the expressive power of the clear desert light, and used the contrast of sun and shadow to enliven his structures. Horizontal lines, expressed boldly in the wood walls of the Ocotillo camp, echo the flat desert floor and long desert horizons. These are punctuated by triangular canvas roofs that rise like the foothills of South Mountains in the background [insert image of Ocotillo, with mountains in background]. In the San Marcos designs, a texture of vertical ribs evoke the fluting of the saguaro cactus. Other forms are abstract representations of the spines of the cholla and yucca plants, and accents of bright colors evoke the bright desert flowers after the rains. This imagery is woven into the designs provided by the Frank Lloyd Wright School of Architecture for the eastern portion of the South Mountain Freeway.

Exhibit L2.1

OCATILLO SETTLEMENT PATTERN

area 1

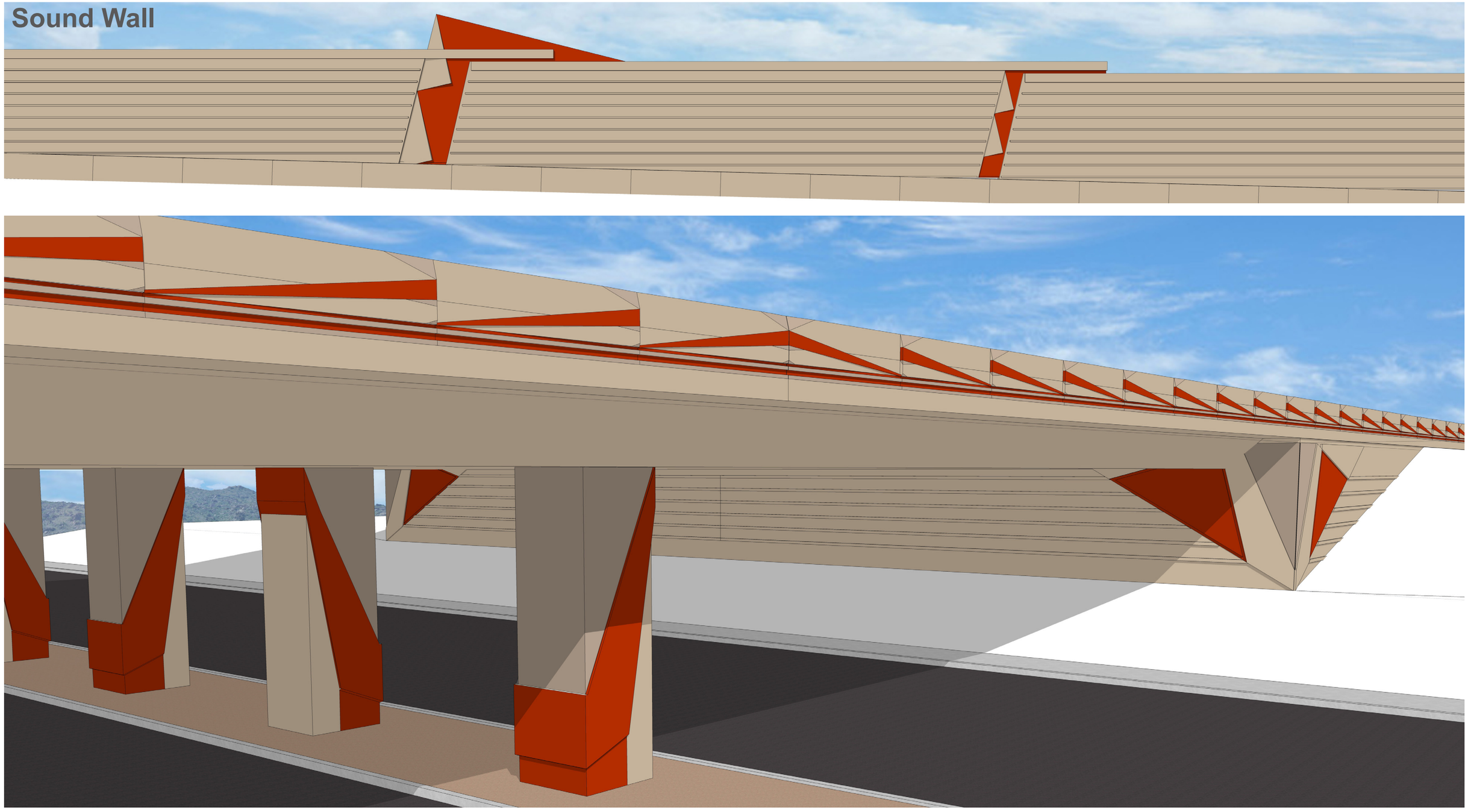


Exhibit L2.2

CHOLLA / OCOTILLO PATTERN

Design principles that are a representation of the simple shapes and forms found on the native Cholla and Ocotillo Cactus are adapted for this concept. It is representative of the South Mountain Range regional context.

This concept is used as rustication on the sound barrier wall construction system which is either mounted onto masonry block or applied through a cast-in-place construction method.

Exhibit L2.3

CHOLLA / OCOTILLO PATTERN

area 2

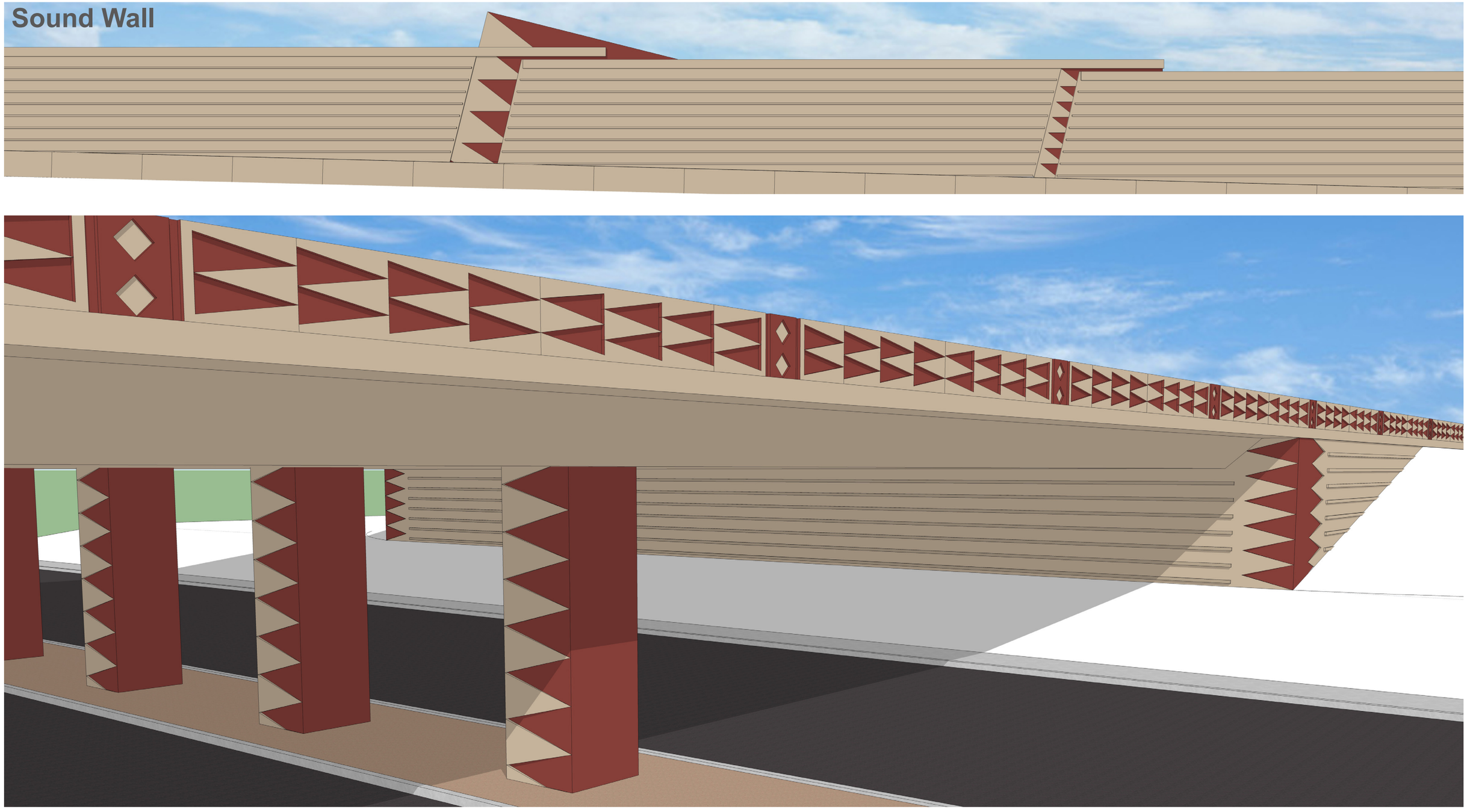


Exhibit L2.4

RIVER BANK PATTERN

The silt and soil from the Salt River floodplain in the Sonoran desert have directly informed Paolo Soleri's craft, art and architecture. Having completed an apprenticeship with Frank Lloyd Wright, Soleri established his own studios in the desert north of Camelback Mountain. His early craft work, ceramics, cast in desert earthen molds, reflect the color and texture of the floodplain soils.

Throughout his 70 years as an Arizona architect, Soleri utilized the desert soil, water and human labor to cast concrete buildings, roofs, columns, piers directly on the shaped desert surface(photo). The plasticity of earth as formwork facilitated curvilinear shapes and decorative elements integral to the structures. Water over rock through time yields mountains, rivers, valleys of sand, silt and soil, the context from which the following patterns emerge.

In this abstract design from early Soleri earth-cast ceramics we are reminded of the power of water carving river banks, channels, steep mountain slopes, bold, confidant lines in a coarse gravelly texture.

Exhibit L2.5

RIVER BANK PATTERN

area 3

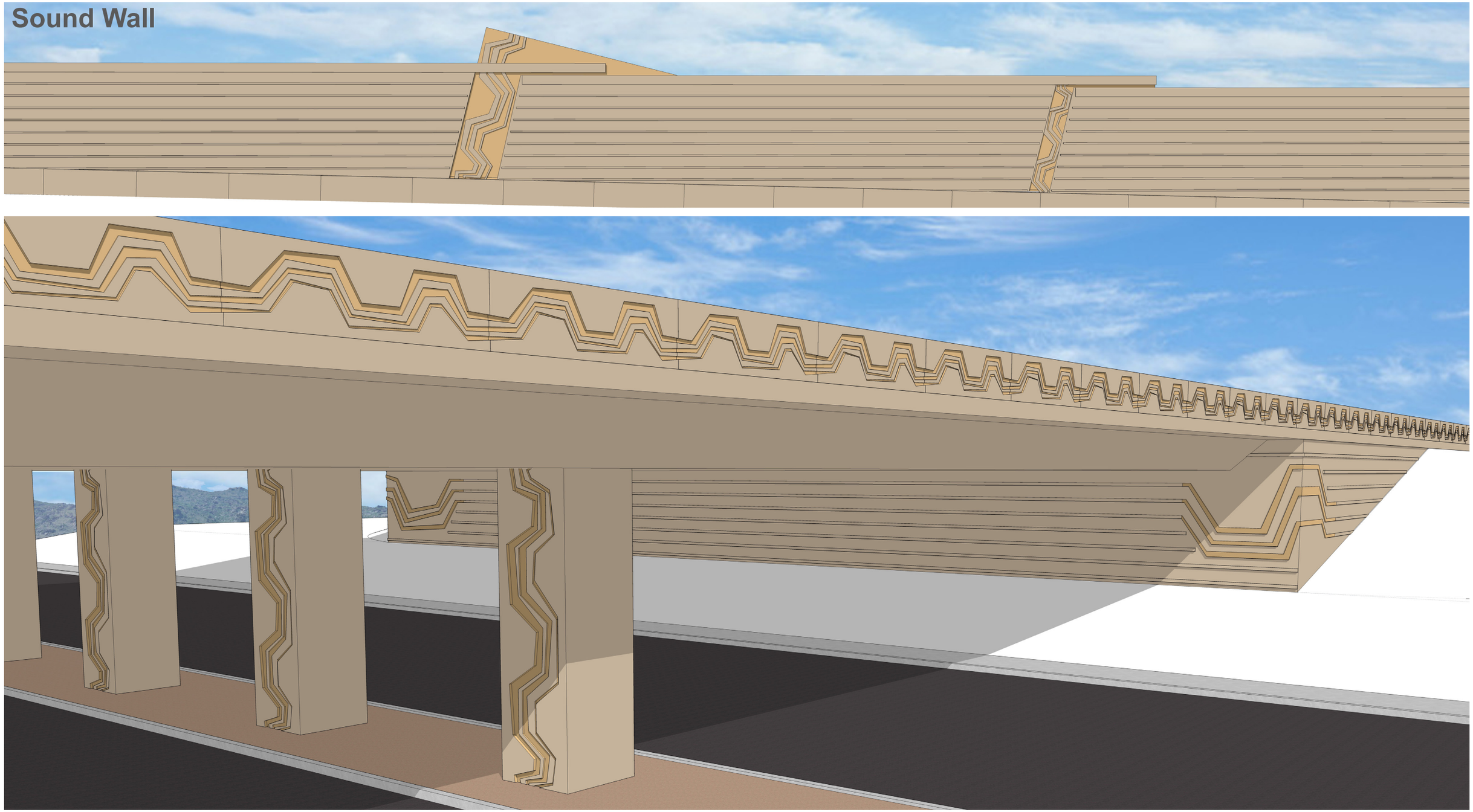
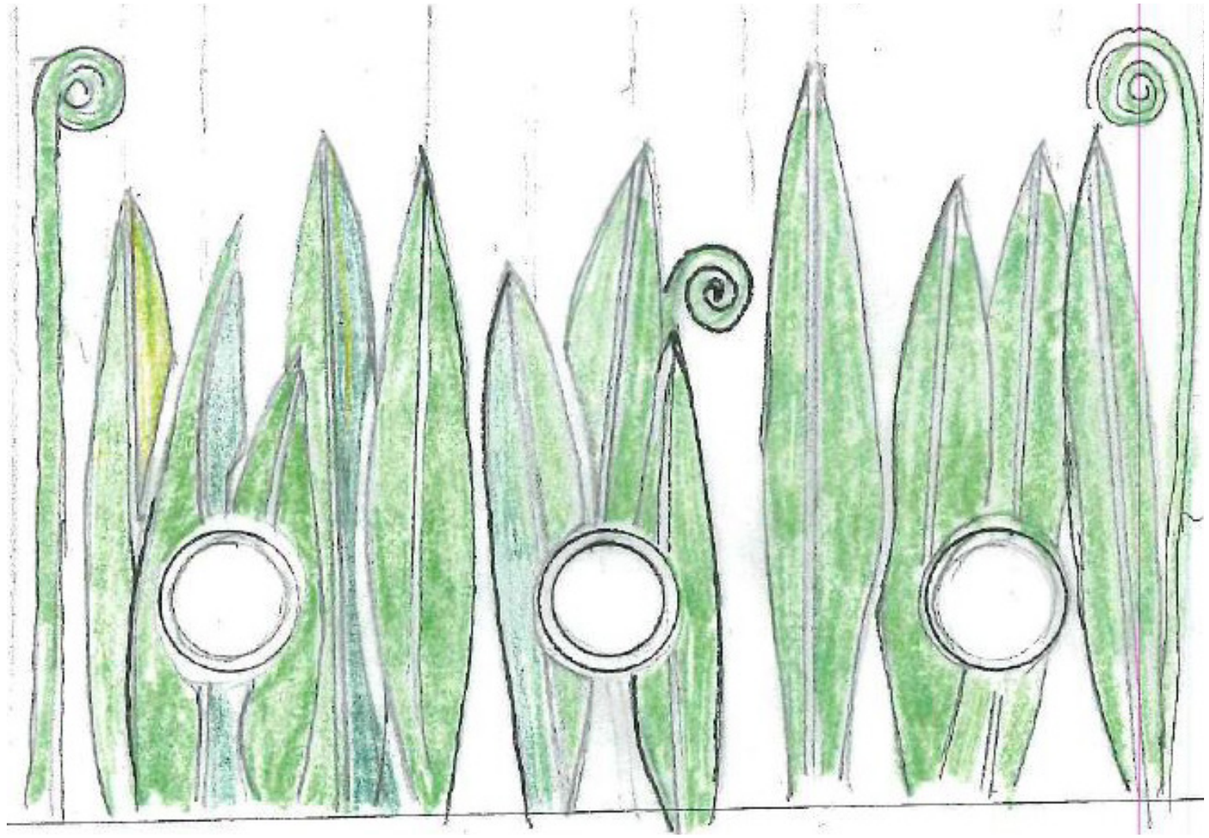
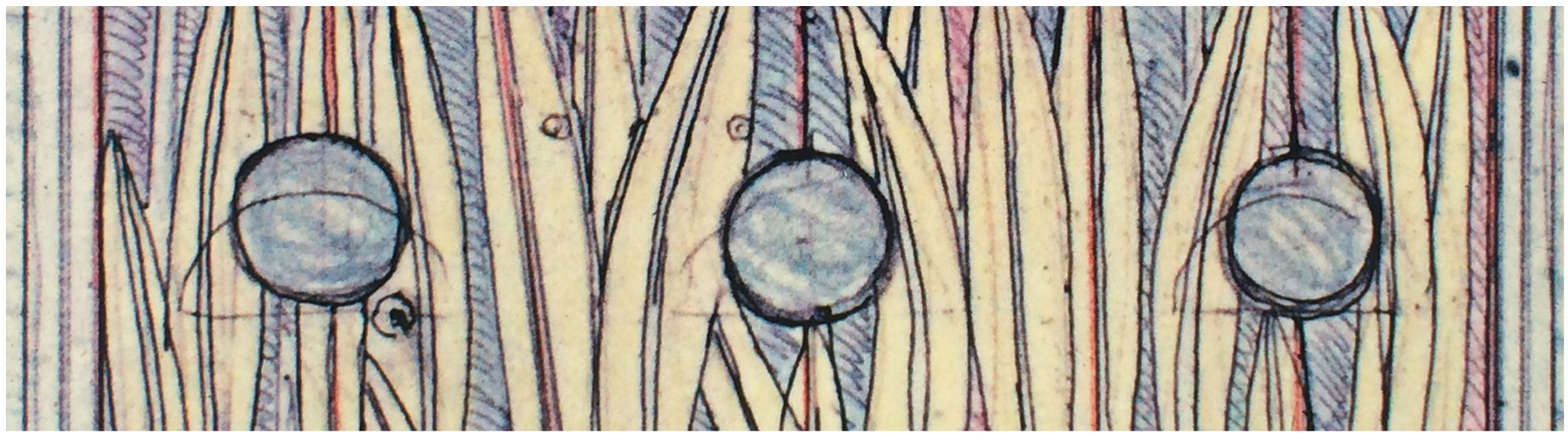


Exhibit L2.6

LEAF PORTAL PATTERN





The leaf pattern suggests the agricultural heritage of this South Mountain area. Behind these walls land use will change through time. Circular shapes represent portals into the future or out of the past. Elements from the sound wall Leaf pattern appear horizontally on barrier walls and vertically on columns and piers.

Exhibit L2.7

LEAF PORTAL PATTERN

area 4

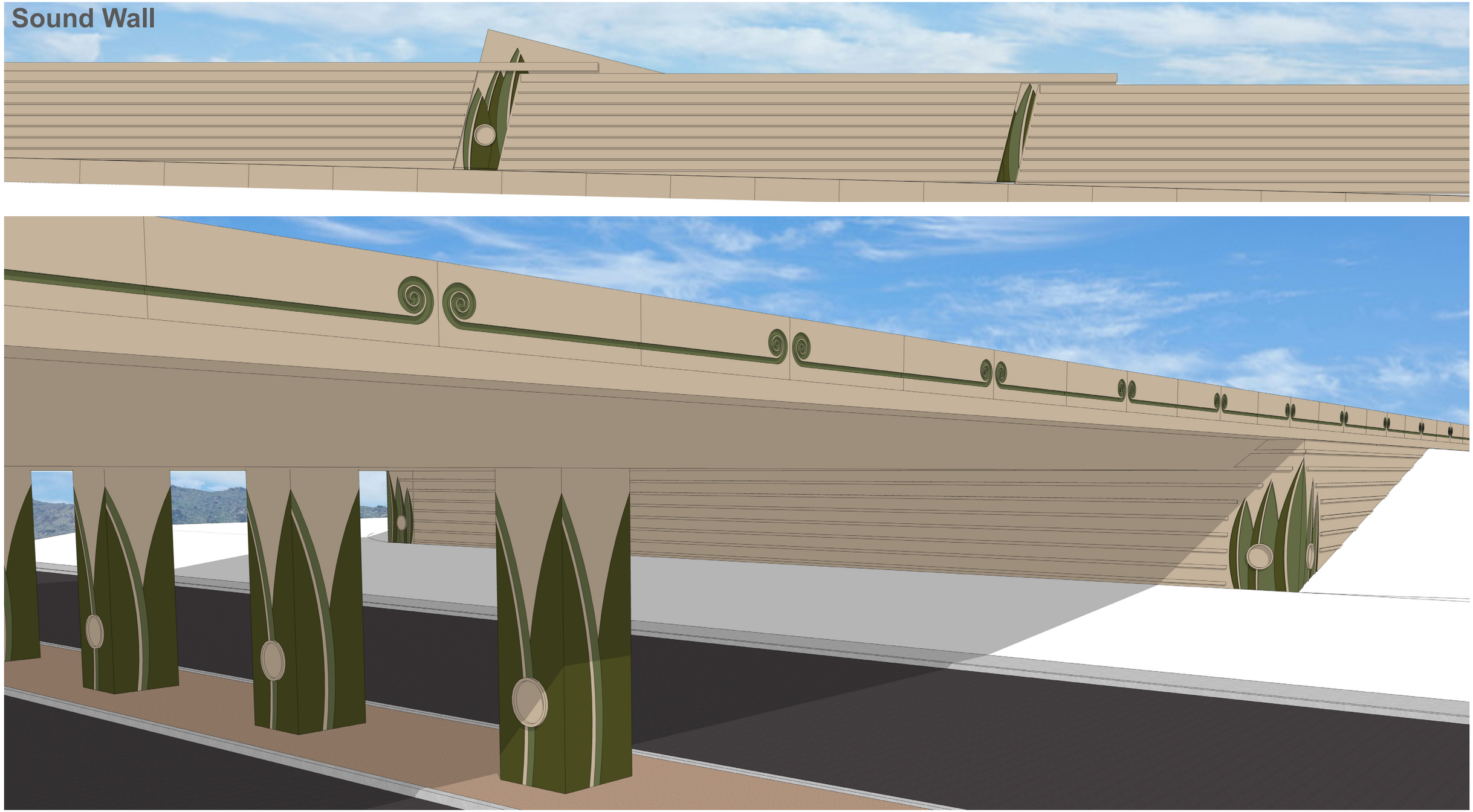


Exhibit L2.8

MOUNTAIN URBAN LINK PATTERN

The westernmost portion of the South Mountain Freeway is, depending on the direction of travel, either the gateway to the freeway or the culmination of the travelers' experience. The design of this portion takes elements explored in other aesthetic areas – including those portions referring to the work of both Wright and Soleri – and abstracts their forms into two interlocking 'L' shapes that become a common language unifying the designs of other aesthetic areas.

The interlocking shapes can suggest a variety of meanings, including the mapped relationship of the I-10 and the South Mountain Freeway, the sweep of the ramps and overpasses within a large interchange, the tapered geometries of the freeway piers and bridges, the connection of the city to the natural environment, the interlocking spiral petroglyphs found on South Mountain, the shadows cast by Wright's Ocotillo Settlement, and the patterns found in Soleri's River Bank design. Above all, this design celebrates the connectivity and interaction that freeways bring to the communities they serve.

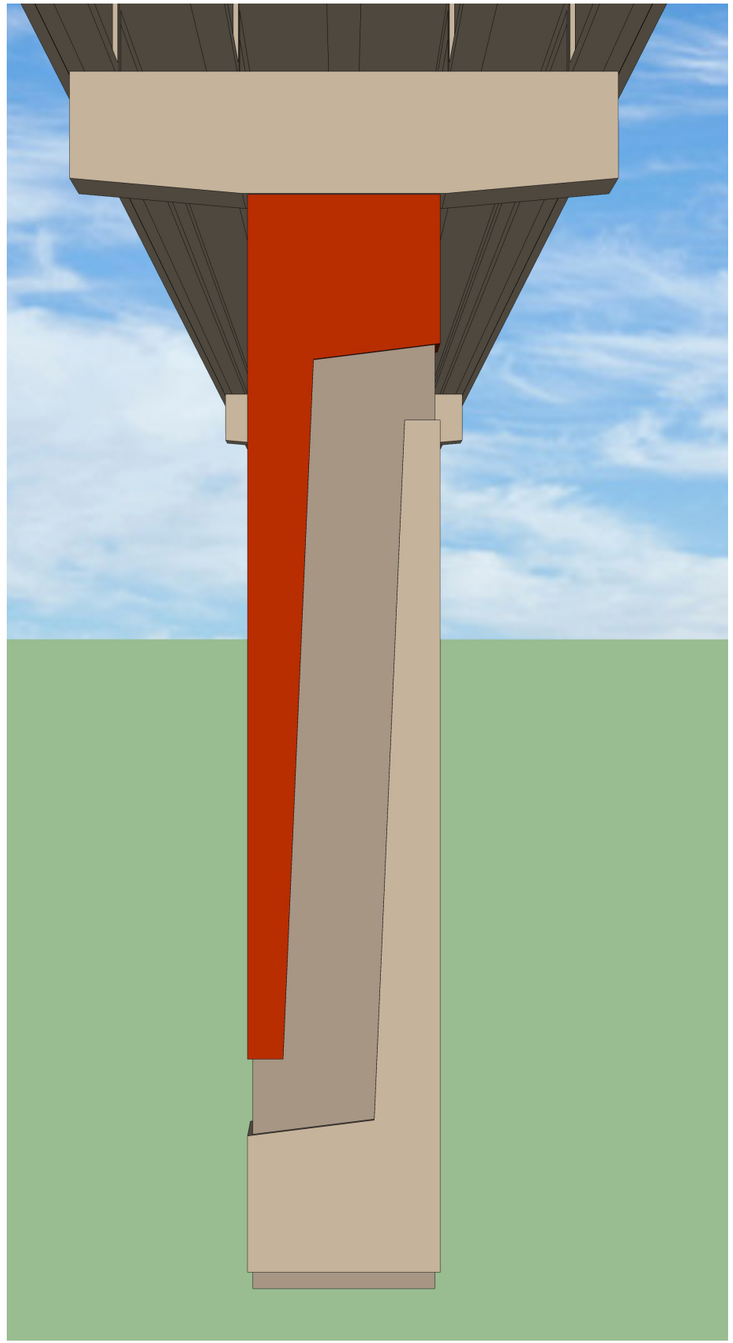
Exhibit L2.9

MOUNTAIN URBAN LINK PATTERN

area 5

Exhibit L2.10

MOUNTAIN URBAN LINK PATTERN



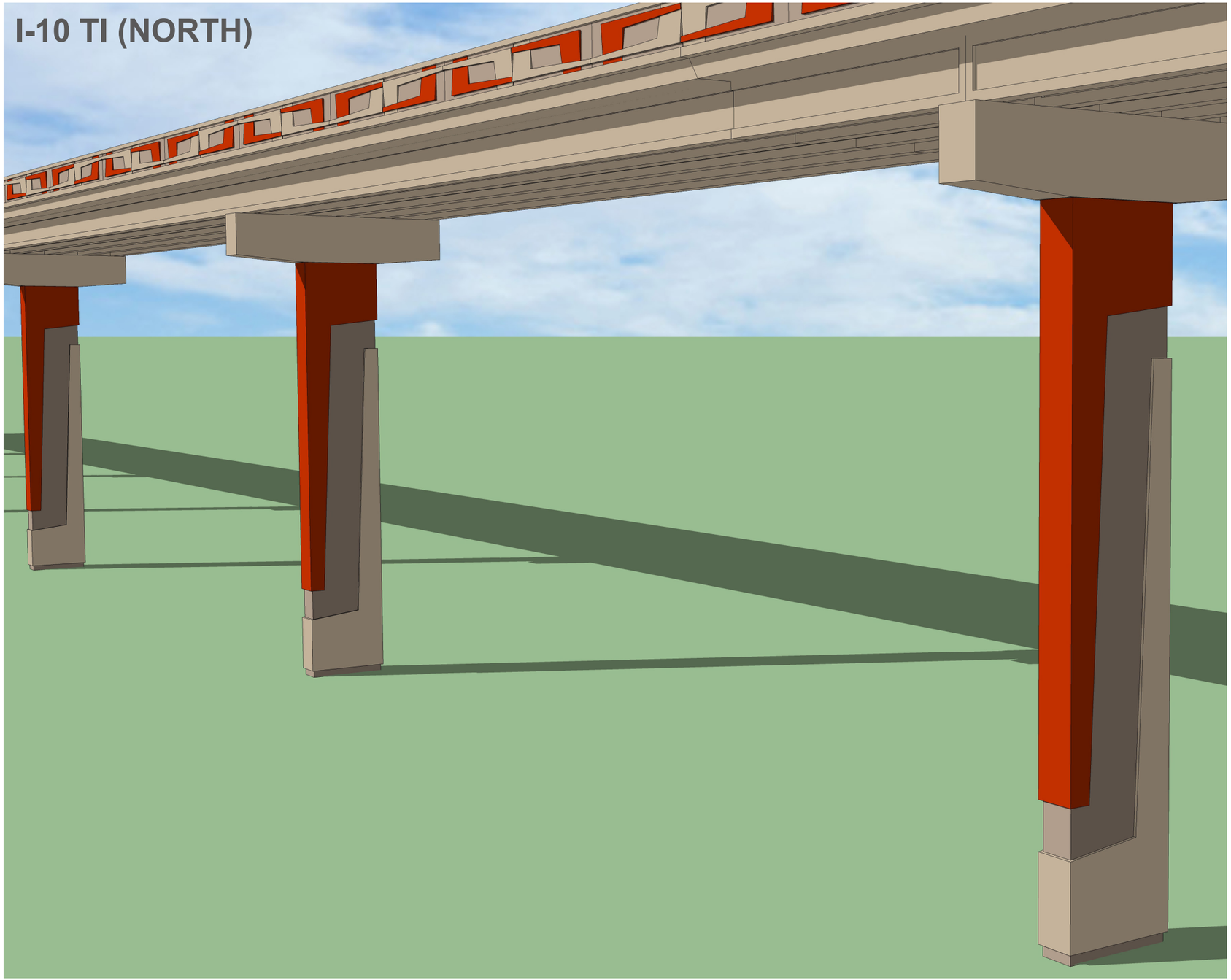
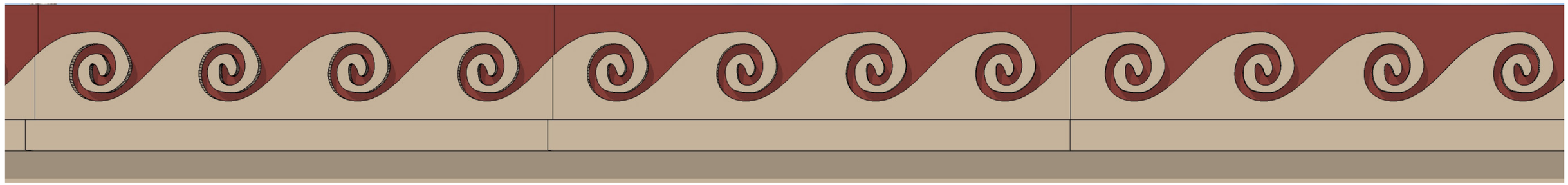
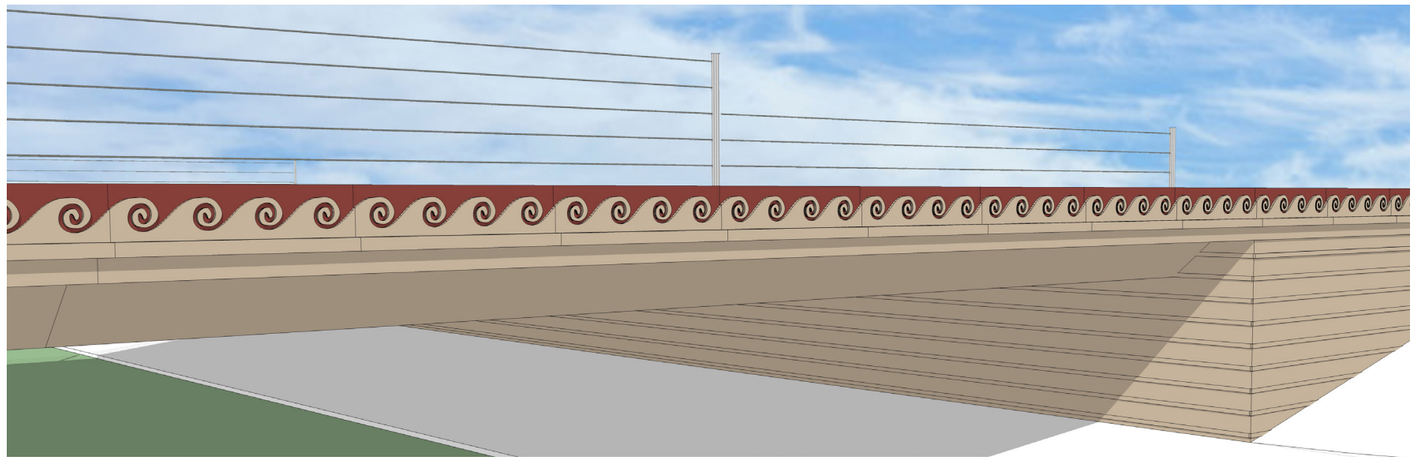
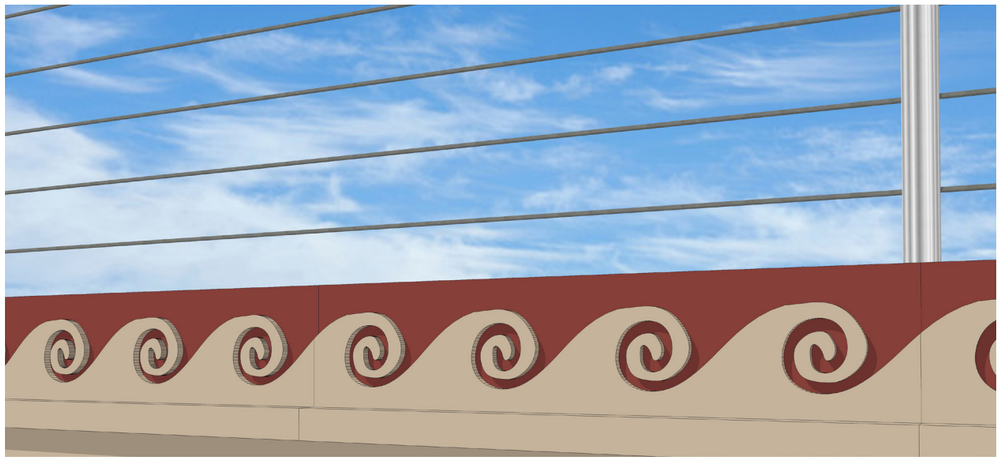


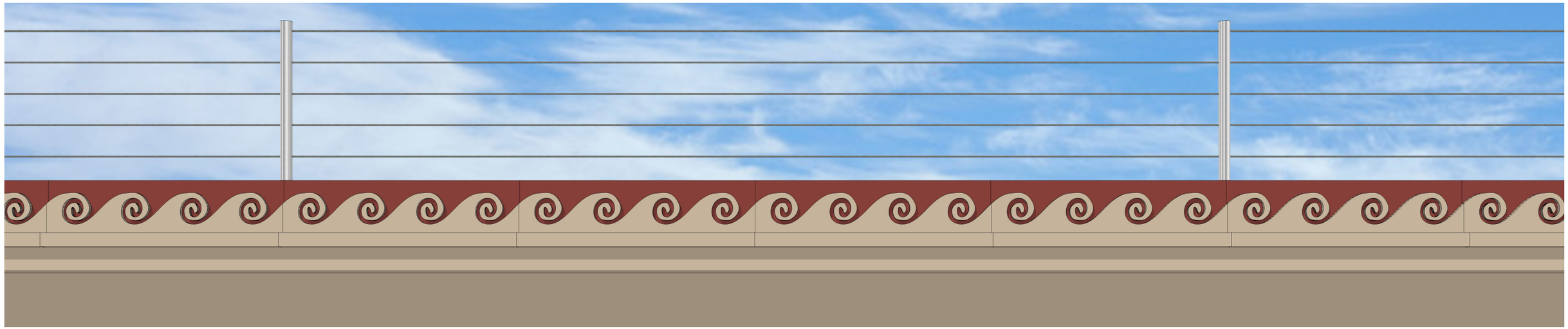
Exhibit L2.11

SALT RIVER BRIDGE









The South Mountain Bridge combines the horizontal rustication pattern throughout the corridor, and the Hohokam Wave Pattern used in various other places throughout the Valley.

Exhibit L2.12

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

NOTES

1. The design details provided herein represent minimum standards or aesthetic treatments. Contractor's means and methods are subject to review and approval by ADOT Roadside Development through the Engineer.

2. Sizes specified on details may change per ADOT Roadside Development through the Engineer.

3. Contractor is to provide a full-size mock-up panel of the sound wall rustication for review and approval by ADOT Roadside Development through the Engineer prior to Construction.

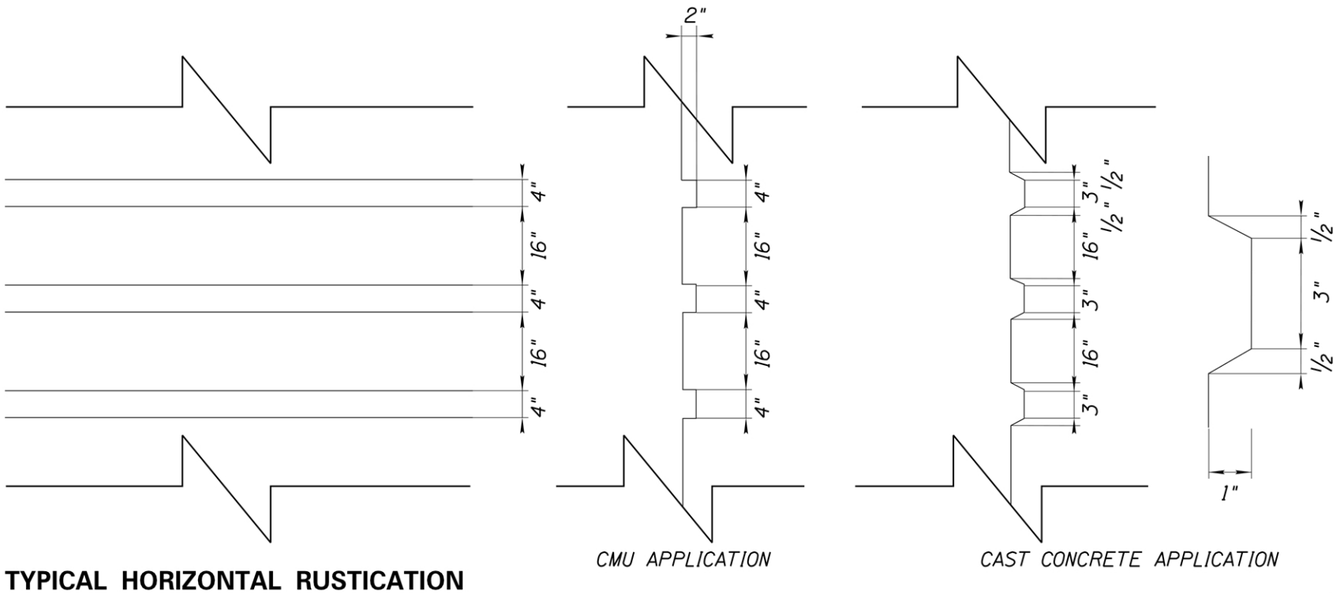
4. Paint names shown in the details are for reference and control samples only. The Contractor may apply any paint color brand name or trademark such as Pittsburgh Paint, Sherwin-Williams, or Dunn Edwards, so long as they demonstrate equivalent color effects with the approval of ADOT Roadside Development through the Engineer.

5. All abutment, wing, retaining, sound, and other applicable wall surfaces shall receive at least the typical horizontal rustification shown herein, even if such design details are not provided in this document.

6. All existing walls throughout the corridor shall be painted the specified base color (limits of existing walls to receive paint are (at the north end) to the west gore at 75th Ave. and to the east gore at 43rd Ave. and (at the south end) to the 40th Street Bridge).

COLOR LEGEND

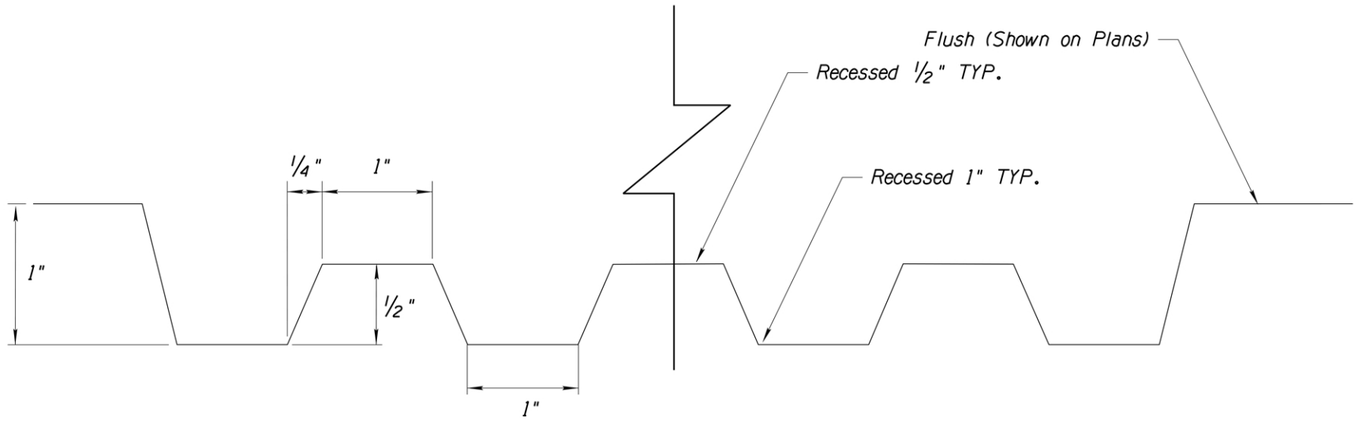
- Corridor Base Color
  Color: Silt
- Aesthetic Area 1
  Color: Ocotillo Bloom
- Aesthetic Area 2
  Color: Earth Red
- Aesthetic Area 3
  Color: Yellow Ochre
- Aesthetic Area 4
  Color: Field Green
- Aesthetic Area 5
  Color: Ocotillo Bloom
- Aesthetic Area 5
  Color: Warm Earth
- Salt River Bridge
  Color: Earth Red



CMU APPLICATION

CAST CONCRETE APPLICATION

TYPICAL HORIZONTAL RUSTICATION
N.T.S.



TYPICAL "TEXTURE" RUSTICATION – HORIZONTAL RIBBING
N.T.S.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

Kimley»Horn

NOTES

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.13

TRACS NO. H5764 01L | NH-202-D (ADY) | ____ OF ____

9:07:13 AM 4/1/2015 CHRIS.ROSE K:\PHX_LA\091995002_SOUTH_MOUNTAIN_AESTHETICS\CADD\PLANS\NOTES.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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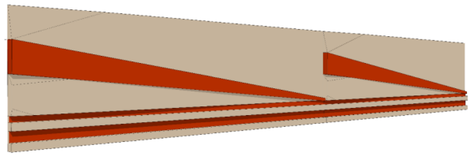
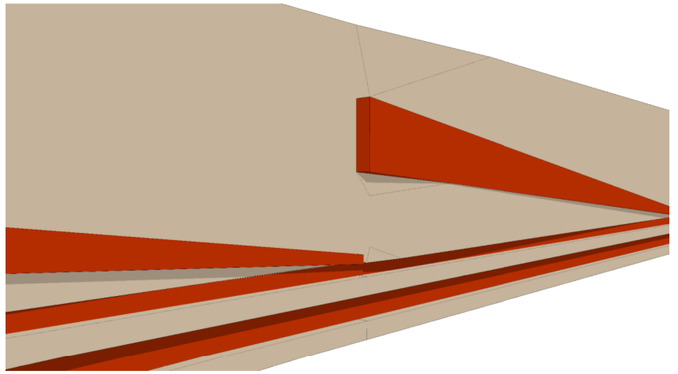
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

LEGEND

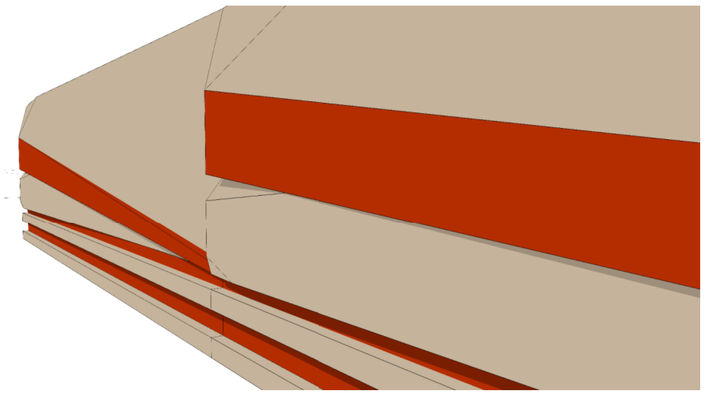
Rustication Thickness Key:

1. Flush
2. Recessed 1/2"
3. Recessed 1"
4. Recessed 1 1/2"
5. Recessed 2"

Paint Color Key:

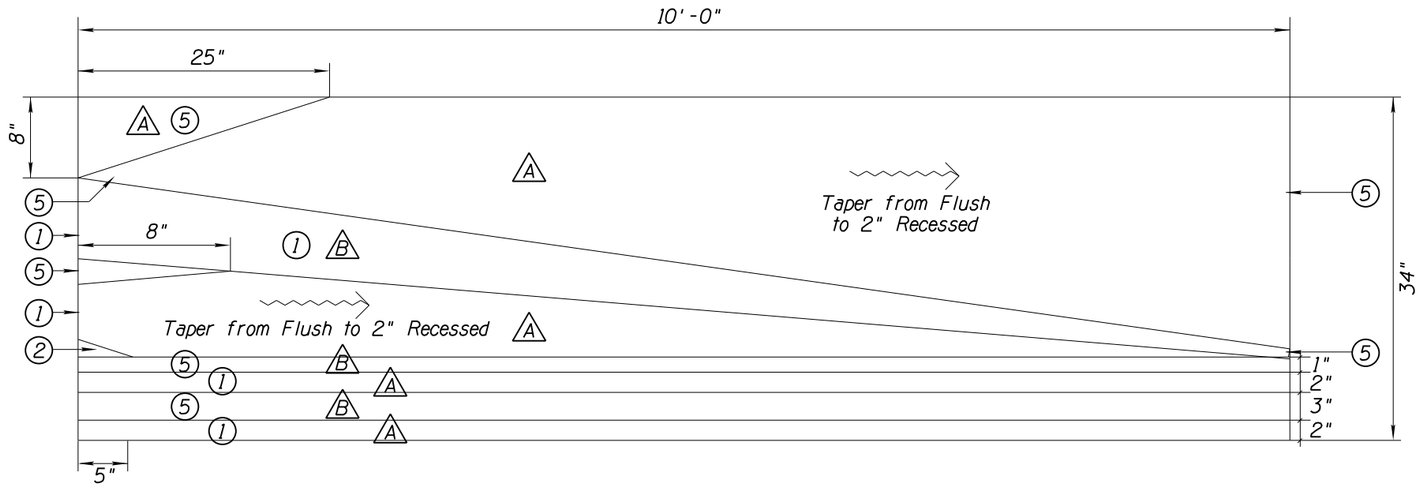
A. Base Color: 'Silt'

B. Accent Color: 'Ocotillo Bloom'



3D BARRIER WALL VIEW C

N.T.S.



BARRIER WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

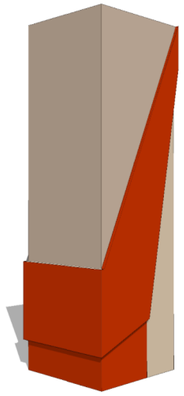
OCATILLO SETTLEMENT PATTERN
BARRIER WALL DETAILS
PROJECT BEGIN TO STA 22+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		EXHIBIT NO. L2.14
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

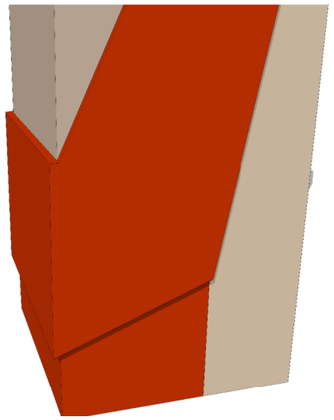
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER VIEW A

N.T.S.



3D PIER VIEW B

N.T.S.

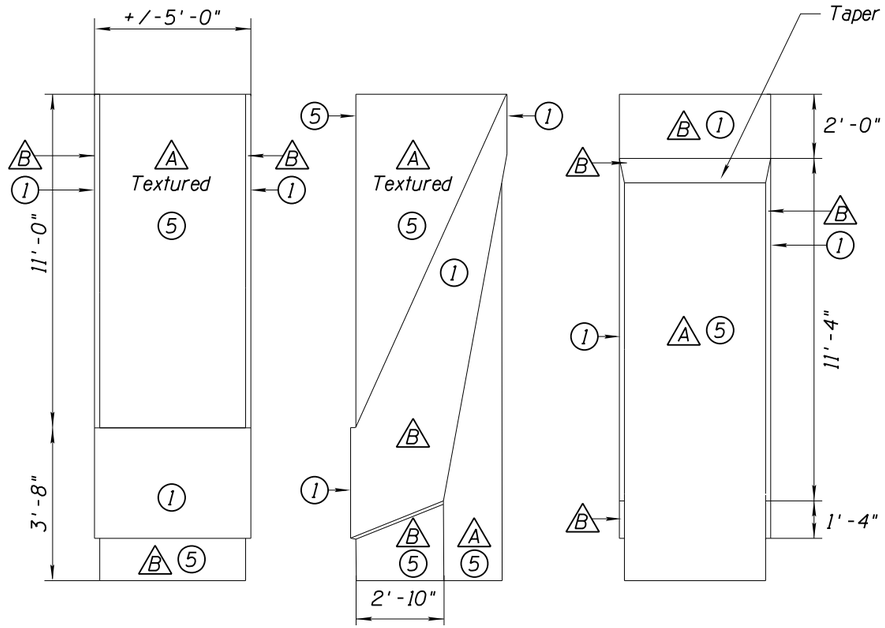
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed ½"*
3. *Recessed 1"*
4. *Recessed 1½"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*



PIER ELEVATIONS

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

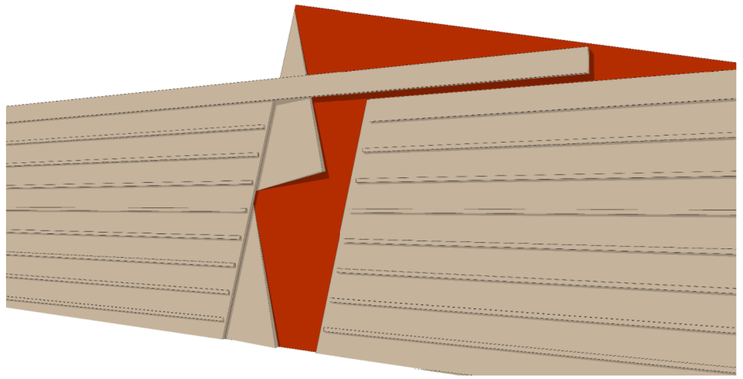
OCATILLO SETTLEMENT PATTERN
PIER DETAILS
PROJECT BEGIN TO STA 22+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.15
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D SOUND WALL VIEW A

N.T.S.

3D SOUND WALL VIEW B

N.T.S.

LEGEND

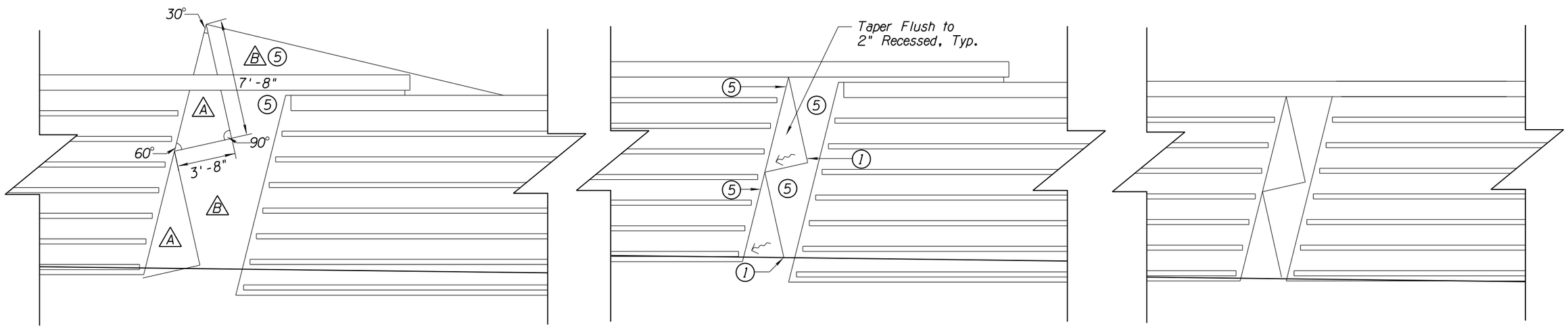
Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*

Note:
1. General wall colors, dimensions, and finishes per Sound Wall Details, Sheet L-06.01



SOUND WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES
OCATILLO SETTLEMENT PATTERN
SOUND WALL DETAILS
PROJECT BEGIN TO STA 22+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.16

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

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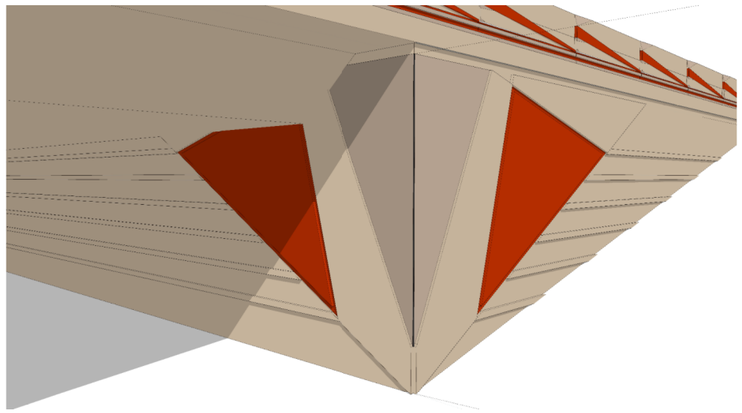
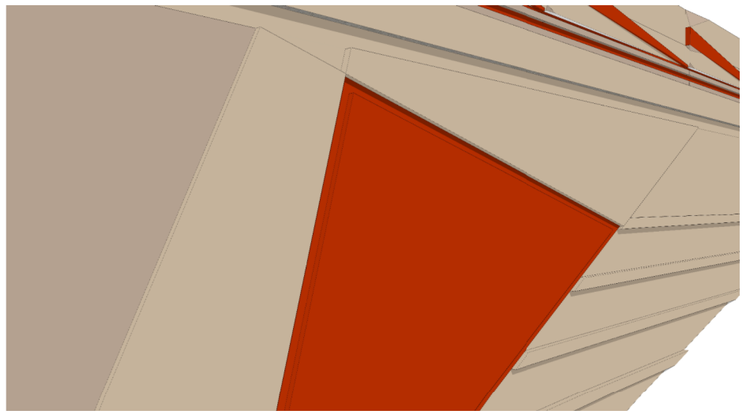
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D WING WALL VIEW A

N.T.S.



3D WING WALL VIEW B

N.T.S.

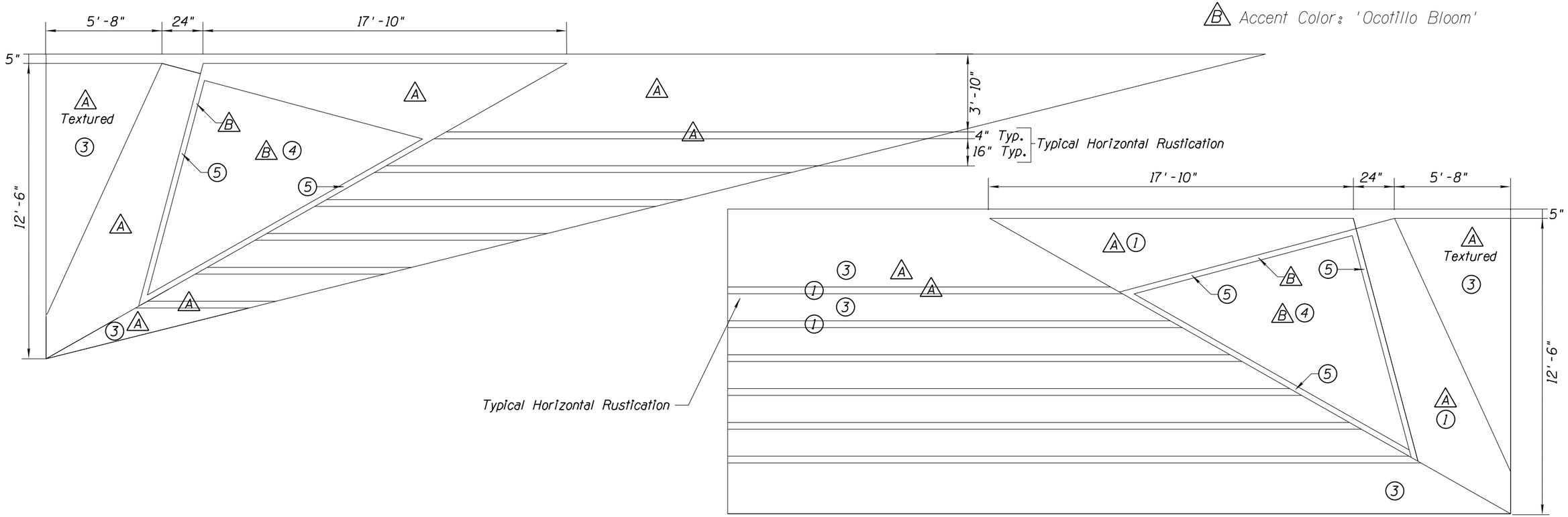
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed ½"*
3. *Recessed 1"*
4. *Recessed 1½"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*



WING WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

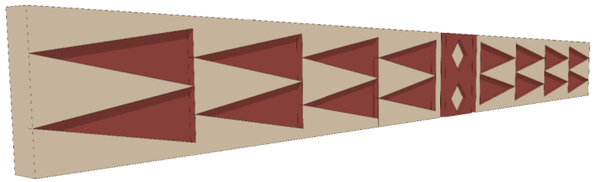
OCATILLO SETTLEMENT PATTERN
WING WALL DETAILS
PROJECT BEGIN TO STA 22+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.17
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

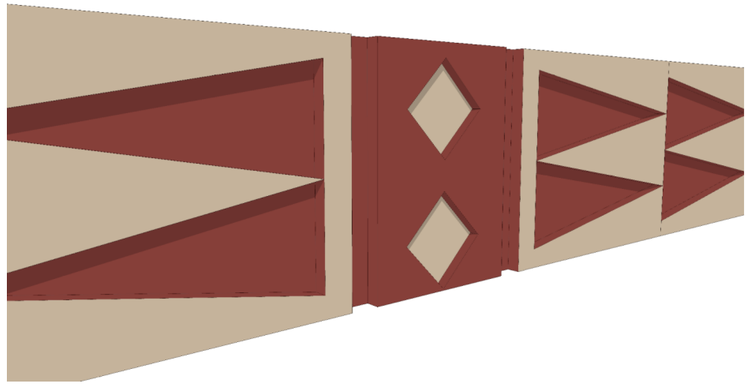
DATE- LOCATION- REVISIONS- FINISHED PLANS- SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



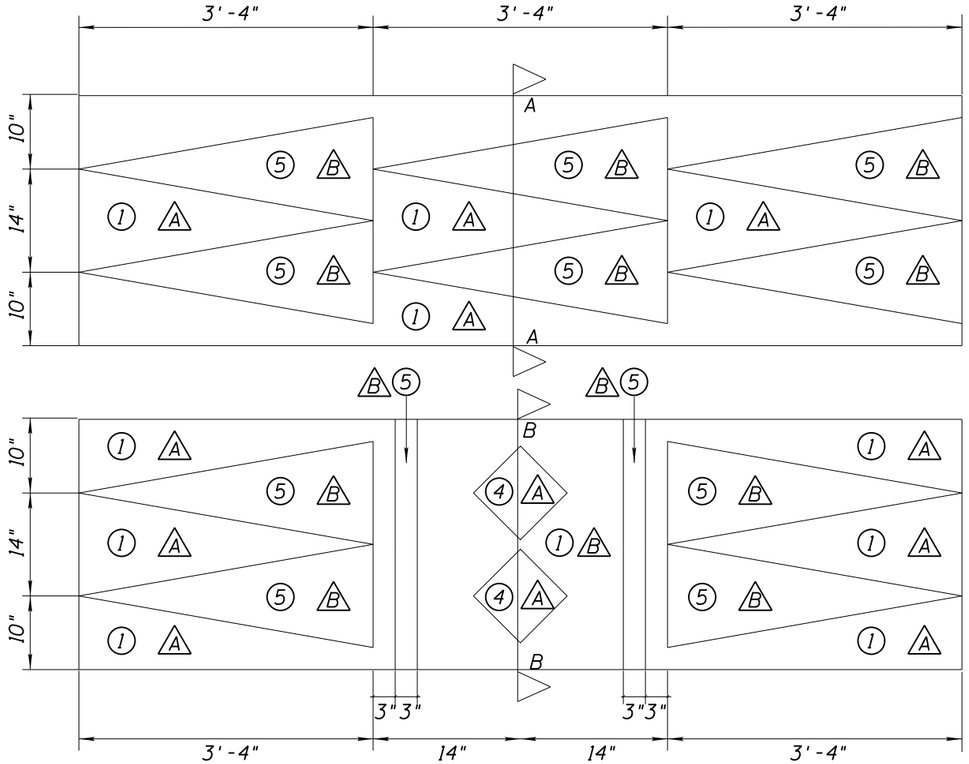
3D BARRIER WALL VIEW A

N.T.S.



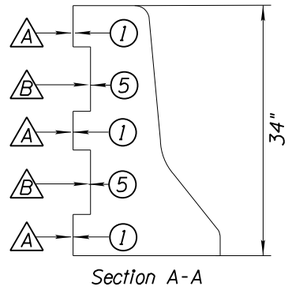
3D BARRIER WALL VIEW B

N.T.S.

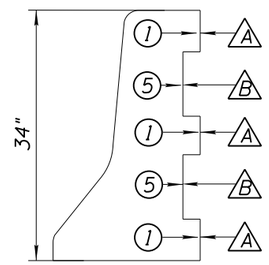


BARRIER WALL ELEVATION

N.T.S.



Section A-A



Section B-B

LEGEND

Rustication Thickness Key:

1. Flush
2. Recessed 1/2"
3. Recessed 1"
4. Recessed 1 1/2"
5. Recessed 2"

Paint Color Key:

- A — Base Color: 'Silt'
- B — Accent Color: 'Earth Red'

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

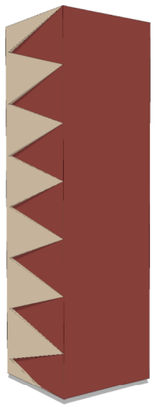
CHOLLA/OCOTILLO PATTERN
BARRIER WALL DETAILS
STA 22+20.00 TO STA 26+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		EXHIBIT NO. L2.18
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

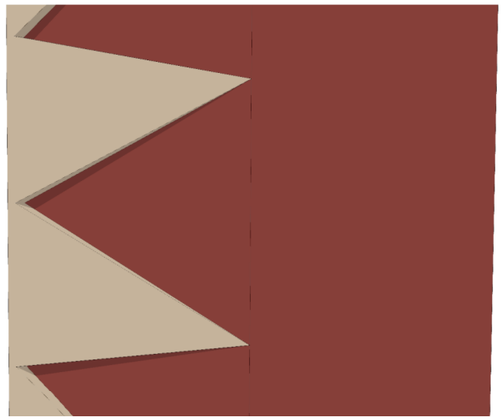
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER VIEW A

N.T.S.



3D PIER VIEW B

N.T.S.

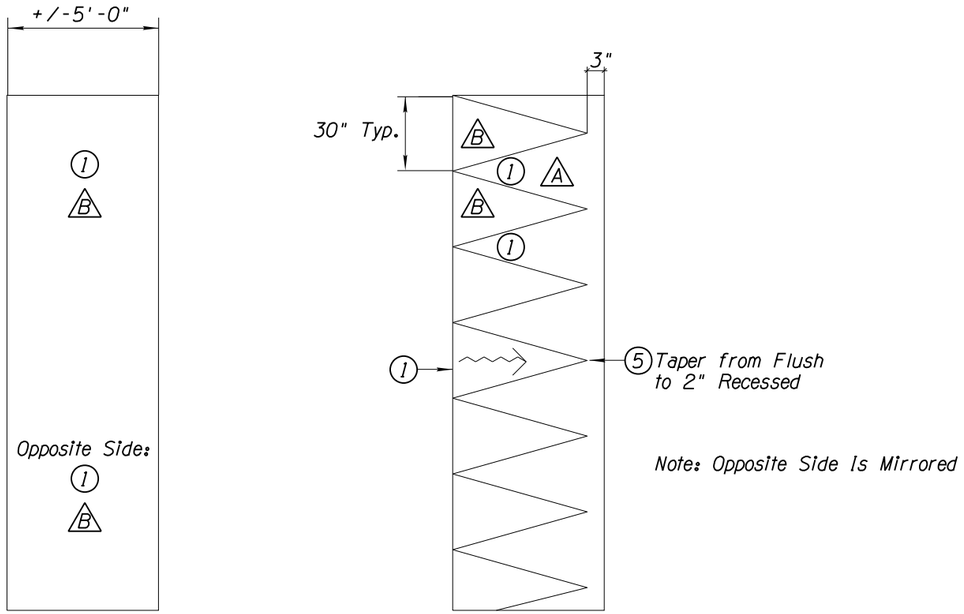
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Earth Red'*



Note: Opposite Side Is Mirrored

PIER ELEVATIONS

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

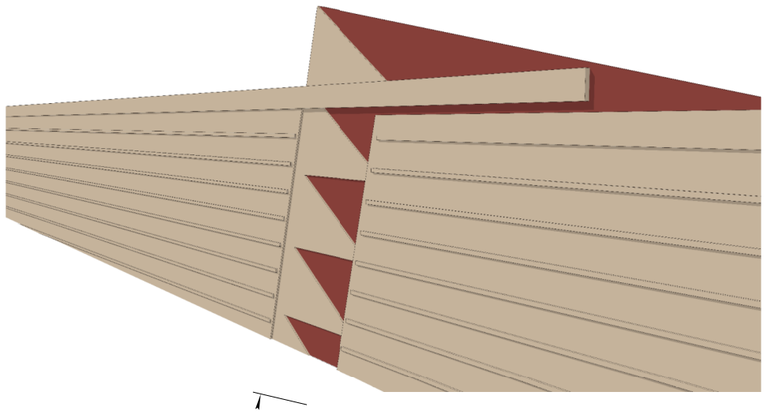
CHOLLA/OCOTILLO PATTERN
PIER DETAILS
STA 22+20.00 TO STA 26+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.19
TRACS NO. H5764 01L	NH-202-D (ADY)	____ OF ____

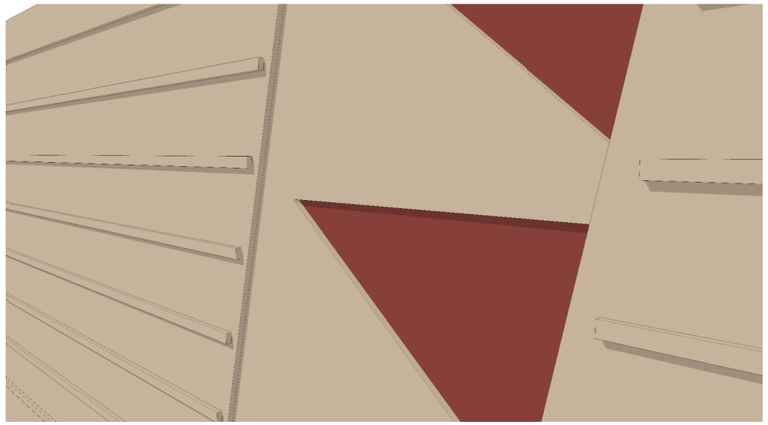
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D SOUND WALL VIEW A

N.T.S.



3D SOUND WALL VIEW B

N.T.S.

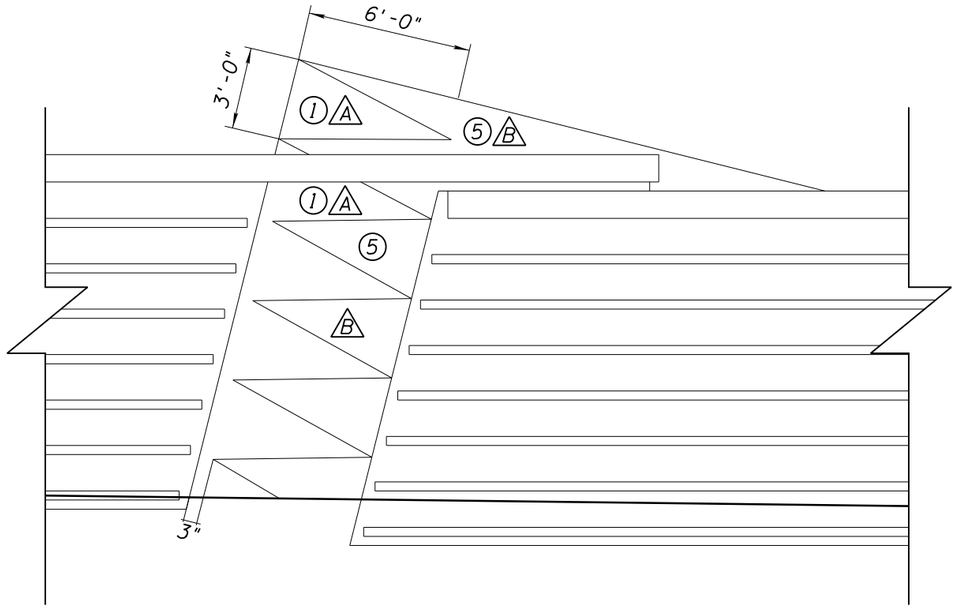
LEGEND

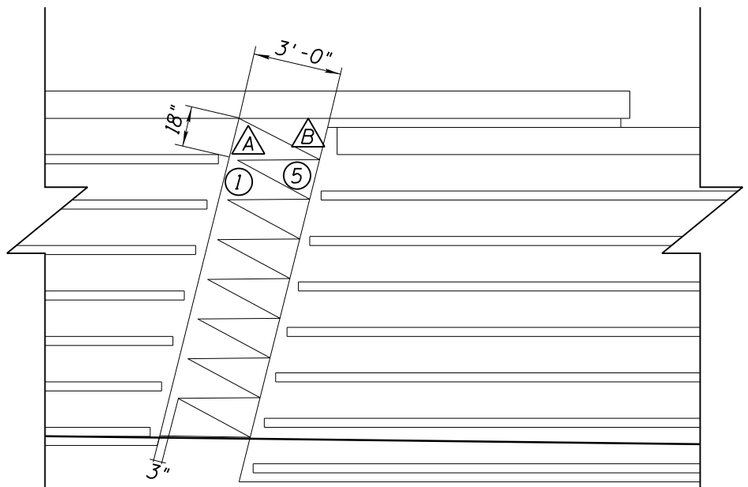
Rustication Thickness Key:

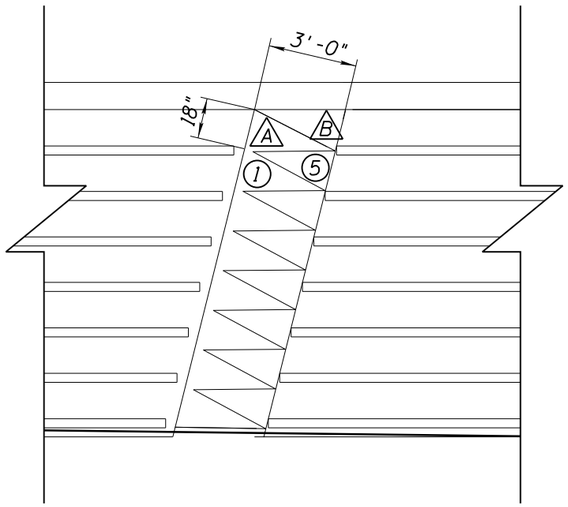
1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Earth Red'*







SOUND WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

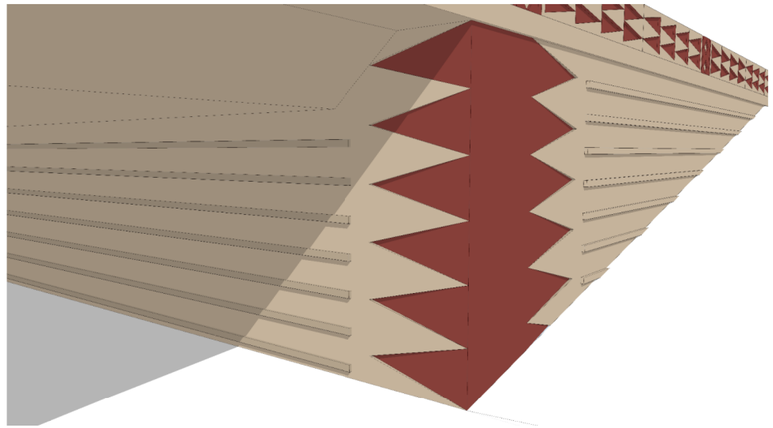
CHOLLA/OCOTILLO PATTERN
SOUND WALL DETAILS
STA 22+20.00 TO STA 26+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.20
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

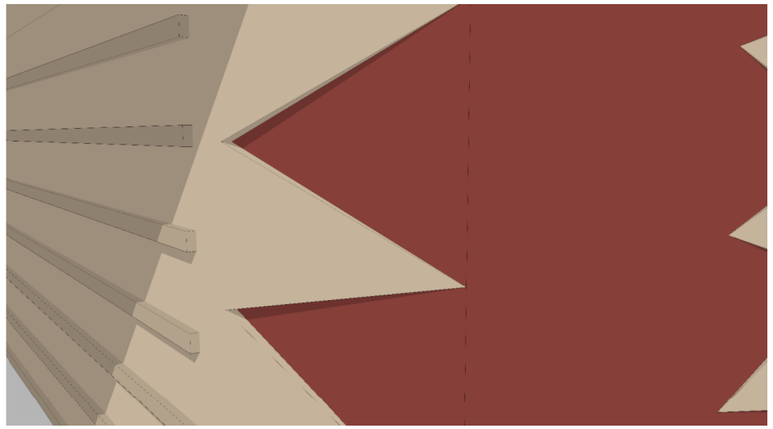
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D WING WALL VIEW A

N.T.S.



3D WING WALL VIEW B

N.T.S.

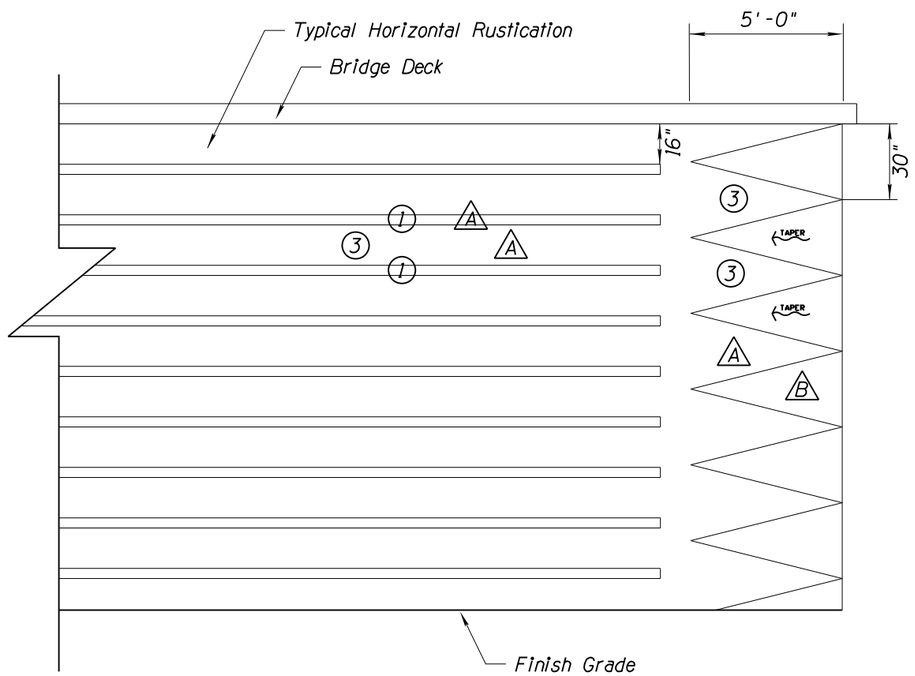
LEGEND

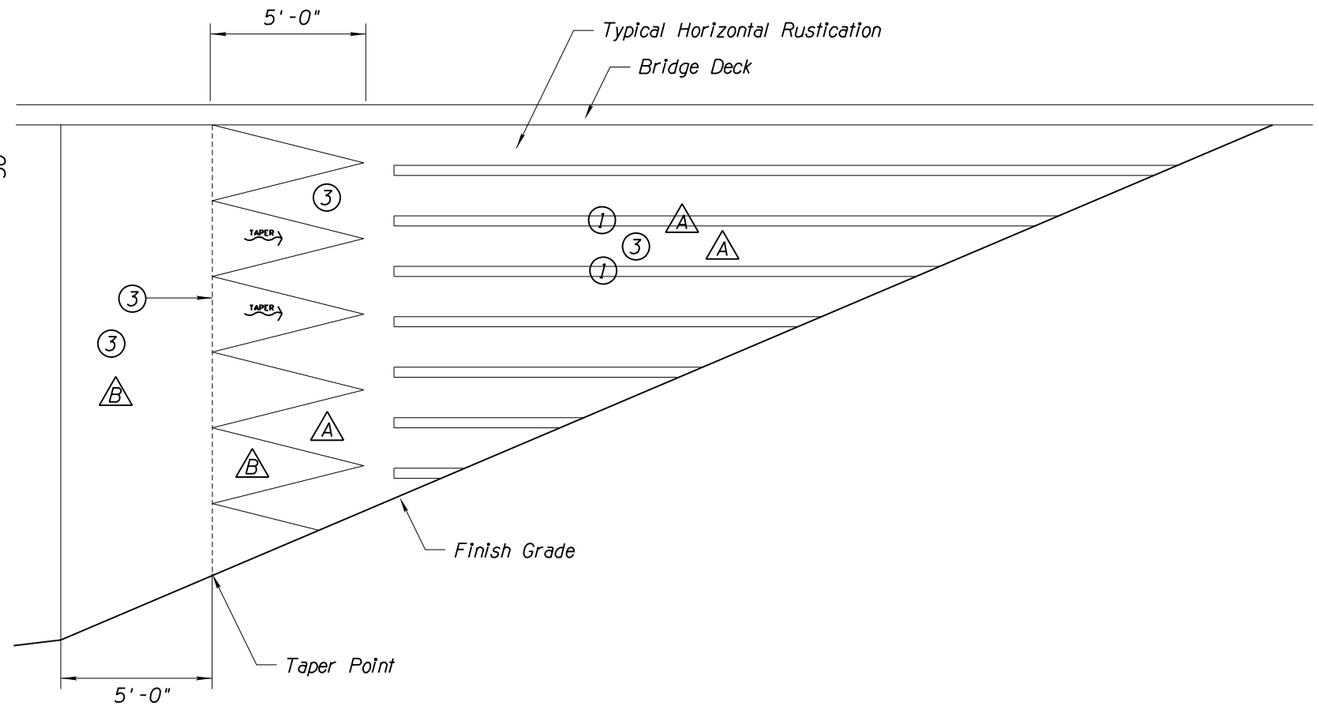
Rustication Thickness Key:

1. *Flush*
2. *Recessed ½"*
3. *Recessed 1"*
4. *Recessed 1½"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Earth Red'*





WING WALL ELEVATIONS

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

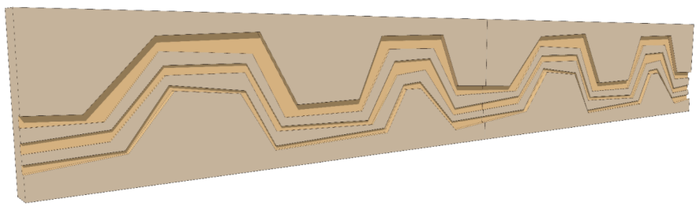
CHOLLA/OCOTILLO PATTERN
WING WALL DETAILS
STA 22+20.00 TO STA 26+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO.L2.21
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

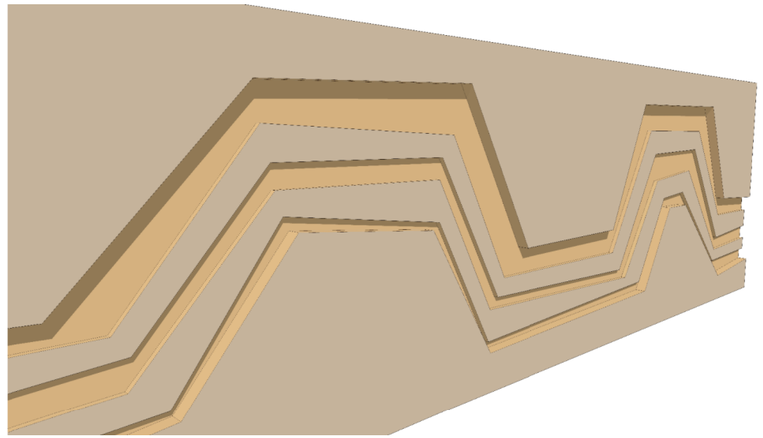
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

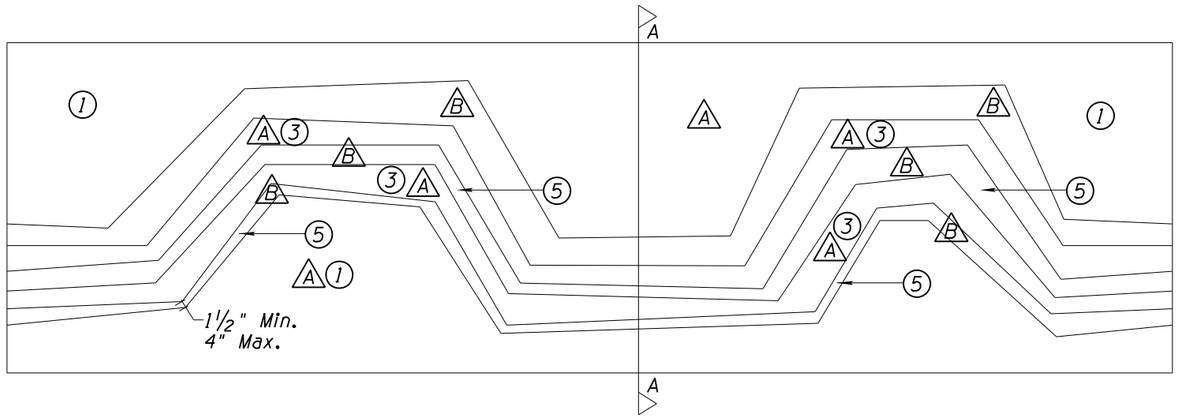
LEGEND

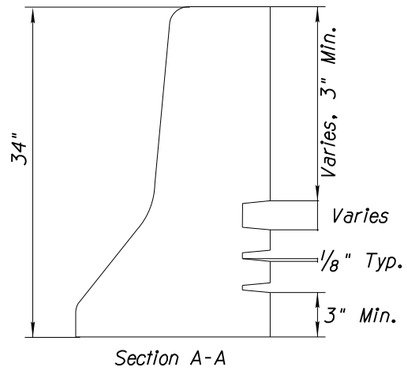
Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Yellow Ochre'*





Section A-A

BARRIER WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

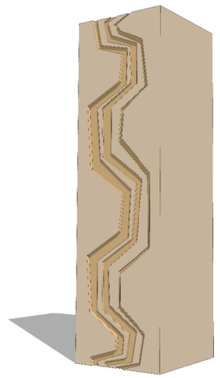
MOUNTAIN RIVER BANK PATTERN
BARRIER WALL DETAILS
STA 26+20.00 TO STA 31+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO.
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	L2.22
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

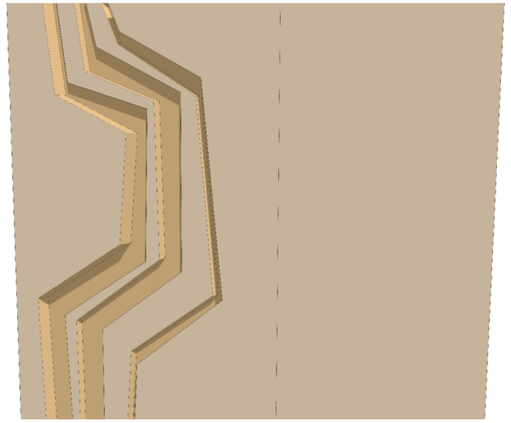
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER WALL VIEW A

N.T.S.



3D PIER WALL VIEW B

N.T.S.

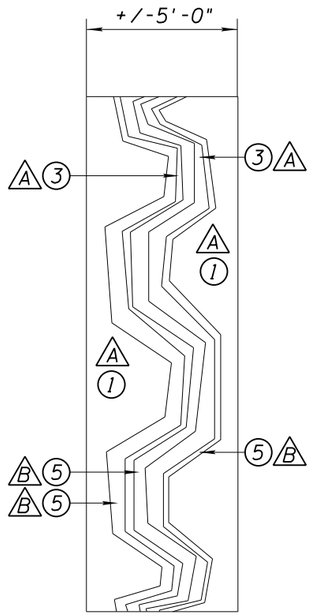
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Yellow Ochre'*



PIER ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

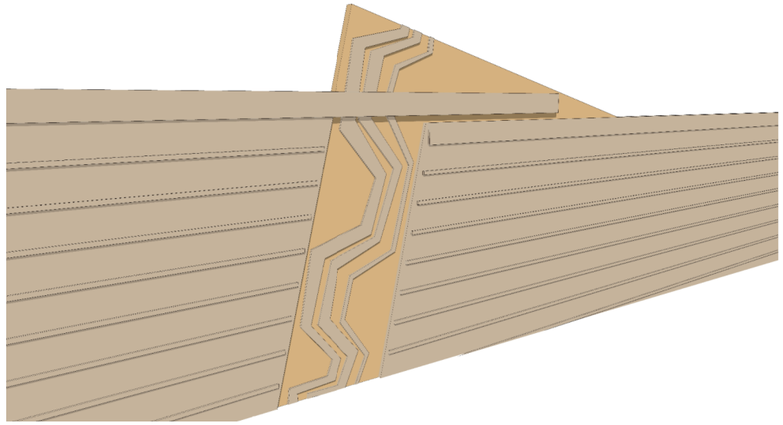
MOUNTAIN RIVER BANK PATTERN
PIER DETAILS
STA 26+20.00 TO STA 31+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		EXHIBIT NO. L2.23
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

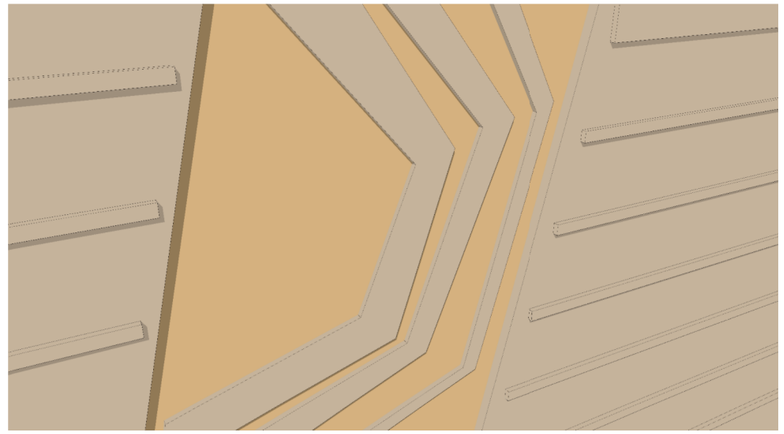
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D SOUND WALL VIEW A

N.T.S.



3D SOUND WALL VIEW B

N.T.S.

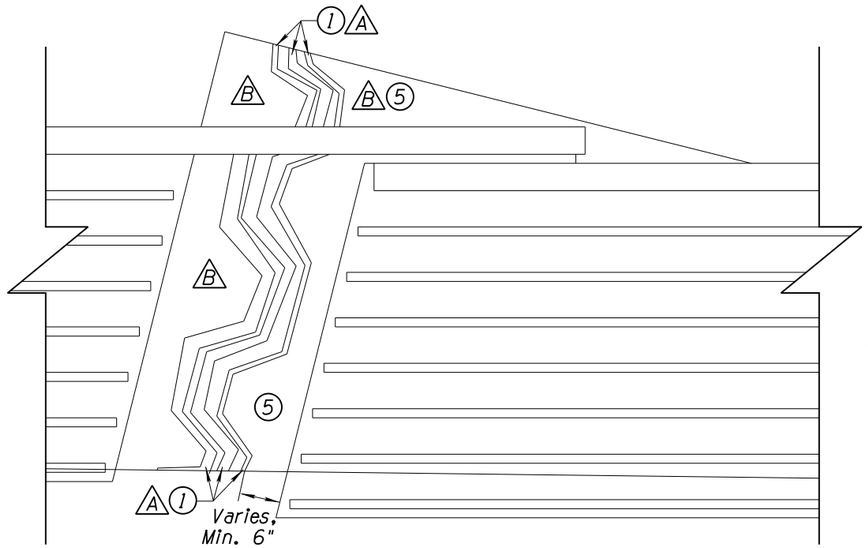
LEGEND

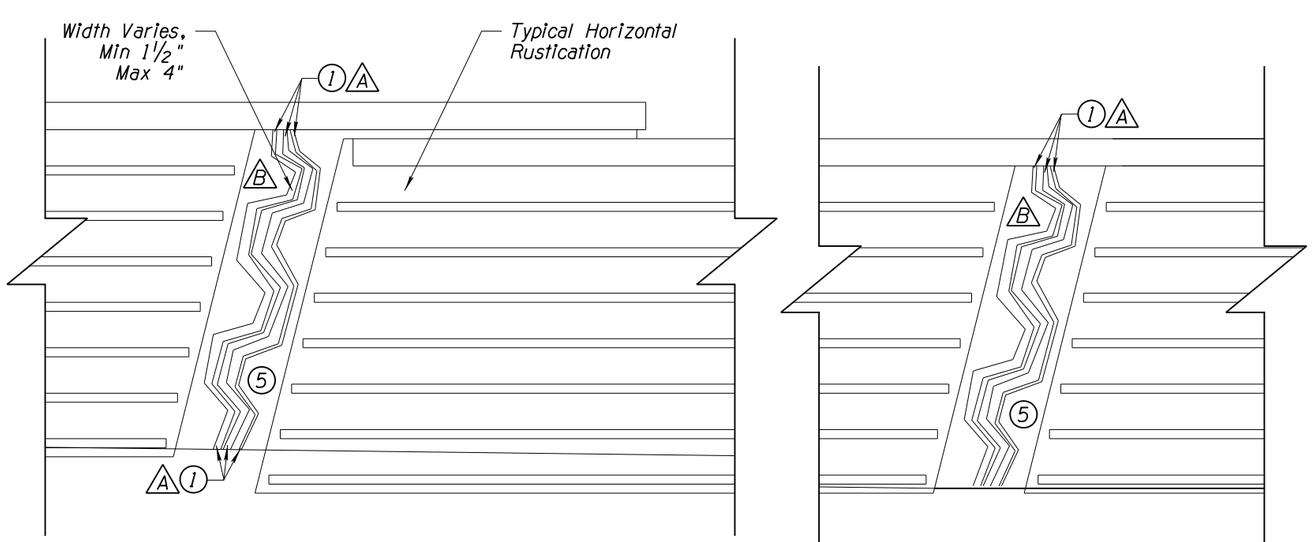
Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Yellow Ochre'*





SOUND WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN RIVER BANK PATTERN
SOUND WALL DETAILS
STA 26+20.00 TO STA 31+20.00

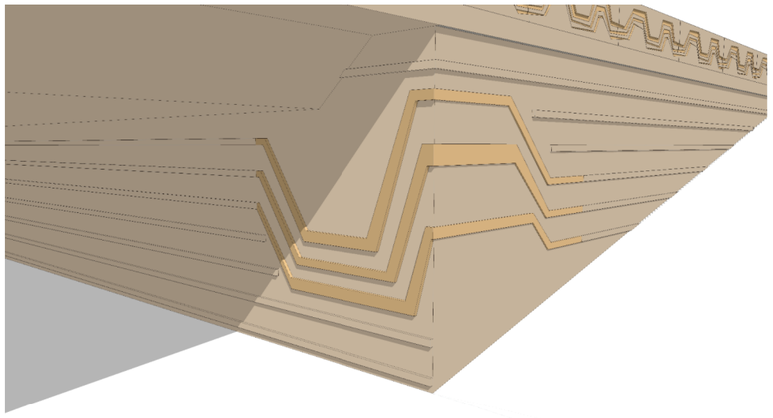
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO.L2.24
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO.

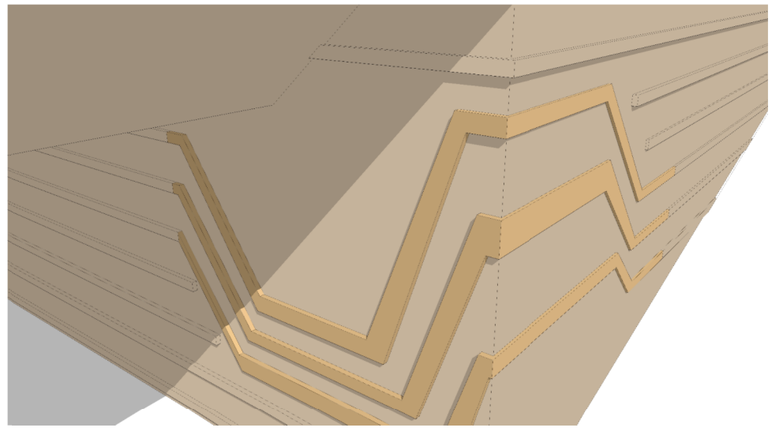
9:18:24 AM 12/17/2014 MARISSA.PELLEGRINI \\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 3 SOUND WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D WING WALL VIEW A

N.T.S.



3D WING WALL VIEW B

N.T.S.

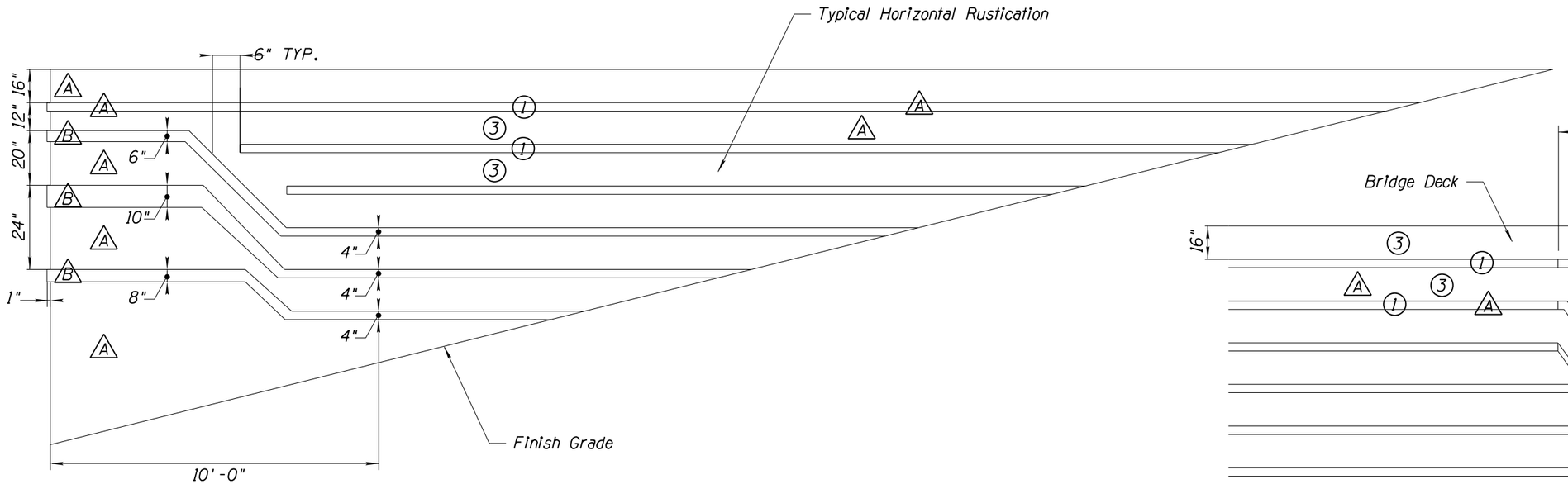
LEGEND

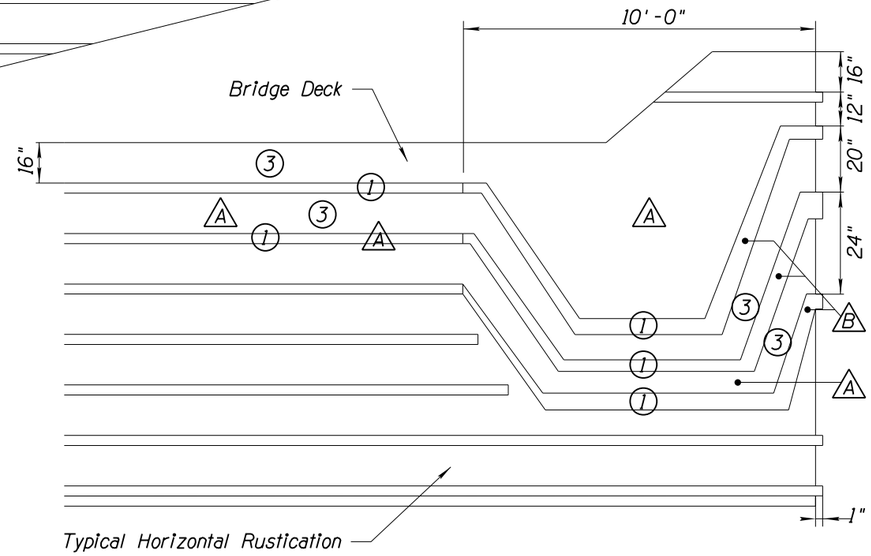
Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Yellow Ochre'*





WING WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN RIVER BANK PATTERN
WING WALL DETAILS
STA 26+20.00 TO STA 31+20.00

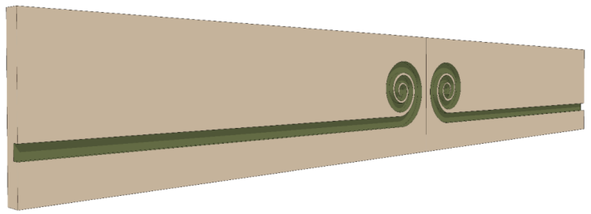
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.25
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

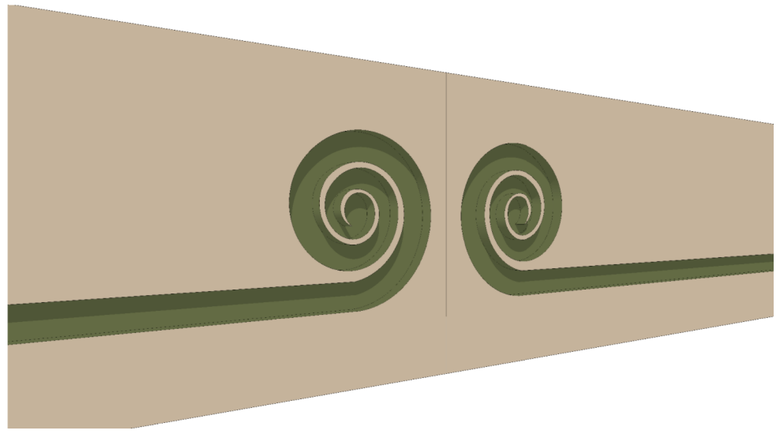
9:18:25 AM ----- 12/17/2014 ----- MARISSA.PELLEGRINI:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 3 WING WALL DETAILS.DGN ---------

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

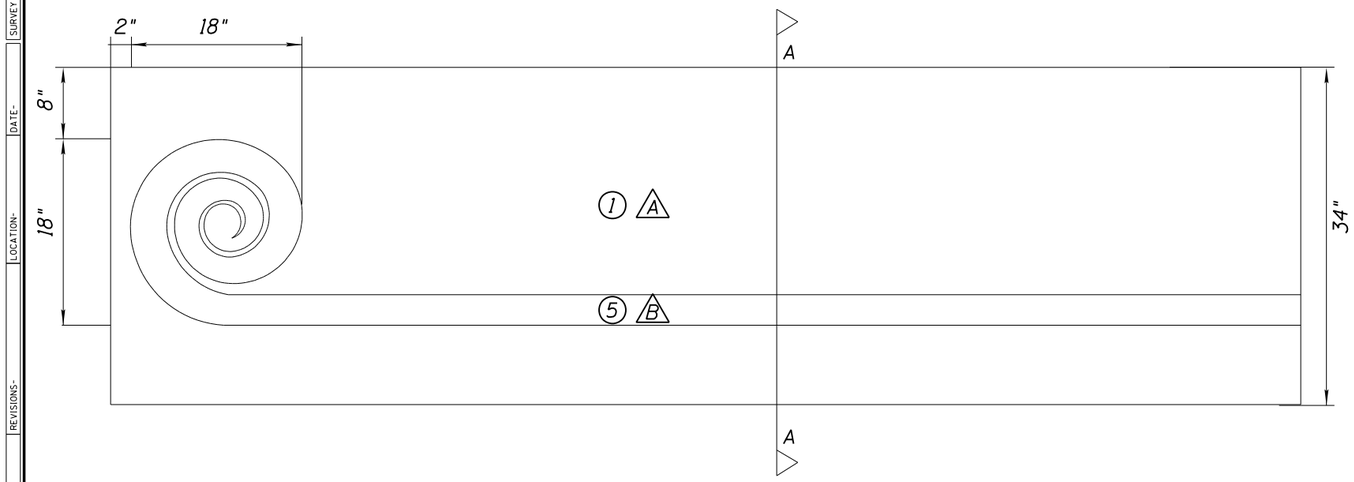
LEGEND

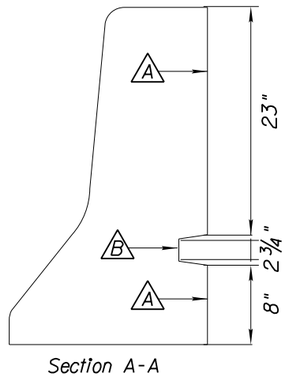
Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*





Section A-A

BARRIER WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

LEAF PORTAL PATTERN
BARRIER WALL DETAILS
STA 31+20.00 TO STA 32+85.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

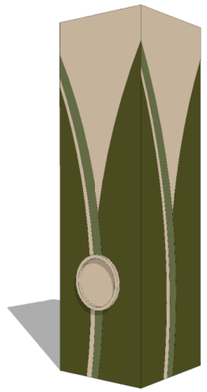
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.26

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

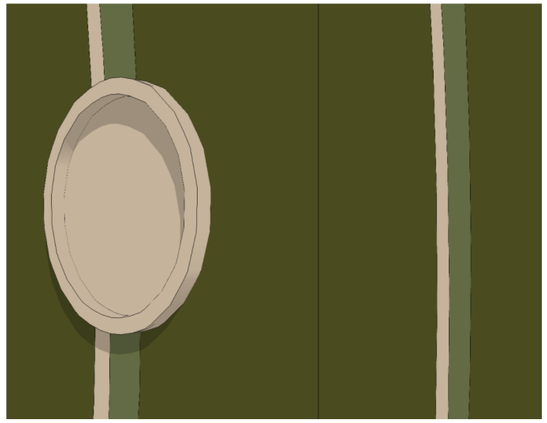
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER VIEW A

N.T.S.



3D PIER VIEW B

N.T.S.

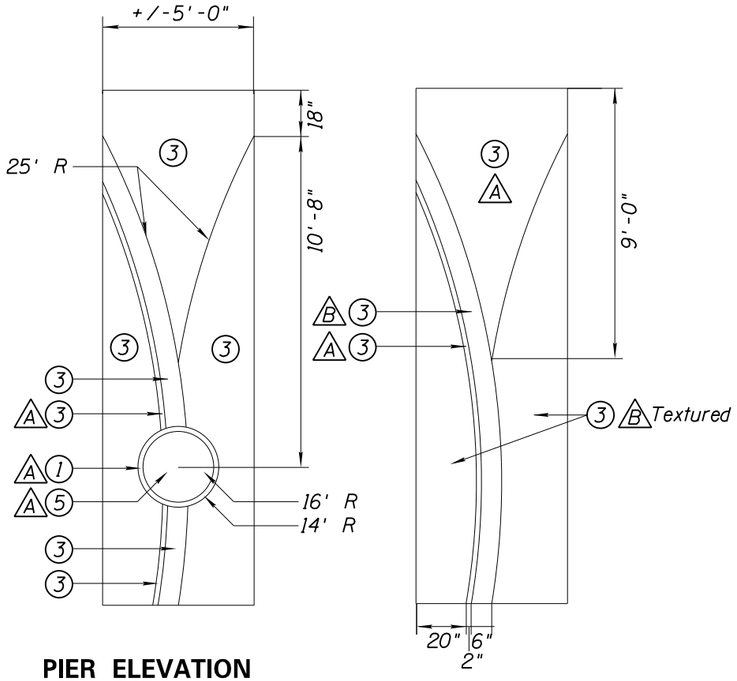
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*



PIER ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

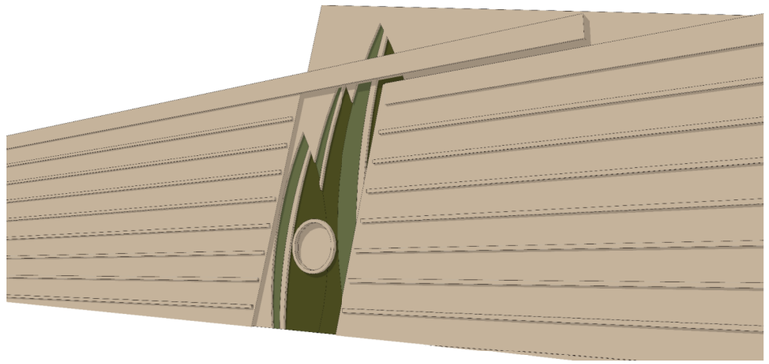
LEAF PORTAL PATTERN
PIER DETAILS
STA 31+20.00 TO STA 32+85.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO.
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	L2.27
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

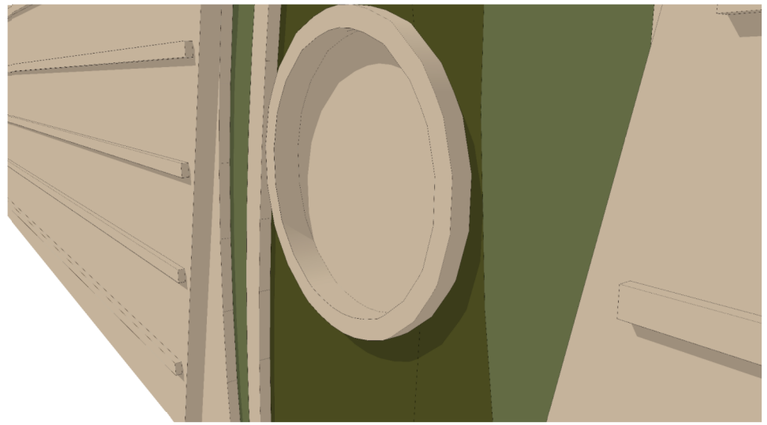
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D SOUND WALL VIEW A

N.T.S.



3D SOUND WALL VIEW B

N.T.S.

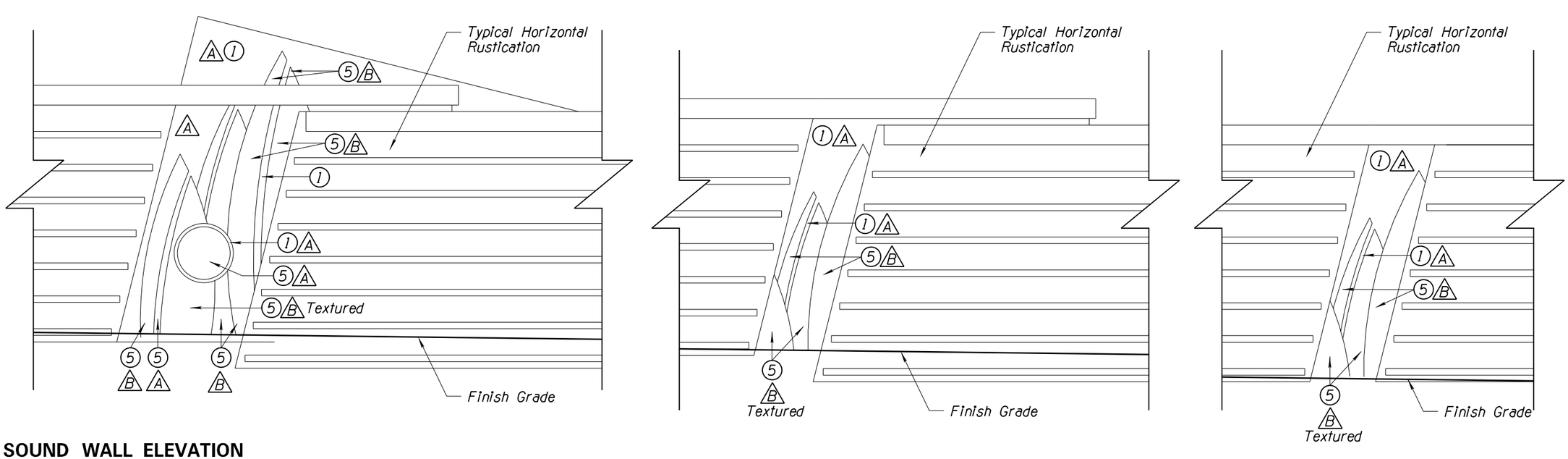
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed ½"*
3. *Recessed 1"*
4. *Recessed 1½"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*



SOUND WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

LEAF PORTAL PATTERN
SOUND WALL DETAILS
STA 31+20.00 TO STA 32+85.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

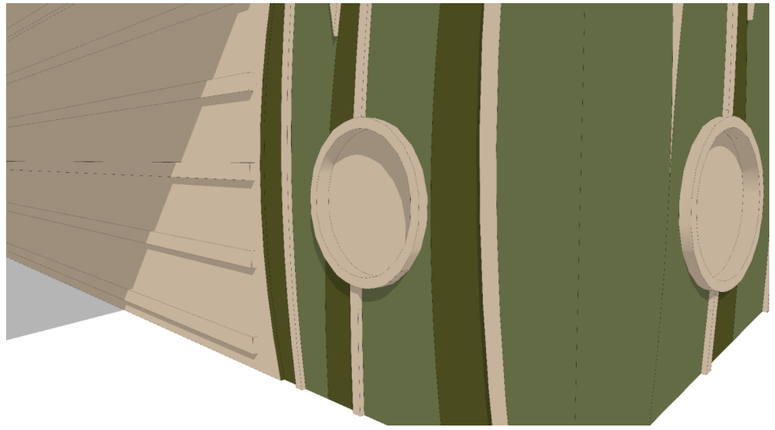
ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.28
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

3D WING WALL VIEW A

N.T.S.



3D WING WALL VIEW B

N.T.S.

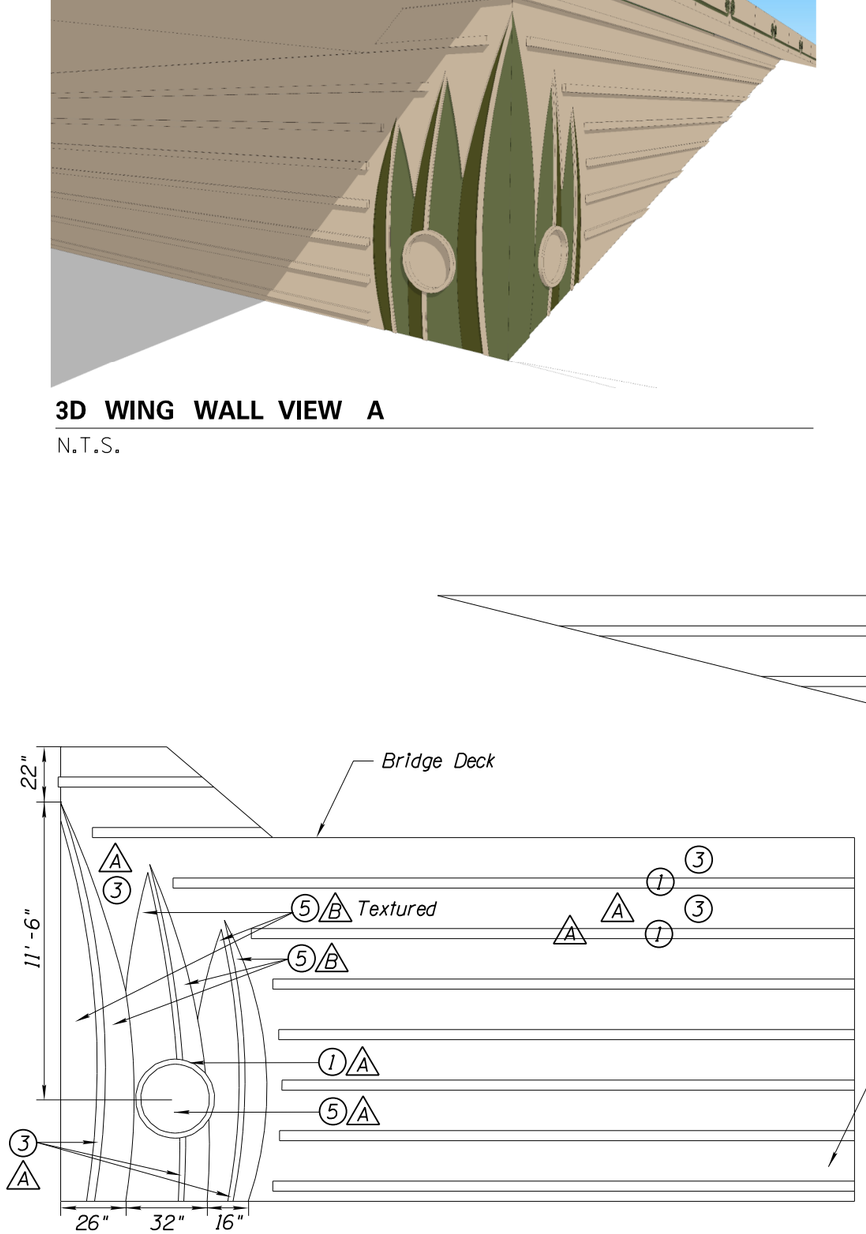
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

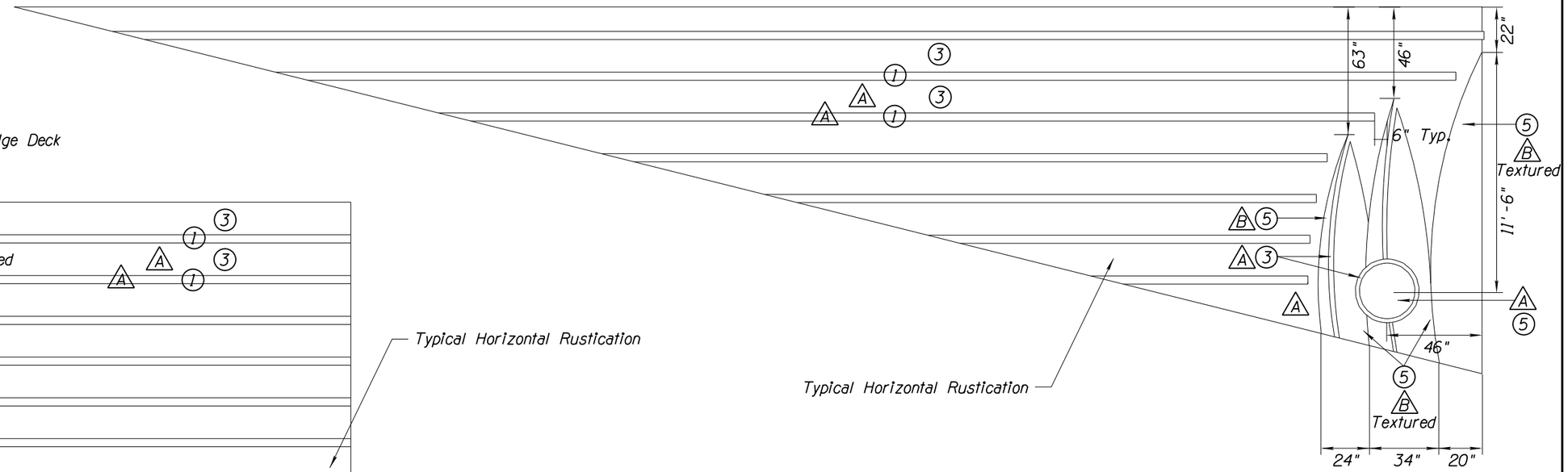
Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*



WING WALL ELEVATION

N.T.S.



	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

LEAF PORTAL PATTERN
WING WALL DETAILS
STA 31+20.00 TO STA 32+85.00

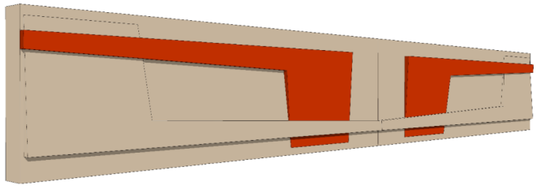
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.29
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

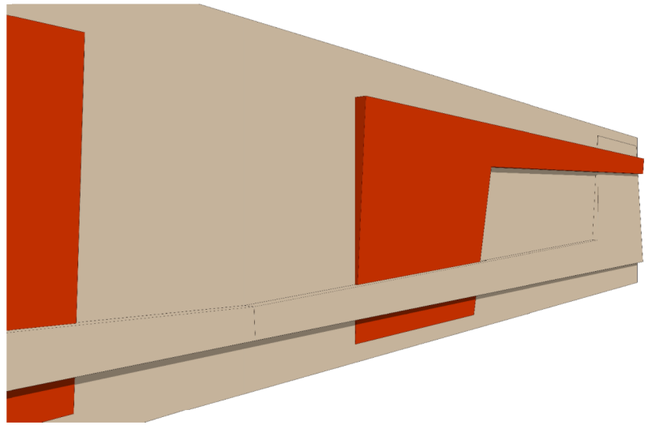
9:18:31 AM 12/17/2014 MARISSA.PELLEGRINI:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 4 WING WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

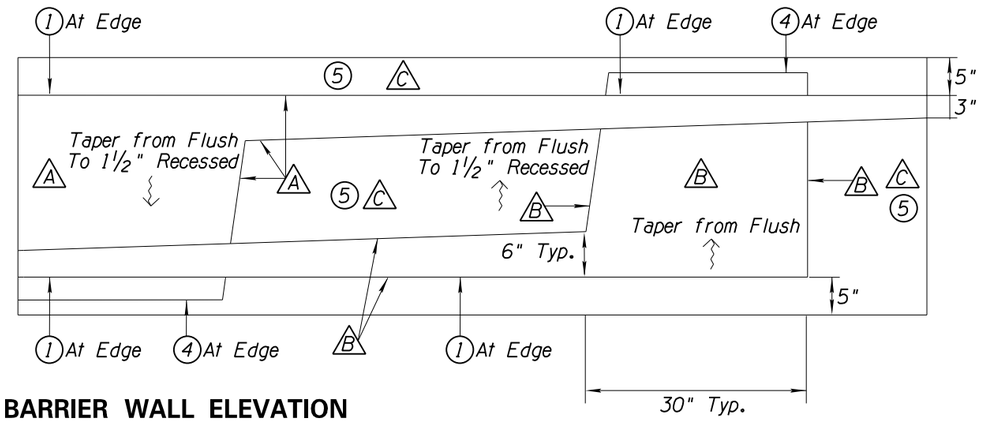
LEGEND

Rustication Thickness Key:

1. Flush
2. Recessed 1/2"
3. Recessed 1"
4. Recessed 1 1/2"
5. Recessed 2"

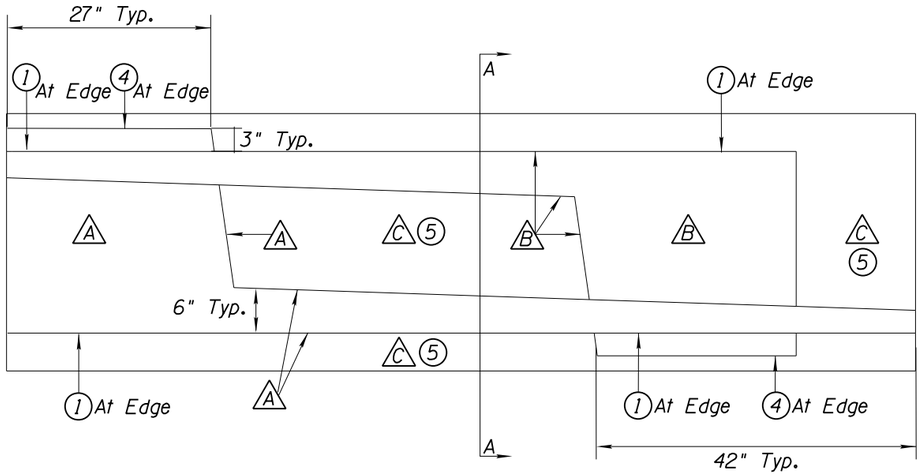
Paint Color Key:

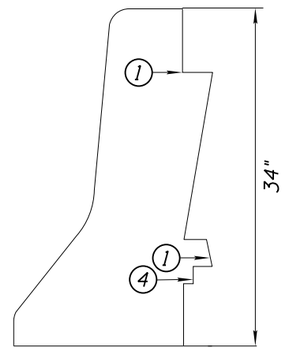
- A Base Color: 'Silt'
- B Accent Color: 'Ocotillo Bloom'
- C Accent Color: 'Warm Earth'



BARRIER WALL ELEVATION

N.T.S.





Section A-A

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES
MOUNTAIN URBAN LINK PATTERN
BARRIER WALL DETAILS
STA 32+85.00 TO PROJECT ENDING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

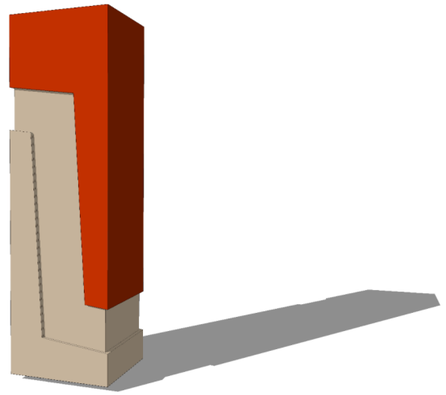
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.30

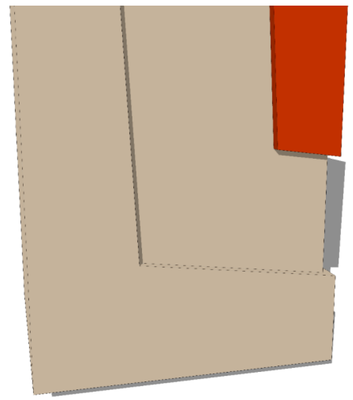
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER VIEW A
N.T.S.



3D PIER VIEW B
N.T.S.

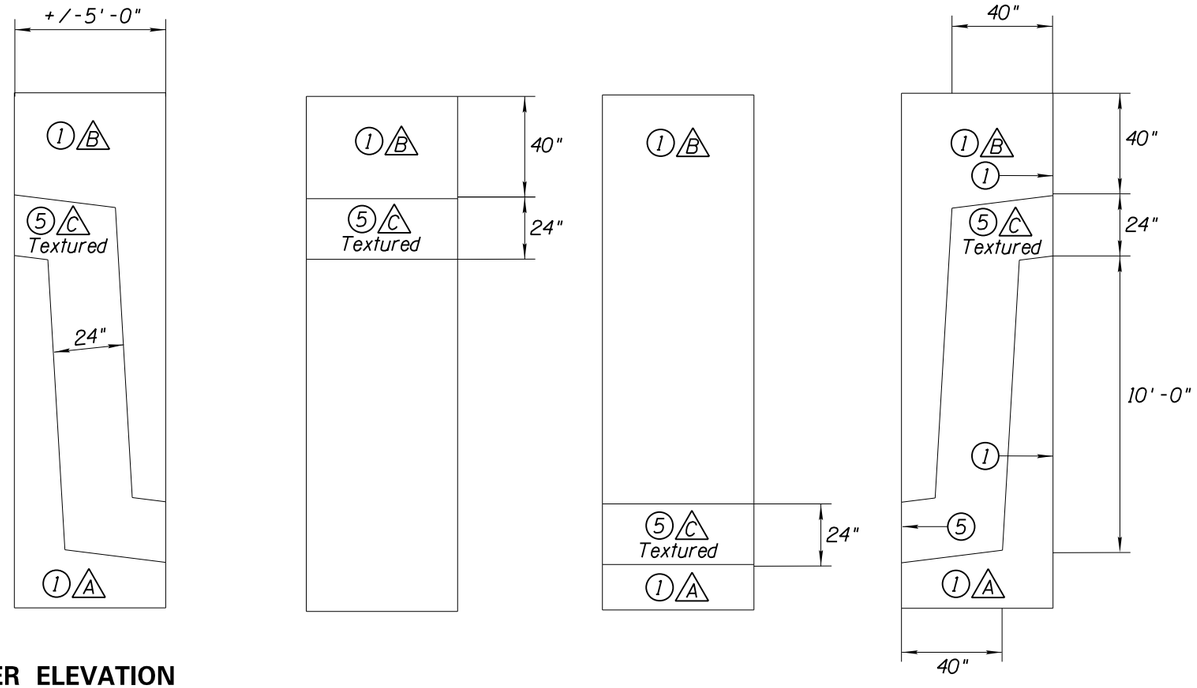
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*
- C *Accent Color: 'Warm Earth'*



PIER ELEVATION
N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN URBAN LINK PATTERN
PIER DETAILS
STA 32+85.00 TO PROJECT ENDING

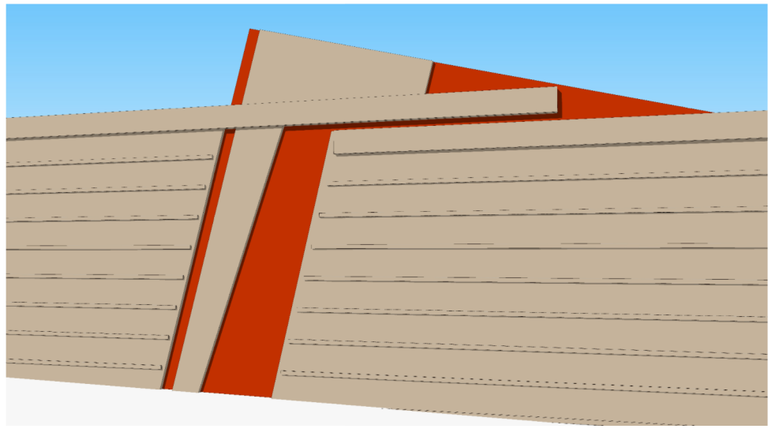
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.31
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

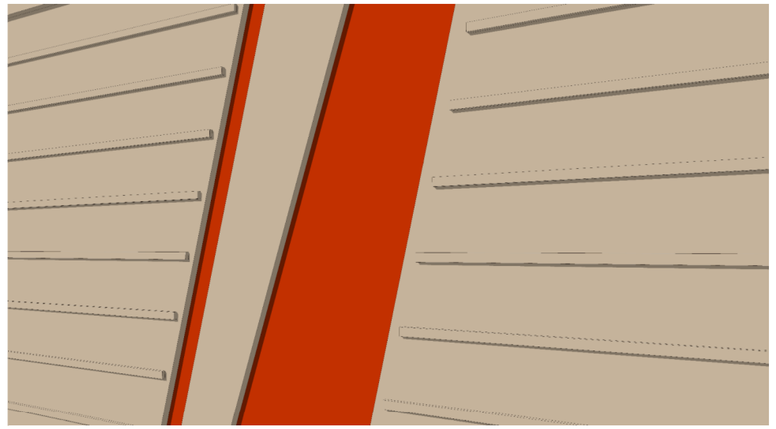
9:18:34 AM 12/17/2014 MARISSA.PELLEGRINI:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 5 PIER DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D SOUND WALL VIEW A

N.T.S.



3D SOUND WALL VIEW B

N.T.S.

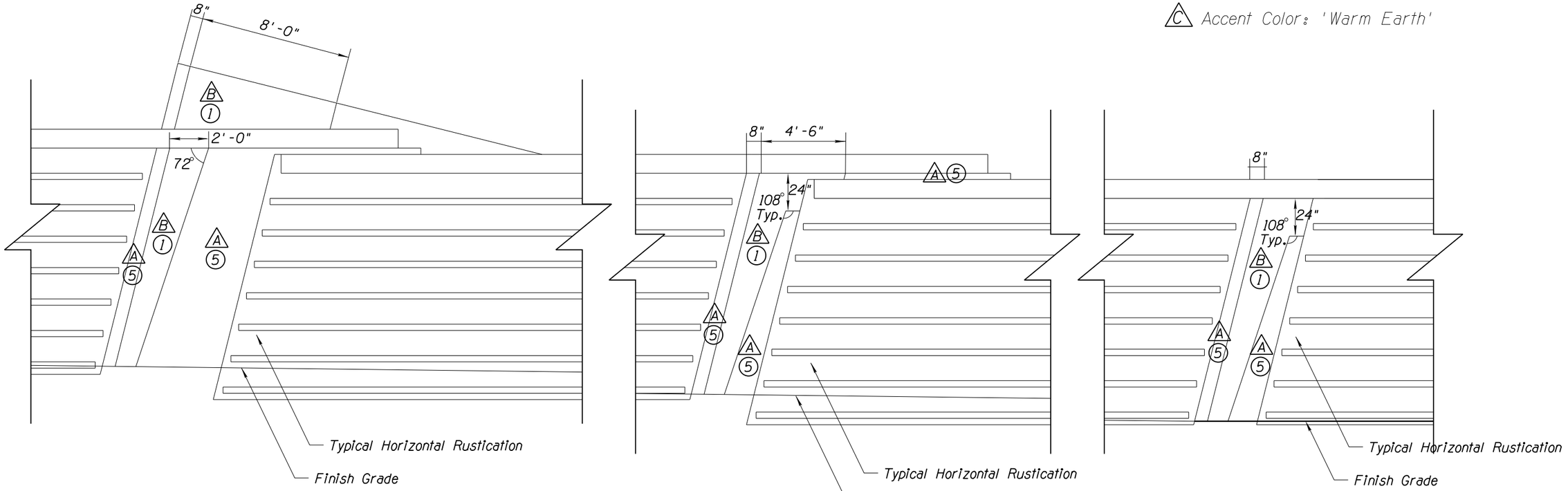
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*
- C *Accent Color: 'Warm Earth'*



SOUND WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES
MOUNTAIN URBAN LINK PATTERN
SOUND WALL DETAILS
STA 32+85.00 TO PROJECT ENDING

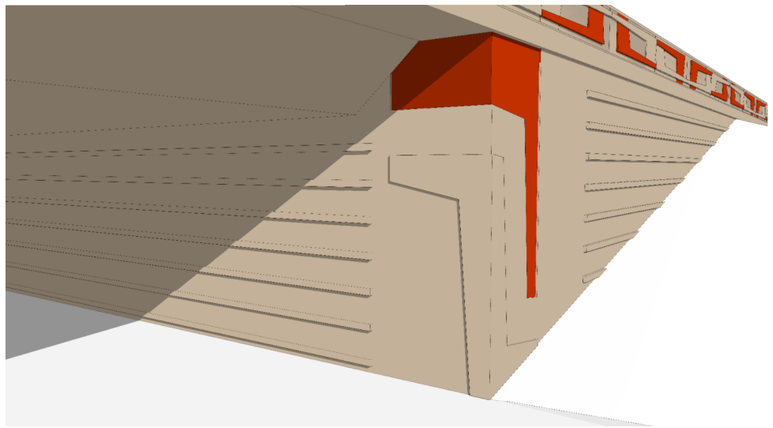
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.32
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

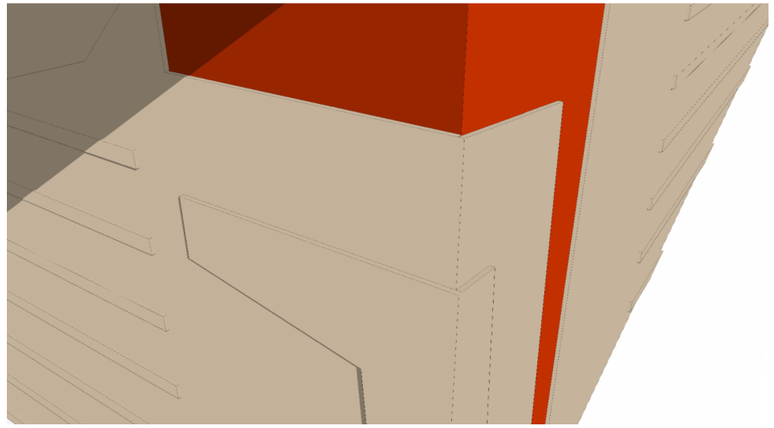
9:18:35 AM ----- 12/17/2014 ------ MARISSA.PELLEGRINI: \PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 5 SOUND WALL DETAILS.DGN --------

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D WING WALL VIEW A

N.T.S.



3D WING WALL VIEW B

N.T.S.

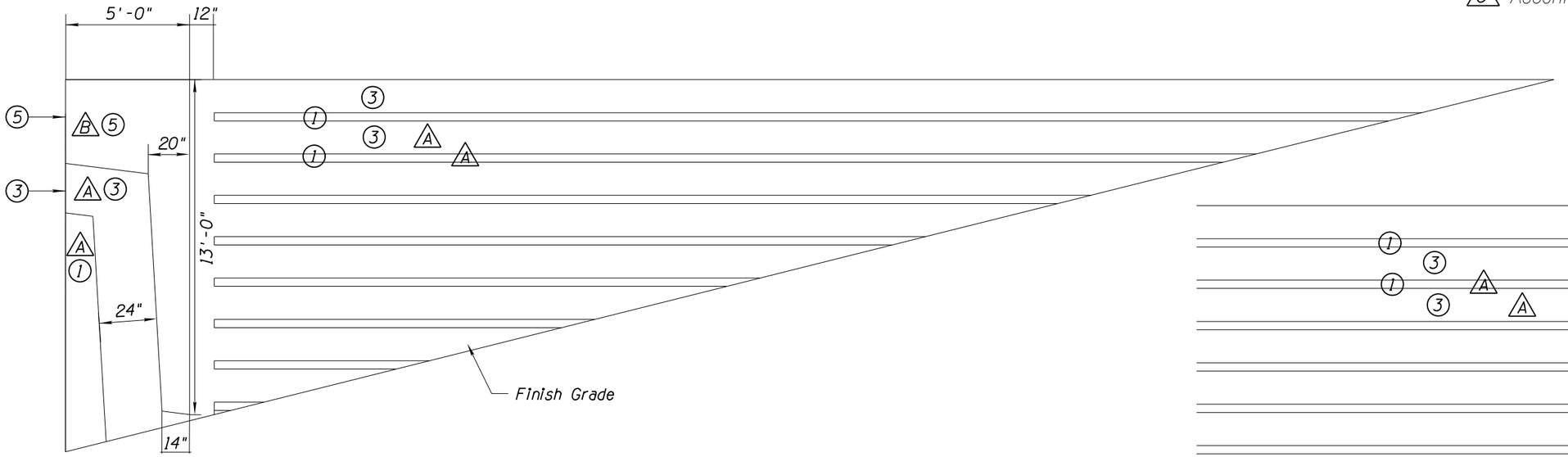
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*
- C *Accent Color: 'Warm Earth'*



WING WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN URBAN LINK PATTERN
WING WALL DETAILS
STA 32+85.00 TO PROJECT ENDING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO.
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	L2.33
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

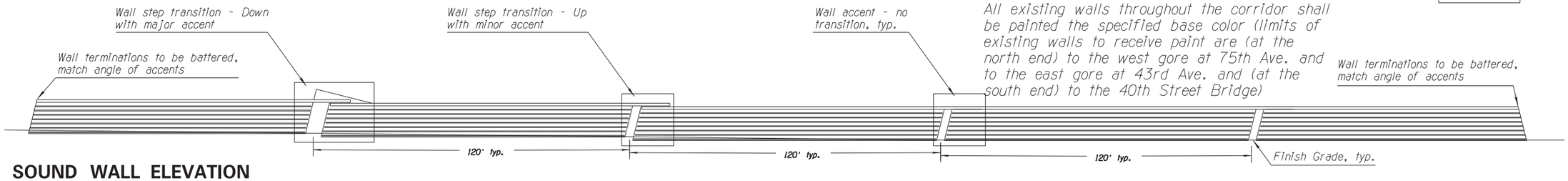
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO.

9:18:36 AM 12/17/2014 MARISSA.PELLEGRINI:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 5 WING WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

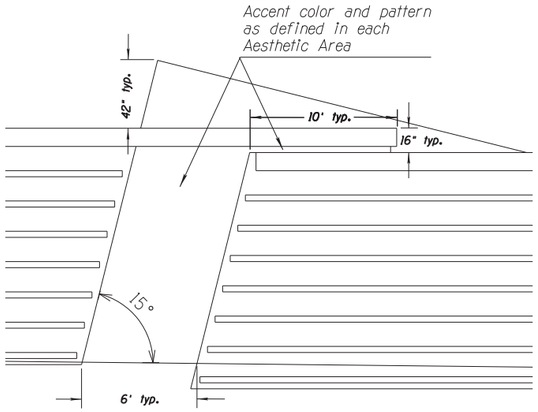
EXISTING WALLS

All existing walls throughout the corridor shall be painted the specified base color (limits of existing walls to receive paint are (at the north end) to the west gore at 75th Ave. and to the east gore at 43rd Ave. and (at the south end) to the 40th Street Bridge)



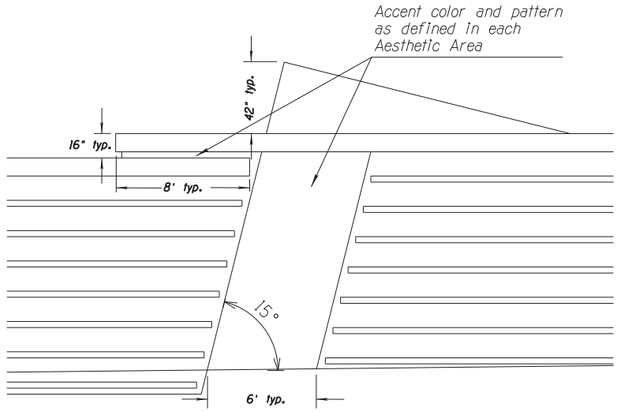
SOUND WALL ELEVATION

N.T.S.



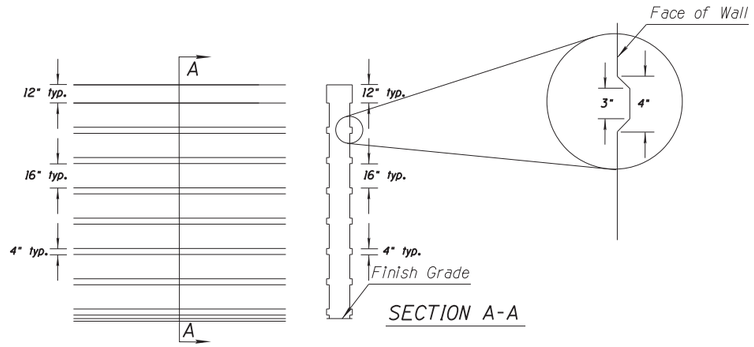
WALL STEP TRANSITION – DOWN WITH MAJOR ACCENT

N.T.S.



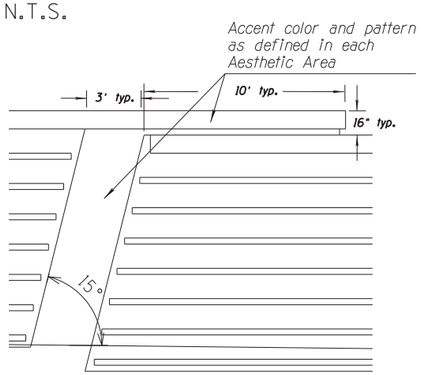
WALL STEP TRANSITION – UP WITH MAJOR ACCENT

N.T.S.



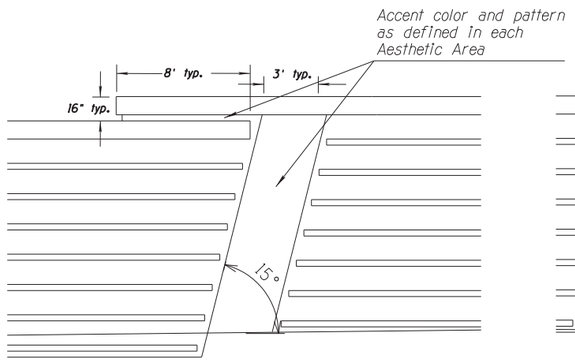
TYPICAL HORIZONTAL RUSTICATION

N.T.S.



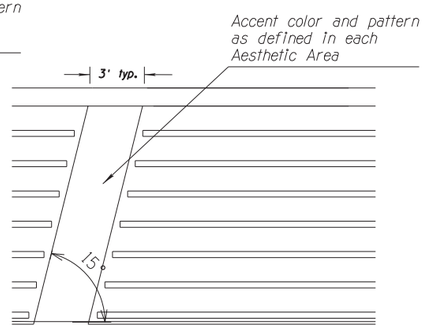
WALL STEP TRANSITION – DOWN WITH MINOR ACCENT

N.T.S.



WALL STEP TRANSITION – UP WITH MINOR ACCENT

N.T.S.



WALL ACCENT, NO TRANSITION, TYP.

N.T.S.

Notes:
1. Minor accents shall occur at 120' intervals.
2. Major accents shall occur at every tenth accent min. (1200'), and at all sound wall beginnings and ends.
3. When elevation transitions occur, they shall occur in 16" vertical incriments, with minimum 120' spacing so that each wall transition is acheived with the accent.
4. Changes between Aesthetic Areas as defined in this document shall compliment sound wall transitions.
5. Rustication patterns, colors, and textures shall occur equally on the roadway and residential side of the sound wall.
6. Sizes specified on details may change per ADOT Roadside Development through the Engineer.
7. Contractor is to provide a full-size mock-up panel of the sound wall rustication for review and approval by ADOT Roadside Development through the Engineer prior to Construction.
8. Paint names shown in the details are for reference and control samples only. The Contractor may apply any paint color brand name or trademark such as Pittsburgh Paint, Sherwin-Williams, or Dunn Edwards, so long as they demonstrate equivalent color effects with the approval of ADOT Roadside Development through the Engineer.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

Kimley»Horn

SOUND WALL
NOTES AND DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.34
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

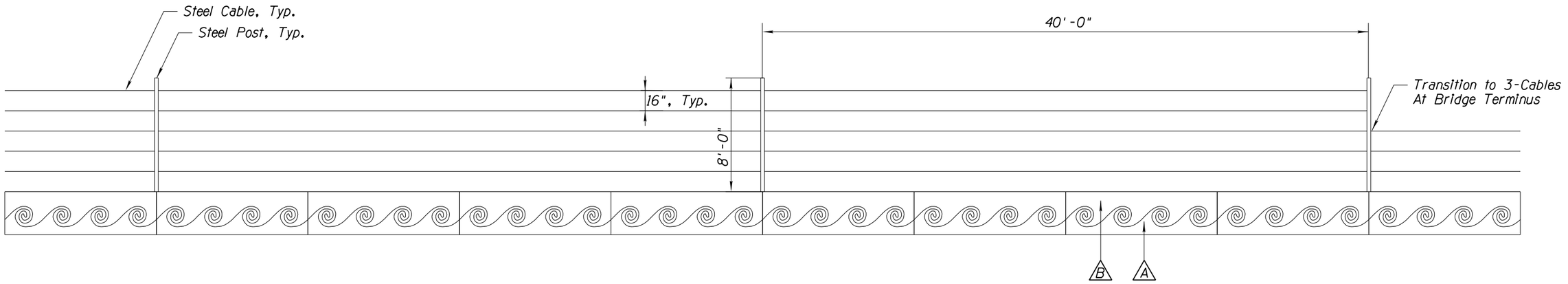
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Earth Red'*



BRIDGE ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

SALT RIVER BRIDGE WAVE PATTERN
BRIDGE DETAILS

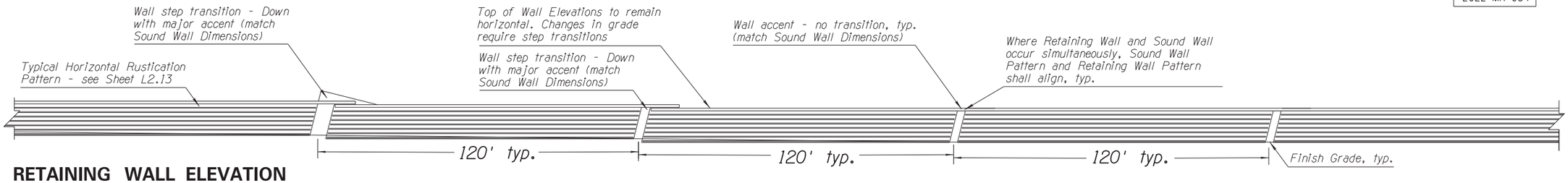
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.35
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

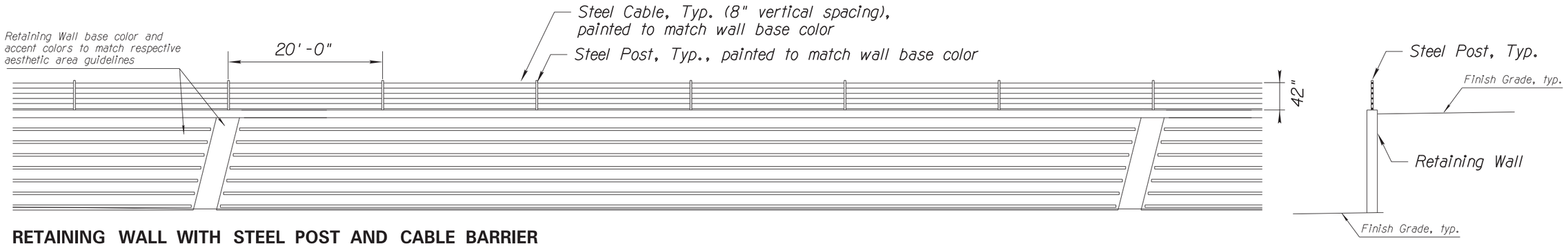
9:18:38 AM - - - - - 12/17/2014 - - - - - - MARISSA.PELLEGRINI: \PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\SALT RIVER BRIDGE DETAILS.DGN - - - - - - - - - - -

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



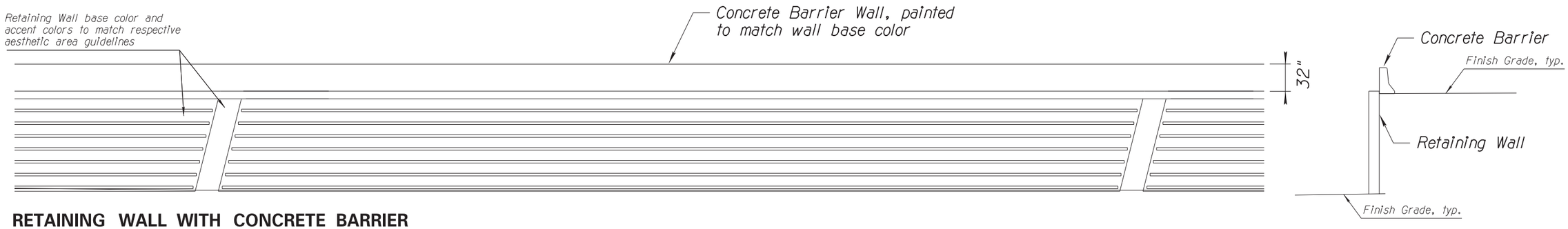
RETAINING WALL ELEVATION

N.T.S.



RETAINING WALL WITH STEEL POST AND CABLE BARRIER

N.T.S.



RETAINING WALL WITH CONCRETE BARRIER

N.T.S.

Notes:

1. Minor accents shall occur at 120' intervals.
2. Major accents shall occur at every tenth accent min. (1200'), and at all retaining wall beginnings and ends.
3. When elevation transitions occur, they shall occur in 16" vertical incriments.
4. Changes between Aesthetic Areas as defined in this document shall compliment retaining wall transitions.
6. Sizes specified on details may change per ADOT Roadside Development through the Engineer.
7. Contractor is to provide a full-size mock-up panel of the retaining wall rustication for review and approval by ADOT Roadside Development through the Engineer prior to Construction.
8. Paint names shown in the details are for reference and control samples only. The Contractor may apply any paint color brand name or trademark such as Pittsburgh Paint, Sherwin-Williams, or Dunn Edwards, so long as they demonstrate equivalent color effects with the approval of ADOT Roadside Development through the Engineer.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

RETAINING WALL
NOTES AND DETAILS

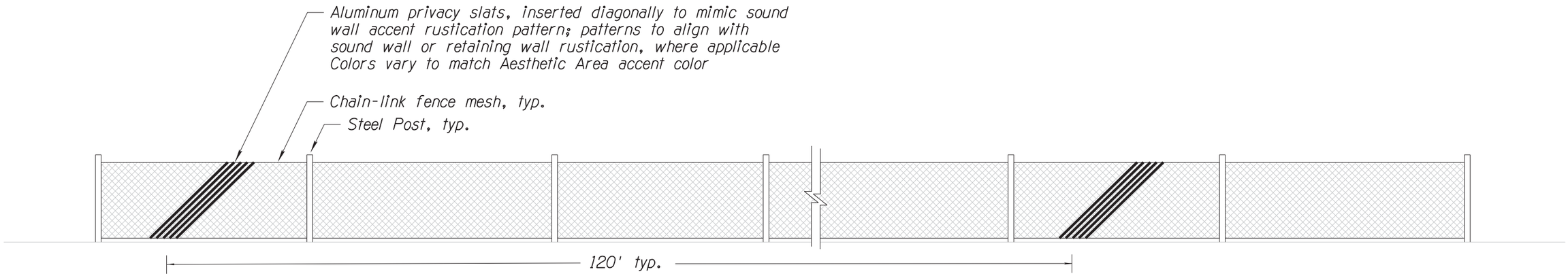
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.36
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

DATE- LOCATION- REVISIONS- FINISHED PLANS- SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-



RIGHT-OF-WAY FENCE

N.T.S.

Note: Does note apply to Deer Fencing (TBD), typ.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

RIGHT-OF-WAY
FENCE DESIGN DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.37
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

9:19:08 AM 4/1/2015 CHRIS.ROSE K:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\FENCING DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

GENERAL LANDFORM GRAPHIC NOTES:

1. All dimensions are approximate. Field adjust to be parallel to the edge of pavement in a uniform and level appearance from all surrounding levels of the freeway and aerial viewpoints. All landform graphics shall have a visually correct appearance from the roadways and bridges perspectives. Verify layout and all granite colors with ADOT Roadside Development Landscape Architect/designer and through the Engineer.

2. On all landform graphics, metal edging shall be used to retain and separate all colored granite or aggregate base. Any granite placed shall be applied on top of compacted soil leaving ½" of metal edging exposed.

3. Construct multiple 2' x 2' x 2' sumps with screened 2" rock for water collection at all drainage sleeve locations and finish with 2" thick of the appropriate landform granite cover on top. Install 6" flexible plastic drain pipes with sumps at inlet and outlet under each landform graphic at the top of the landforms extending to the base (toe) of the slopes and daylight the drain pipes as per Engineer's directions and approval. (Refer to landform details for typical locations of drainage sleeves and sumps).

4. A visual clear zone of all landform graphics is to be maintained. Any plant materials obscuring the view of the landform graphics are to be relocated or deleted as per the direction and approval of the Engineer.

5. All landform graphics will vary in size and shape and shall be positioned to meet existing site conditions. All landform graphics are to be laid out according to site conditions and adjusted accordingly. All layout work shall be coordinated with the resident landscape architect for review and approval.

6. Granite Mulch shall be placed in between graphic elements. Granite Mulch shall cover the entire slope from edge of pavement to barrier wall, guard rail, or concrete curb (North to South) and concrete gore (East to West).

7. Quantities are approximate. Contractor shall be responsible for verifying all material quantities.

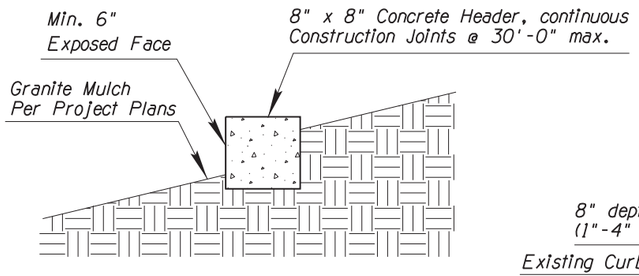
8. One 90lb. +/- bag of dry cement mixed with 2 to 3 tons of D.G. per 2.66 sq. yds. to 4.0 sq. yds. and lightly sprayed down after placement, as per the directions and approval from the Engineer

METAL EDGING

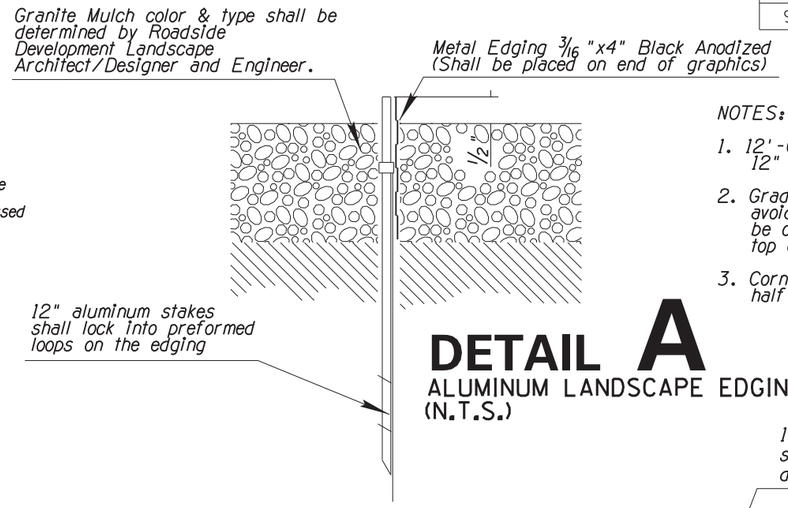
1. Metal edging shall be equivalent to Sure-loc aluminum edging (or an approved equal). Three-sixteenths inch x 4" x 16' or 3/16" x 8" x 16', see Details "A" and "C". 1/8" x 4" metal edging shall be used on tight curves to allow maximum flexibility.

2. Metal edging shall have a black anodized finish and be held in place with 12" extruded stakes. A minimum of five 12" stakes shall be used for every 12' section of aluminum edging.

3. Stakes shall be 6063 alloy extruded aluminum of T6 hardness. Edging shall lock together with no offset or overlap at the joints. Extra stakes shall be used on tight curves to ensure stabilization. One stake every 1.5' shall be applied for curved, circular patterns and angled points. End stake adapters shall be used on all start and stop points and to properly secure critical areas. Stakes shall be installed ½" below top edge and out of view. Curves shall be smooth with no bowing of the edging.

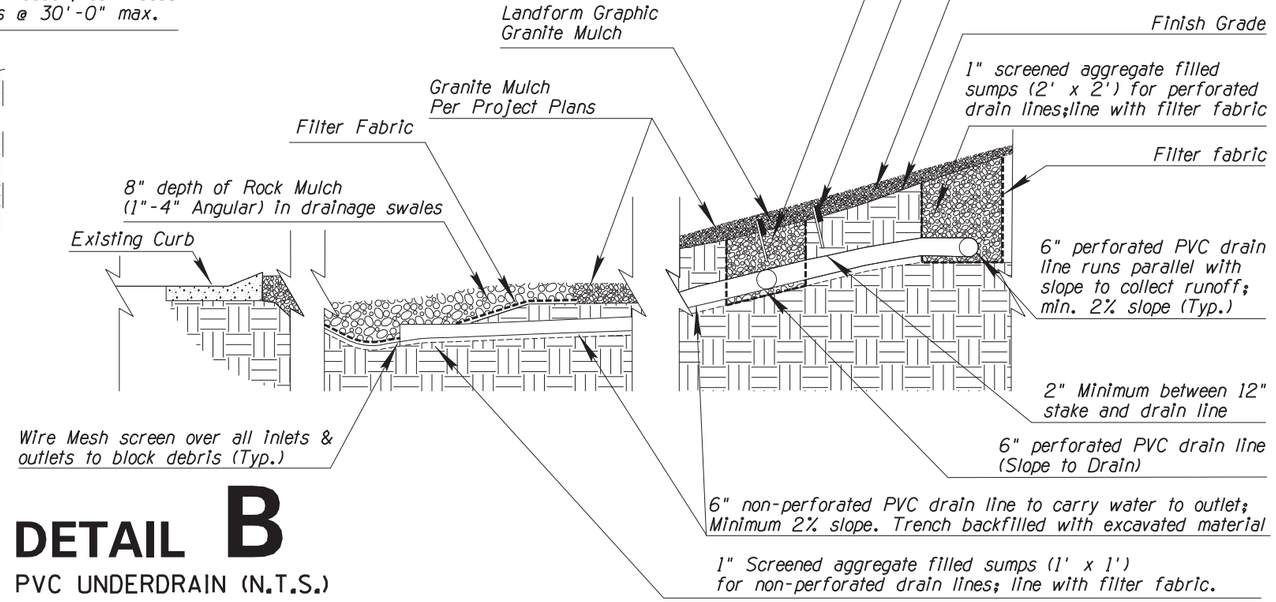


DETAIL C
HORIZONTAL BAND HEADER (N.T.S.)



NOTES:
1. 12'-0" sections shall include (5) 12" aluminum stakes
2. Grade adjacent to edging to avoid settling. Finish grade shall be compacted ½" below top of edging.
3. Corners: cut base of edging up half way and form continuous corner

DETAIL A
ALUMINUM LANDSCAPE EDGING (TYP.) (N.T.S.)



DETAIL B
PVC UNDERDRAIN (N.T.S.)

DRAIN SUMPS NOTES:
1. Landform Graphic Drainage use 2' x 2' trench.
2. Based on Landform Graphic layout, sumps shall be located at low spots where collection or concentrated flow may occur.

* Locations with Granite Mulch (2"-4") shall be at 5" depth.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

LANDFORM GRAPHIC DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.38

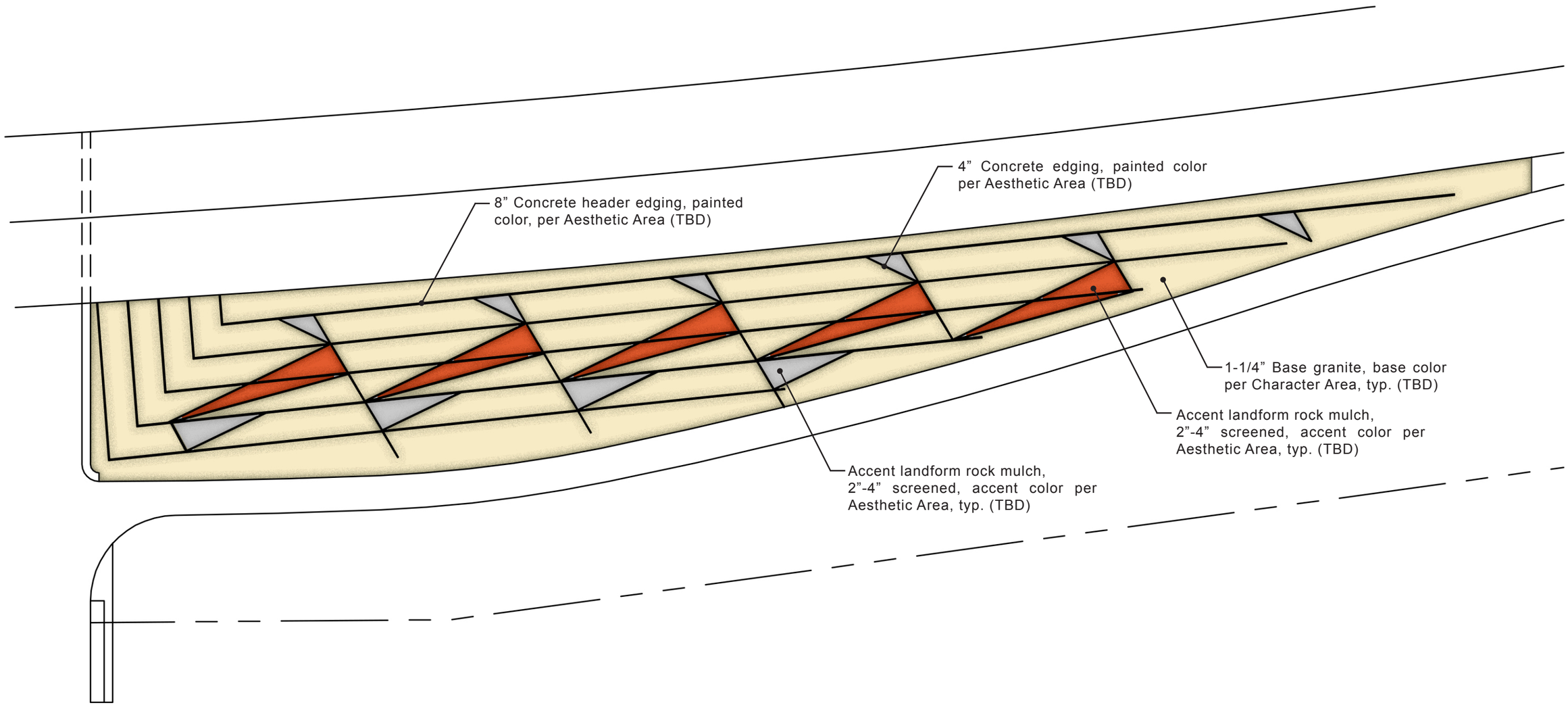
TRACS NO. H5764 01L | NH-202-D (ADY) | ____ OF ____

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

9:20:01 AM 4/1/2015 CHRIS.ROSE K:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\LANDFORM GRAPHICS DETAILS.DGN

OCATILLO SETTLEMENT PATTERN

LANDFORM GRAPHICS



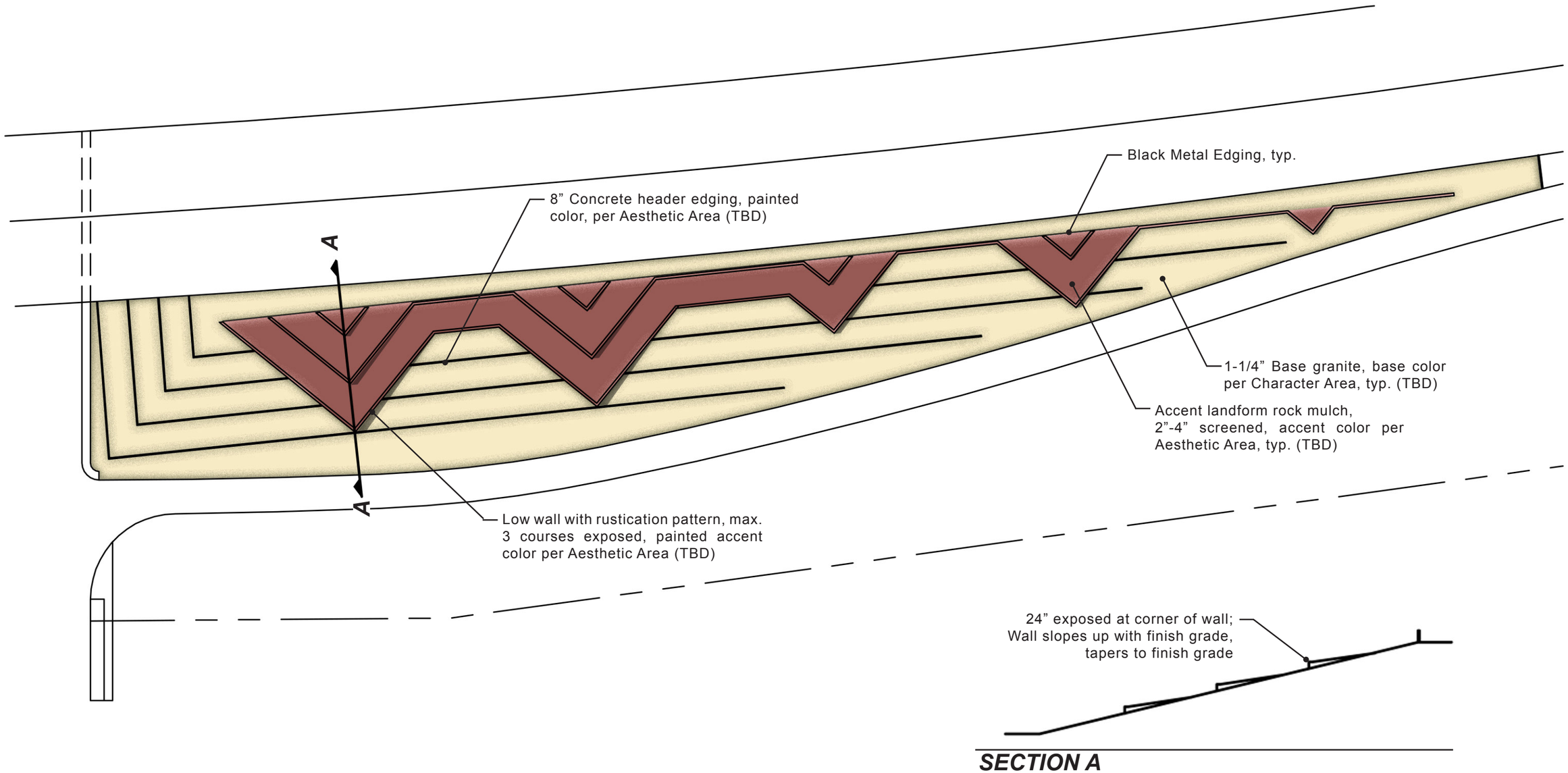
Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.

2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.39

CHOLLA OCOTILLO PATTERN

LANDFORM GRAPHICS



SECTION A

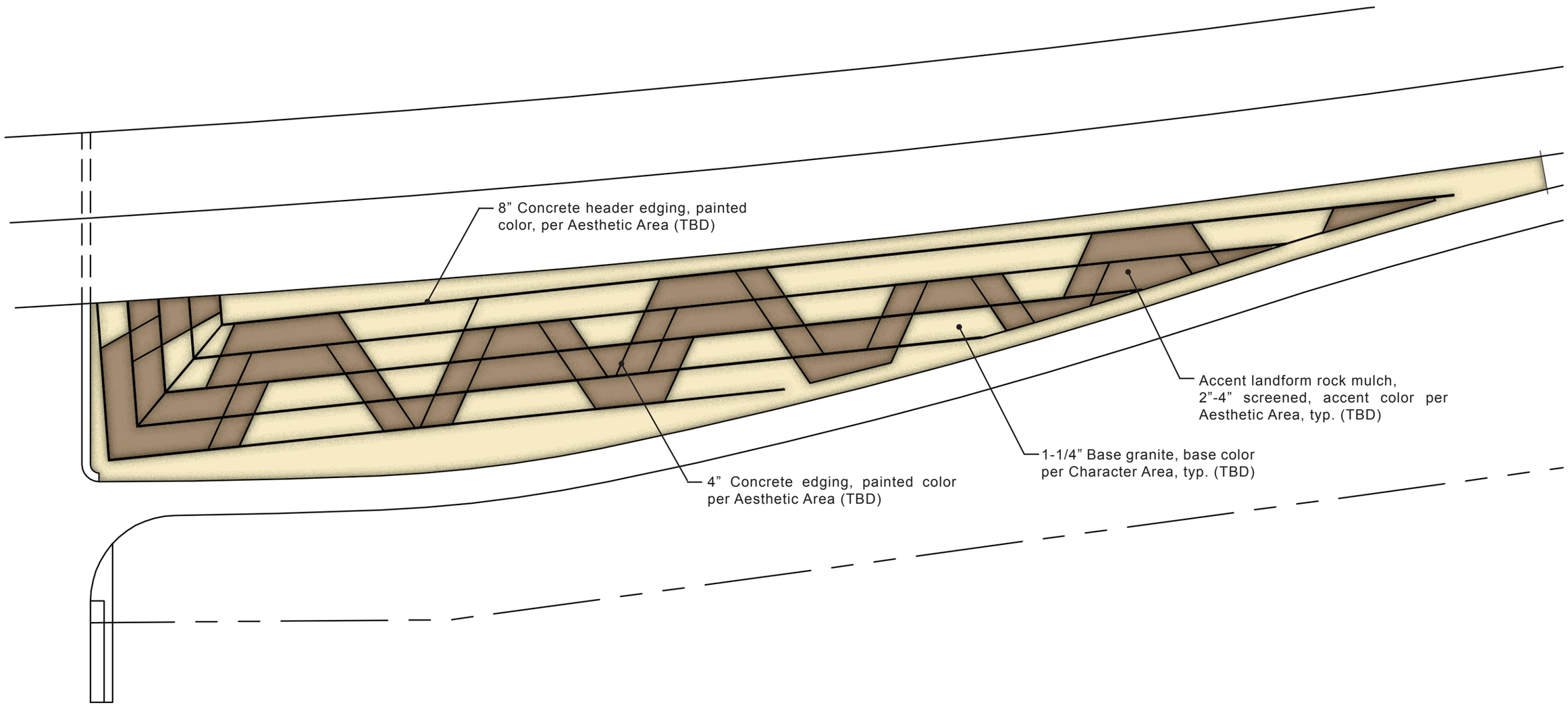
Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.

2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.40

RIVER BANK PATTERN

LANDFORM GRAPHICS



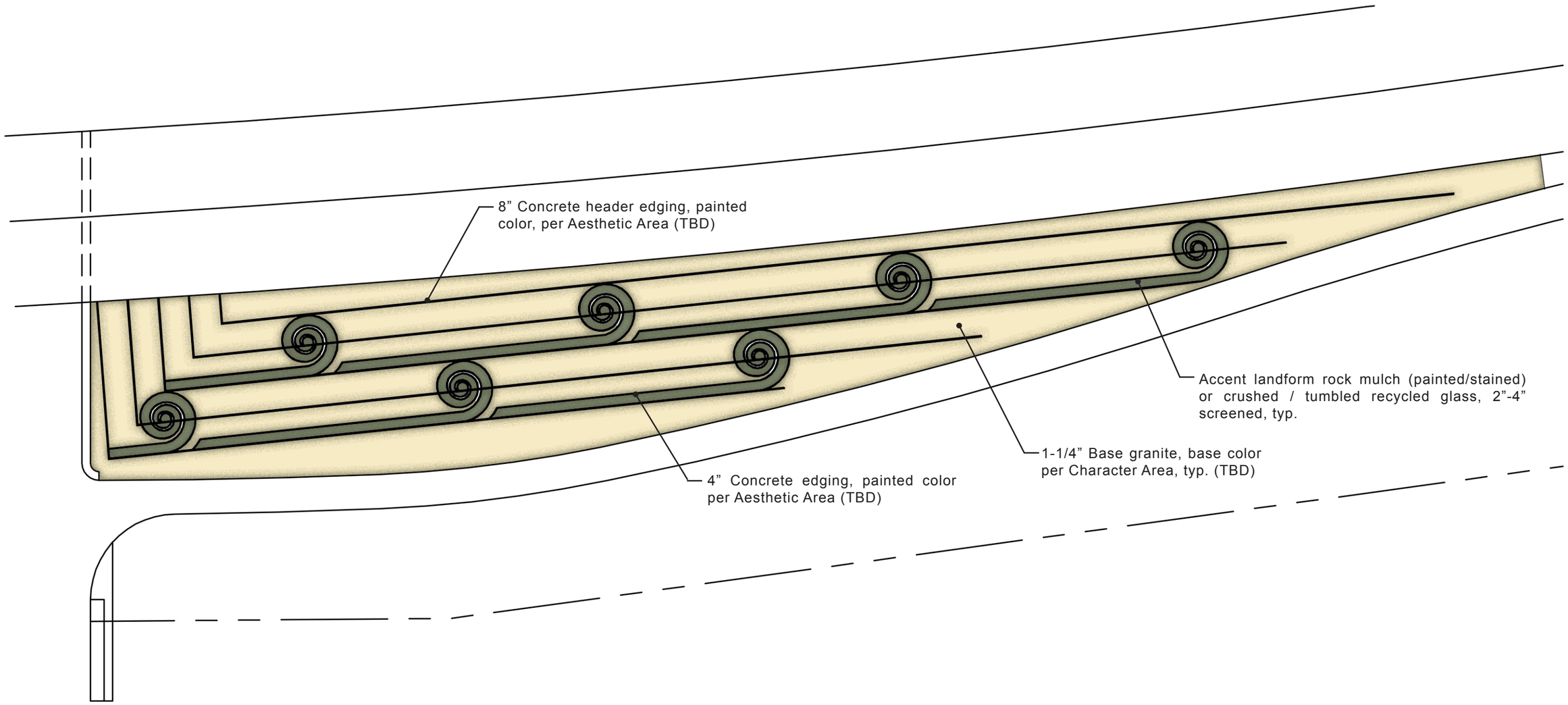
Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.

2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.41

LEAF PORTAL PATTERN

LANDFORM GRAPHICS



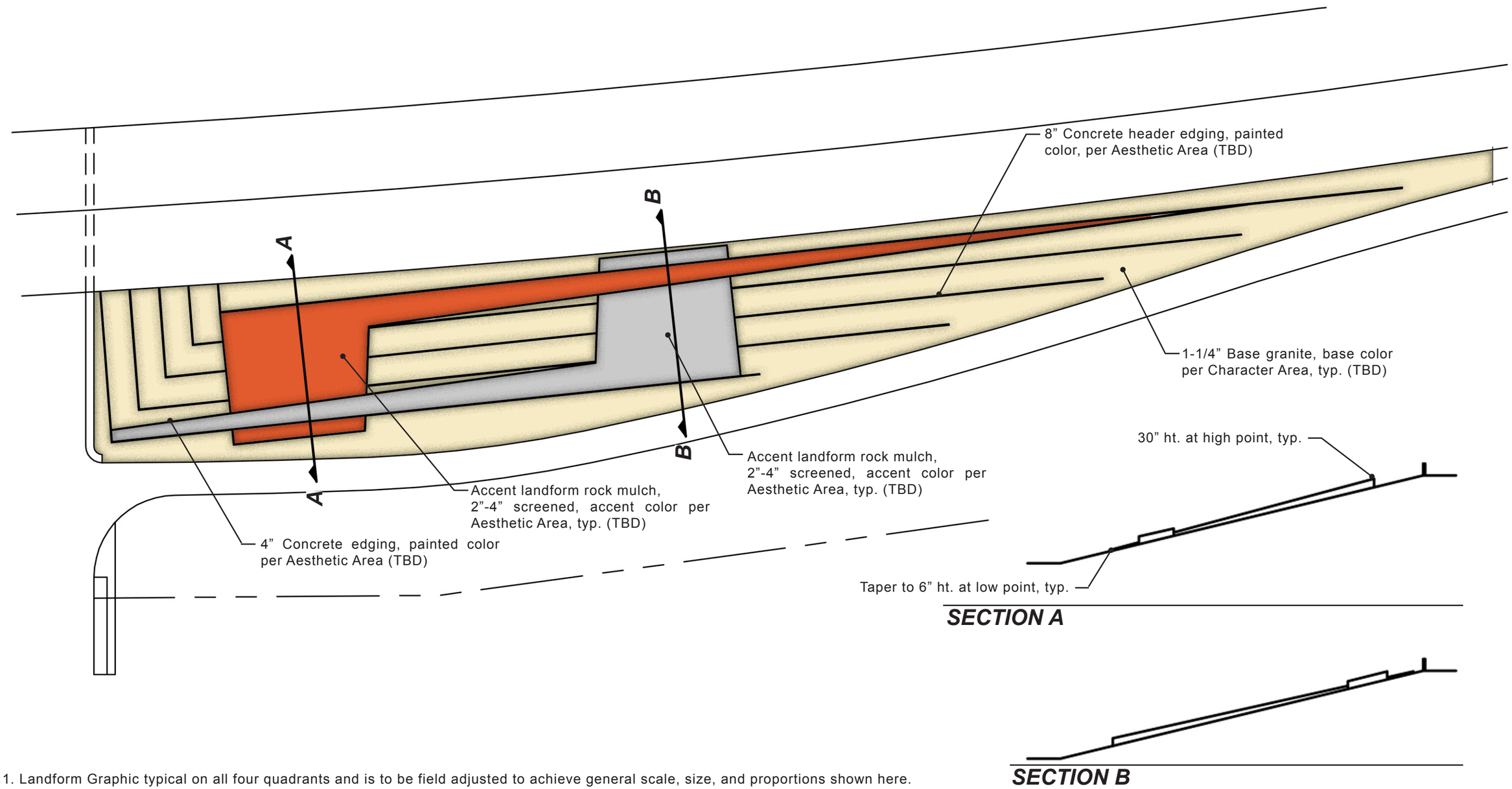
Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.

2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.42

MOUNTAIN URBAN LINK PATTERN

LANDFORM GRAPHICS

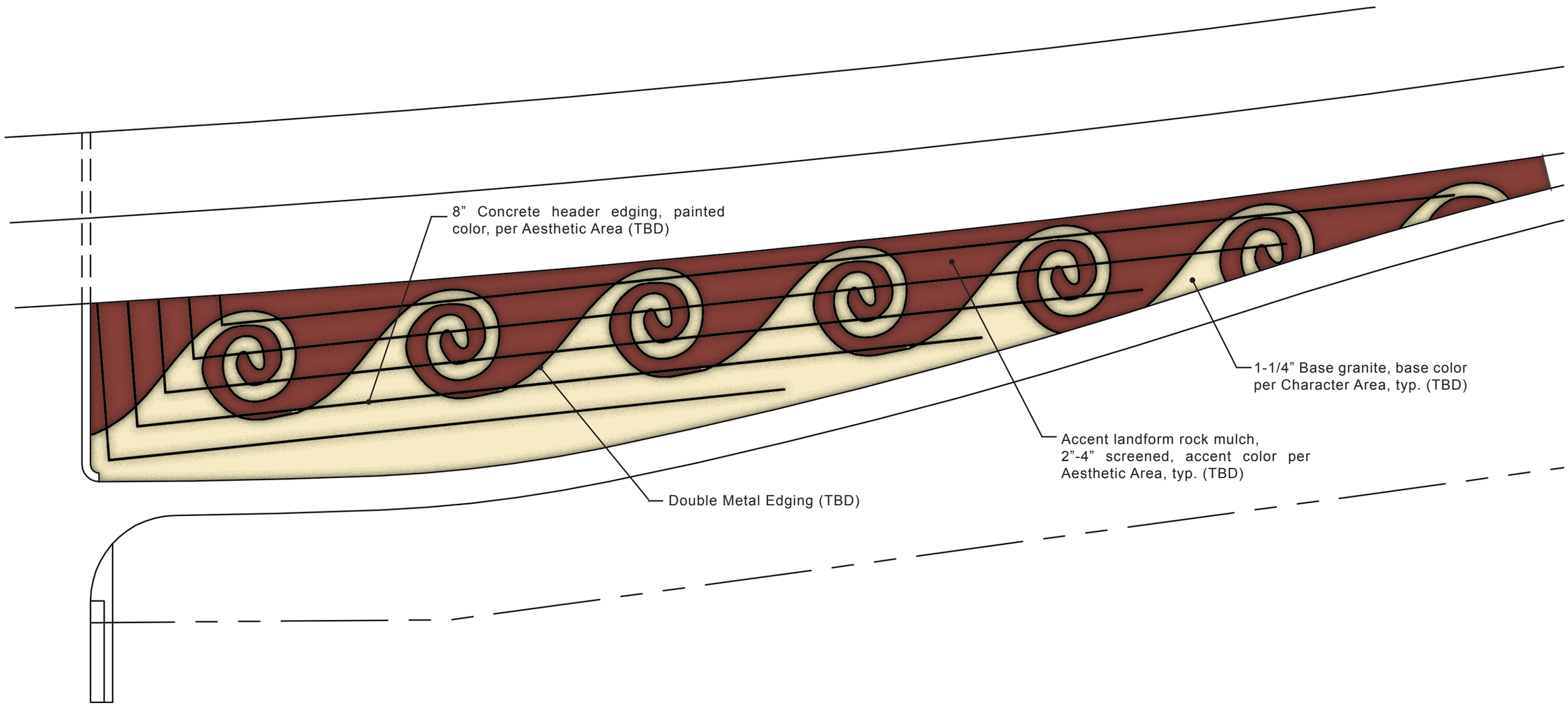


Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.

2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.43

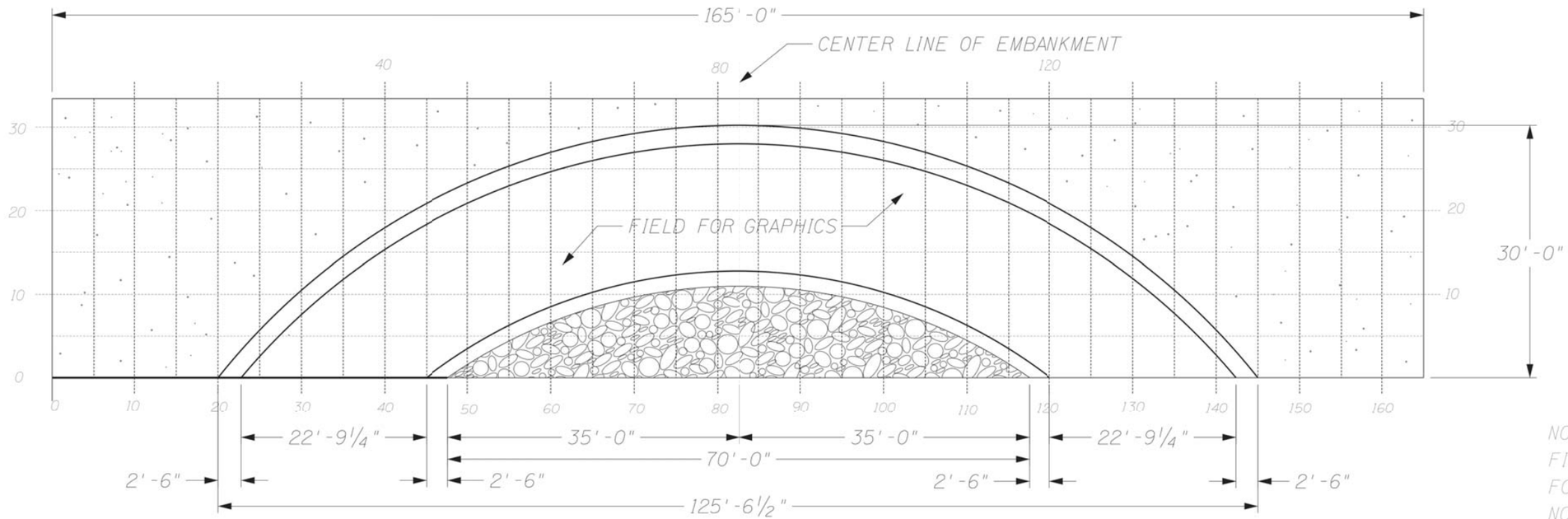
SALT RIVER BRIDGE
LANDFORM GRAPHICS



Notes: 1. Landform Graphic typical on all four quadrants and is to be field adjusted to achieve general scale, size, and proportions shown here.
2. Landform Graphics where used are to be on slope embankments, ramp embankments, and mainline embankments.

Exhibit L2.44

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



NOTE:
FIVE FOOT SQUARES ARE FOR REFERENCE ONLY- NOT PART OF DESIGN

0 5 10 15 20 FEET

NOTE: GRAPHICS SHOWN ARE FOR EXAMPLE ONLY.

1. EACH SLOPE PAVING DESIGN SHALL RELATE IN GRAPHICS, COLORS, TEXTURES, AND MATERIALS TO COMPLIMENT THE AESTHETIC AREA RUSTICATION TREATMENT.
2. WHERE SLOPE PAVING OCCURS, DESIGNER SHALL DEVELOP CONCEPTS THAT RELATE TO THE ARCHITECTURAL AND RUSTICATION FEATURES OF THAT AESTHETIC AREA, OR SOUTHWESTERN IMAGE.
3. SUBJECT TO REVIEW BY ADOT ENGINEER.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

SLOPE PAVING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

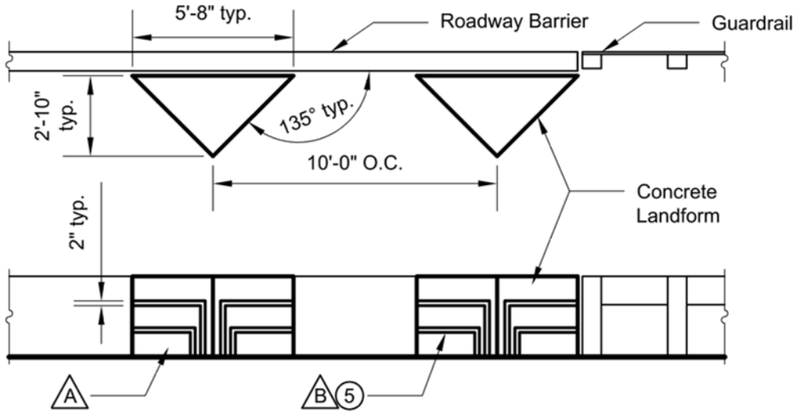
EXHIBIT NO. L2.45

___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

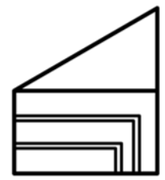
5:01:12 PM 3/26/2015 CHRIS.ROSE K:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\SLOPE PAVING DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



PRISM PLAN & ELEVATION

AREA 1,2, & 5 N.T.S.



PRISM ISOMETRIC VIEW

AREA 1,2, & 5 N.T.S.

LEGEND

Rustication
Thickness Key:

① Flush

⑤ Recessed 2"

Paint Color Key:

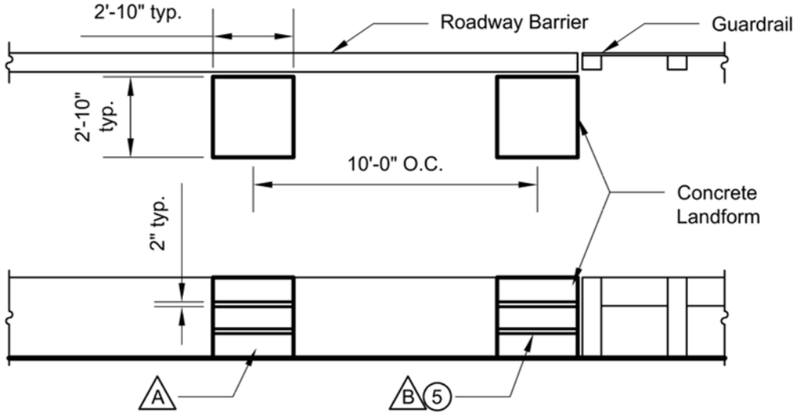
Ⓐ Base Color: per area callout

Ⓑ Accent Color: per area callout

Notes:

1. Where Concrete Landforms occur, elements shall be installed in groups of seven, spaced as shown in details.

2. Concrete Landforms shall be installed abutting the Roadway Barrier, but not integral to it.

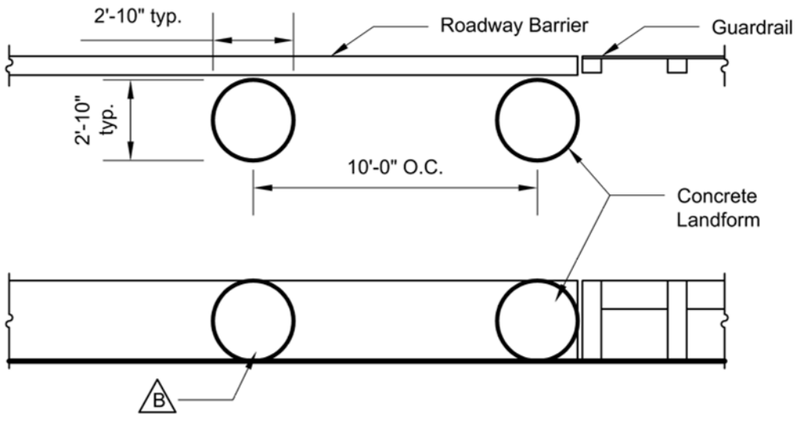


CUBE PLAN & ELEVATION

AREA 3 N.T.S.

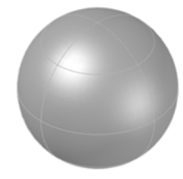
CUBE ISOMETRIC VIEW

AREA 3 N.T.S.



SPHERE PLAN & ELEVATION

AREA 4, & Salt River Bridge Area N.T.S.



SPHERE ISOMETRIC VIEW

AREA 4, & Salt River Bridge Area N.T.S.

Concrete Landforms

	NAME	DATE
DESIGN	JOSEPH R. SALAZAR	03/2015
DESIGN	-	-
DRAWN	YURI L.R.	03/2015
DRAWN	-	-
CHECKED	JOSEPH R. SALAZAR	03/2015
TEAM LEADER	JOSEPH R. SALAZAR	03/2015

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

LANDSCAPE ARCHITECTURE
AESTHETIC DESIGN

ROUTE SR 202L
LOCATION I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L
PROJECT NO. NH-202-D (ADY)

PRELIMINARY

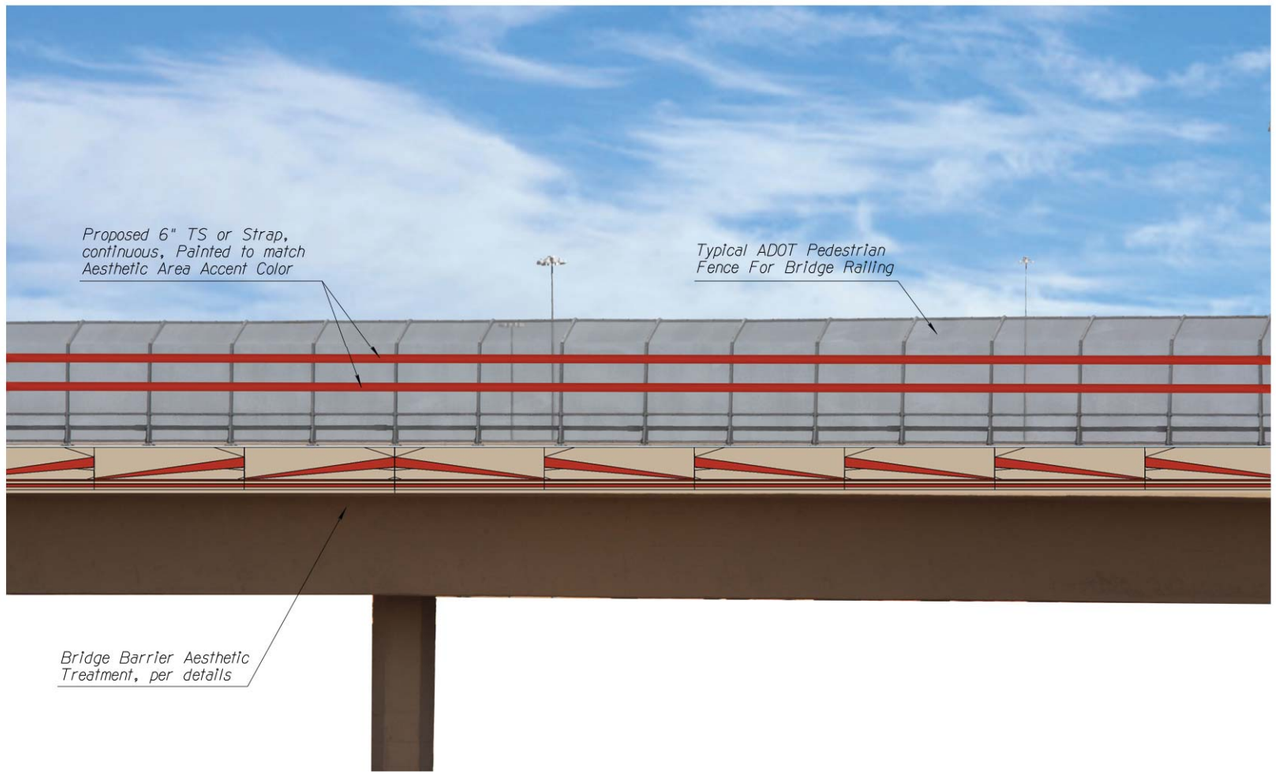
NOT FOR CONSTRUCTION OR RECORDING

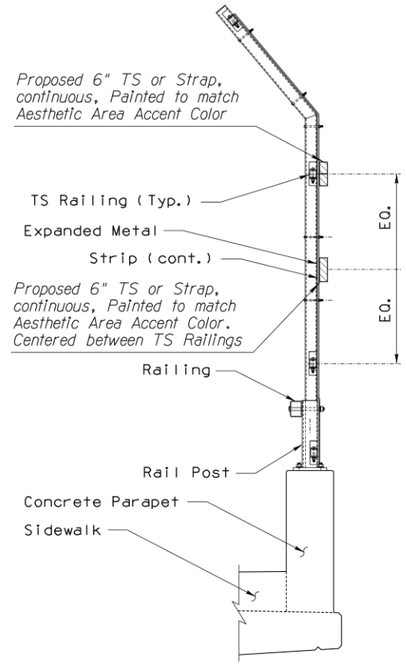
EXHIBIT No. L2.46

___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY
NO.2 DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			





Note: All Fence posts, railings, straps, mesh, and hardware to be painted to match Corridor Base Color, except where specifically noted for accent color.

TYPICAL ADOT PEDESTRIAN FENCE FOR BRIDGE RAILING (SD 1.04)

PEDESTRIAN FENCE FOR BRIDGE RAILING

N.T.S.

Notes:
1. Graphic provided is for informational purposes only. Details for brige barrier walls are provided for each aesthetic area. Accent colors used are to match the accent color specified for each aesthetic area.
2. Ramp fencing shall be painted and treated to compliment bridge fencing.

	NAME	DATE
DESIGN	CMR	04/15
DRAWN	CMR	04/15
CHECKED	ACP	04/15

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

PEDESTRIAN FENCE FOR BRIDGE RAILING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.47
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

11:39:14 AM 4/1/2015 CHRIS.ROSE K:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\BRIDGE_ARCHITECTURAL_FENCING.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

Botanical Name	Common Name	Ahwatukee Neighborhoods	Ahwatukee Foothills	Laveen Village	Estrella Village	I-10 T.I.
LARGE TREES:						
Cercidium floridum	Blue Palo Verde	X	X	X		
Cercidium microphyllum	Foothills Palo Verde		X			
Cercidium praecox	Palo Brea				X	X
Dalbergia sissoo	Indian Rosewood			X	X	X
Eucalyptus papuana	Ghost Gum					X
Olneya tesota	Desert Ironwood	X	X			
Pistache chinensis	Chinese Pistache			X	X	
Pithecellobium flexacaule	Texas Ebony	X		X	X	
Populus fremontii**	Fremont Cottonwood					
Prosopis glandulosa	Honey Misquite				X	X
Prosopis pubescens	Screwbean Mesquite	X	X			
Prosopis velutina	Velvet Misquite	X	X	X		
Quercus virginiana	Southern Live Oak			X	X	
Salix goodingii var. goodingii**	Goodings Willow					
Ulmus parvifolia	Evergreen Elm			X		

** For use in Salt River riparian areas only. Not on ADWR Low Water Use Plant List.

PALMS (at gateways only):						
Phoenix dactylifera	Date Palm					
Washingtonia filifera	California Fan Palm					
Washingtonia robusta	Mexican Fan Palm					

SMALL TREES:						
Acacia aneura	Mulga					X
Acacia willardiana	Palo Blanco	X				X
Caesalpinia cacalaco	Cascalote	X		X	X	
Chitalpa tashkinensis	Chitalpa			X	X	X
Pistacia lentiscus	Mastic Tree	X		X	X	
Sophora secundiflora	Texas Mountain Laurel	X		X	X	X
Vitex agnus-castus	Chaste Tree			X		

LARGE SHRUBS:						
Bougainvillea	La Jolla				X	X
Caesalpinia mexicana	Mexican Bird of Paradise			X	X	
Caesalpinia pulcherrima	Red Bird of Paradise	X			X	X
Calliandra sp.	Fairy Duster	X	X			
Cordia parvifolia	Little Leaf Cordia	X		X		
Dodonaea viscosa	Hop Bush			X	X	
Eremophila maculata	Valentine Bush			X		
Justicia californica	Chuparosa	X	X			

Botanical Name	Common Name	Ahwatukee Neighborhoods	Ahwatukee Foothills	Laveen Village	Estrella Village	I-10 T.I.
LARGE SHRUBS (CONT.):						
Larrea tridentana	Creosote Bush		X			
Leucophyllum candidum	'Silver Cloud'	X		X	X	X
Leucophyllum frutescens 'GC'	'Green Cloud'	X		X	X	X
Leucophyllum laevigatum	Chihuahuan Sage	X			X	X
Simmondsia chinensis	Jojoba	X	X	X	X	
Tecoma stans 'Orange Jubilee'	Orange Jubilee				X	X

SMALL SHRUBS:						
Acacia redolens 'Desert Carpet'	Prostrate Acacia 'Desert Carpet'				X	X
Ambrosia deltoidea	Bursage		X			
Encelia farinosa	Brittle Bush		X			
Lantana sp. 'New Gold'	New Gold Lantana			X	X	
Muhlenbergia capillaris	'Regal Mist'	X		X	X	
Rosmarinus officinalis prostratus	Prostrate Rosemary			X	X	
Ruellia peninsularis	Baja Ruellia	X		X	X	X
Sphaeralcea ambigua	Globe Mallow		X			

ACCENT:						
Agave sp.	Agave			X		X
Aloe sp.	Aloe				X	X
Asclepias species	Milkweed	X	X	X	X	
Carnegiea gigantea	Saguaro	X	X			
Dasylirion wheeleri	Desert Spoon	X			X	X
Ferocactus species	Barrel Cactus		X			
Foquieria splandens	Ocotillo	X				X
Hesperaloe funifera	Giant Hesperaloe			X		
Hesperaloe parvifolia	Red Yucca	X		X	X	X
Opuntia species	Prickly Pear		X			
Opuntia species	Cholla		X			
Yucca species	Yucca	X				X

NOTE:
ALL PLANTS UTILIZED ON THE SR202 SOUTH MOUNTAIN FREEWAY ARE TO BE ON THE ADWR PHOENIX AMA LOW WATER USE/ DROUGHT TOLERANT PLANT LIST, UNLESS OTHERWISE NOTED.

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

PLANT MATRIX

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

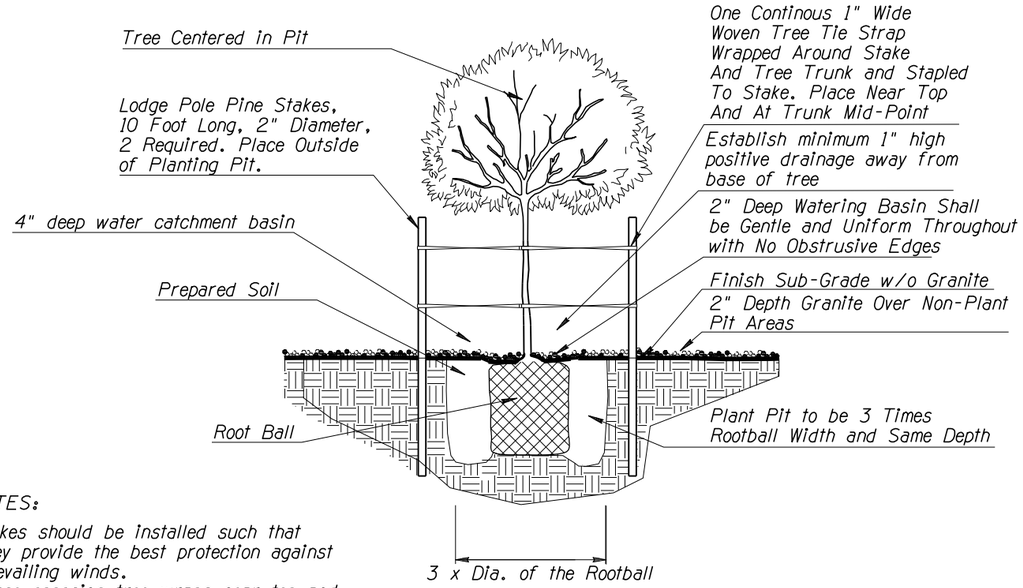
NOT FOR CONSTRUCTION OR RECORDING

Exhibit L3.1

___ OF ___

NO.1 DESCRIPTION OF REVISION DATE MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

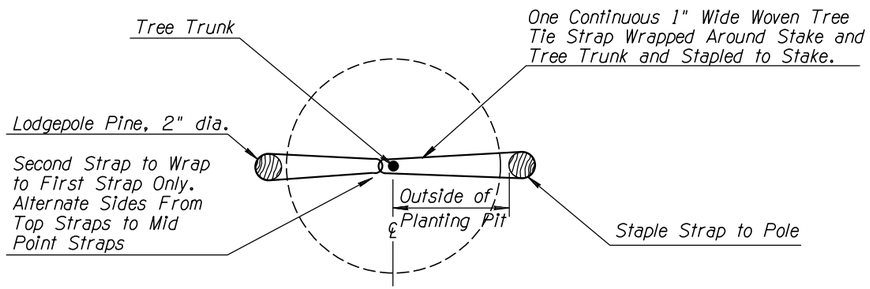


NOTES:

1. Stakes should be installed such that they provide the best protection against prevailing winds.
2. Place opposing tree wraps near top and at mid-point of trunk.
3. Contractor shall follow the approved submitted pruning, staking/guying, and irrigation plan.
4. Roughen bottom and sides of excavated hole prior to setting.
5. Staking installed per approved "Pruning, Staking, Guying & Irrigation Plan.

DETAIL L1 NTS

STANDARD TRUNK TREE PLANTING AND STAKING

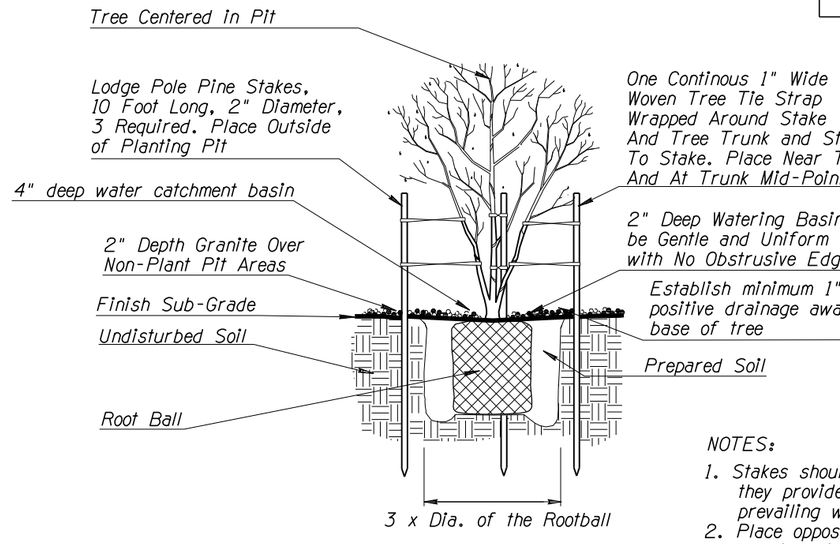


NOTES:

1. Stakes should be installed such that they provide the best protection against prevailing winds.
2. Place opposing tree wraps near top and at mid-point of trunk.

DETAIL L2 NTS

TREE DOUBLE STAKING DETAIL

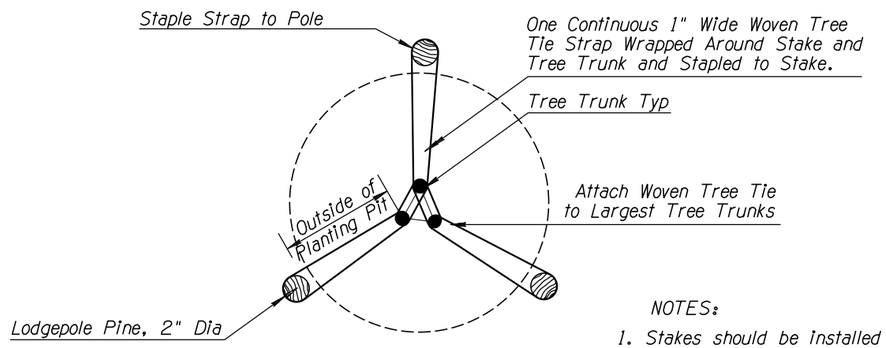


NOTES:

1. Stakes should be installed such that they provide the best protection against prevailing winds.
2. Place opposing tree wraps near top and at mid-point of trunk.
3. Contractor shall follow the approved submitted pruning, staking/guying, and irrigation plan.
4. Roughen bottom and sides of excavated hole prior to setting.

DETAIL L3 NTS

MULTI-TRUNK TREE PLANTING



NOTES:

1. Stakes should be installed such that they provide the best protection against prevailing winds.
2. Place opposing tree wraps near top and at mid-point of trunk.

DETAIL L4 NTS

TREE TRIPLE STAKING DETAIL

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

TYPICAL PLANTING DETAILS

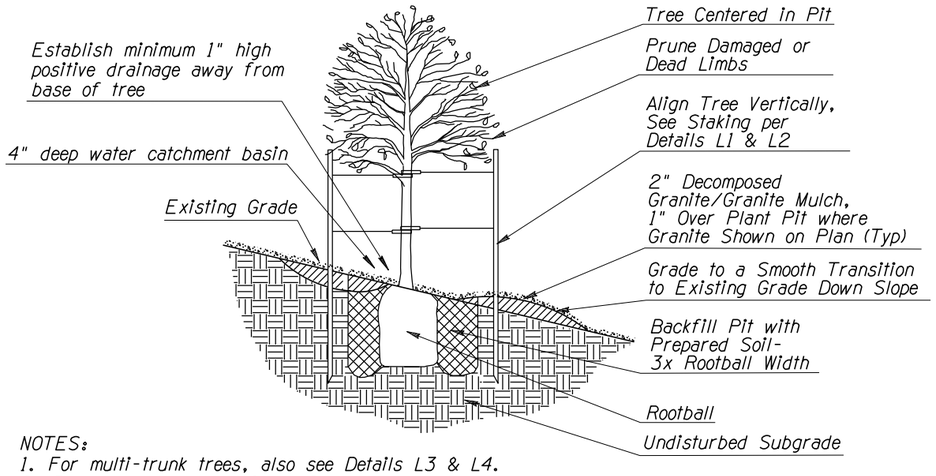
PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit L3.2
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

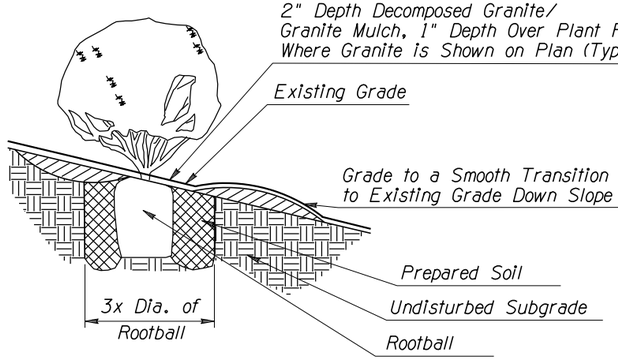
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



NOTES:
1. For multi-trunk trees, also see Details L3 & L4.
2. Roughen bottom and sides of excavated hole prior to setting.
3. Place opposing tree wraps near top and at mid-point of trunk.
4. Contractor shall follow the approved submitted pruning, staking/guying, and irrigation plans.
5. Staking installed per approved "Pruning, Staking, Guying & Irrigation Plan.

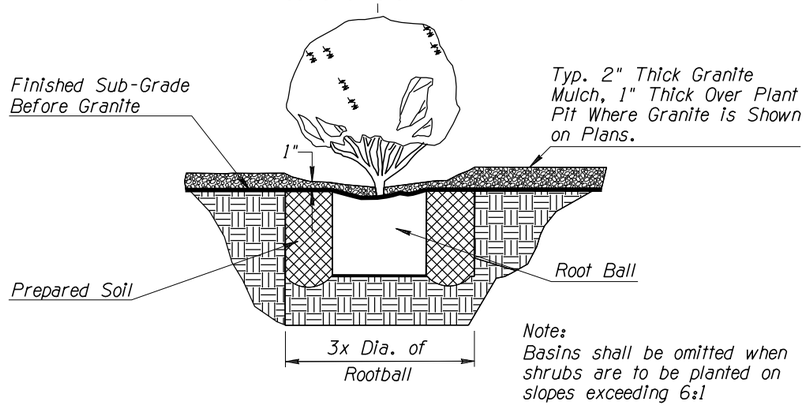
DETAIL L5 NTS

TREE PLANTING ON SLOPE



DETAIL L7 NTS

SHRUB / ACCENT / GROUND COVER CACTI / PLANTING ON SLOPE

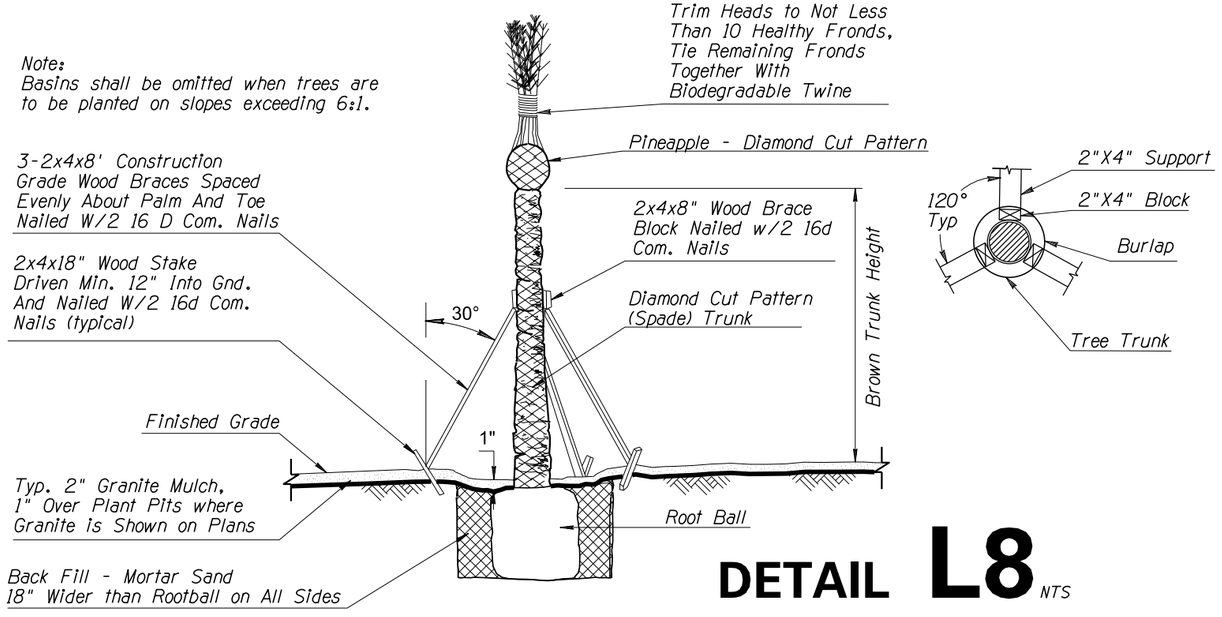


Note:
Basins shall be omitted when shrubs are to be planted on slopes exceeding 6:1

DETAIL L6 NTS

SHRUB / ACCENT / GROUND COVER / CACTI / PLANTING

Note:
Basins shall be omitted when trees are to be planted on slopes exceeding 6:1.



DETAIL L8 NTS

PALM PLANTING DETAIL

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

TYPICAL PLANTING DETAILS

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

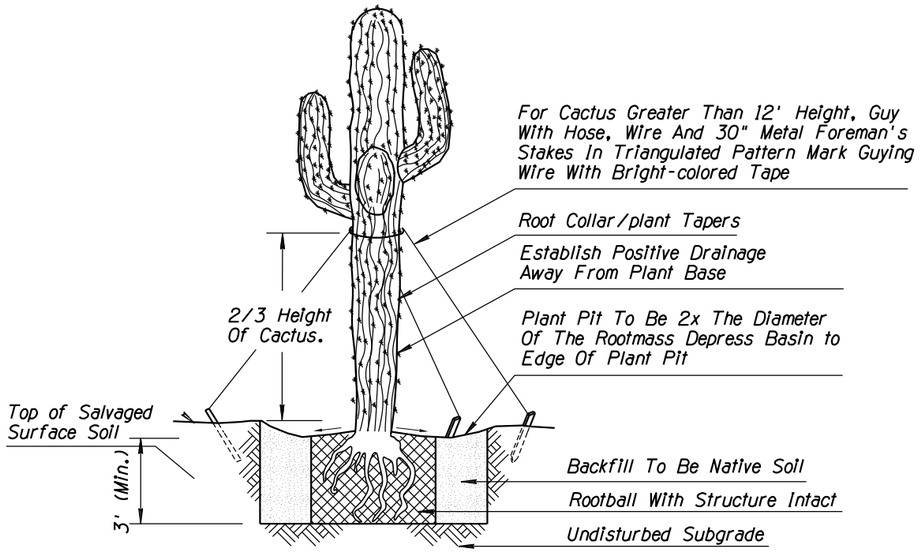
Exhibit L3.3

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

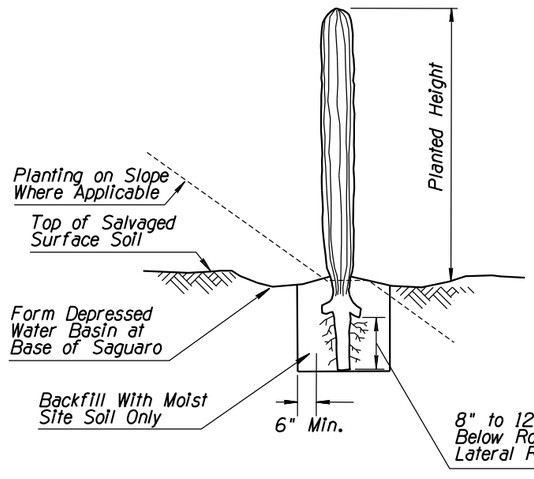
NO.1 DESCRIPTION OF REVISION MADE BY DATE
NO.2 DESCRIPTION OF REVISION MADE BY DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



DETAIL L9

SAGUARO WITH ARMS PLANTING

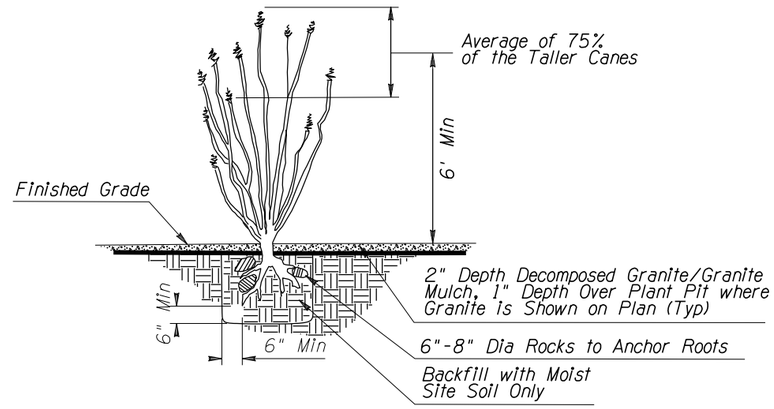


Note:

1. Root prune only shredded or damaged roots.
2. Treat all surface wounds with bactericide.
3. Ensure all wounds to the root system are clean cut before planting. Apply dusting sulfur to all areas below grade.
4. Plant pit shall be 6" min. wider than the extent of the several lateral roots.
5. Cut through taproot to provide a flat base with dia. Sufficient to support the weight of the unsupported Saguaro.
6. Backfill pit with 6" layers of rodded, compacted, moist, site soil.
7. Planting depth shall be the depth at which plant was grown or deeper but the tapering of the root collar must be visible.
8. Ensure surface water cannot stand against the root collar.
9. All Saguaro placement shall match original orientation with south side facing south.

DETAIL L10 NTS

SAGUARO SPEAR PLANTING DETAIL



NOTES:
Planting hole width shall be 3 times diameter of roots and no deeper than the extension of the rootball.

Root prune all shredded or damaged roots.

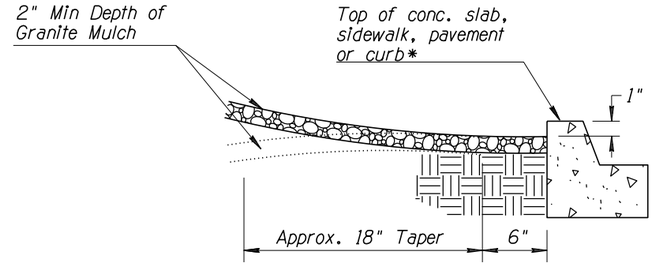
Ensure all wounds to the root system are clean cut before planting. Apply dusting sulfur to all area below grade.

Bare roots shall not be out of the ground for more than five days before planting.

DETAIL L11 NTS

OCOTILLO PLANTING

* = Finished grade of granite mulch shall be 1" below adjoining items. Excavate or fill as req'd.



NOTE:
Hold granite mulch 1" below finish grade of adjoining surface for 6" min., then taper granite mulch bottom for approx. 18" to match finished grade or as approved by the Landscape Architect.

DETAIL L12 NTS

GRANITE MULCH / EDGE FINISH

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

TYPICAL PLANTING DETAILS

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

Exhibit L3.4

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

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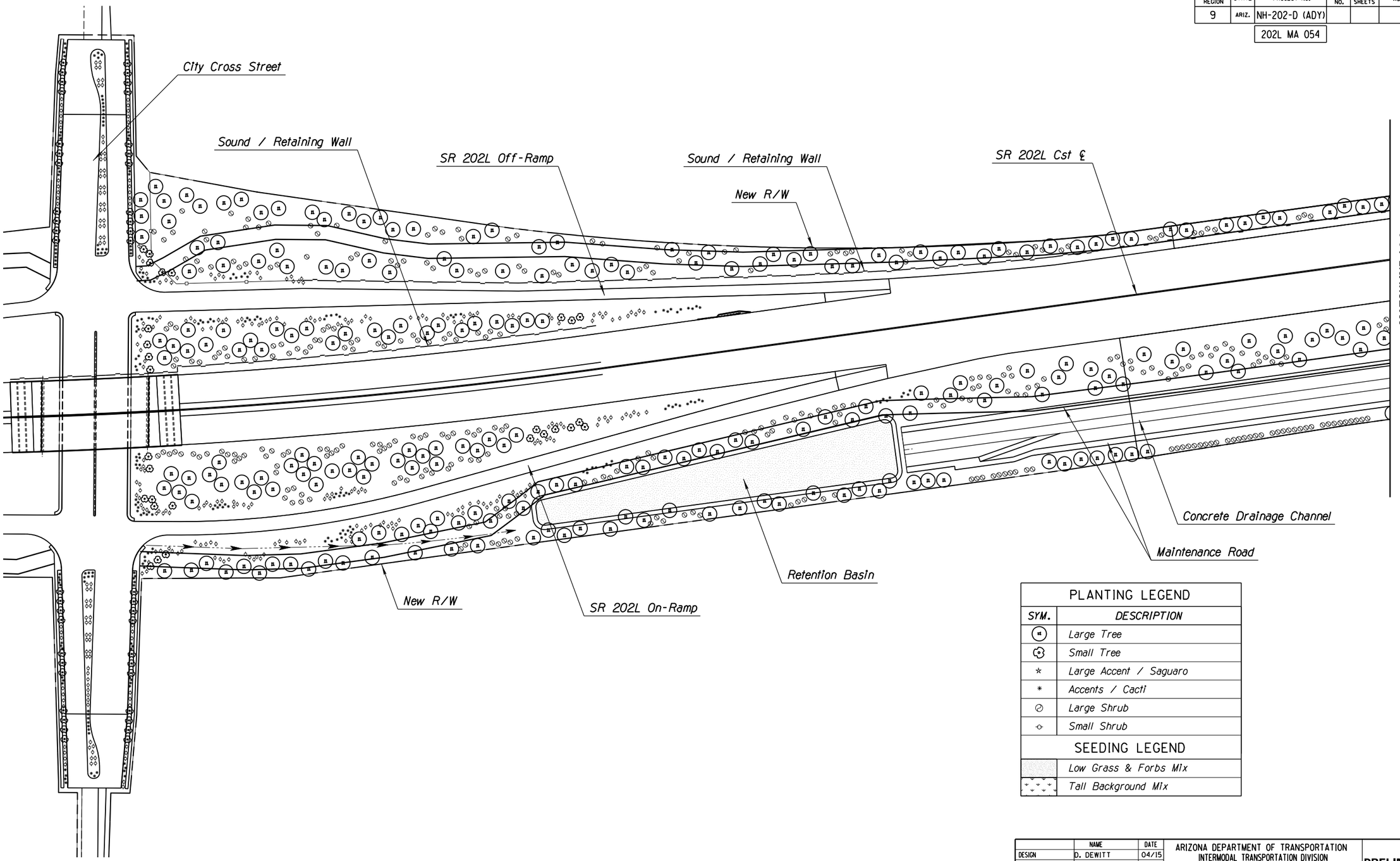
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			



PLANTING LEGEND	
SYM.	DESCRIPTION
	Large Tree
	Small Tree
	Large Accent / Saguaro
	Accents / Cacti
	Large Shrub
	Small Shrub
SEEDING LEGEND	
	Low Grass & Forbs Mix
	Tall Background Mix

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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Phoenix, Arizona 85040
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www.j2design.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL PLANTING PLAN

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit L3.5
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

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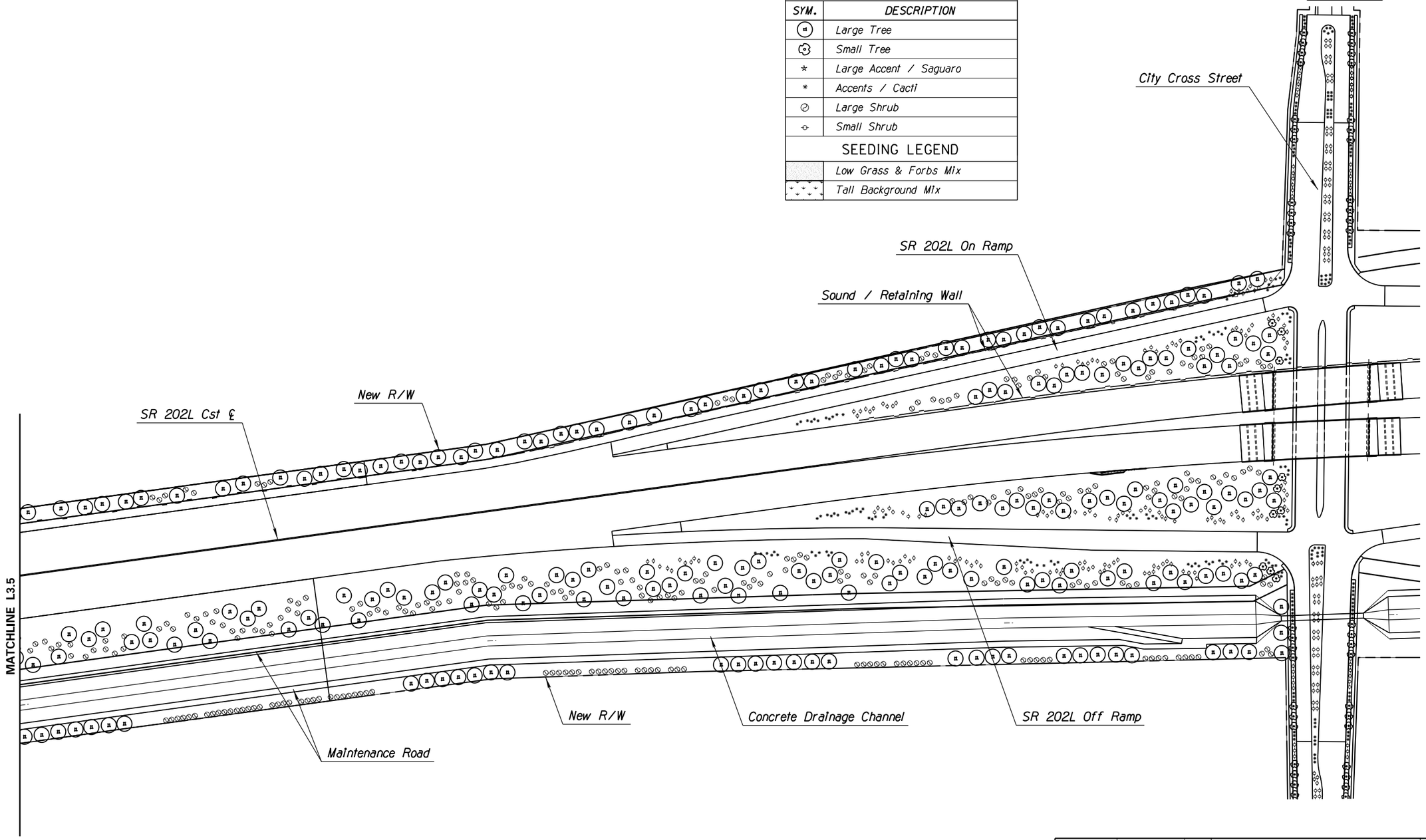
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

PLANTING LEGEND	
SYM.	DESCRIPTION
	Large Tree
	Small Tree
	Large Accent / Saguaro
	Accents / Cacti
	Large Shrub
	Small Shrub
SEEDING LEGEND	
	Low Grass & Forbs Mix
	Tall Background Mix



0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL PLANTING PLAN

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L3.6

___ OF ___

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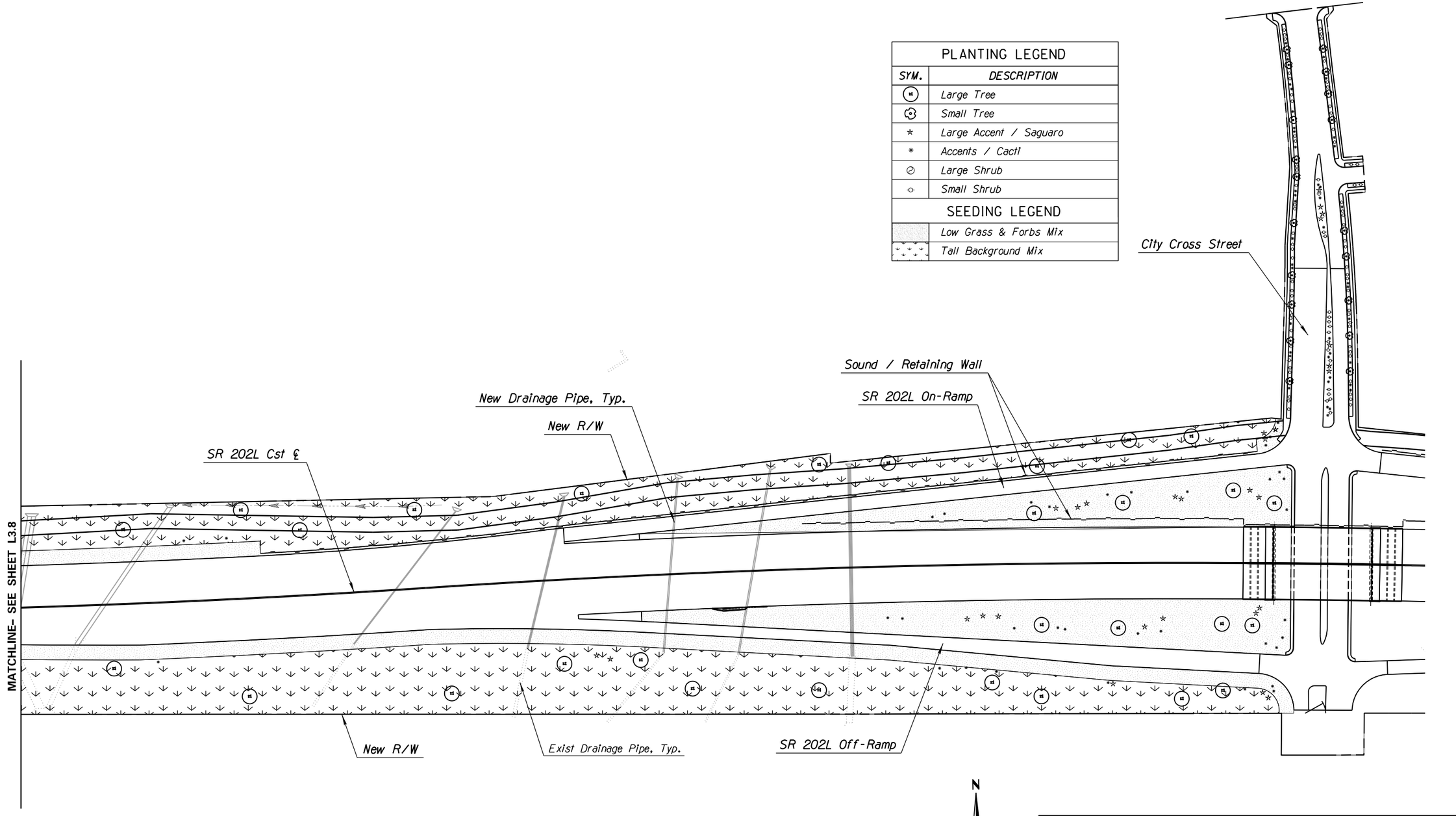
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.1			
NO.2			

PLANTING LEGEND	
SYM.	*DESCRIPTION*
	Large Tree
	Small Tree
*	*Large Accent / Saguaro*
*	*Accents / Cacti*
	Large Shrub
	Small Shrub
SEEDING LEGEND	
	Low Grass & Forbs Mix
	Tall Background Mix



N

0 50' 100' 200'

SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

CA 2 - AHWATUKEE FOOTHILLS
TYPICAL PLANTING PLAN

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L3.7

___ OF ___

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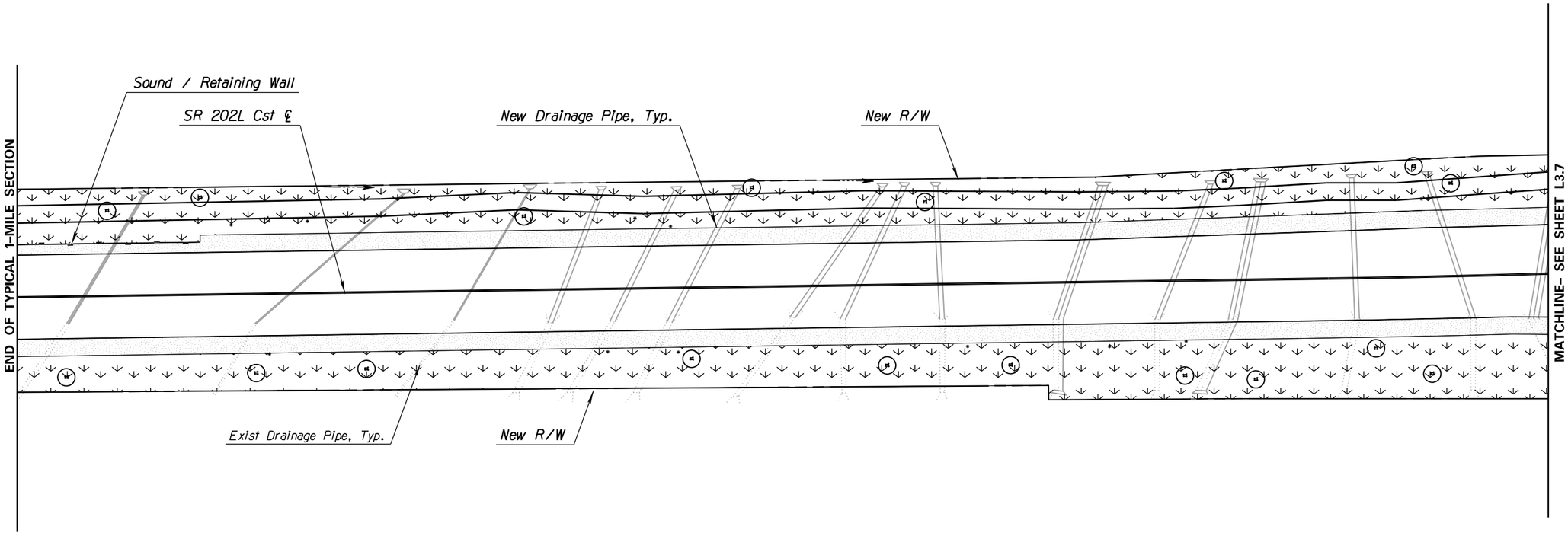
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.2			
NO.1			



PLANTING LEGEND	
SYM.	DESCRIPTION
	Large Tree
	Small Tree
*	Large Accent / Saguaro
*	Accents / Cacti
	Large Shrub
	Small Shrub
SEEDING LEGEND	
	Low Grass & Forbs Mix
	Tall Background Mix

N

0 50' 100' 200'

SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

CA 2 - AHWATUKEE FOOTHILLS
TYPICAL PLANTING PLAN

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

Exhibit L3.8

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

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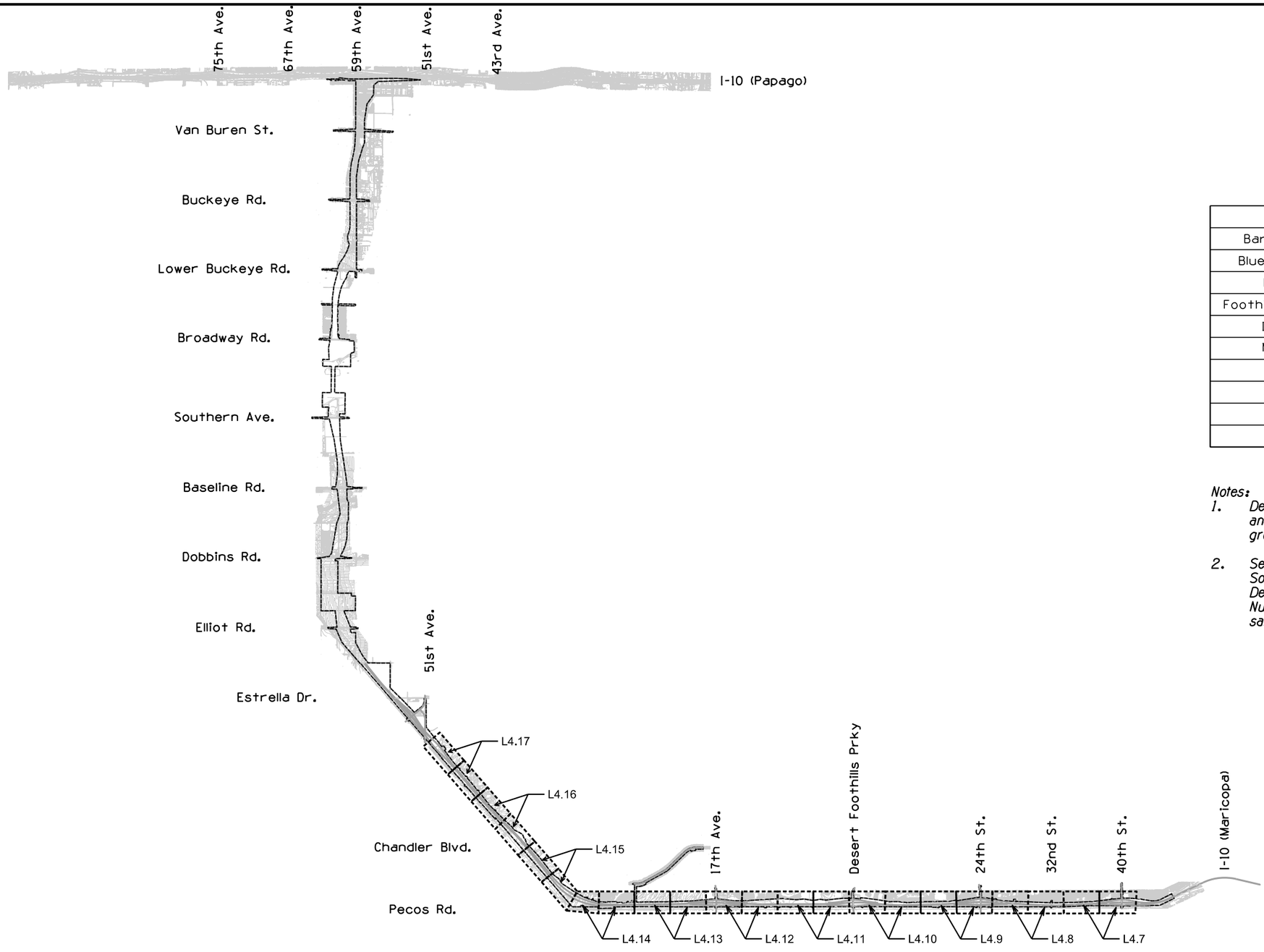
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



KEY MAP

PROJECT TOTALS

	TOTAL	SAL	NON
Barrel Cactus	518	502	16
Blue Palo Verde	181	177	4
Fan Palm	8	8	0
Foothills Palo Verde	86	85	1
Ironwood	716	170	546
Mesquite	60	59	1
Ocotillo	9	6	3
Saguaro	354	279	75
Total	1932	1286	646

Notes:

1. *Developer to prepare Salvage Operation Plan for review and approval of the Engineer prior to beginning any ground breaking work.*
2. *See Section 4- Native Plant Salvage in the SR202 South Mountain Freeway Landscape & Aesthetics Design Concept Report for Salvage Process, Salvage Nursery & Temporary Water, and Re-Planting of salvaged plant materal recommendations.*

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY
COVER SHEET

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.01

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		
TRACS NO. H5764 01L			NH-202-D (ADY)

___ OF ___

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
1	SAL	Mesquite	16	16	
2	SAL	Mesquite	8	10	
3	SAL	Mesquite	5	6	
4	SAL	Blue Palo Verde	9	9	
5	SAL	Blue Palo Verde	6	7	
6	SAL	Blue Palo Verde	10	12	
7	SAL	Mesquite	10	16	
8	SAL	Blue Palo Verde	14	15	
9	SAL	Mesquite	9	9	
10	SAL	Blue Palo Verde	15	17	
11	SAL	Blue Palo Verde	13	15	
12	NON	Ironwood	15	16	
13	SAL	Ironwood	10	11	
14	SAL	Ironwood	8	8	
15	SAL	Ironwood	14	16	
16	SAL	Blue Palo Verde	8	10	
17	SAL	Blue Palo Verde	14	16	
18	SAL	Blue Palo Verde	12	11	
19	SAL	Blue Palo Verde	6	7	
20	SAL	Blue Palo Verde	16	17	
21	SAL	Blue Palo Verde	6	6	
22	SAL	Blue Palo Verde	8	7	
23	SAL	Blue Palo Verde	5	5	
24	SAL	Blue Palo Verde	8	7	
25	SAL	Blue Palo Verde	12	13	
26	SAL	Blue Palo Verde	8	9	
27	SAL	Blue Palo Verde	14	14	
28	SAL	Blue Palo Verde	11	13	
29	SAL	Blue Palo Verde	12	13	
30	SAL	Blue Palo Verde	8	8	
31	SAL	Blue Palo Verde	8	9	
32	SAL	Blue Palo Verde	8	9	
33	SAL	Blue Palo Verde	8	9	
34	SAL	Blue Palo Verde	13	14	
35	SAL	Ironwood	19	22	
36	SAL	Ironwood	19	20	
37	NON	Ocotillo		6	
38	SAL	Ironwood	17	17	
39	SAL	Ironwood	19	20	
40	SAL	Ironwood	15	15	
41	SAL	Ironwood	17	18	
42	SAL	Ironwood	17	18	
43	NON	Ironwood	15	18	
44	NON	Saguaro		14	Spear
45	SAL	Ironwood	19	22	
46	SAL	Ironwood	17	17	
47	SAL	Ironwood	15	15	
48	NON	Ironwood	14	15	
49	NON	Ironwood	15	15	
50	SAL	Ironwood	19	21	
51	SAL	Saguaro		15	3 Arms
52	SAL	Blue Palo Verde	6	7	
53	SAL	Blue Palo Verde	12	11	
54	SAL	Blue Palo Verde	12	13	
55	SAL	Blue Palo Verde	8	7	
56	SAL	Mesquite	16	15	
57	SAL	Blue Palo Verde	14	14	
58	SAL	Blue Palo Verde	16	17	
59	SAL	Blue Palo Verde	8	7	
60	SAL	Blue Palo Verde	8	10	
61	SAL	Saguaro		41	6 Arms
62	SAL	Saguaro		38	2 Arms
63	SAL	Saguaro		52	13 Arms
64	SAL	Blue Palo Verde	8	10	
65	SAL	Blue Palo Verde	9	10	
66	SAL	Mesquite	16	16	
67	SAL	Blue Palo Verde	16	16	
68	SAL	Blue Palo Verde	11	13	
69	SAL	Blue Palo Verde	8	6	
70	SAL	Mesquite	14	16	
71	SAL	Mesquite	8	7	
72	SAL	Blue Palo Verde	14	15	
73	SAL	Blue Palo Verde	9	9	
74	SAL	Blue Palo Verde	14	15	
75	SAL	Blue Palo Verde	8	8	
76	SAL	Blue Palo Verde	13	16	
77	SAL	Blue Palo Verde	8	8	
78	SAL	Blue Palo Verde	5	6	
79	SAL	Blue Palo Verde	11	13	
80	SAL	Blue Palo Verde	5	6	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
81	SAL	Blue Palo Verde	5	6	
82	SAL	Blue Palo Verde	5	6	
83	SAL	Blue Palo Verde	11	13	
84	SAL	Blue Palo Verde	14	16	
85	SAL	Blue Palo Verde	14	16	
86	SAL	Blue Palo Verde	14	14	
87	SAL	Mesquite	14	16	
88	SAL	Blue Palo Verde	9	10	
89	SAL	Blue Palo Verde	15	16	
90	SAL	Blue Palo Verde	8	6	
91	SAL	Blue Palo Verde	13	12	
92	SAL	Blue Palo Verde	16	15	
93	SAL	Blue Palo Verde	13	14	
94	SAL	Blue Palo Verde	12	10	
95	SAL	Blue Palo Verde	8	7	
96	SAL	Blue Palo Verde	11	14	
97	SAL	Blue Palo Verde	5	6	
98	SAL	Blue Palo Verde	11	11	
99	SAL	Blue Palo Verde	8	9	
100	SAL	Saguaro		16	Spear
101	SAL	Saguaro		25	1 Arm
102	SAL	Saguaro		17	Spear
103	NON	Ironwood	16	15	
104	SAL	Ironwood	17	16	
105	NON	Ironwood	14	16	
106	NON	Saguaro		23	Spear
107	NON	Saguaro		22	Spear
108	SAL	Ironwood	13	15	
109	SAL	Ironwood	12	13	
110	SAL	Ironwood	12	13	
111	SAL	Ironwood	18	20	
112	NON	Ironwood	14	15	
113	SAL	Ironwood	11	10	
114	SAL	Blue Palo Verde	5	6	
115	SAL	Blue Palo Verde	10	11	
116	SAL	Blue Palo Verde	8	9	
117	SAL	Saguaro		11	
118	SAL	Saguaro		31	
119	SAL	Blue Palo Verde	12	16	
120	SAL	Blue Palo Verde	9	10	
121	SAL	Blue Palo Verde	5	7	
122	SAL	Blue Palo Verde	13	16	
123	SAL	Blue Palo Verde	15	17	
124	SAL	Blue Palo Verde	12	14	
125	SAL	Blue Palo Verde	6	8	
126	SAL	Blue Palo Verde	5	6	
127	SAL	Barrel		1	
128	SAL	Barrel		1	
129	SAL	Barrel		1	
130	SAL	Barrel		2	
131	SAL	Barrel		1	
132	SAL	Barrel		1	
133	SAL	Barrel		5	
134	SAL	Barrel		1	
135	SAL	Barrel		1	
136	SAL	Barrel		1	
137	SAL	Barrel		1	
138	SAL	Barrel		1	
139	SAL	Barrel		1	
140	SAL	Barrel		3	
141	SAL	Date Palm		30	
142	SAL	Date Palm		35	
143	SAL	Date Palm		35	
144	SAL	Date Palm		35	
145	SAL	Date Palm		33	
146	SAL	Date Palm		32	
147	SAL	Date Palm		30	
148	SAL	Date Palm		30	
149	SAL	Blue Palo Verde	5	5	
150	SAL	Blue Palo Verde	6	5	
151	SAL	Saguaro		17	Spear
152	SAL	Barrel		3	
153	SAL	Barrel		5	
154	SAL	Barrel		3	
155	SAL	Barrel		2	
156	SAL	Barrel		2	
157	SAL	Barrel		2	
158	NON	Saguaro		100	14 Arms
159	SAL	Barrel		3	
160	SAL	Barrel		3	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
161	SAL	Barrel		5	
162	SAL	Barrel		4	Twin
163	SAL	Saguaro		43	6 Arms
164	SAL	Barrel		3	
165	SAL	Barrel		4	
166	SAL	Barrel		4	Twin
167	SAL	Barrel		1	
168	SAL	Barrel		4	
169	SAL	Barrel		2	
170	SAL	Barrel		2	
171	SAL	Barrel		2	
172	SAL	Barrel		2	
173	SAL	Barrel		2	
174	SAL	Barrel		2	
175	SAL	Barrel		2	
176	SAL	Barrel		2	
177	NON	Barrel		3	Specimen
178	SAL	Barrel		2	Twin
179	SAL	Barrel		3	Twin
180	SAL	Barrel		3	Twin
181	SAL	Barrel		3	Twin
182	SAL	Barrel		2	Twin
183	NON	Saguaro		51	5 Arms
184	NON	Barrel		2	Specimen
185	SAL	Barrel		2	
186	SAL	Barrel		5	
187	SAL	Barrel		1	
188	SAL	Barrel		2	
189	SAL	Barrel		4	
190	SAL	Barrel		2	
191	SAL	Barrel		2	
192	SAL	Barrel		2	
193	SAL	Barrel		1	
194	SAL	Barrel		1	
195	SAL	Barrel		1	
196	SAL	Barrel		2	
197	SAL	Barrel		2	
198	SAL	Barrel		1	
199	SAL	Barrel		1	
200	SAL	Barrel		1	
201	SAL	Barrel		1	
202	SAL	Saguaro		6	Spear
203	SAL	Barrel		1	
204	SAL	Barrel		2	
205	SAL	Barrel		2	
206	SAL	Barrel		1	
207	SAL	Barrel		1	
208	SAL	Barrel		3	Twin
209	SAL	Barrel		4	
210	SAL	Barrel		3	
211	SAL	Blue Palo Verde	6	7	
212	SAL	Blue Palo Verde	6	6	
213	SAL	Blue Palo Verde	5	6	
214	SAL	Blue Palo Verde	6	7	
215	SAL	Blue Palo Verde	6	7	
216	SAL	Blue Palo Verde	6	7	
217	SAL	Blue Palo Verde	8	8	
218	SAL	Blue Palo Verde	7	7	
219	SAL	Blue Palo Verde	7	7	
220	NON	Ironwood	18	13	
221	SAL	Blue Palo Verde	7	7	
222	NON	Ironwood	25	20	
223	SAL	Blue Palo Verde	5	7	
224	SAL	Saguaro		2	Spear
225	SAL	Barrel		4	
226	SAL	Barrel		2	
227	SAL	Barrel		1	
228	SAL	Barrel		1	
229	SAL	Barrel		1	
230	SAL	Barrel		1	
231	NON	Ironwood	10	7	
232	NON	Ironwood	13	15	
233	SAL	Ironwood	17	18	
234	NON	Saguaro		19	Spear
235	SAL	Saguaro		17	Spear
236	SAL	Blue Palo Verde	9	10	
237	SAL	Blue Palo Verde	8	10	
238	NON	Ironwood	30	26	
239	SAL	Blue Palo Verde	4	6	
240	SAL	Blue Palo Verde	4	6	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
241	SAL	Blue Palo Verde	6	9	
242	NON	Ironwood	27	18	
243	NON	Ironwood	30	25	
244	SAL	Barrel		4	
245	SAL	Ironwood	19	20	
246	SAL	Saguaro		23	4 Arms
247	NON	Saguaro		26	5 Arms
248	SAL	Saguaro		13	Spear
249	SAL	Saguaro		27	4 Arms
250	SAL	Saguaro		21	1 Arm
251	SAL	Blue Palo Verde	8	7	
252	SAL	Blue Palo Verde	5	6	
253	SAL	Blue Palo Verde	6	6	
254	SAL	Blue Palo Verde	8	9	
255	SAL	Blue Palo Verde	6	7	
256	SAL	Blue Palo Verde	7	8	
257	SAL	Blue Palo Verde	10	12	
258	SAL	Blue Palo Verde	7	9	
259	SAL	Blue Palo Verde	7	7	
260	SAL	Blue Palo Verde	5	6	
261	SAL	Blue Palo Verde	5	6	
262	SAL	Blue Palo Verde	8	7	
263	SAL	Blue Palo Verde	5	7	
264	SAL	Blue Palo Verde	5	7	
265	SAL	Saguaro		31	4 Arms
266	SAL	Saguaro		29	Spear
267	SAL	Ocotillo		6	
268	SAL	Barrel		2	
269	NON	Ironwood	Barrel	9	
270	NON	Ironwood	Barrel	15	
271	NON	Ironwood	35	20	
272	NON	Ironwood	18	18	
273	NON	Ironwood	9	9	
274	NON	Ironwood	8	8	
275	NON	Ironwood	7	8	
276	NON	Ironwood	7	6	
277	NON	Ironwood	8	8	
278	NON	Ironwood	7	7	
279	SAL	Ironwood	10	11	
280	SAL	Saguaro		24	Spear
281	NON	Ironwood	7	11	
282	SAL	Ironwood	12	14	
283	NON	Saguaro		21	Spear
284	NON	Ironwood	10	10	
285	SAL	Ironwood	7	7	
286	SAL	Ironwood	15	15	
287	SAL	Ironwood	9	8	
288	SAL	Ironwood	13	13	
289	SAL	Blue Palo Verde	16	15	
290	SAL	Ironwood	22	25	
291	NON	Ironwood	17	15	
292	SAL	Blue Palo Verde	11	10	
293	SAL	Blue Palo Verde	10	10	
294	SAL	Foothills Palo Verde	13	13	
295	SAL	Blue Palo Verde	5	7	
296	SAL	Blue Palo Verde	5	7	
297	SAL	Blue Palo Verde	15	17	
298	SAL	Blue Palo Verde	5	7	
299	NON	Ocotillo		8	
300	SAL	Saguaro		21	1 Arm
301	NON	Saguaro		26	Spear
302	SAL	Barrel		1	
303	SAL	Barrel		1	
304	SAL	Blue Palo Verde	6	6	
305	NON	Ironwood	5	6	
306	SAL	Ironwood	15	17	
307	SAL	Saguaro		16	Spear
308	NON	Saguaro		32	2 Arms
309	SAL	Ironwood	12	14	
310	SAL	Ironwood	11	11	
311	NON	Ironwood	9	11	
312	SAL	Blue Palo Verde	5	6	
313	SAL	Blue Palo Verde	5	6	
314	SAL	Saguaro		28	1 Arm
315	SAL	Saguaro		33	2 Arms
316	SAL	Barrel		1	
317	SAL	Barrel		2	
318	SAL	Barrel		1	
319	SAL	Barrel		1	
320	SAL	Barrel		1	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
321	SAL	Barrel		5	
322	SAL	Barrel		1	
323	SAL	Saguaro		6	Spear
324	SAL	Barrel		1	
325	SAL	Barrel		1	
326	SAL	Blue Palo Verde	13	13	
327	SAL	Blue Palo Verde	16	16	
328	SAL	Blue Palo Verde	14	15	
329	SAL	Blue Palo Verde	7	8	
330	SAL	Ironwood	17	18	
331	NON	Ironwood	15	13	
332	SAL	Ironwood	17	18	
333	SAL	Blue Palo Verde	5	7	
334	SAL	Blue Palo Verde	13	13	
335	SAL	Barrel		1	
338	NON	Barrel		6	
339	SAL	Barrel		1	
340	SAL	Barrel		1	
341	SAL	Saguaro		34	2 Arms
342	SAL	Barrel		1	
343	SAL	Barrel		1	
344	SAL	Barrel		1	
345	SAL	Barrel		1	
346	SAL	Barrel		1	
347	SAL	Barrel		4	
348	SAL	Barrel		1	
349	SAL	Barrel		1	
350	SAL	Barrel		1	
351	SAL	Barrel		1	
352	SAL	Barrel		2	
353	SAL	Barrel		1	
354	SAL	Barrel		2	
355	SAL	Barrel		1	
356	SAL	Barrel		1	
357	SAL	Barrel		1	
358	SAL	Barrel		2	
359	SAL	Barrel		1	
360	SAL	Barrel		1	
361	SAL	Barrel		1	
362	SAL	Barrel		1	
363	SAL	Barrel		4	
364	SAL	Barrel		5	
365	SAL	Barrel		2	
366	SAL	Barrel		1	
367	SAL	Barrel		3	
368	SAL	Barrel		1	
369	SAL	Barrel		2	
370	SAL	Barrel		5	
371	SAL	Barrel		2	
372	SAL	Barrel		1	
373	SAL	Barrel		1	
374	SAL	Barrel		2	
375	SAL	Barrel		1	
376	NON	Barrel		2	
377	SAL	Barrel		2	
378	SAL	Barrel		1	
379	SAL	Barrel		1	
380	SAL	Barrel		5	
381	SAL	Barrel		1	
382	SAL	Barrel		2	
383	SAL	Barrel		4	
384	SAL	Barrel		2	
385	SAL	Barrel		4	
386	SAL	Barrel		3	
387	SAL	Barrel		3	
389	SAL	Barrel		3	
390	NON	Saguaro		36	4 Arms
391	SAL	Saguaro		57	5 Arms
392	SAL	Barrel		1	
393	SAL	Barrel		2	
394	SAL	Barrel		4	
395	SAL	Barrel		1	
396	SAL	Blue Palo Verde	8	8	
397	SAL	Blue Palo Verde	8	10	
398	SAL	Blue Palo Verde	5	6	
398	SAL	Barrel		1	
399	SAL	Blue Palo Verde	10	12	
400	SAL	Blue Palo Verde	10	12	
401	SAL	Blue Palo Verde	11	12	
402	SAL	Blue Palo Verde	12	13	

	EXISTING PLANT MATERIAL	ITEM TOTAL
SAL	SALVAGE AND REPLANT	353
NON	REMOVE	47
	SHEET TOTAL:	400

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY
DATA SHEET

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.02

___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY
NO.2 DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
403	SAL	Blue Palo Verde	9	12	
404	SAL	Barrel		1	
405	SAL	Barrel		2	
406	SAL	Barrel		3	Twin
407	SAL	Barrel		1	
408	SAL	Barrel		1	
409	SAL	Barrel		1	
410	SAL	Barrel		6	
411	SAL	Barrel		2	
412	SAL	Saguaro		65	4 Arms
413	SAL	Barrel		1	
414	SAL	Barrel		1	
415	SAL	Barrel		1	
416	SAL	Barrel		1	
417	SAL	Barrel		4	
418	SAL	Barrel		1	
419	SAL	Saguaro		2	Spear
420	SAL	Barrel		1	
421	SAL	Barrel		2	
422	SAL	Saguaro		15	Spear
426	SAL	Barrel		2	Twin
427	SAL	Barrel		2	
428	SAL	Barrel		3	
429	SAL	Saguaro		73	10 Arms
430	SAL	Saguaro		24	1 Arm
431	SAL	Barrel		2	
432	SAL	Barrel		1	
433	SAL	Barrel		3	
434	SAL	Barrel		2	Twin
435	SAL	Barrel		1	
436	SAL	Barrel		2	
437	SAL	Barrel		1	
438	SAL	Barrel		2	
439	SAL	Barrel		1	
440	SAL	Barrel		1	
441	SAL	Barrel		1	
442	SAL	Barrel		1	
443	SAL	Barrel		1	
444	SAL	Barrel		1	
445	SAL	Barrel		1	
446	SAL	Barrel		1	
447	SAL	Barrel		1	
448	SAL	Barrel		1	
449	SAL	Barrel		4	
450	SAL	Barrel		1	
451	SAL	Barrel		1	
452	SAL	Barrel		1	
453	SAL	Barrel		1	
454	SAL	Barrel		1	
455	SAL	Barrel		1	
456	SAL	Barrel		1	
457	SAL	Ocotillo		6	
458	SAL	Barrel		1	
459	SAL	Barrel		1	
460	SAL	Barrel		1	
461	SAL	Barrel		1	
462	SAL	Barrel		1	
463	SAL	Barrel		2	
464	NON	Barrel		1	
465	SAL	Barrel		1	
466	SAL	Barrel		1	
467	SAL	Barrel		1	
468	SAL	Barrel		1	
469	SAL	Barrel		1	
470	SAL	Barrel		1	
471	NON	Ironwood	18	16	
472	SAL	Foothills Palo Verde	6	8	
473	SAL	Blue Palo Verde	5	6	
474	SAL	Blue Palo Verde	5	6	
475	SAL	Foothills Palo Verde	5	6	
476	SAL	Barrel		2	
477	SAL	Barrel		1	
478	SAL	Saguaro		4	Spear
479	SAL	Barrel		3	
480	SAL	Barrel		7	
481	SAL	Foothills Palo Verde	11	10	
482	SAL	Foothills Palo Verde	8	7	
483	SAL	Foothills Palo Verde	14	15	
484	NON	Saguaro		46	10 Arms
485	SAL	Barrel		3	
486	SAL	Foothills Palo Verde	13	15	
487	SAL	Barrel		2	
488	SAL	Saguaro		62	5 Arms
489	SAL	Barrel		2	
490	SAL	Barrel		5	
491	SAL	Barrel		5	
492	SAL	Barrel		1	
493	SAL	Saguaro		25	2 Arms
494	SAL	Barrel		2	
495	SAL	Barrel		5	
496	SAL	Barrel		1	
497	SAL	Saguaro		1	Spear
498	SAL	Barrel		7	Twin
499	NON	Ironwood	18	16	
500	SAL	Barrel		1	
501	SAL	Blue Palo Verde	15	16	
503	NON	Ironwood	14	11	
504	SAL	Barrel		2	
505	SAL	Barrel		1	
506	SAL	Barrel		1	
507	SAL	Barrel		1	
508	SAL	Barrel		1	
509	SAL	Barrel		1	
510	SAL	Saguaro		19	Spear
511	SAL	Barrel		2	
512	SAL	Barrel		1	
513	SAL	Barrel		1	
514	SAL	Barrel		1	
515	SAL	Foothills Palo Verde	13	15	
516	SAL	Barrel		1	
517	SAL	Barrel		3	
518	SAL	Barrel		1	
519	SAL	Barrel		3	
520	SAL	Barrel		2	
521	NON	Ironwood	10	9	
522	SAL	Barrel		4	
523	SAL	Barrel		1	
524	SAL	Barrel		2	
525	SAL	Barrel		1	
526	SAL	Barrel		1	
527	SAL	Barrel		1	
528	SAL	Barrel		1	
529	NON	Ironwood	4	5	
530	NON	Ironwood	6	7	
531	SAL	Barrel		3	
532	SAL	Barrel		1	
533	SAL	Barrel		2	
534	SAL	Barrel		1	
535	SAL	Barrel		1	
536	SAL	Saguaro		132	10 Arms
537	SAL	Barrel		2	
538	NON	Ironwood	10	7	
539	NON	Ironwood	9	6	
540	SAL	Barrel		2	
541	SAL	Barrel		1	
542	SAL	Barrel		2	
543	SAL	Barrel		1	
544	SAL	Barrel		1	
545	SAL	Barrel		5	
546	SAL	Barrel		1	
547	SAL	Barrel		1	
548	SAL	Barrel		1	
549	NON	Ironwood	25	18	
550	SAL	Barrel		2	
551	SAL	Barrel		2	
552	SAL	Barrel		10	Twin
553	SAL	Barrel		10	Twin
554	SAL	Barrel		1	
555	SAL	Barrel		1	
556	SAL	Barrel		2	
557	SAL	Barrel		2	
558	SAL	Barrel		1	
559	SAL	Barrel		2	
560	SAL	Barrel		2	
561	SAL	Barrel		1	
562	SAL	Barrel		2	
563	SAL	Barrel		1	
564	SAL	Barrel		10	
565	SAL	Barrel		4	
566	SAL	Barrel		4	Twin
567	SAL	Barrel		6	Twin
568	SAL	Barrel		1	Twin
569	SAL	Barrel		4	
570	NON	Ironwood	6	4	
571	SAL	Barrel		2	
572	SAL	Barrel		2	
573	SAL	Saguaro		36	3 Arms
574	SAL	Barrel		2	
575	SAL	Foothills Palo Verde	8	11	
576	SAL	Blue Palo Verde	8	11	
577	SAL	Blue Palo Verde	8	9	
578	SAL	Blue Palo Verde	5	7	
579	SAL	Blue Palo Verde	5	7	
580	SAL	Blue Palo Verde	12	13	
581	SAL	Blue Palo Verde	6	8	
582	SAL	Foothills Palo Verde	11	11	
583	NON	Barrel		2	
584	NON	Ironwood	5	5	
585	NON	Ironwood	8	6	
586	NON	Ironwood	12	12	
587	NON	Ironwood	10	5	
588	NON	Ironwood	20	13	
589	NON	Ironwood	25	14	
590	SAL	Barrel		3	
591	SAL	Barrel		1	
592	NON	Ironwood	8	6	
593	NON	Ironwood	10	10	
594	NON	Ironwood	5	5	
595	SAL	Barrel		2	
596	SAL	Barrel		2	
597	NON	Ironwood	14	15	
598	SAL	Blue Palo Verde	15	16	
599	SAL	Foothills Palo Verde	5	6	
600	SAL	Foothills Palo Verde	5	6	
601	SAL	Foothills Palo Verde	5	6	
602	SAL	Saguaro		21	
603	SAL	Saguaro		21	2 Arms
604	SAL	Saguaro		17	2 Arms
605	NON	Ocotillo		6	
606	SAL	Foothills Palo Verde	8	8	
607	SAL	Foothills Palo Verde	8	6	
608	SAL	Foothills Palo Verde	5	5	
609	SAL	Foothills Palo Verde	14	16	
610	SAL	Foothills Palo Verde	16	16	
611	SAL	Foothills Palo Verde	8	9	
612	SAL	Foothills Palo Verde	8	9	
613	SAL	Foothills Palo Verde	8	8	
614	SAL	Foothills Palo Verde	5	6	
615	SAL	Foothills Palo Verde	13	15	
616	SAL	Foothills Palo Verde	9	10	
617	NON	Ironwood	15	10	
618	SAL	Barrel		1	
618	NON	Ironwood	8	7	
619	SAL	Barrel		2	
619	SAL	Ironwood	16	14	
620	SAL	Barrel		6	
621	NON	Saguaro		45	7 Arms
622	SAL	Barrel		5	
623	SAL	Barrel		3	
623	NON	Ironwood	16	12	
624	SAL	Barrel		6	
625	SAL	Barrel		2	
626	SAL	Barrel		1	
627	SAL	Barrel		1	
628	SAL	Barrel		1	
629	SAL	Barrel		3	
630	SAL	Foothills Palo Verde	14	13	
631	SAL	Barrel		8	Twin
632	SAL	Barrel		1	
633	SAL	Saguaro		2	Spear
634	SAL	Barrel		1	
635	SAL	Barrel		1	
636	SAL	Barrel		7	
637	SAL	Barrel		2	
638	SAL	Barrel		1	
639	SAL	Barrel		2	
640	SAL	Barrel		2	
641	SAL	Barrel		11	
642	SAL	Barrel		1	
643	SAL	Barrel		2	
644	SAL	Barrel		7	
645	SAL	Barrel		2	
646	SAL	Barrel		1	
647	SAL	Barrel		2	
648	SAL	Barrel		11	
649	SAL	Barrel		1	
650	SAL	Barrel		3	
651	SAL	Barrel		5	
652	SAL	Barrel		2	
653	SAL	Barrel		3	
654	SAL	Barrel		2	
655	SAL	Barrel		4	
656	SAL	Barrel		8	
657	SAL	Barrel		3	
658	SAL	Barrel		1	
659	SAL	Barrel		2	
660	SAL	Barrel		1	
661	NON	Ironwood	10	10	
662	SAL	Ironwood	16	14	
663	SAL	Ironwood	10	10	
664	SAL	Ironwood	10	10	
665	NON	Ironwood	6	5	
666	SAL	Ironwood	13	15	
667	SAL	Saguaro		13	1 Arm
668	SAL	Saguaro		14	1 Arm
669	SAL	Saguaro		18	1 Arm
670	SAL	Foothills Palo Verde	8	7	
671	SAL	Ironwood	10	8	
672	NON	Ironwood	8	9	
673	NON	Ironwood	10	10	
674	SAL	Ironwood	15	14	
675	SAL	Saguaro		7	Spear
676	SAL	Barrel		2	
677	SAL	Barrel		1	
678	SAL	Barrel		2	
679	SAL	Barrel		2	
680	SAL	Barrel		1	
681	SAL	Barrel		3	
682	SAL	Barrel		5	
683	SAL	Barrel		3	
684	SAL	Barrel		1	
685	SAL	Barrel		3	
686	SAL	Barrel		4	
687	SAL	Barrel		3	
688	SAL	Barrel		2	
689	NON	Barrel		3	
690	SAL	Saguaro		12	Spear
691	SAL	Barrel		3	
692	SAL	Saguaro		2	Spear
693	SAL	Barrel		1	
694	SAL	Barrel		1	
695	SAL	Barrel		2	
696	SAL	Barrel		1	
697	SAL	Barrel		2	
698	NON	Saguaro		27	2 Arms
699	SAL	Barrel		1	
700	SAL	Barrel		1	
701	SAL	Barrel		2	
702	SAL	Barrel		1	
703	SAL	Barrel		2	
705	SAL	Barrel		1	
706	SAL	Barrel		1	
707	SAL	Barrel		2	
708	SAL	Barrel		1	
709	SAL	Barrel		1	
710	SAL	Barrel		1	
711	SAL	Barrel		3	
712	SAL	Barrel		2	
713	SAL	Barrel		2	
714	SAL	Barrel		5	
715	SAL	Barrel		2	
716	SAL	Barrel		1	
717	SAL	Barrel		1	
720	SAL	Barrel		2	
721	SAL	Saguaro		3	Spear
722	SAL	Barrel		2	
724	SAL	Barrel		1	
725	SAL	Barrel		2	
726	SAL	Barrel		5	
727	SAL	Barrel		2	
728	SAL	Saguaro		12	2 Arms
729	SAL	Barrel		2	
730	SAL	Saguaro		61	9 Arms
731	NON	Ironwood	18	9	
732	SAL	Barrel		1	
733	SAL	Barrel		1	
734	SAL	Barrel		5	
735	SAL	Barrel		2	
736	SAL	Barrel		3	
737	SAL	Barrel		1	
738	SAL	Barrel		10	4-trunks
739	SAL	Barrel		1	
740	SAL	Barrel		3	
741	SAL	Barrel		1	
742	SAL	Barrel		2	
743	SAL	Barrel		1	
744	NON	Ironwood	16	9	
745	SAL	Saguaro		1	Spear
746	SAL	Saguaro		15	Spear
747	SAL	Barrel		1	
748	NON	Ironwood	25	15	
749	NON	Ironwood	11	10	
750	SAL	Barrel		2	
751	NON	Ironwood	17	15	
752	NON	Ironwood	25	16	
753	NON	Ironwood	12	6	
754	SAL	Barrel		1	
755	SAL	Barrel		3	
756	SAL	Saguaro		8	1 Arm
757	SAL	Saguaro		1	Spear
758	SAL	Barrel		1	
759	SAL	Barrel		1	
760	SAL	Barrel		1	
761	SAL	Saguaro		28	3 Arms
762	SAL	Saguaro		7	Spear
764	SAL	Barrel		2	
765	SAL	Barrel		1	
766	SAL	Barrel		1	
767	SAL	Barrel		1	
768	SAL	Barrel		3	
769	SAL	Barrel		3	
770	SAL	Barrel		3	
771	SAL	Barrel		1	
772	SAL	Barrel		2	
773	SAL	Barrel		4	Spear
774	SAL	Barrel		3	
775	SAL	Barrel		2	
776	SAL	Saguaro		3	Spear
777	SAL	Barrel		4	
778	SAL	Barrel		1	
779	SAL	Barrel		2	
780	NON	Barrel		2	
781	SAL	Barrel		2	
782	SAL	Barrel		1	
783	NON	Saguaro		38	8 Arms
784	NON	Saguaro		16	2 Arms
785	SAL	Barrel		1	
786	SAL	Barrel		2	
787	SAL	Saguaro		3	Spear
788	NON	Ironwood	16	14	
789	SAL	Barrel		1	
790	SAL	Barrel		1	
791	NON	Barrel		2	Form
792	SAL	Saguaro		10	Spear
793	SAL	Foothills Palo Verde	11	12	
794	SAL	Foothills Palo Verde	8	8	
795	SAL	Ironwood	5	6	
796	SAL	Ironwood	8	8	
797	SAL	Ironwood	8	7	
798	SAL	Ironwood	15	15	
799	SAL	Foothills Palo Verde	9	8	
800	SAL	Blue Palo Verde	13	15	
801	SAL	Ironwood	6	7	
802	SAL	Barrel		1	
803	SAL	Foothills Palo Verde	8	8	
804	NON	Ironwood	28	20	
805	NON	Ironwood	28	20	
806	SAL	Ironwood	8	7	
807	SAL	Ironwood	16	17	
808	SAL	Barrel		1	

	EXISTING PLANT MATERIAL	ITEM TOTAL
SAL	SALVAGE AND REPLANT	352
NON	REMOVE	48
	SHEET TOTAL:	400

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY
DATA SHEET

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.03

___ OF ___

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
809	SAL	Ironwood	12	10	
810	NON	Ironwood	27	20	
811	SAL	Ironwood	7	7	
812	NON	Ironwood	9	13	
813	NON	Ironwood	12	12	
814	NON	Ironwood	5	5	
815	SAL	Ironwood	13	12	
816	SAL	Ironwood	5	6	
817	NON	Ironwood	10	10	
818	NON	Ironwood	8	7	
819	SAL	Ironwood	16	15	
820	NON	Ironwood	9	10	
821	NON	Ironwood	15	12	
822	NON	Ironwood	16	12	
823	NON	Ironwood	10	7	
824	NON	Ironwood	12	10	
825	SAL	Ironwood	17	18	
826	NON	Ironwood	8	7	
827	NON	Ironwood	9	9	
828	NON	Ironwood	12	8	
829	SAL	Ironwood	17	17	
830	SAL	Ironwood	8	7	
831	SAL	Ironwood	9	7	
832	NON	Ironwood	12	10	
833	NON	Ironwood	6	6	
834	SAL	Blue Palo Verde	8	7	
835	SAL	Blue Palo Verde	6	6	
836	SAL	Blue Palo Verde	13	12	
837	SAL	Blue Palo Verde	16	16	
838	SAL	Ironwood	12	14	
839	NON	Ironwood	16	16	
840	SAL	Ocotillo		6	
841	SAL	Ironwood	11	11	
842	SAL	Ironwood	15	15	
843	SAL	Ironwood	10	9	
844	SAL	Ironwood	17	18	
845	SAL	Ironwood	12	13	
846	SAL	Saguaro		14	Spear
847	NON	Saguaro		19	Spear
848	SAL	Saguaro		15	Spear
849	SAL	Saguaro		17	Spear
850	NON	Saguaro		12	
851	SAL	Foothills Palo Verde	5	5	
852	SAL	Barrel		2	
853	SAL	Foothills Palo Verde	6	8	
854	SAL	Barrel		2	
855	SAL	Saguaro		28	2 Arms
856	NON	Ironwood	18	12	
857	SAL	Barrel		5	
858	SAL	Barrel		2	
859	SAL	Barrel		1	
860	SAL	Ironwood	25	28	
861	SAL	Mesquite	5	7	
862	SAL	Mesquite	8	9	
863	SAL	Mesquite	11	13	
864	SAL	Mesquite	16	16	
865	SAL	Mesquite	14	16	
866	SAL	Blue Palo Verde	15	16	
867	SAL	Blue Palo Verde	6	7	
868	SAL	Blue Palo Verde	15	16	
869	SAL	Blue Palo Verde	14	15	
870	SAL	Blue Palo Verde	11	10	
871	SAL	Blue Palo Verde	6	10	
872	SAL	Ironwood	14	13	
873	NON	Ironwood	16	6	
874	NON	Ironwood	25	12	
875	NON	Ironwood	18	15	
876	NON	Ironwood	20	9	
877	SAL	Ironwood	16	18	
878	NON	Ironwood	28	18	
879	NON	Ironwood	18	16	
880	NON	Ironwood	15	12	
881	NON	Ironwood	13	7	
882	SAL	Ironwood	28	26	
883	NON	Ironwood	28	15	
884	NON	Ironwood	27	15	
885	NON	Barrel		45	
886	NON	Ironwood	15	10	
887	NON	Ironwood	30	14	
888	NON	Ironwood	27	16	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
889	SAL	Foothills Palo Verde	16	16	
890	NON	Ironwood	18	16	
891	NON	Ironwood	20	19	
892	NON	Ironwood	20	16	
893	NON	Ironwood	17	16	
894	SAL	Blue Palo Verde	13	14	
895	SAL	Blue Palo Verde	15	16	
896	NON	Blue Palo Verde	19	9	
897	NON	Blue Palo Verde	11	7	
898	SAL	Foothills Palo Verde	8	7	
899	NON	Ironwood	15	15	
900	SAL	Saguaro		18	Spear
901	NON	Ironwood	10	6	
902	NON	Ironwood	14	15	
903	SAL	Ironwood	19	18	
904	SAL	Ironwood	8	10	
905	NON	Ironwood	20	25	
906	SAL	Blue Palo Verde	7	8	
907	SAL	Blue Palo Verde	7	9	
908	SAL	Saguaro		42	5 Arms
909	SAL	Foothills Palo Verde	8	9	
910	SAL	Barrel		1	
911	NON	Barrel		5	
912	NON	Ironwood	13	11	
913	NON	Ironwood	10	5	
914	NON	Ironwood	12	5	
915	NON	Ironwood	16	9	
916	SAL	Barrel		1	
917	NON	Ironwood	16	9	
918	SAL	Ironwood	16	14	
919	SAL	Barrel		2	
920	NON	Ironwood	17	14	
921	SAL	Ironwood	14	14	
922	SAL	Ironwood	12	9	
923	SAL	Ironwood	13	12	
924	SAL	Ironwood	13	12	
925	NON	Ironwood	9	11	
926	SAL	Ironwood	11	10	
927	NON	Ironwood	4	8	
928	NON	Ironwood	5	8	
929	NON	Ironwood	9	7	
930	NON	Ironwood	8	8	
931	SAL	Ironwood	12	15	
932	NON	Ironwood	15	15	
933	NON	Ironwood	25	20	
934	NON	Ironwood	17	10	
935	SAL	Barrel		2	
936	SAL	Mesquite	9	10	
937	SAL	Ironwood	13	15	
938	SAL	Blue Palo Verde	16	17	
939	NON	Blue Palo Verde	16	13	
940	NON	Blue Palo Verde	20	15	
941	NON	Ironwood	14	10	
942	NON	Ironwood	26	10	
943	NON	Ironwood	25	17	
944	SAL	Ironwood	8	10	
945	NON	Ironwood	27	18	
946	SAL	Ironwood	10	10	
947	SAL	Ironwood	10	10	
948	NON	Ironwood	21	20	
949	NON	Ironwood	21	12	
950	NON	Ironwood	22	15	
951	NON	Ironwood	32	15	
952	NON	Saguaro		100	14 Arms
953	NON	Ironwood	26	17	
954	NON	Ironwood	12	8	
955	NON	Ironwood	19	17	
956	NON	Saguaro		20	Spear
957	NON	Saguaro		18	Spear
958	NON	Ironwood	15	9	
959	NON	Ironwood	13	10	
960	NON	Ironwood	16	14	
961	SAL	Ocotillo		6	
962	SAL	Ocotillo		7	
963	SAL	Ocotillo		9	
964	SAL	Saguaro		35	8 Arms
965	SAL	Ironwood	14	14	
966	SAL	Saguaro		2	Spear
967	NON	Ironwood	7	5	
968	SAL	Saguaro		11	2 Arms

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
969	NON	Ironwood	15	5	
970	NON	Ironwood	6	7	
971	NON	Ironwood	30	12	
972	NON	Ironwood	10	7	
973	NON	Ironwood	25	10	
974	NON	Ironwood	27	15	
975	NON	Ironwood	13	8	
976	NON	Ironwood	25	16	
977	SAL	Saguaro		3	Spear
978	NON	Ironwood	19	10	
979	NON	Ironwood	15	8	
980	SAL	Saguaro		2	Spear
981	NON	Ironwood	28	13	
982	NON	Ironwood	13	9	
983	NON	Ironwood	15	8	
984	NON	Ironwood	12	8	
985	NON	Ironwood	15	8	
986	NON	Ironwood	20	7	
987	NON	Ironwood	15	5	
988	NON	Ironwood	13	6	
989	NON	Ironwood	17	8	
990	NON	Ironwood	16	10	
991	NON	Ironwood	12	10	
992	NON	Ironwood	16	12	
993	SAL	Saguaro		5	Spear
994	NON	Ironwood	28	10	
995	SAL	Saguaro		5	Spear
996	NON	Saguaro		19	3 Arms
997	NON	Ironwood	21	10	
998	NON	Ironwood	12	7	
999	SAL	Ironwood	20	18	
1000	NON	Ironwood	23	15	
1001	SAL	Ironwood	57	20	
1002	NON	Saguaro		21	3 Arms
1003	SAL	Ironwood	17	17	
1004	NON	Ironwood	20	17	
1005	NON	Ironwood	25	15	
1006	NON	Ironwood	8	6	
1007	NON	Ironwood	10	5	
1008	NON	Ironwood	13	13	
1009	SAL	Ironwood	6	6	
1010	SAL	Foothills Palo Verde	6	6	
1011	SAL	Foothills Palo Verde	9	8	
1012	SAL	Foothills Palo Verde	11	10	
1013	SAL	Foothills Palo Verde	8	8	
1014	SAL	Mesquite	11	13	
1015	SAL	Mesquite	8	10	
1016	SAL	Saguaro		5	Spear
1017	SAL	Saguaro		8	Spear
1018	NON	Ironwood	7	5	
1019	NON	Ironwood	20	8	
1020	NON	Ironwood	18	8	
1021	NON	Ironwood	10	8	
1022	NON	Ironwood	18	10	
1023	NON	Ironwood	11	8	
1024	NON	Ironwood	16	9	
1025	NON	Ironwood	16	9	
1026	NON	Ironwood	16	6	
1027	NON	Ironwood	27	12	
1028	NON	Ironwood	12	8	
1029	SAL	Blue Palo Verde	10	12	
1030	SAL	Mesquite	11	12	
1031	SAL	Ironwood	14	16	
1032	NON	Ironwood	17	9	
1033	NON	Ironwood	13	9	
1034	NON	Ironwood	14	15	
1035	SAL	Saguaro		18	Spear
1036	NON	Ironwood	30	20	
1037	SAL	Saguaro		16	Spear
1038	SAL	Blue Palo Verde	16	18	
2000	SAL	Ironwood	14	12	
2001	NON	Ironwood	10	8	
2002	NON	Ironwood	22	12	
2003	SAL	Ironwood	6	10	
2004	SAL	Ironwood	3	6	
2005	SAL	Ironwood	4	6	
2006	NON	Saguaro		14	Spear
2007	NON	Ironwood	18	15	
2008	NON	Ironwood	16	8	
2009	NON	Ironwood	8	8	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2010	NON	Ironwood	16	14	
2011	NON	Ironwood	18	15	
2012	NON	Ironwood	20	15	
2013	NON	Ironwood	12	8	
2014	NON	Ironwood	20	14	
2015	NON	Saguaro		35	7 Arms
2016	NON	Ironwood	10	12	
2017	NON	Ironwood	20	15	
2018	NON	Ironwood	8	10	
2019	NON	Ironwood	7	8	
2020	NON	Ironwood	24	12	
2021	NON	Ironwood	36	8	
2022	NON	Ironwood	18	12	
2023	NON	Ironwood	8	7	
2024	NON	Ironwood	40	12	
2025	NON	Ironwood	48	12	
2026	SAL	Ironwood	20	15	
2027	SAL	Ironwood	30	15	
2028	NON	Ironwood	36	15	
2029	NON	Ironwood	18	12	
2030	NON	Ironwood	18	10	
2031	NON	Ironwood	16	12	
2032	NON	Ironwood	12	12	
2033	NON	Ironwood	18	15	
2034	NON	Ironwood	30	14	
2035	NON	Ironwood	36	12	
2036	NON	Ironwood	30	12	
2037	NON	Ironwood	54	15	
2038	NON	Ironwood	60	15	
2039	NON	Ironwood	18	6	
2040	NON	Ironwood	16	7	
2041	NON	Ironwood	18	12	
2042	SAL	Ironwood	4	8	
2043	SAL	Ironwood	6	12	
2044	SAL	Ironwood	5	12	
2045	SAL	Ironwood	6	12	
2046	SAL	Ironwood	16	15	
2047	SAL	Ironwood	5	12	
2048	NON	Ironwood	18	12	
2049	NON	Ironwood	12	12	
2050	SAL	Ironwood	6	12	
2051	SAL	Ironwood	5	8	
2052	NON	Ironwood	18	12	
2053	NON	Ironwood	54	12	
2054	NON	Ironwood	36	12	
2055	NON	Ironwood	36	12	
2056	NON	Ironwood	24	12	
2057	NON	Ironwood	30	10	
2058	SAL	Ironwood	8	14	
2059	NON	Ironwood	4	12	
2060	SAL	Saguaro		3	Spear
2061	SAL	Saguaro		5	Spear
2062	NON	Barrel		4	
2063	NON	Barrel		4	
2064	NON	Ironwood	36	12	
2065	NON	Ironwood	24	10	
2066	NON	Ironwood	32	14	
2067	NON	Ironwood	20	8	
2068	NON	Ironwood	22	12	
2069	NON	Ironwood	18	8	
2070	NON	Ironwood	22	10	
2071	NON	Ironwood	24	15	
2072	NON	Ironwood	36	12	
2073	NON	Ironwood	32	12	
2074	NON	Ironwood	30	14	
2075	NON	Ironwood	20	12	
2076	NON	Ironwood	18	15	
2077	NON	Ironwood	60	15	
2078	NON	Ironwood	35	10	
2079	NON	Ironwood	32	15	
2080	NON	Ironwood	36	12	
2081	SAL	Ironwood	12	10	
2082	NON	Ironwood	16	15	
2083	NON	Ironwood	36	15	
2084	NON	Ironwood	14	12	
2085	SAL	Ironwood	6	8	
2086	NON	Ironwood	26	15	
2087	NON	Saguaro		3	Spear
2088	SAL	Ironwood	24	18	
2089	NON	Ironwood	18	12	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2090	NON	Ironwood	7	10	
2091	NON	Ironwood	20	12	
2092	SAL	Saguaro		4	Spear
2093	NON	Ironwood	20	10	
2094	SAL	Ironwood	12	10	
2095	SAL	Ironwood	10	12	
2096	NON	Ironwood	18	12	
2097	NON	Ironwood	16	10	
2098	SAL	Ironwood	14	12	
2099	NON	Ironwood	9	12	
2100	SAL	Ironwood	14	15	
2101	SAL	Ironwood	7	15	
2102	NON	Ironwood	24	15	
2103	SAL	Saguaro		15	Spear
2104	NON	Ironwood	8	8	
2105	NON	Ironwood	16	10	
2106	NON	Saguaro		32	1 Arm
2107	SAL	Ironwood	5	10	
2108	SAL	Ironwood	6	7	
2109	NON	Saguaro		50	4 Arms
2110	NON	Ironwood	14	10	
2111	NON	Ironwood	12	10	
2112	NON	Ironwood	9	9	
2113	NON	Ironwood	18	10	
2114	NON	Ironwood	8	9	
2115	NON	Saguaro		16	1 Arm
2117	SAL	Ironwood	12	12	
2118	SAL	Saguaro		5	Spear
2119	NON	Ironwood	9	8	
2120	NON	Ironwood	14	8	
2121	SAL	Saguaro		3	Spear
2122	SAL	Saguaro		5	Spear
2123	NON	Saguaro		7	Spear
2124	NON	Ironwood	28	12	
2125	NON	Ironwood	32	10	
2126	NON	Ironwood	22	12	
2127	NON	Ironwood	7	14	
2128	NON	Ironwood	10	14	
2129	NON	Ironwood	8	8	
2130	NON	Ironwood	20	12	
2131	NON	Ironwood	12	12	
2132	NON	Ironwood	20	12	
2133	NON	Ironwood	16	12	
2134	SAL	Ironwood	9	8	
2135	NON	Ironwood	7	10	
2136	NON	Ironwood	16	12	
2137	NON	Saguaro		14	Spear
2138	NON	Ironwood	60	20	
2139	NON	Saguaro		38	5 Arms
2140	NON	Ironwood	30	14	
2141	NON	Ironwood	7	8	
2142	NON	Ironwood	36	12	
2143	NON	Ironwood	24	15	
2144	NON	Ironwood	16	10	
2145	NON	Saguaro		48	4 Arms
2146	NON	Ironwood	48	12	
2147	NON	Ironwood	14	15	
2151	NON	Saguaro		50	4 Arms
2166	NON	Ironwood	12	6	
2167	NON	Ironwood	16	10	
2168	NON	Ironwood	18	10	
2169	NON	Ironwood	14	12	
2170	NON	Ironwood	12	12	
2171	SAL	Barrel		3	
2172	NON	Ironwood	14	12	
2173	NON	Ironwood	10	6	
2174	NON	Ironwood	28	10	
2175	NON	Ironwood	14	8	
2176	NON	Saguaro		28	3 Arms
2177	NON	Ironwood	12	12	
2178	NON	Ironwood	20	12	
2179	NON	Saguaro		42	2 Arms
2180	NON	Ironwood	24	12	
2181	SAL	Ironwood	6	10	
2182	NON	Saguaro		5	Spear
2183	NON	Ironwood	14	10	
2184	NON	Ironwood	18	10	
2185	NON	Ironwood	16	12	
2186	NON	Saguaro		13	Spear
2191	NON	Ironwood	14	18	

	EXISTING PLANT MATERIAL	ITEM TOTAL
SAL	SALVAGE AND REPLANT	139
NON	REMOVE	261
	SHEET TOTAL:	400

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY
DATA SHEET

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.04

____ OF ____

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2192	NON	Ironwood	12	10	
2193	NON	Ironwood	26	10	
2194	NON	Ironwood	28	10	
2195	NON	Ironwood	18	12	
2196	SAL	Ironwood	16	12	
2197	NON	Ironwood	20	12	
2198	NON	Ironwood	32	15	
2199	NON	Ironwood	22	15	
2200	NON	Ironwood	12	10	
2201	NON	Ironwood	18	12	
2202	NON	Ironwood	36	15	
2203	NON	Ironwood	18	15	
2204	NON	Ironwood	9	12	
2205	NON	Ironwood	10	8	
2206	NON	Ironwood	12	10	
2207	NON	Ironwood	24	12	
2208	NON	Ironwood	8	6	
2209	NON	Ironwood	28	12	
2210	SAL	Ironwood	3	6	
2211	NON	Ironwood	24	18	
2212	SAL	Ironwood	18	18	
2213	NON	Ironwood	12	10	
2214	NON	Ironwood	16	20	
2215	NON	Ironwood	18	20	
2216	SAL	Ironwood	24	20	
2217	SAL	Saguaro		20	Spear
2218	NON	Ironwood	30	15	
2219	NON	Ironwood	24	12	
2220	NON	Ironwood	36	18	
2221	NON	Ironwood	32	15	
2222	NON	Ironwood	28	12	
2223	NON	Ironwood	30	10	
2224	SAL	Ironwood	6	14	
2225	SAL	Saguaro		4	Spear
2226	NON	Saguaro		15	Spear
2227	SAL	Saguaro		4	Spear
2228	SAL	Saguaro		4	Spear
2229	NON	Ironwood	18	14	
2230	NON	Ironwood	16	12	
2235	NON	Saguaro		13	Spear
2271	SAL	Saguaro		24	1 Arm
2272	NON	Ironwood	24	12	
2273	NON	Ironwood	24	14	
2274	NON	Ironwood	20	12	
2275	NON	Ironwood	18	12	
2276	NON	Ironwood	36	14	
2277	SAL	Saguaro		17	Spear
2278	NON	Saguaro		28	1 Arm
2279	NON	Saguaro		13	2 Arms
2280	NON	Ironwood	36	12	
2281	SAL	Ironwood	10	12	
2282	SAL	Mesquite	7	8	
2283	NON	Ironwood	26	18	
2284	NON	Ironwood	30	18	
2285	NON	Ironwood	16	12	
2286	NON	Ironwood	22	12	
2287	NON	Ironwood	16	15	
2288	NON	Ironwood	5	12	
2289	NON	Ironwood	42	18	
2290	NON	Ironwood	12	10	
2291	NON	Ironwood	18	15	
2292	NON	Ironwood	16	12	
2293	NON	Saguaro		24	1 Arm
2294	SAL	Saguaro		12	Spear
2295	NON	Ironwood	14	12	
2296	SAL	Ironwood	12	15	
2297	SAL	Ironwood	28	18	
2332	NON	Saguaro		14	Spear
2333	NON	Ironwood	36	30	
2334	NON	Ironwood	32	16	
2335	NON	Ironwood	30	20	
2336	NON	Ironwood	27	16	
2337	NON	Ironwood	17	7	
2338	NON	Ironwood	38	16	
2339	NON	Ironwood	17	6	
2362	SAL	Barrel		4	
2363	SAL	Saguaro		5	Spear
2364	SAL	Saguaro		5	Spear
2365	SAL	Barrel		2	
2398	SAL	Saguaro		42	5 Arms
2399	SAL	Saguaro		27	1 Arm
2400	SAL	Saguaro		11	Spear
2401	SAL	Barrel		1	
2402	NON	Ironwood	36	25	
2403	SAL	Ironwood	9	9	
2404	SAL	Ironwood	8	8	
2405	SAL	Ironwood	11	15	
2406	SAL	Ironwood	12	14	
2407	SAL	Mesquite	5	8	
2408	SAL	Ironwood	16	15	
2409	SAL	Barrel		7	
2410	SAL	Saguaro		23	
2411	NON	Ironwood	29	18	
2427	SAL	Ironwood	19	19	
2428	NON	Ironwood	5	5	
2429	NON	Ironwood	18	16	
2430	SAL	Ironwood	19	25	
2431	SAL	Mesquite	6	8	
2432	SAL	Mesquite	5	7	
2433	SAL	Ironwood	18	18	
2434	SAL	Ironwood	20	18	
2435	NON	Ironwood	40	18	
2436	NON	Ironwood	25	15	
2437	NON	Ironwood	25	15	
2438	SAL	Ironwood	5	5	
2439	SAL	Ironwood	5	5	
2440	NON	Ironwood	12	7	
2444	NON	Ironwood	20	14	
2471	NON	Ironwood	19	18	
2472	NON	Ironwood	30	17	
2473	SAL	Ironwood	20	18	
2474	SAL	Mesquite	5	6	
2475	SAL	Mesquite	8	9	
2476	SAL	Mesquite	14	16	
2477	SAL	Mesquite	14	16	
2478	SAL	Mesquite	13	15	
2479	SAL	Ironwood	14	15	
2480	SAL	Ironwood	8	10	
2481	SAL	Ironwood	6	8	
2482	SAL	Ironwood	25	18	
2485	SAL	Blue Palo Verde	11	13	
2486	SAL	Blue Palo Verde	6	7	
2487	SAL	Ironwood	14	13	
2488	NON	Ironwood	29	20	
2489	NON	Ironwood	25	17	
2490	NON	Ironwood	10	10	
2491	NON	Ironwood	7	10	
2492	NON	Ironwood	18	17	
2493	NON	Ironwood	5	5	
2494	SAL	Mesquite	5	7	
2495	SAL	Mesquite	18	17	
2496	NON	Mesquite	18	14	
2497	NON	Ironwood	36	20	
2498	NON	Ironwood	15	10	
2499	NON	Ironwood	7	8	
2500	SAL	Ironwood	8	6	
2501	NON	Ironwood	4	5	
2502	SAL	Saguaro		1	Spear
2503	SAL	Blue Palo Verde	9	8	
2504	SAL	Blue Palo Verde	11	12	
2505	SAL	Mesquite	14	13	
2506	SAL	Mesquite	10	9	
2507	SAL	Mesquite	13	13	
2508	SAL	Mesquite	16	16	
2509	SAL	Blue Palo Verde	13	14	
2510	SAL	Blue Palo Verde	13	12	
2511	SAL	Blue Palo Verde	13	15	
2512	SAL	Blue Palo Verde	9	11	
2513	SAL	Mesquite	13	13	
2514	SAL	Blue Palo Verde	15	15	
2515	SAL	Mesquite	6	7	
2516	SAL	Mesquite	10	10	
2517	SAL	Mesquite	9	10	
2518	SAL	Mesquite	6	6	
2519	SAL	Mesquite	9	10	
2520	SAL	Mesquite	14	14	
2521	SAL	Blue Palo Verde	13	14	
2522	SAL	Mesquite	15	15	
2523	SAL	Mesquite	8	9	
2524	SAL	Mesquite	8	8	
2525	SAL	Mesquite	6	8	
2526	NON	Ironwood	4	5	
2527	SAL	Ironwood	5	6	
2528	SAL	Mesquite	6	6	
2529	SAL	Mesquite	6	8	
2530	SAL	Mesquite	6	8	
2531	SAL	Mesquite	6	7	
2532	SAL	Mesquite	6	7	
2533	SAL	Mesquite	12	11	
2534	NON	Ironwood	5	6	
2535	SAL	Saguaro		4	Spear
2536	SAL	Mesquite	5	9	
2537	SAL	Mesquite	9	11	
2538	SAL	Blue Palo Verde	8	11	
2539	SAL	Mesquite	8	11	
2540	SAL	Blue Palo Verde	13	15	
2541	SAL	Foothills Palo Verde	13	15	
2542	SAL	Blue Palo Verde	15	16	
2543	SAL	Blue Palo Verde	5	9	
2544	SAL	Blue Palo Verde	13	14	
2545	SAL	Saguaro		28	5 Arms
2545	SAL	Saguaro		8	Spear
2547	SAL	Saguaro		9	Spear
2548	SAL	Saguaro		4	Spear
2549	SAL	Barrel		3	
2550	SAL	Barrel		1	
2551	SAL	Barrel		3	
2552	SAL	Barrel		3	
2553	SAL	Barrel		1	
2554	NON	Barrel		2	
2555	SAL	Saguaro		7	Spear
2556	SAL	Mesquite	5	6	
2557	SAL	Mesquite	6	7	
2558	SAL	Mesquite	10	12	
2560	SAL	Mesquite	5	7	
2561	SAL	Mesquite	10	12	
2562	SAL	Foothills Palo Verde	17	15	
2563	SAL	Foothills Palo Verde	11	12	
2564	SAL	Foothills Palo Verde	14	12	
2565	SAL	Foothills Palo Verde	12	10	
2566	NON	Saguaro		7	Spear
2567	SAL	Foothills Palo Verde	12	12	
2568	SAL	Foothills Palo Verde	14	14	
2569	SAL	Foothills Palo Verde	12	10	
2570	SAL	Foothills Palo Verde	11	12	
2571	SAL	Foothills Palo Verde	9	9	
2574	SAL	Foothills Palo Verde	9	10	
2575	SAL	Foothills Palo Verde	6	6	
2576	SAL	Saguaro		1	Spear
2577	SAL	Saguaro		21	Spear
2578	SAL	Saguaro		25	5 Arms
2579	SAL	Barrel		3	
2580	SAL	Barrel		2	
2581	SAL	Barrel		1	
2582	SAL	Barrel		2	
2583	SAL	Barrel		1	
2584	SAL	Barrel		1	
2585	SAL	Barrel		1	
2586	SAL	Barrel		2	
2587	SAL	Barrel		1	
2588	SAL	Barrel		1	
2589	SAL	Barrel		1	
2590	SAL	Barrel		2	
2591	SAL	Barrel		2	
2592	SAL	Barrel		2	
2593	SAL	Saguaro		17	Spear
2594	SAL	Barrel		2	
2595	SAL	Barrel		3	
2596	SAL	Barrel		2	
2597	SAL	Barrel		2	
2598	NON	Barrel		2	
2599	SAL	Barrel		1	
2600	SAL	Barrel		2	
2601	SAL	Barrel		3	
2602	SAL	Barrel		1	
2603	SAL	Barrel		3	
2604	SAL	Barrel		1	
2605	SAL	Barrel		2	
2606	SAL	Barrel		2	
2607	SAL	Barrel		1	
2609	NON	Saguaro		15	Spear
2610	NON	Saguaro		25	2 Arms
2611	NON	Saguaro		30	4 Arms
2612	NON	Saguaro		21	Spear
2613	NON	Saguaro		58	Spear
2614	NON	Saguaro		15	Spear
2615	NON	Saguaro		12	Spear
2616	NON	Saguaro		11	Spear
2617	NON	Saguaro		7	Spear
2619	SAL	Barrel		3	
2620	SAL	Barrel		2	
2621	SAL	Barrel		2	
2622	SAL	Saguaro		20	Spear
2623	SAL	Saguaro		15	
2624	SAL	Saguaro		2	
2625	SAL	Saguaro		11	
2626	SAL	Saguaro		17	Spear
2627	SAL	Saguaro		58	6 Arms
2628	SAL	Saguaro		43	4 Arms
2629	SAL	Saguaro		5	Spear
2630	SAL	Saguaro		6	Spear
2631	SAL	Barrel		2	
2632	SAL	Saguaro		26	2 Arms
2633	SAL	Saguaro		38	2 Arms
2637	SAL	Saguaro		5	Spear
2638	SAL	Saguaro		12	Spear
2639	SAL	Saguaro		50	8 Arms
2640	SAL	Saguaro		9	Spear
2641	SAL	Saguaro		19	Spear
2642	SAL	Barrel		2	
2643	SAL	Saguaro		20	1 Arm
2647	SAL	Saguaro		20	Spear
2648	SAL	Barrel		2	
2649	SAL	Barrel		1	
2650	SAL	Saguaro		12	Spear
2651	SAL	Saguaro		13	Spear
2652	SAL	Saguaro		63	5 Arms
2653	SAL	Saguaro		7	Spear
2654	SAL	Barrel		4	
2655	SAL	Saguaro		2	Spear
2656	SAL	Barrel		1	
2657	SAL	Saguaro		26	1 Arm
2658	SAL	Barrel		3	
2659	SAL	Barrel		5	
2660	SAL	Barrel		3	
2661	SAL	Saguaro		31	3 Arms
2662	SAL	Barrel		4	
2663	SAL	Saguaro		53	9 Arms
2664	SAL	Saguaro		7	1 Arm
2665	SAL	Barrel		6	
2666	SAL	Saguaro		7	Spear
2667	SAL	Saguaro		73	8 Arms
2668	SAL	Saguaro		44	
2669	SAL	Saguaro		22	Spear
2670	SAL	Saguaro		19	Spear
2671	SAL	Saguaro		3	Spear
2673	SAL	Saguaro		2	Spear
2674	SAL	Saguaro		6	Spear
2675	SAL	Saguaro		5	Spear
2676	SAL	Barrel		3	
2677	SAL	Saguaro		41	4 Arms
2678	SAL	Saguaro		21	Spear
2679	SAL	Saguaro		6	1 Arm
2680	SAL	Saguaro		3	Spear
2681	SAL	Saguaro		3	Spear
2682	SAL	Saguaro		4	Spear
2683	SAL	Saguaro		17	1 Arm
2684	SAL	Saguaro		20	Spear
2685	SAL	Barrel		2	
2686	SAL	Saguaro		5	Spear
2687	SAL	Saguaro		6	Spear
2688	SAL	Saguaro		15	Spear
2689	SAL	Saguaro		30	4 Arms
2690	SAL	Saguaro		20	3 Arms
2691	SAL	Saguaro		2	Spear
2692	SAL	Saguaro		56	7 Arms
2693	SAL	Saguaro		4	Spear
2694	SAL	Saguaro		1	Spear
2695	SAL	Saguaro		41	4 Arms
2696	SAL	Saguaro		9	Spear
2697	SAL	Barrel		2	
2698	SAL	Saguaro		12	Spear
2699	SAL	Saguaro		2	Spear
2700	SAL	Saguaro		1	Spear
2701	SAL	Saguaro		2	Spear
2702	SAL	Saguaro		12	Spear
2703	SAL	Saguaro		8	Spear
2705	SAL	Barrel		3	
2706	NON	Saguaro		51	5 Arms
2707	SAL	Saguaro		5	Spear
2708	SAL	Barrel		5	
2709	SAL	Barrel		1	
2710	SAL	Barrel		2	
2711	SAL	Barrel		2	
2712	SAL	Saguaro		2	Spear
2713	SAL	Barrel		3	
2714	SAL	Saguaro		3	Spear
2715	SAL	Saguaro		9	Spear
2716	SAL	Barrel		3	
2717	SAL	Saguaro		14	Spear
2718	SAL	Saguaro		6	Spear
2719	SAL	Saguaro		21	Spear
2720	SAL	Foothills Palo Verde	10	13	
2721	SAL	Foothills Palo Verde	10	11	
2722	SAL	Barrel		2	
2723	SAL	Saguaro		23	1 Arm
2724	SAL	Saguaro		4	Spear
2725	SAL	Saguaro		8	Spear
2726	NON	Barrel		4	
2727	SAL	Foothills Palo Verde	10	8	
2728	SAL	Foothills Palo Verde	5	6	
2729	SAL	Foothills Palo Verde	6	7	
2730	SAL	Barrel		4	
2731	SAL	Saguaro		26	Spear
2732	SAL	Foothills Palo Verde	9	9	
2733	SAL	Saguaro		2	Spear
2734	SAL	Saguaro		2	Spear
2735	SAL	Saguaro		12	Spear
2736	SAL	Saguaro		76	8 Arms
2737	SAL	Saguaro		23	1 Arm
2741	SAL	Saguaro		3	Spear
2742	SAL	Saguaro		6	Spear
2743	SAL	Saguaro		4	Spear
2744	SAL	Saguaro		11	Spear
2745	SAL	Barrel		1	
2746	SAL	Saguaro		9	Spear
2747	SAL	Saguaro		2	Spear
2748	SAL	Saguaro		7	Spear
2749	SAL	Saguaro		5	Spear
2750	SAL	Foothills Palo Verde	11	10	
2751	SAL	Saguaro		36	1 Arm
2752	SAL	Saguaro		9	Spear
2753	SAL	Saguaro		8	Spear
2754	SAL	Saguaro		23	Spear
2755	SAL	Saguaro		56	6 Arms
2757	SAL	Saguaro		6	Spear
2760	SAL	Saguaro		5	Spear
2761	SAL	Barrel		4	
2762	SAL	Barrel		2	
2763	SAL	Barrel		3	
2764	SAL	Saguaro		3	Spear
2765	SAL	Foothills Palo Verde	9	8	
2766	SAL	Barrel		2	
2767	SAL	Barrel		2	
2768	SAL	Saguaro		54	3 Arms
2769	SAL	Barrel		1	
2770	SAL	Barrel		2	
2772	NON	Saguaro		3	Spear
2773	NON	Ironwood	14	9	
2774	NON	Ironwood	12	7	
2775	SAL	Saguaro		34	5 Arms
2776	NON	Ironwood	8	6	
2777	NON	Ironwood	6	6	
2778	NON	Ironwood	9	6	
2779	NON	Ironwood	10	6	
2780	SAL	Foothills Palo Verde	9	7	
2781	SAL	Saguaro		3	Spear
2782	NON	Ironwood	14	7	
2783	NON	Ironwood	20	17	
2784	NON	Ironwood	36	16	

	EXISTING PLANT MATERIAL	ITEM TOTAL
SAL	SALVAGE AND REPLANT	293
NON	REMOVE	107
	SHEET TOTAL:	400

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY
DATA SHEET

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.05

___ OF ___

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2785	NON	Ironwood	36	16	
2786	NON	Ironwood	16	8	
2787	NON	Ironwood	17	8	
2788	NON	Ironwood	25	17	
2789	NON	Ironwood	22	15	
2790	NON	Ironwood	14	11	
2791	SAL	Barrel		1	
2792	SAL	Foothills Palo Verde	10	7	
2793	SAL	Barrel		1	
2794	NON	Ironwood	25	17	
2795	NON	Ironwood	20	10	
2796	NON	Ironwood	14	5	
2797	NON	Ironwood	10	5	
2798	NON	Ironwood	16	6	
2799	NON	Saguaro		21	Spear
2800	NON	Ironwood	18	10	
2801	NON	Ironwood	12	5	
2802	NON	Ironwood	13	7	
2804	NON	Ironwood	16	8	
2805	NON	Ironwood	25	17	
2806	NON	Ironwood	25	17	
2807	NON	Ironwood	30	17	
2808	SAL	Ironwood	10	7	
2809	NON	Ironwood	17	16	
2810	NON	Ironwood	12	10	
2811	NON	Ironwood	6	5	
2812	SAL	Saguaro		35	5 Arms
2813	SAL	Saguaro		4	Spear
2814	NON	Ironwood	15	11	
2815	NON	Ironwood	9	5	
2816	SAL	Ironwood	13	10	
2817	SAL	Foothills Palo Verde	13	14	
2818	NON	Ironwood	14	14	
2819	NON	Ironwood	8	7	
2820	NON	Ironwood	12	12	
2821	NON	Ironwood	20	17	
2822	NON	Ironwood	20	12	
2823	SAL	Barrel		1	
2824	NON	Ironwood	25	13	
2825	NON	Ironwood	40	18	
2826	SAL	Ironwood	8	8	
2827	SAL	Ironwood	10	6	
2828	NON	Ironwood	16	6	
2829	NON	Ironwood	12	7	
2830	SAL	Saguaro		31	4 Arms
2831	SAL	Ironwood	8	6	
2832	NON	Ironwood	12	7	
2833	NON	Ironwood	25	10	
2834	NON	Ironwood	25	10	
2835	NON	Ironwood	13	6	
2836	NON	Ironwood	19	15	
2837	SAL	Barrel		8	Twin
2838	NON	Ironwood	10	6	
2839	NON	Ironwood	7	5	
2840	NON	Ironwood	15	12	
2841	NON	Ironwood	15	7	
2842	NON	Ironwood	5	5	
2843	NON	Ironwood	17	12	
2844	NON	Ironwood	9	7	
2845	NON	Ironwood	28	20	
2846	NON	Ironwood	13	11	
2847	NON	Ironwood	30	12	
2848	NON	Ironwood	28	17	
2849	NON	Ironwood	25	18	
2850	NON	Ironwood	14	14	
2851	NON	Ironwood	19	17	
2852	NON	Ironwood	22	17	
2853	SAL	Saguaro		10	Spear
2854	NON	Ironwood	16	10	
2855	NON	Ironwood	20	10	
2856	NON	Saguaro		63	5 Arms
2857	SAL	Saguaro		31	3 Arms
2858	NON	Ironwood	16	15	
2859	NON	Ironwood	17	15	
2860	NON	Ironwood	25	15	
2861	NON	Ironwood	23	18	
2862	NON	Ironwood	27	18	
2863	NON	Ironwood	20	12	
2864	SAL	Ironwood	28	18	
2865	NON	Ironwood	15	15	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2866	SAL	Ironwood	25	20	
2867	NON	Ironwood	15	9	
2868	NON	Ironwood	17	15	
2869	NON	Ironwood	10	10	
2870	NON	Ironwood	16	16	
2871	NON	Ironwood	25	13	
2872	SAL	Saguaro		77	8 Arms
2873	NON	Saguaro		67	8 Arms
2874	NON	Ironwood	25	10	
2875	SAL	Ironwood	18	17	
2876	NON	Ironwood	36	25	
2877	SAL	Ironwood	28	20	
2878	NON	Saguaro		33	1 Arm
2879	SAL	Saguaro		28	4 Arms
2880	SAL	Ironwood	28	22	
2881	SAL	Foothills Palo Verde	5	6	
2882	NON	Ironwood	16	10	
2883	NON	Ironwood	22	15	
2884	NON	Ironwood	25	14	
2885	NON	Ironwood	30	15	
2886	NON	Ironwood	16	15	
2887	NON	Ironwood	26	16	
2888	NON	Ironwood	25	16	
2889	SAL	Ironwood	28	25	
2890	NON	Ironwood	18	16	
2891	NON	Ironwood	29	20	
2892	NON	Ironwood	18	10	
2893	NON	Ironwood	25	14	
2894	NON	Ironwood	15	10	
2895	NON	Ironwood	12	7	
2896	NON	Ironwood	25	14	
2897	NON	Ironwood	28	18	
2898	NON	Ironwood	13	7	
2899	NON	Ironwood	13	12	
2900	SAL	Ironwood	14	12	
2901	SAL	Ironwood	16	16	
2902	NON	Ironwood	17	16	
2903	SAL	Ironwood	16	16	
2904	SAL	Saguaro		5	Spear
2905	NON	Saguaro		55	4 Arms
2906	SAL	Saguaro		28	1 Arm
2907	NON	Saguaro		34	1 Arm
2908	NON	Ironwood	20	10	
2909	NON	Ironwood	12	10	
2910	NON	Ironwood	13	8	
2911	NON	Ironwood	13	10	
2912	SAL	Saguaro		33	4 Arms
2915	NON	Saguaro		94	7 Arms
2916	SAL	Saguaro		14	Spear
2917	SAL	Ironwood	6	6	
2920	NON	Ironwood	10	5	
2921	SAL	Ironwood	5	5	
2922	SAL	Ironwood	5	6	
2923	SAL	Foothills Palo Verde	14	12	
2924	SAL	Foothills Palo Verde	6	6	
2925	SAL	Ironwood	22	13	
2926	NON	Ironwood	20	22	
2927	NON	Ironwood	29	18	
2928	NON	Ironwood	5	6	
2929	NON	Ironwood	15	13	
2930	SAL	Foothills Palo Verde	16	13	
2931	NON	Ironwood	16	13	
2932	SAL	Ironwood	16	15	
2933	SAL	Ironwood	14	13	
2934	NON	Ironwood	2	17	
2935	SAL	Saguaro		2	Spear
2936	NON	Ironwood	36	17	
2937	SAL	Saguaro		4	Spear
2938	NON	Ironwood	16	12	
2939	NON	Ironwood	15	11	
2940	SAL	Saguaro		5	Spear
2941	SAL	Saguaro		5	
2942	SAL	Blue Palo Verde	9	10	
2943	NON	Ironwood	18	17	
2944	SAL	Ironwood	19	20	
2945	SAL	Ironwood	30	20	
2946	SAL	Foothills Palo Verde	13	13	
2947	SAL	Foothills Palo Verde	16	15	
2948	NON	Ironwood	17	15	
2949	NON	Ironwood	21	12	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
2950	NON	Saguaro		45	3 Arms
2951	SAL	Saguaro		17	Spear
2952	NON	Ironwood	17	12	
2953	NON	Ironwood	14	12	
2954	SAL	Foothills Palo Verde	15	15	
2956	SAL	Foothills Palo Verde	14	15	
2957	SAL	Saguaro		3	Spear
2958	NON	Ironwood	35	25	
2959	NON	Ironwood	33	16	
2960	NON	Ironwood	16	12	
2961	NON	Ironwood	25	15	
2962	NON	Ironwood	17	6	
2963	NON	Ironwood	25	15	
2964	NON	Ironwood	13	15	
2965	NON	Ironwood	25	17	
2966	NON	Ironwood	20	13	
2967	NON	Ironwood	13	11	
2968	NON	Ironwood	16	14	
2969	NON	Ironwood	30	15	
2970	NON	Ironwood	13	9	
2976	NON	Saguaro		67	5 Arms
2977	NON	Ironwood	12	7	
2978	NON	Ironwood	19	12	
2981	SAL	Saguaro		6	Spear
2982	SAL	Saguaro		14	Spear
2983	SAL	Saguaro		8	Spear
2984	NON	Ironwood	18	14	
2985	NON	Ironwood	25	11	
2986	NON	Saguaro		45	3 Arms
2986	NON	Ironwood	16	11	
2987	NON	Saguaro		15	Spear
2988	SAL	Barrel		1	
2989	SAL	Saguaro		9	Spear
2990	NON	Ironwood	17	7	
2991	SAL	Saguaro		2	Spear
2992	SAL	Saguaro		7	Spear
2993	SAL	Saguaro		11	Spear
2994	SAL	Saguaro		12	Spear
2995	SAL	Saguaro		7	Spear
2996	SAL	Saguaro		6	Spear
2997	NON	Ironwood	13	7	
2998	SAL	Foothills Palo Verde	13	12	
2999	SAL	Saguaro		29	4 Arms
3000	SAL	Saguaro		5	Spear
3001	SAL	Saguaro		7	Spear
3002	SAL	Saguaro		6	Spear
3003	SAL	Saguaro		3	Spear
3004	SAL	Saguaro		7	Spear
3005	SAL	Saguaro		5	Spear
3006	SAL	Saguaro		6	Spear
3007	SAL	Saguaro		10	Spear
3008	SAL	Saguaro		6	Spear
3009	SAL	Saguaro		6	Spear
3010	NON	Saguaro		60	4 Arms
3011	SAL	Ironwood	18	16	
3012	SAL	Saguaro		2	Spear
3013	SAL	Saguaro		6	Spear
3014	SAL	Saguaro		6	Spear
3015	SAL	Saguaro		4	Spear
3016	SAL	Saguaro		12	Spear
3017	SAL	Saguaro		12	Spear
3018	SAL	Foothills Palo Verde	16	16	
3019	SAL	Foothills Palo Verde	16	16	
3020	SAL	Saguaro		2	Spear
3021	NON	Ironwood	9	6	
3022	SAL	Saguaro		3	Spear
3023	NON	Saguaro		140	16 Arms
3024	SAL	Saguaro		45	5 Arms
3025	SAL	Saguaro		21	2 Arms
3026	SAL	Saguaro		3	
3027	SAL	Saguaro		38	
3028	SAL	Barrel		1	
3029	SAL	Saguaro		3	
3030	SAL	Saguaro		2	
3031	SAL	Saguaro		9	
3032	SAL	Saguaro		1	Spear
3033	SAL	Saguaro		9	Spear
3034	SAL	Saguaro		8	Spear
3035	SAL	Saguaro		57	8 Arms
3036	NON	Ironwood	9	6	

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
3037	NON	Ironwood	12	15	
3038	SAL	Ironwood	14	12	
3039	NON	Ironwood	9	15	
3040	SAL	Saguaro		19	Spear
3041	SAL	Saguaro		62	10 Arms
3042	SAL	Saguaro		3	Spear
3043	SAL	Saguaro		31	5 Arms
3044	NON	Ironwood	20	8	
3045	SAL	Foothills Palo Verde	14	14	
3046	SAL	Saguaro		15	3 Arms
3047	SAL	Ironwood	5	6	
3048	SAL	Saguaro		5	Spear
3049	SAL	Saguaro		5	Spear
3050	SAL	Foothills Palo Verde	5	6	
3051	NON	Ironwood	17	17	
3052	NON	Ironwood	12	8	
3053	NON	Ironwood	5	5	
3054	NON	Ironwood	36	20	
3055	NON	Ironwood	27	15	
3056	NON	Saguaro		68	6 Arms
3057	SAL	Blue Palo Verde	13	14	
3058	NON	Saguaro		38	3 Arms
3059	SAL	Saguaro		9	Spear
3060	SAL	Saguaro		16	2 Arms
3061	SAL	Ironwood	10	7	
3062	SAL	Ironwood	5	6	
3063	SAL	Saguaro		12	Spear
3064	SAL	Ironwood	8	10	
3065	NON	Saguaro		80	9 Arms
3066	NON	Ironwood	18	10	
3067	NON	Ironwood	20	14	
3068	NON	Ironwood	13	5	
3069	NON	Ironwood	20	12	
3070	SAL	Foothills Palo Verde	9	9	
3071	SAL	Foothills Palo Verde	6	6	
3072	SAL	Foothills Palo Verde	9	10	
3073	SAL	Foothills Palo Verde	6	6	
3074	SAL	Saguaro		20	Spear
3075	SAL	Saguaro		1	Spear
3076	NON	Saguaro		65	8 Arms
3077	SAL	Foothills Palo Verde	62	15	
3078	SAL	Barrel		2	
3079	SAL	Barrel		2	
3080	SAL	Foothills Palo Verde	11	11	
3081	NON	Ironwood	16	13	
3082	NON	Ironwood	16	15	
3083	NON	Ironwood	10	7	
3084	NON	Ironwood	36	18	
3085	NON	Ironwood	20	15	
3086	NON	Ironwood	18	12	
3087	NON	Ironwood	22	14	
3088	NON	Ironwood	12	14	
3089	NON	Ironwood	17	14	
3090	NON	Ironwood	14	7	
3091	NON	Ironwood	14	10	
3092	NON	Ironwood	7	5	
3093	NON	Ironwood	8	6	
3094	NON	Ironwood	25	10	
3095	NON	Ironwood	12	8	
3096	NON	Ironwood	21	11	
3097	NON	Ironwood	21	14	
3098	NON	Ironwood	22	14	
3099	NON	Ironwood	20	16	
3100	SAL	Saguaro		13	1 Arm
3101	SAL	Foothills Palo Verde	10	16	
3104	NON	Ironwood	29	15	
3107	SAL	Barrel		6	
3108	SAL	Barrel		1	
3109	SAL	Saguaro		7	Spear
3110	SAL	Barrel		2	
3111	SAL	Foothills Palo Verde	8	8	
3112	SAL	Foothills Palo Verde	9	9	
3113	SAL	Barrel		2	
3114	NON	Ironwood	13	11	
3115	SAL	Barrel		1	
3116	SAL	Barrel		1	
3117	SAL	Barrel		1	
3118	SAL	Barrel		28	
3119	NON	Ironwood	25	16	
3120	NON	Saguaro		11	Spear

PLANT ID	STATUS	SPECIES	CALIPER (in)	HEIGHT (ft)	COMMENT
3121	SAL	Barrel		3	
3122	SAL	Barrel		3	
3123	NON	Ironwood	20	12	
3124	SAL	Saguaro		26	5 Arms
3125	NON	Ironwood	17	10	
3126	SAL	Barrel		3	
3127	NON	Ironwood	8	10	
3128	SAL	Barrel		2	
3129	NON	Saguaro		75	5 Arms
3130	SAL	Saguaro		15	Spear
3131	SAL	Foothills Palo Verde	9	9	
3132	SAL	Ironwood	18	18	

	EXISTING PLANT MATERIAL	ITEM TOTAL
SAL	SALVAGE AND REPLANT	149
NON	REMOVE	183
	SHEET TOTAL:	332

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY DATA SHEET

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

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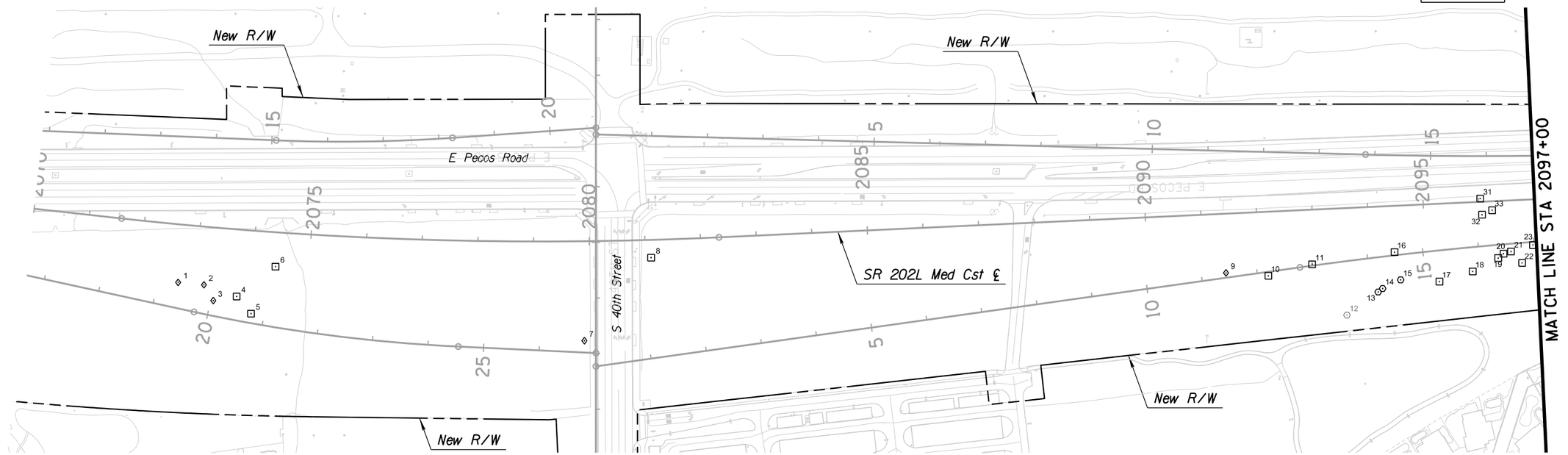
Exhibit L4.06

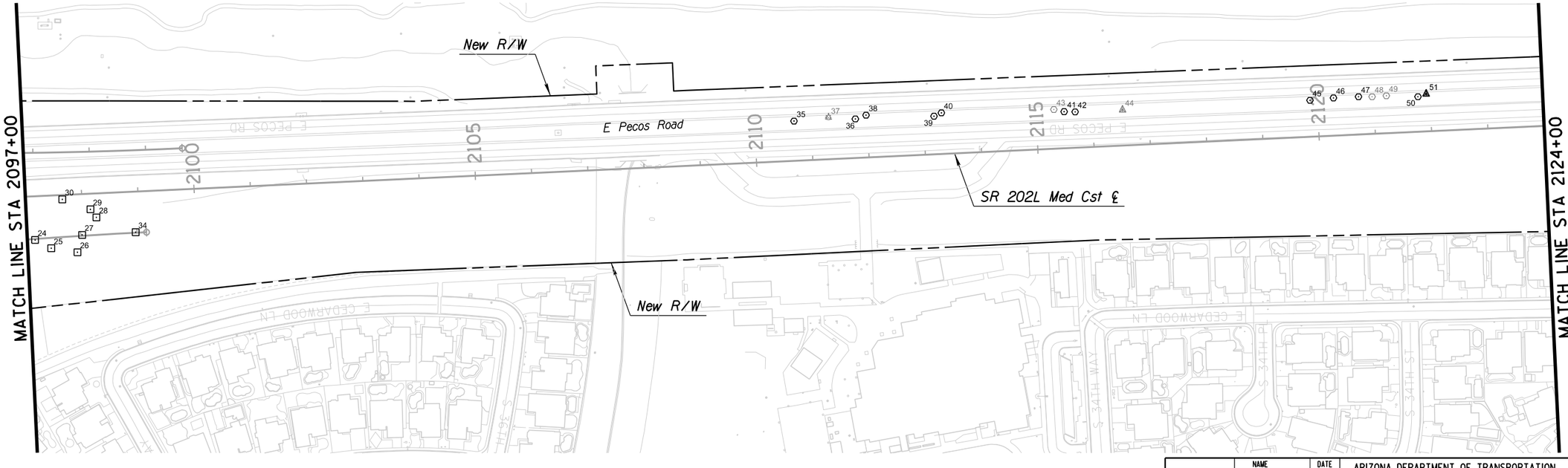
___ OF ___

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	0	0	0	⊡	Foothills Palo Verde	0	0	0	⁂	Ocotillo	0	1	1
⊡	Blue Palo Verde	25	0	25	⌬	Ironwood	14	4	18	⁂	Saguaro	1	1	2
✲	Fan Palm	0	0	0	◈	Mesquite	5	0	5		SHEET TOTALS	45	6	51

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2070+00 TO STA 2124+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

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Exhibit L4.07

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			

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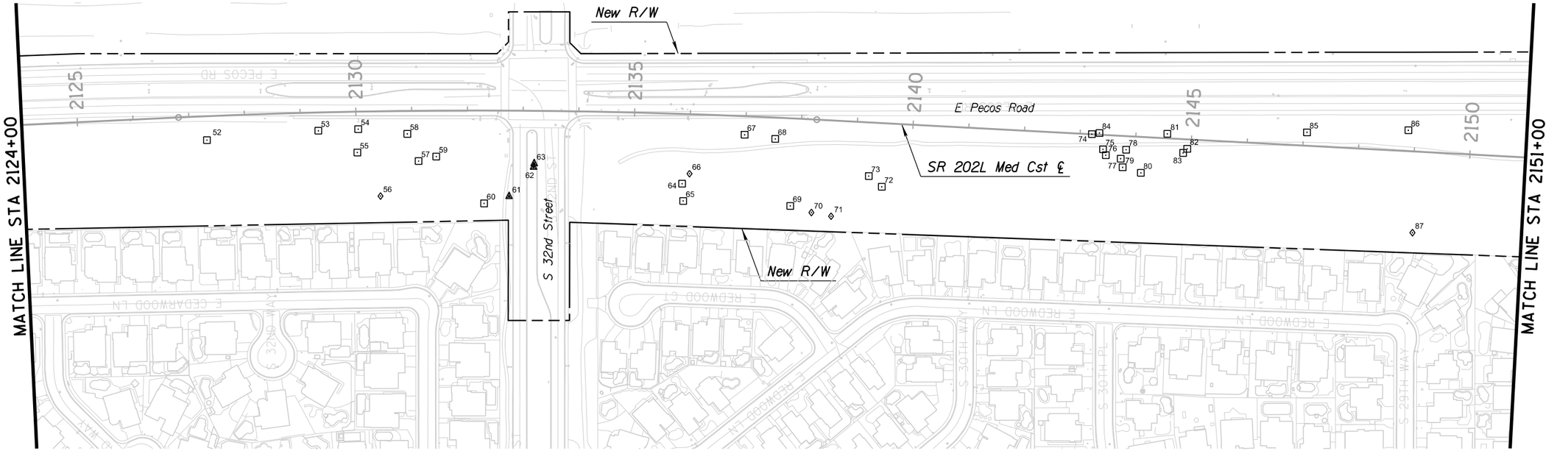
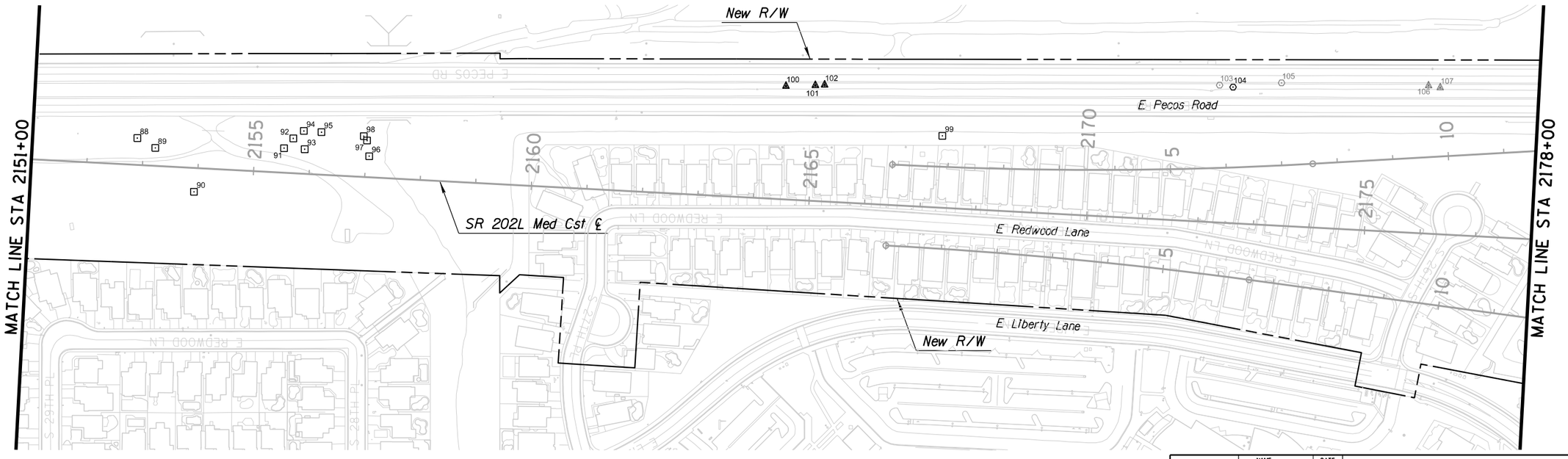
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	0	0	0	⊡	Foothills Palo Verde	0	0	0		Ocotillo	0	0	0
⊡	Blue Palo Verde	40	0	40	⬡	Ironwood	1	2	3		Saguaro	6	2	8
	Fan Palm	0	0	0	◇	Mesquite	5	0	5		SHEET TOTALS	52	4	56

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2124+00 TO STA 2178+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

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Exhibit L4.08

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

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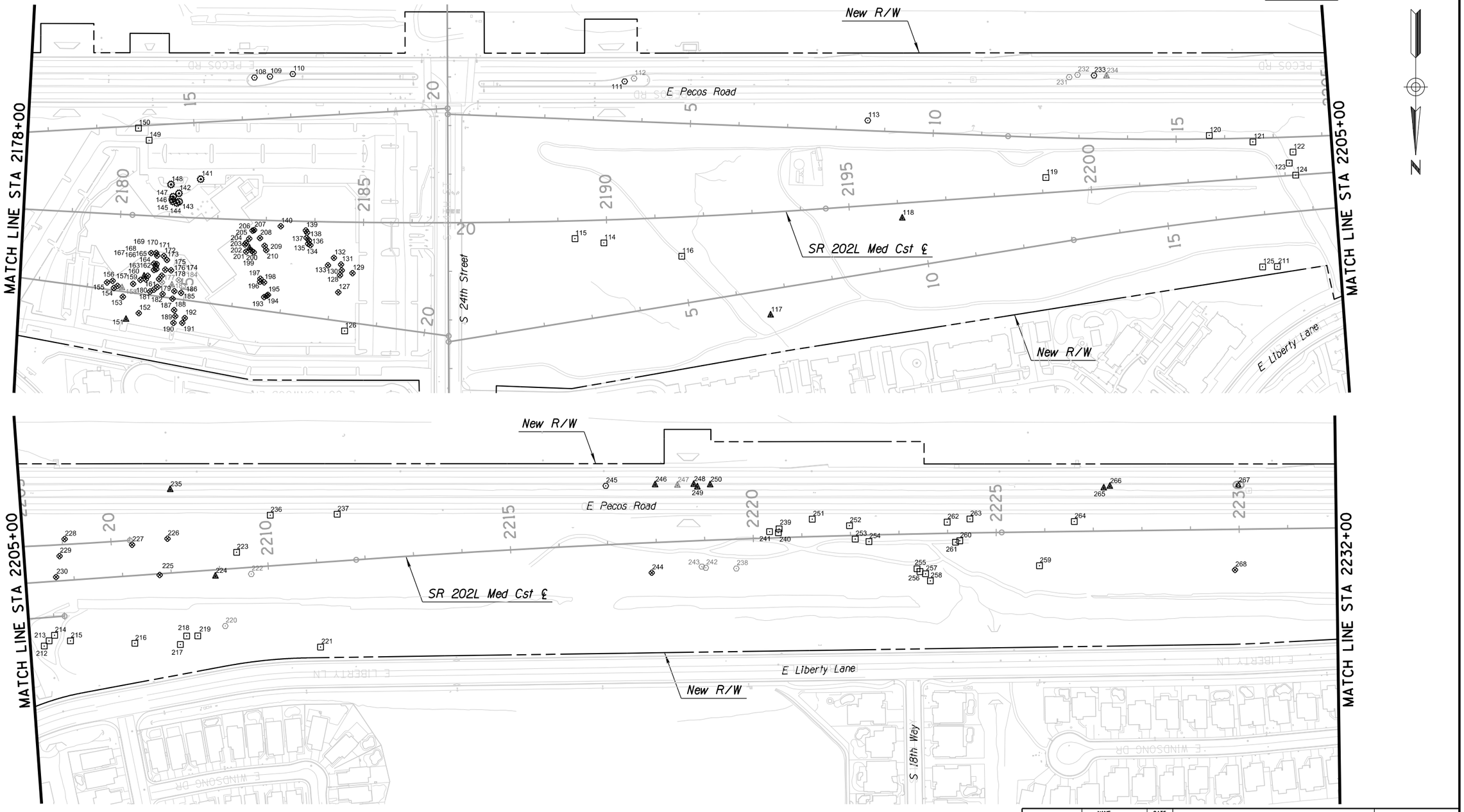
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054



	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	75	2	77	⊡	Foothills Palo Verde	0	0	0	⁂	Ocotillo	1	0	1
⊡	Blue Palo Verde	43	0	43	⌬	Ironwood	7	8	15	⁂	Saguaro	13	4	17
✲	Fan Palm	8	0	8	◈	Mesquite	0	0	0		SHEET TOTALS	147	14	161

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2178+00 TO STA 2232+00

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.09

___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY
NO.2 DESCRIPTION OF REVISION | DATE | MADE BY

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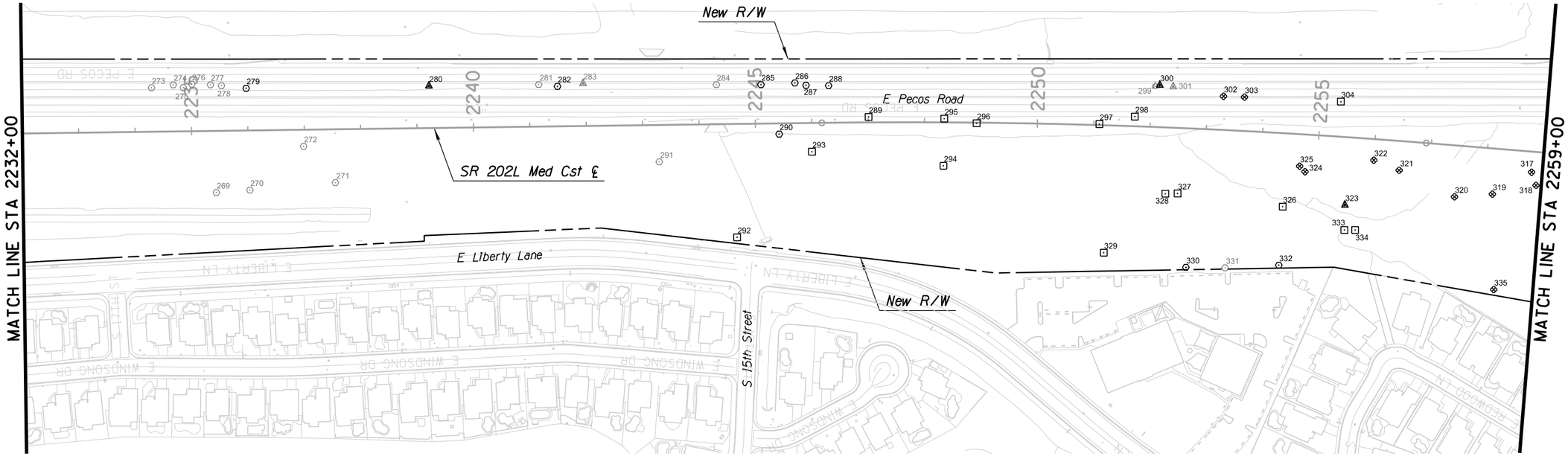
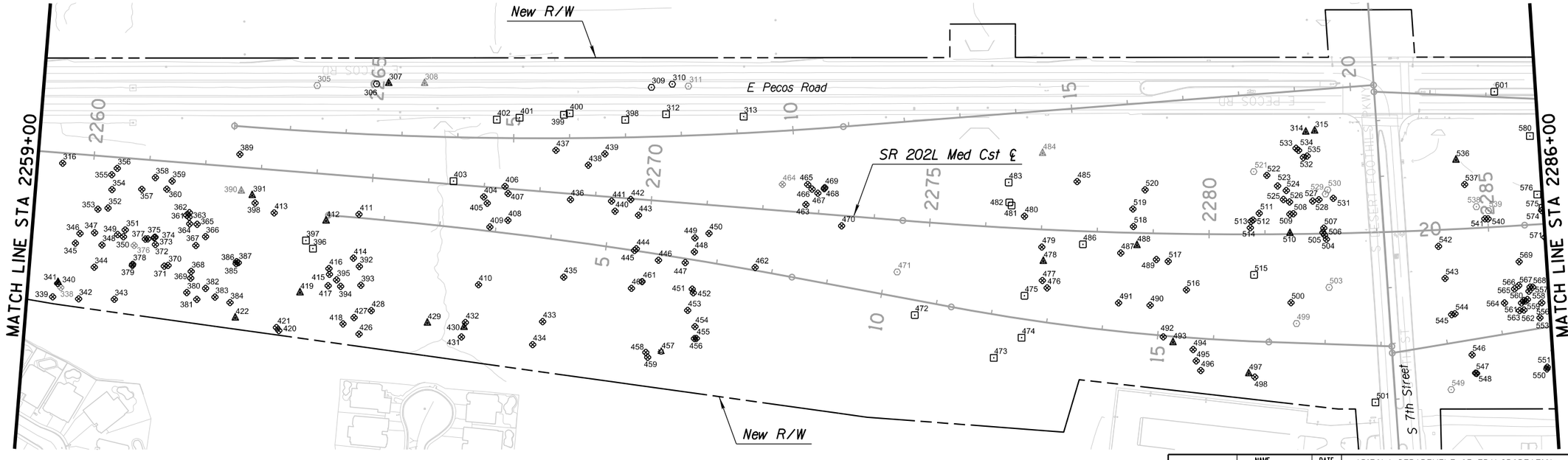
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	193	3	196	⊡	Foothills Palo Verde	10	0	10		Ocotillo	1	1	2
⊡	Blue Palo Verde	29	0	29	⬡	Ironwood	12	25	37		Saguaro	19	5	24
	Fan Palm	0	0	0	◈	Mesquite	0	0	0		SHEET TOTALS	264	34	298

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2232+00 TO STA 2286+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.10

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			

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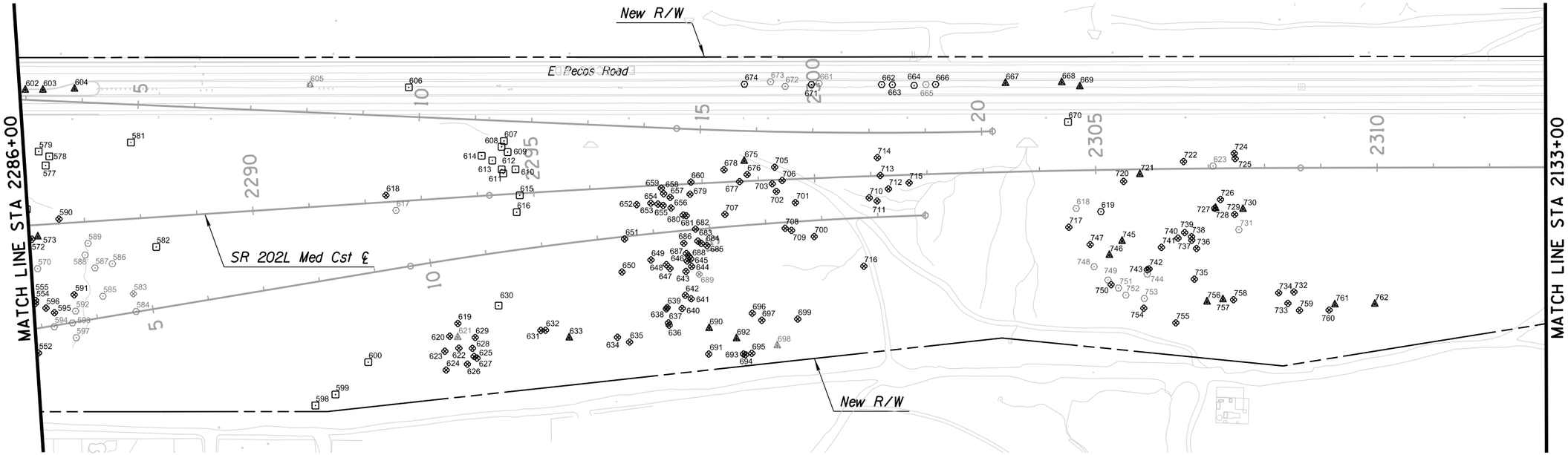
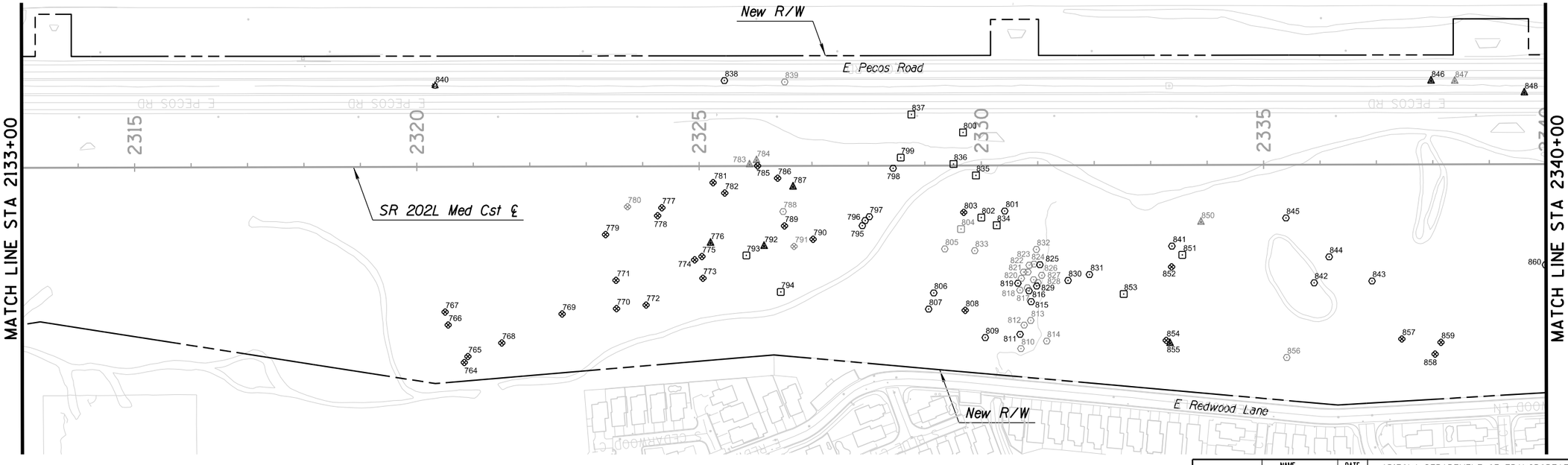
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	139	4	143	⊡	Foothills Palo Verde	22	1	23		Ocotillo	1	1	2
⊡	Blue Palo Verde	10	0	10	⌬	Ironwood	30	45	75		Saguaro	26	6	32
	Fan Palm	0	0	0	◇	Mesquite	0	0	0		SHEET TOTALS	228	57	285

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2286+00 TO STA 2340+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)
TRACS NO. H5764 01L	NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.11

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
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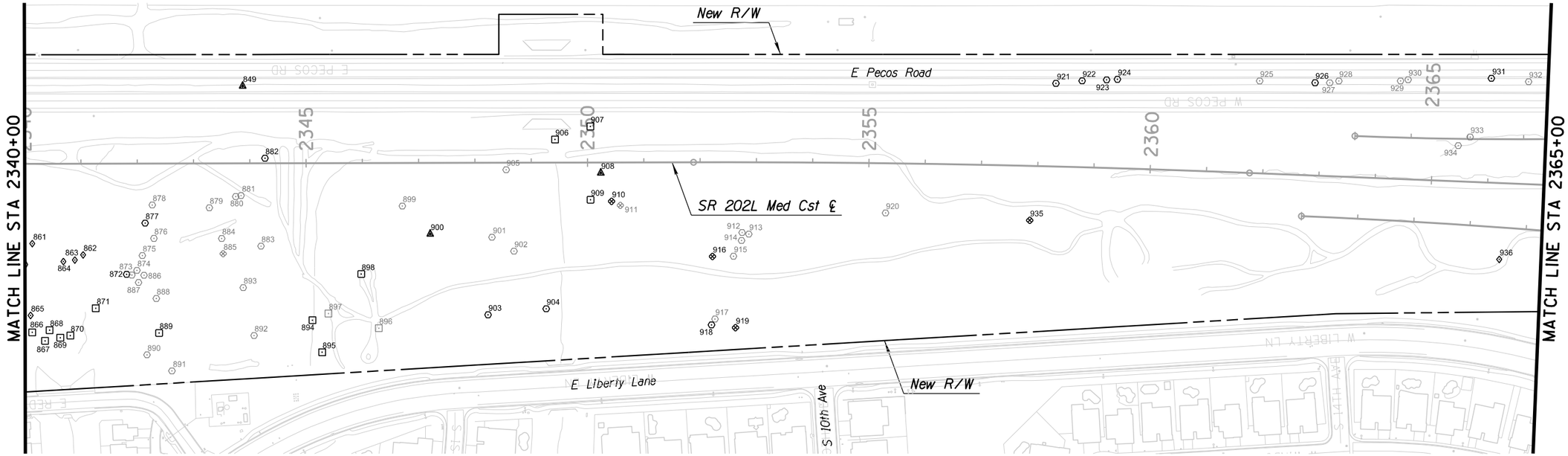
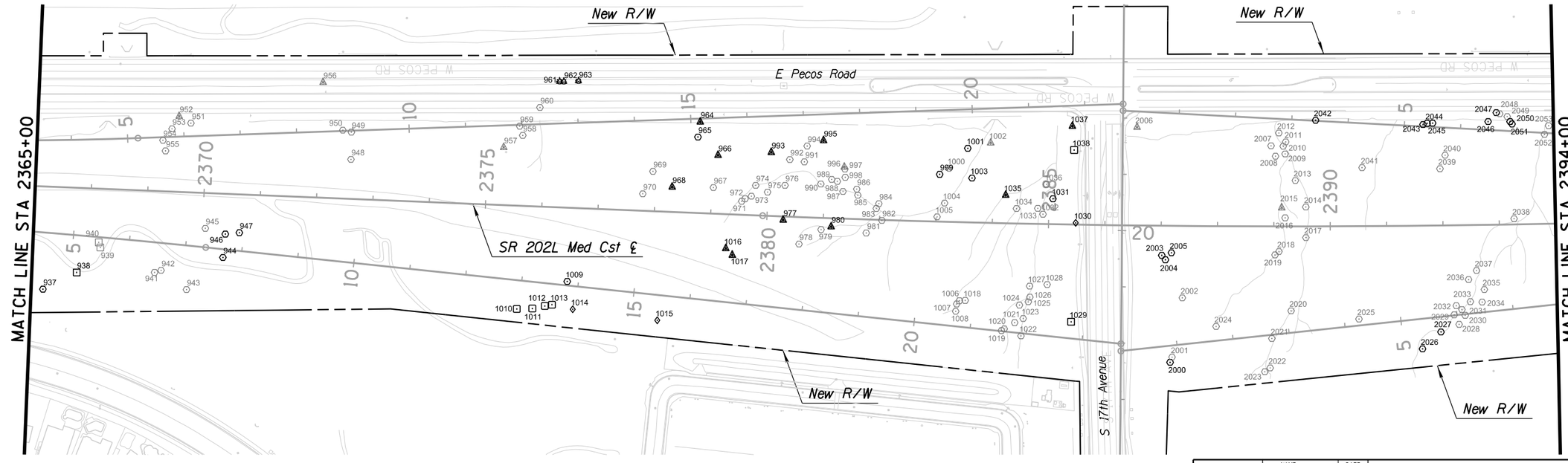
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	4	2	6	⊡	Foothills Palo Verde	7	0	7	⚜	Ocotillo	3	0	3
⊡	Blue Palo Verde	13	4	17	⬡	Ironwood	36	134	170	⚠	Saguaro	14	7	21
✲	Fan Palm	0	0	0	◈	Mesquite	9	0	9		SHEET TOTALS	86	147	233

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2340+00 TO STA 2394+00

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

Exhibit L4.12

___ OF ___

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

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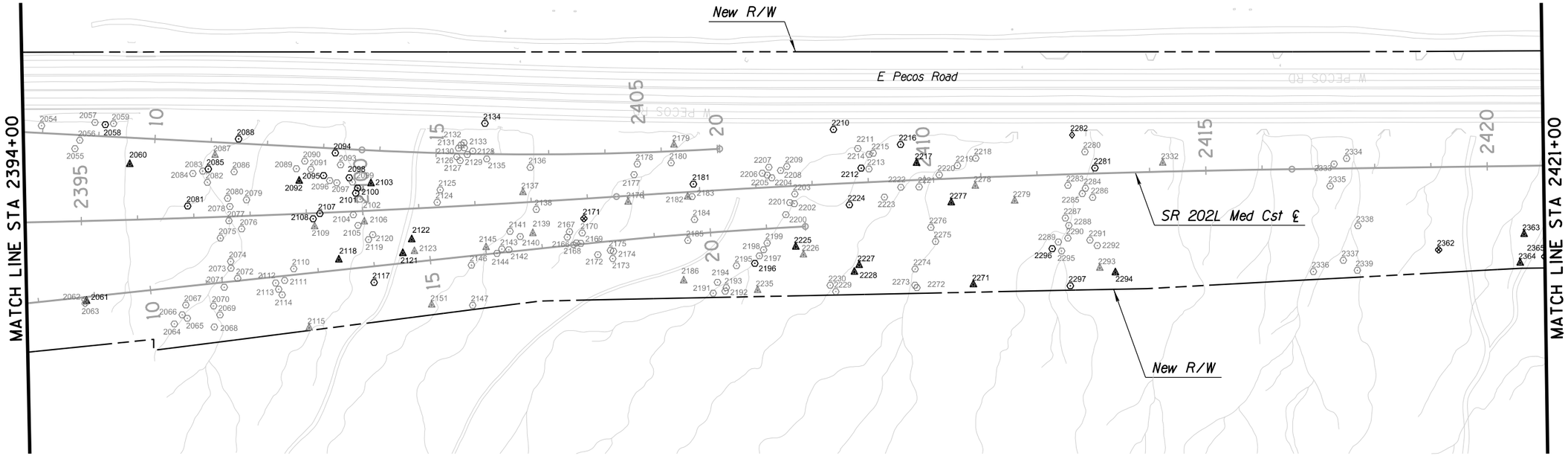
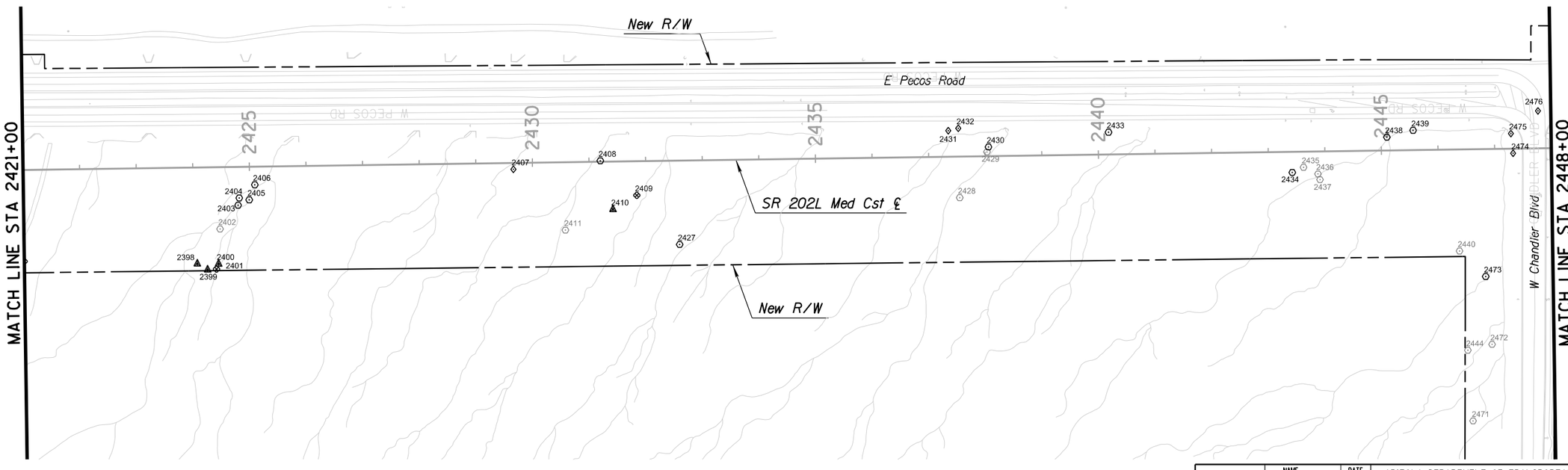
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	5	2	7	⊡	Foothills Palo Verde	0	0	0	⁂	Ocotillo	0	0	0
⊡	Blue Palo Verde	0	0	0	⌔	Ironwood	34	143	177	⁂	Saguaro	20	19	39
✲	Fan Palm	0	0	0	⌔	Mesquite	7	0	7		SHEET TOTALS	66	164	230

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2394+00 TO STA 2448+00

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.13

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

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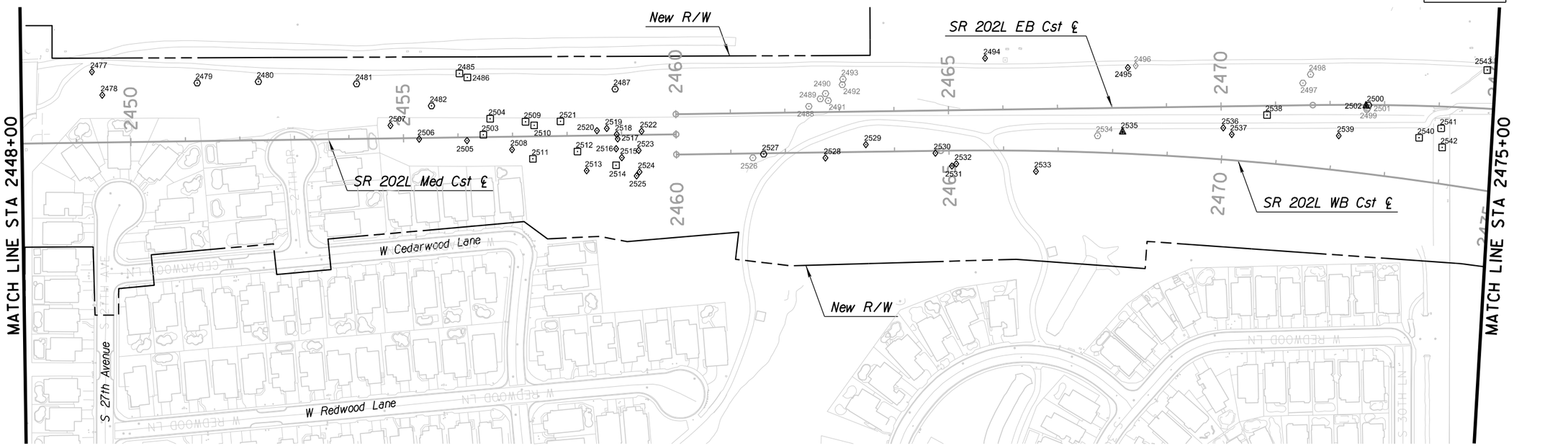
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054



	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	5	1	6	⊡	Foothills Palo Verde	2	0	2		Ocotillo	0	0	0
⊡	Blue Palo Verde	15	0	15	⬡	Ironwood	7	12	19		Saguaro	7	0	7
	Fan Palm	0	0	0	◇	Mesquite	33	1	34		SHEET TOTALS	69	14	83

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2448+00 TO STA 2495+00

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.14

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L		NH-202-D (ADY)

___ OF ___

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
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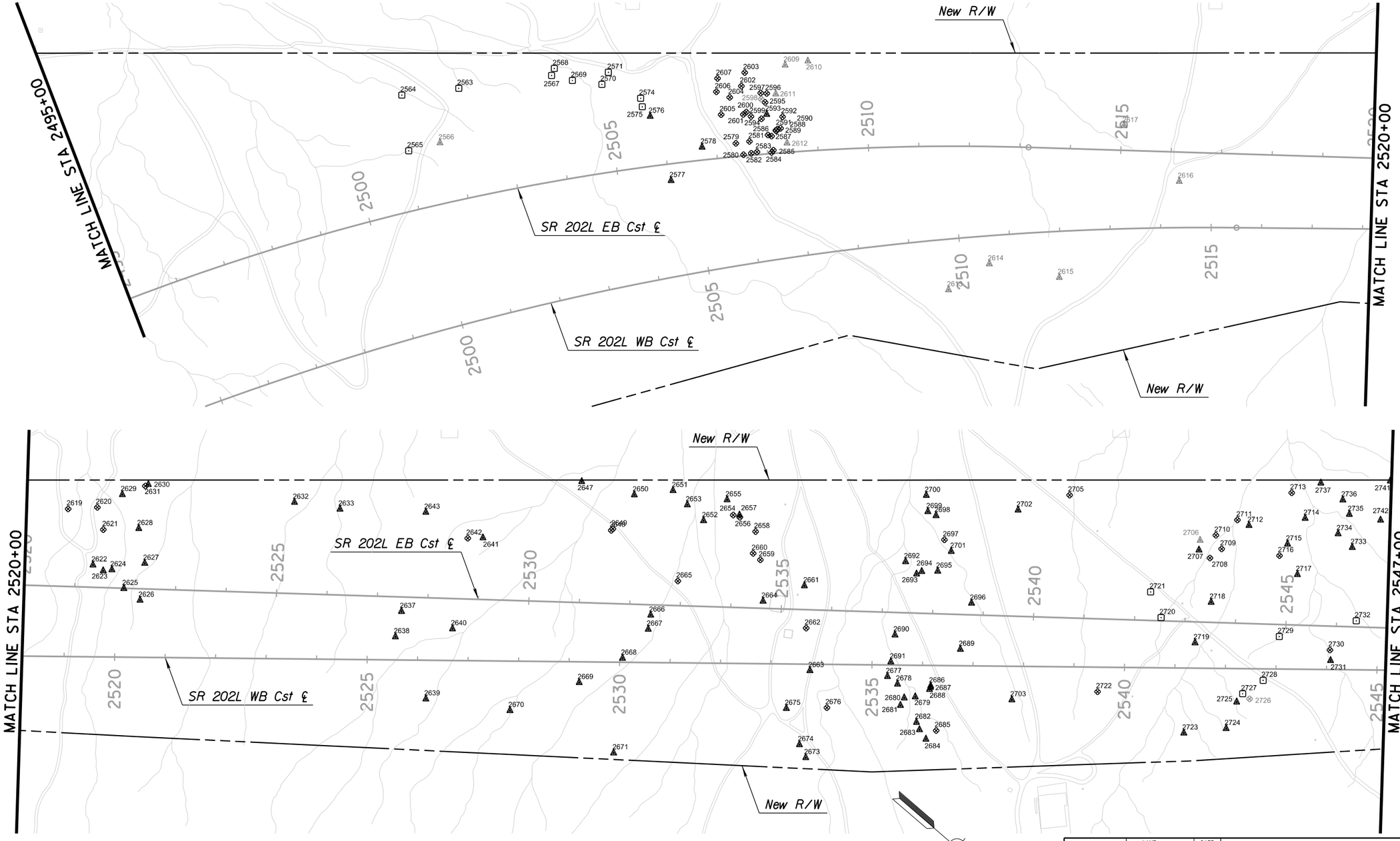
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054



	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	53	2	55	⊡	Foothills Palo Verde	16	0	16		Ocotillo	0	0	0
⊡	Blue Palo Verde	0	0	0	⬡	Ironwood	0	0	0		Saguaro	83	11	94
	Fan Palm	0	0	0	◇	Mesquite	0	0	0		SHEET TOTALS	152	13	165

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2495+00 TO STA 2547+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.15

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			

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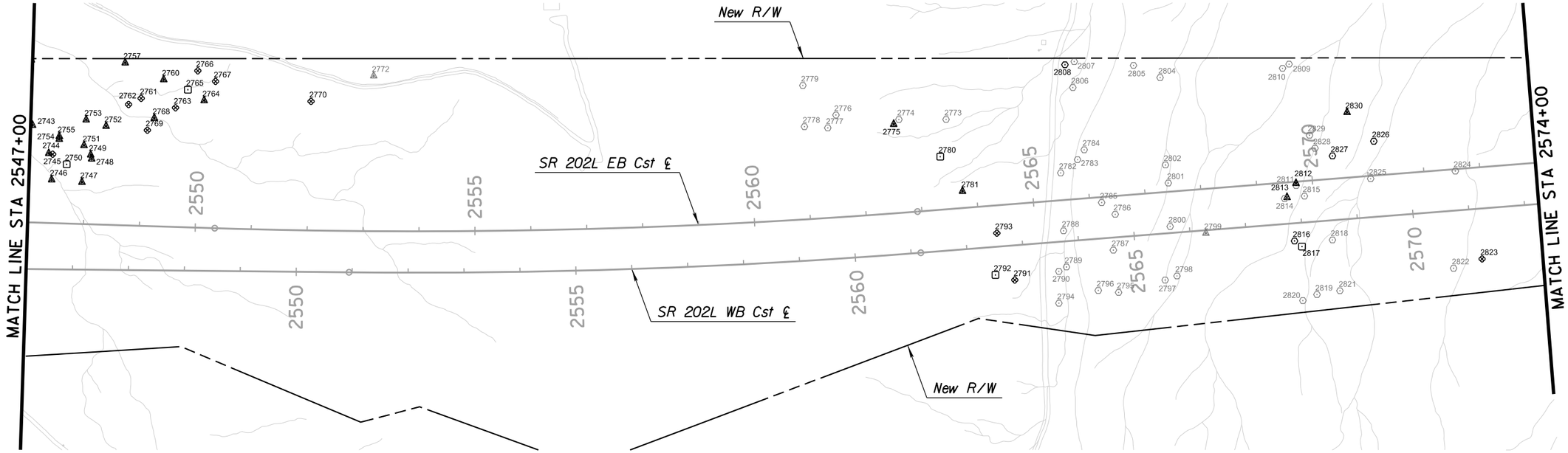
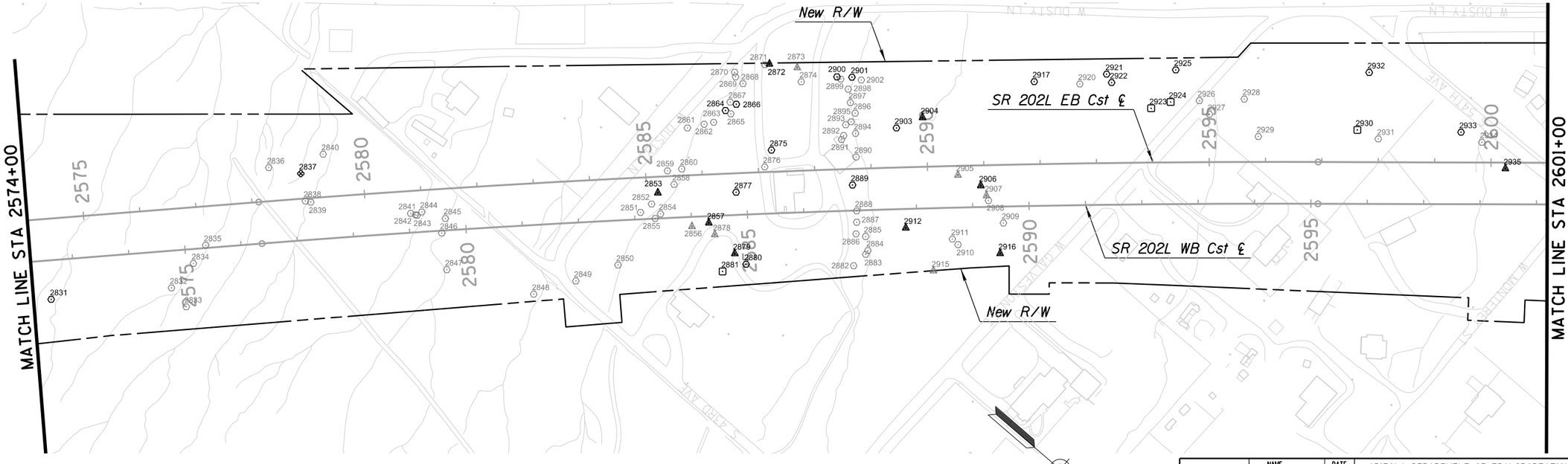
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	12	0	12	⊡	Foothills Palo Verde	9	0	9		Ocotillo	0	0	0
⊡	Blue Palo Verde	0	0	0	⬡	Ironwood	20	106	126		Saguaro	29	8	37
	Fan Palm	0	0	0	◇	Mesquite	0	0	0		SHEET TOTALS	70	114	184

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2547+00 TO STA 2601+00

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

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Exhibit L4.16

___ OF ___

NO. | DESCRIPTION OF REVISION | MADE BY | DATE

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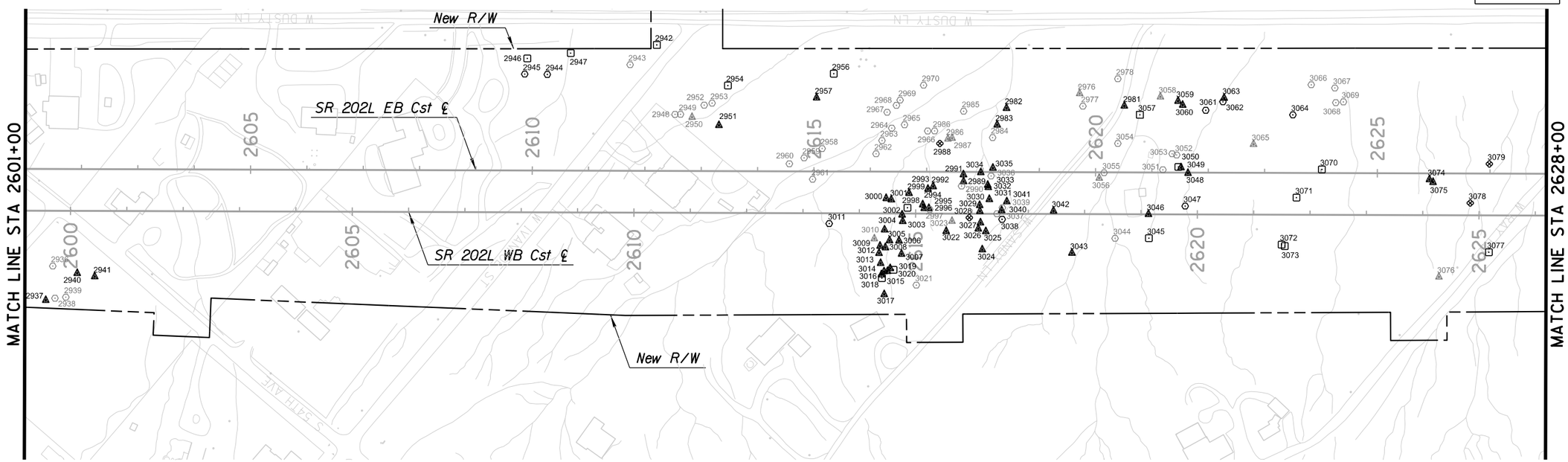
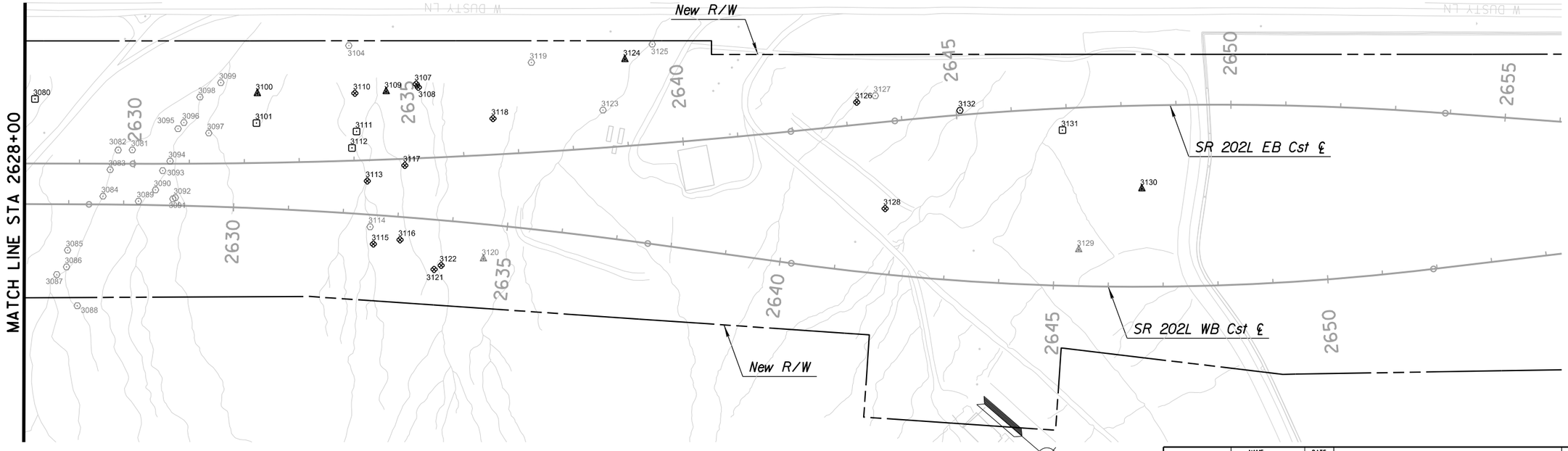
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054





	PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL		PLANT NAME	SAL	NON	TOTAL
⊗	Barrel Cactus	16	0	16	⊡	Foothills Palo Verde	19	0	19		Ocotillo	0	0	0
⊡	Blue Palo Verde	2	0	2	⌔	Ironwood	9	67	76		Saguaro	61	12	73
	Fan Palm	0	0	0	◇	Mesquite	0	0	0		SHEET TOTALS	107	79	186

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

NATIVE PLANT INVENTORY PLAN
STA 2601+00 TO STA 2656+00

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

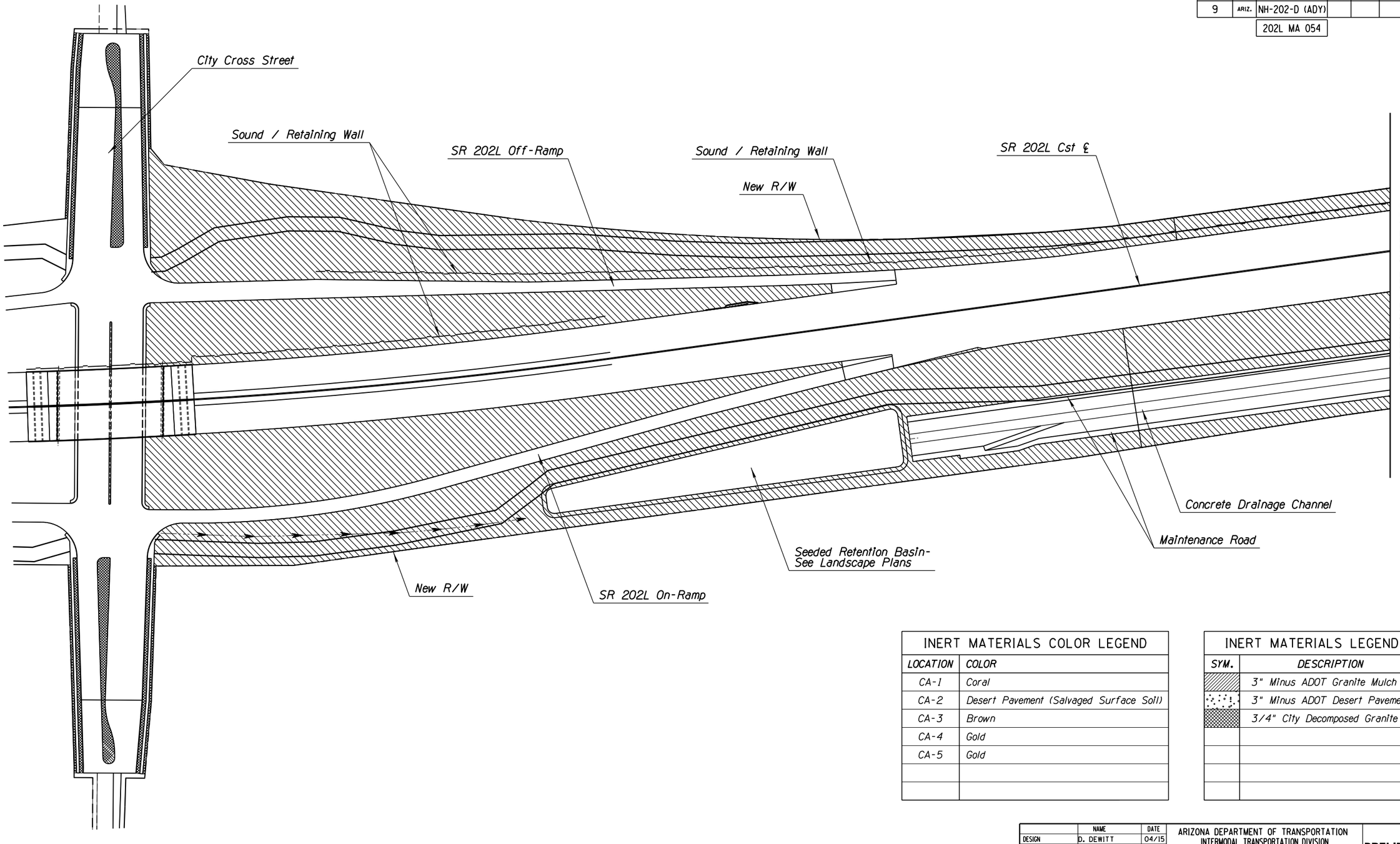
NOT FOR CONSTRUCTION OR RECORDING

Exhibit L4.17

___ OF ___

NO. | DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



INERT MATERIALS COLOR LEGEND	
LOCATION	*COLOR*
CA-1	Coral
CA-2	Desert Pavement (Salvaged Surface Soil)
CA-3	Brown
CA-4	Gold
CA-5	Gold

INERT MATERIALS LEGEND	
SYM.	*DESCRIPTION*
	3" Minus ADOT Granite Mulch
	3" Minus ADOT Desert Pavement
	3/4" City Decomposed Granite

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL INERT MATERIALS PLAN

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

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Exhibit L5.1

___ OF ___

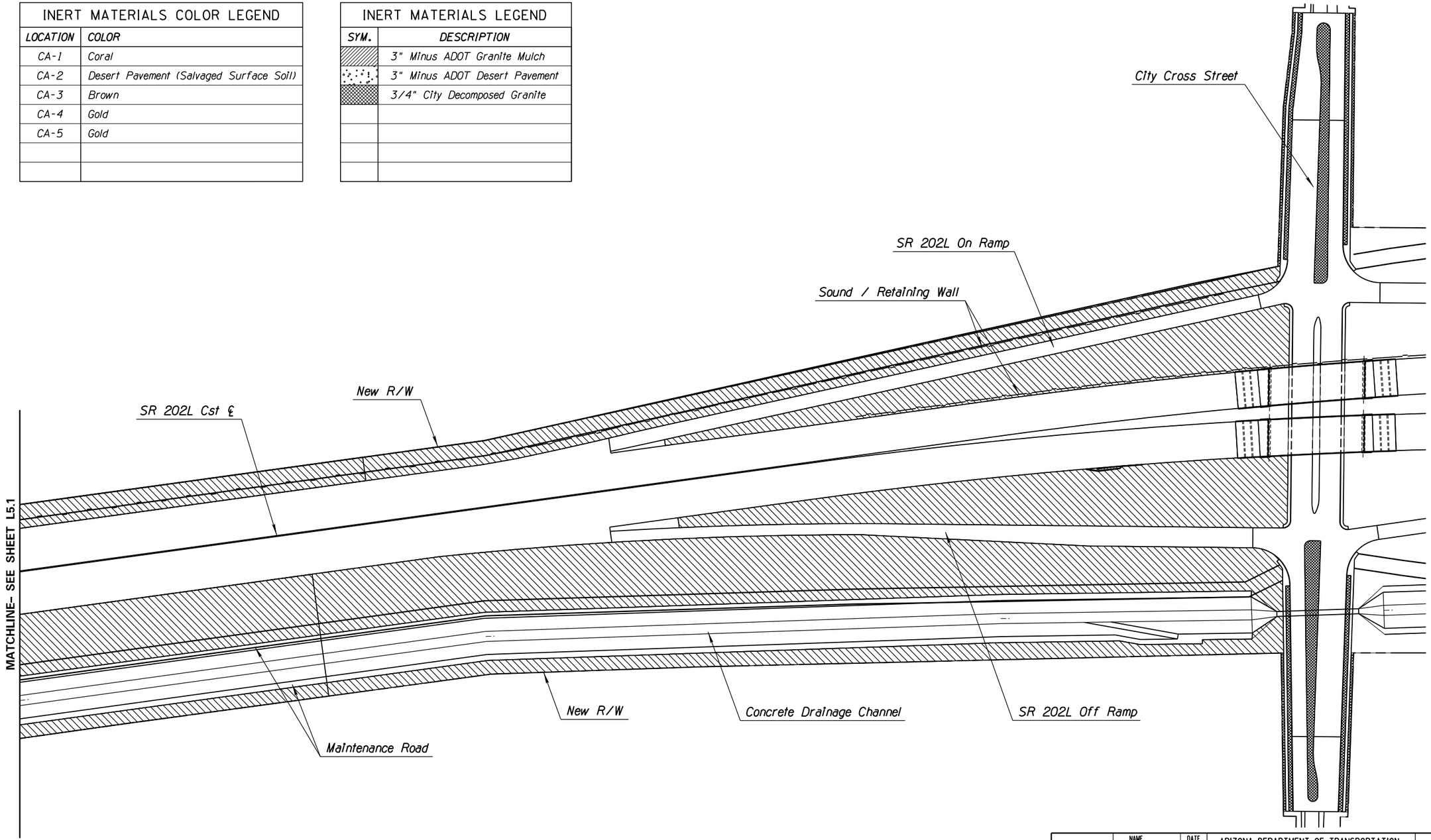
NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

INERT MATERIALS COLOR LEGEND	
LOCATION	*COLOR*
CA-1	Coral
CA-2	Desert Pavement (Salvaged Surface Soil)
CA-3	Brown
CA-4	Gold
CA-5	Gold

INERT MATERIALS LEGEND	
SYM.	*DESCRIPTION*
	3" Minus ADOT Granite Mulch
	3" Minus ADOT Desert Pavement
	3/4" City Decomposed Granite



0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
www.J2designs.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL INERT MATERIALS PLAN

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L5.2

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L		NH-202-D (ADY)

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
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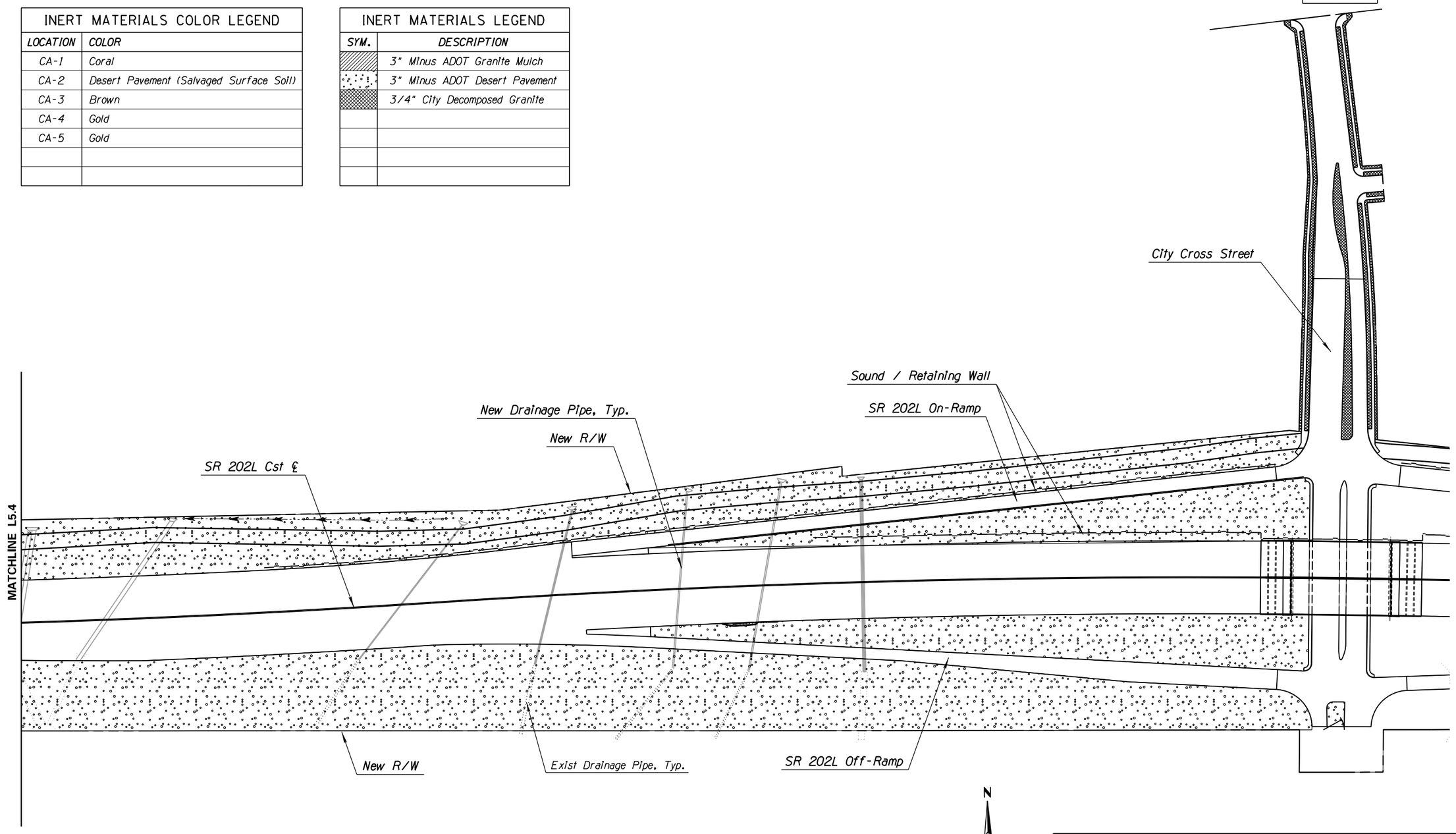
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

INERT MATERIALS COLOR LEGEND	
LOCATION	COLOR
CA-1	Coral
CA-2	Desert Pavement (Salvaged Surface Soil)
CA-3	Brown
CA-4	Gold
CA-5	Gold

INERT MATERIALS LEGEND	
SYM.	DESCRIPTION
	3" Minus ADOT Granite Mulch
	3" Minus ADOT Desert Pavement
	3/4" City Decomposed Granite



N

0 50' 100' 200'

SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
www.J2designs.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

CA 2 - AHWATUKEE FOOTHILLS
TYPICAL INERT MATERIALS PLAN

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L5.3

___ OF ___

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

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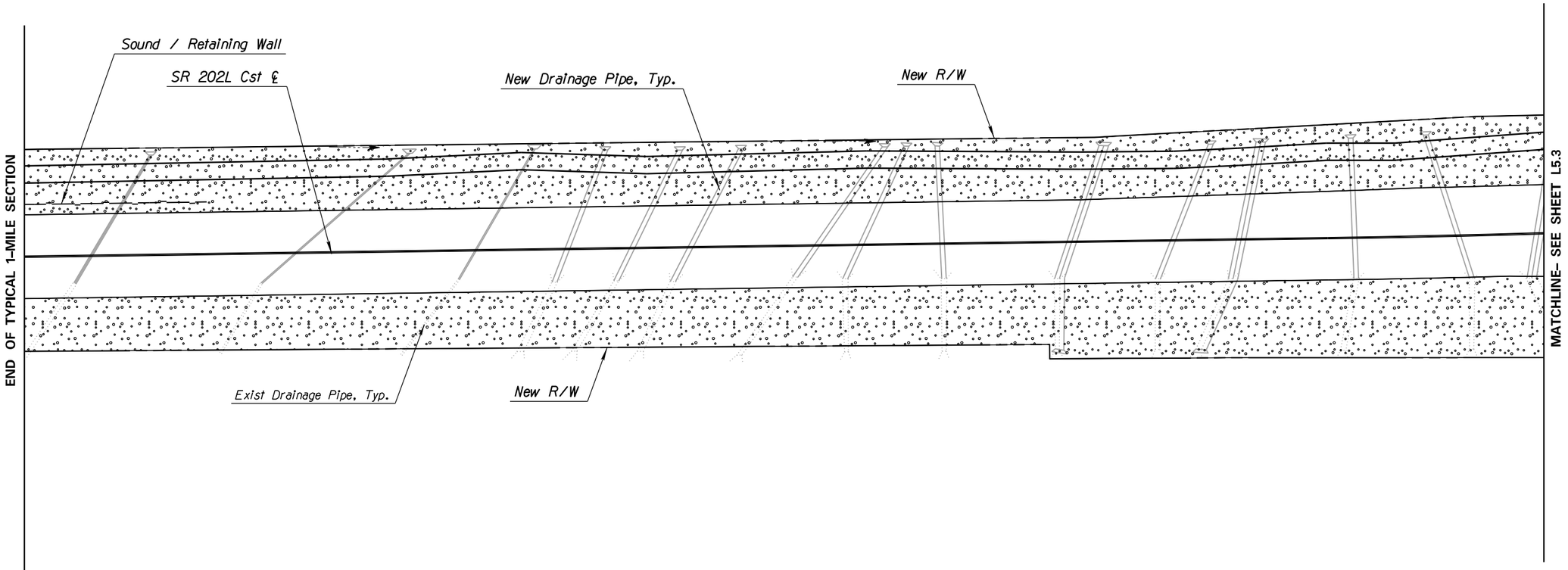
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.1			
NO.2			



INERT MATERIALS COLOR LEGEND	
LOCATION	*COLOR*
CA-1	*Coral*
CA-2	*Desert Pavement (Salvaged Surface Soil)*
CA-3	*Brown*
CA-4	*Gold*
CA-5	*Gold*

INERT MATERIALS LEGEND	
SYM.	*DESCRIPTION*
	3" Minus ADOT Granite Mulch
	3" Minus ADOT Desert Pavement
	3/4" City Decomposed Granite

N

0 50' 100' 200'

SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

CA 2 - AHWATUKEE FOOTHILLS
TYPICAL INERT MATERIALS PLAN

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

Exhibit L5.4

___ OF ___

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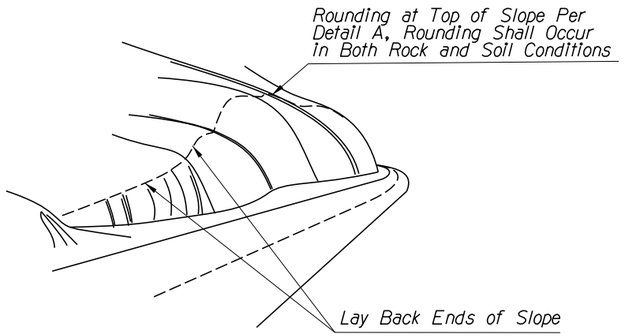
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

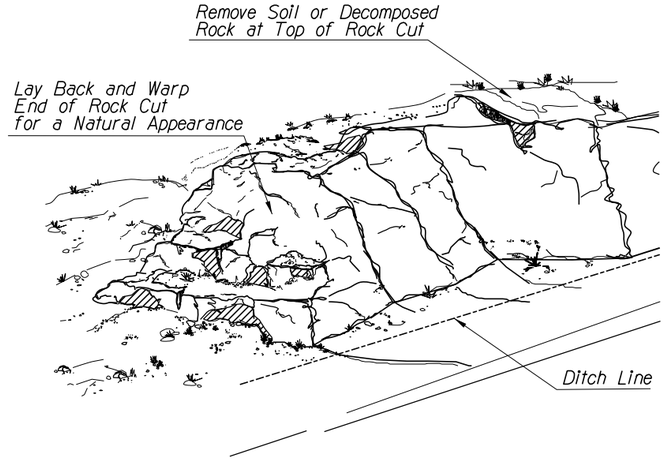


NOTE:

Apply to all slopes, except where superceded by Special Contour Grading Plans.

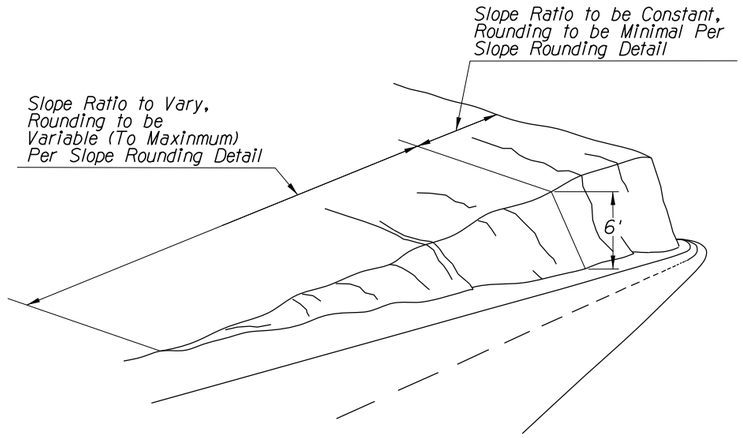
DETAIL G01

SLOPE ROUNDING



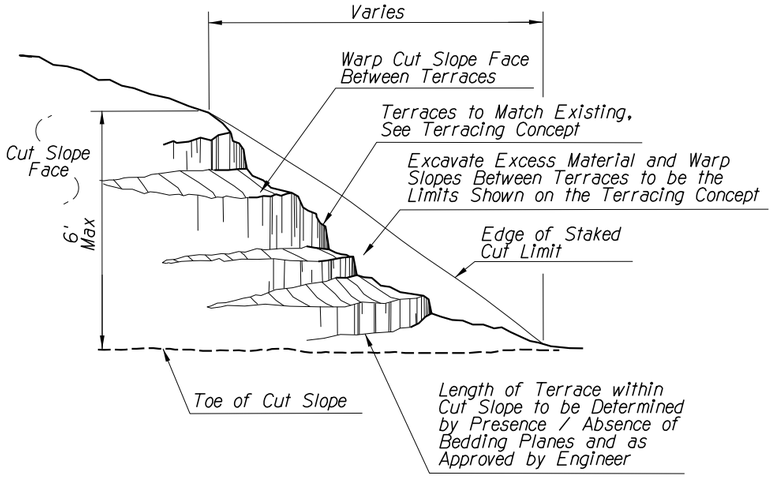
DETAIL G02

SLOPE ROUNDING AND LAID BACK (ROCK CUTS)



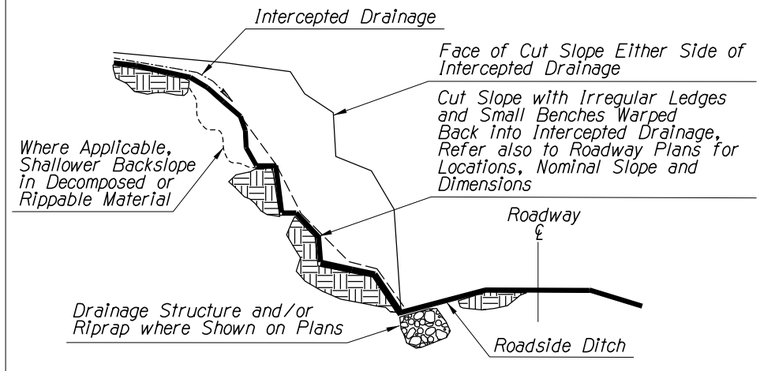
DETAIL G03

SLOPE WARPING CONCEPT



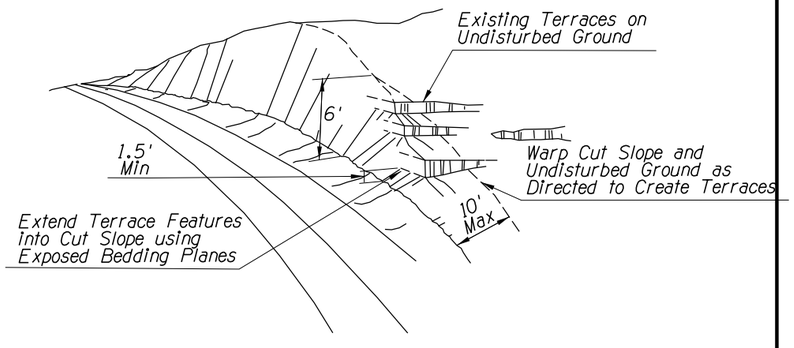
DETAIL G04

TERRACING



DETAIL G05

CONCEPT OF INTERCEPTED DRAINAGE ON ROCK CUTS



See Terracing Detail for additional information

DETAIL G06

TERRACING CONCEPT

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

SLOPE SCULPTING DETAILS

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

Exhibit L5.5

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.2			
NO.1			

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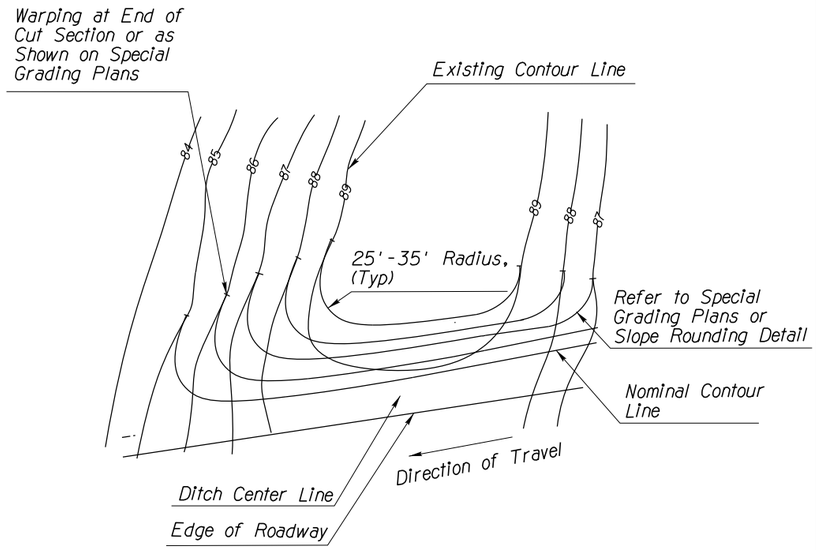
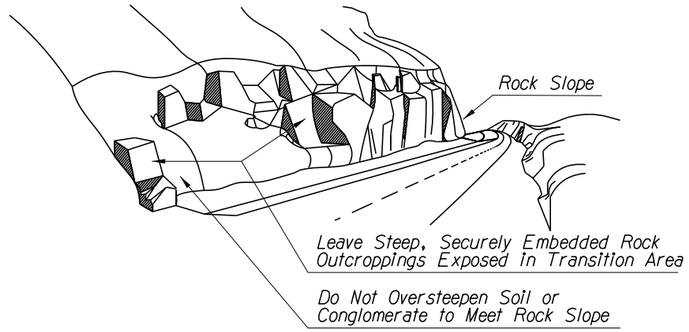
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



DETAIL G07

CONTOUR WARPING



NOTES:

Height, backslope, and ditch transition dimensions vary.
Step toe of slope back to expose natural jointing patterns.
Refer to slope mitigation summary.

DETAIL G08

CONGLOMERATE CUT /ROCK TRANSITION

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.2			
NO.1			

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

SLOPE SCULPTING DETAILS

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit L5.6
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

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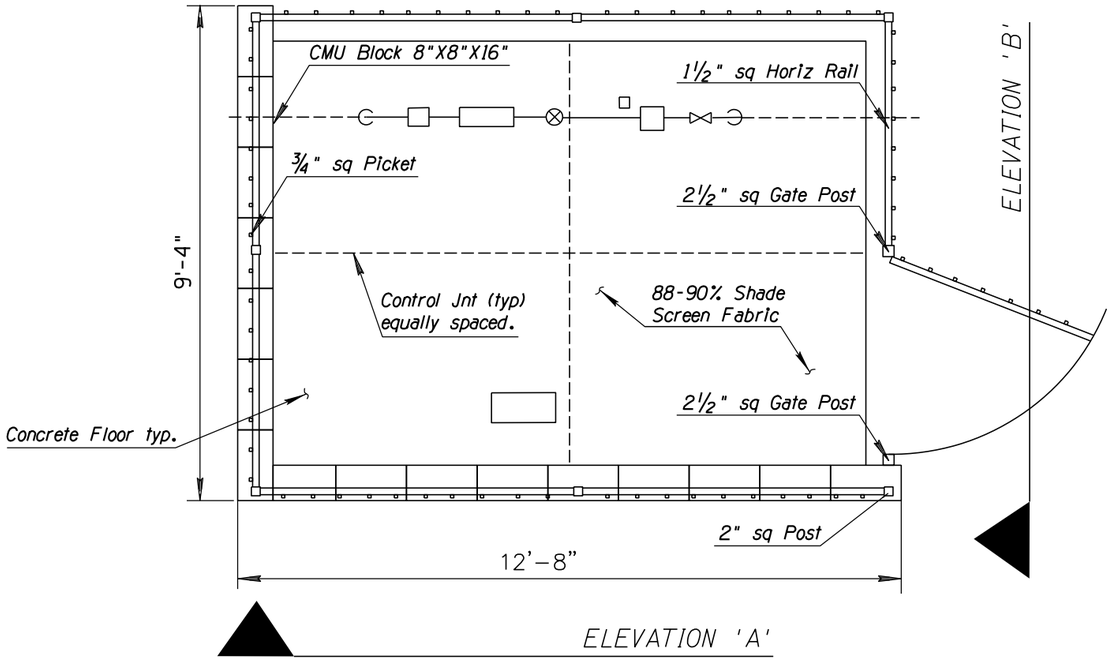
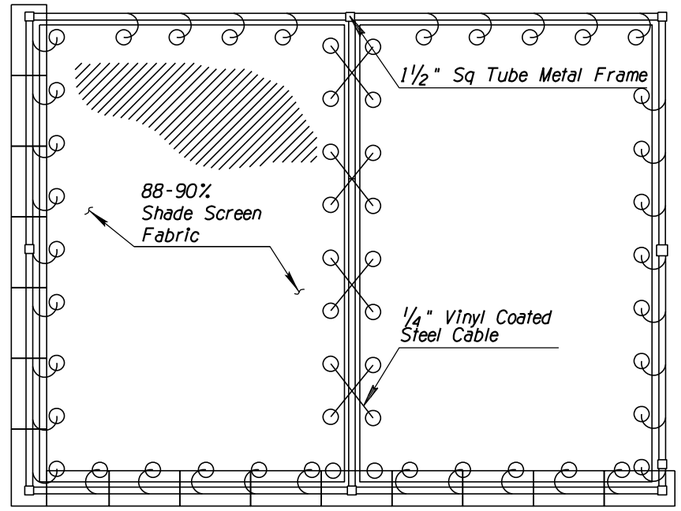
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

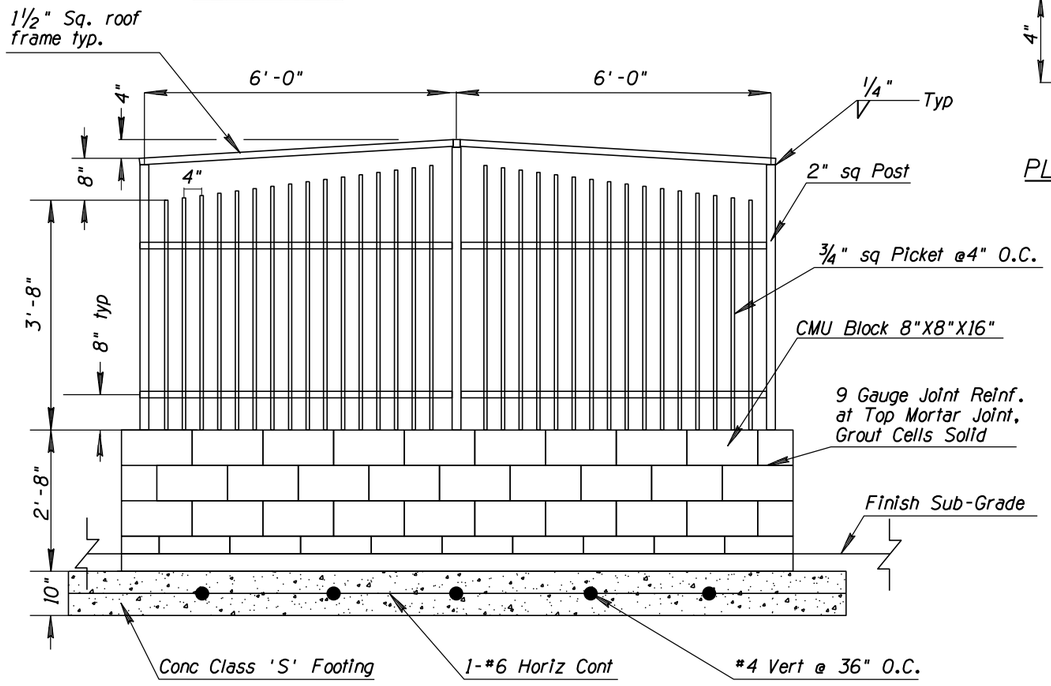


ELEVATION 'A'



TOP VIEW

PLAN VIEW



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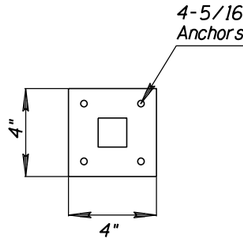
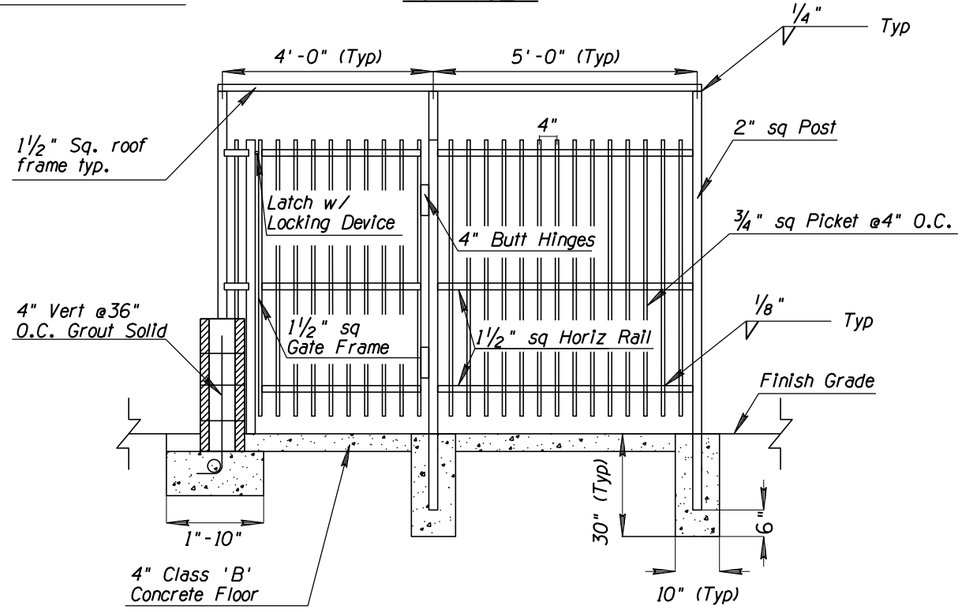


PLATE FOR POST

NOTE:
Paint Face to Match Adjacent Bldg or Frwy Structure or as Directed by ADOT Landscape Architect



ELEVATION 'B'

DETAIL I1

IRRIGATION STATION ENCLOSURE

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
Phone: 602.438.2221
www.j2designsus

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION DETAILS

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

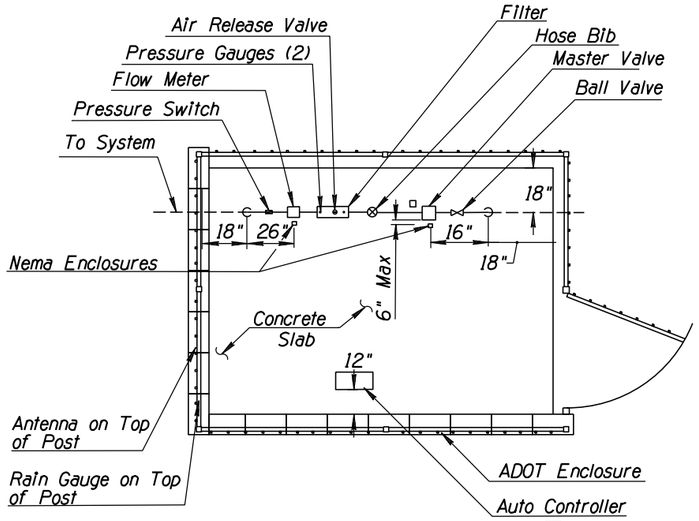
NOT FOR CONSTRUCTION OR RECORDING

Exhibit L6.1

___ OF ___

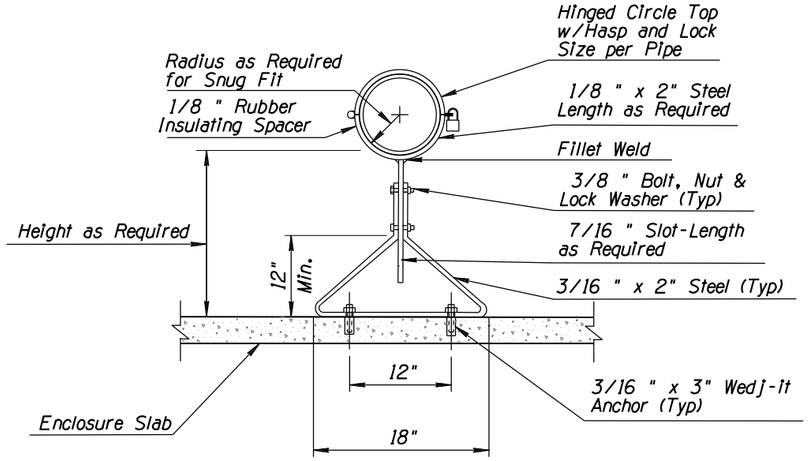
NO. | DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



DETAIL 12

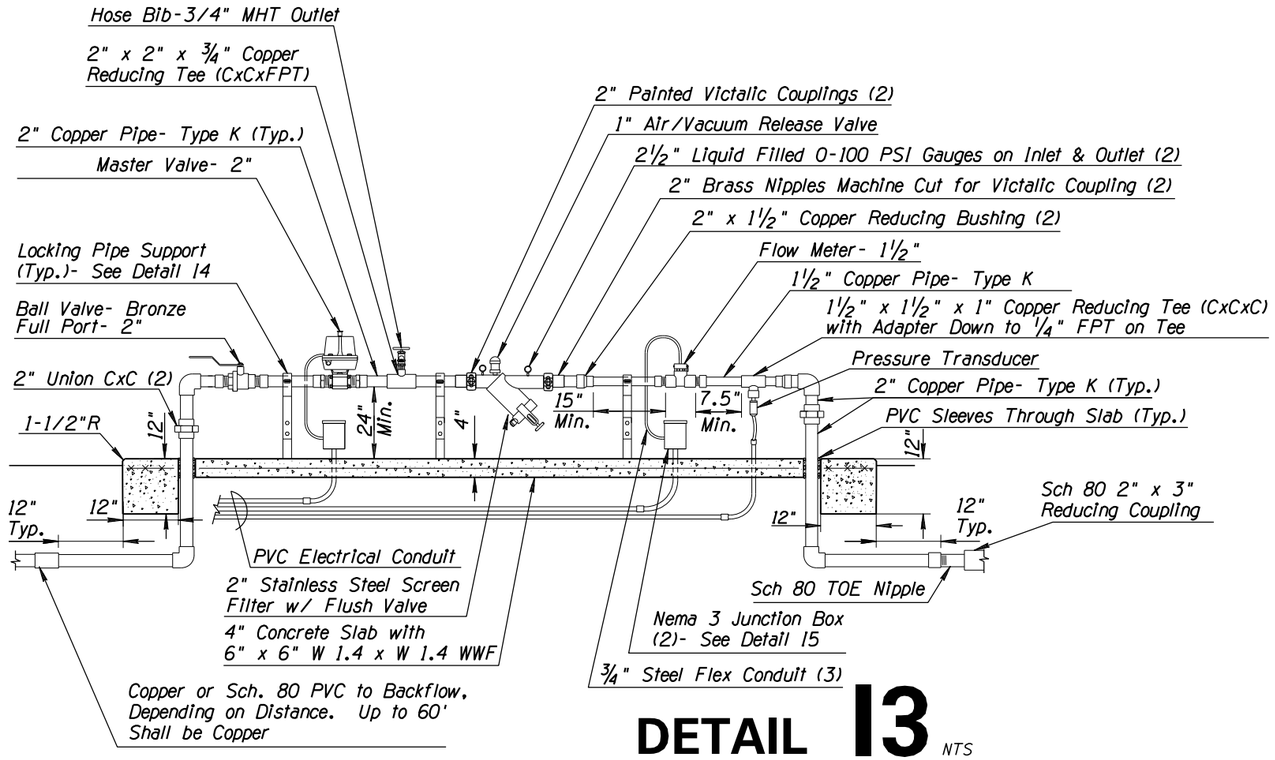
IRRIGATION ENCLOSURE EQUIPMENT LAYOUT



DETAIL 14

NTS

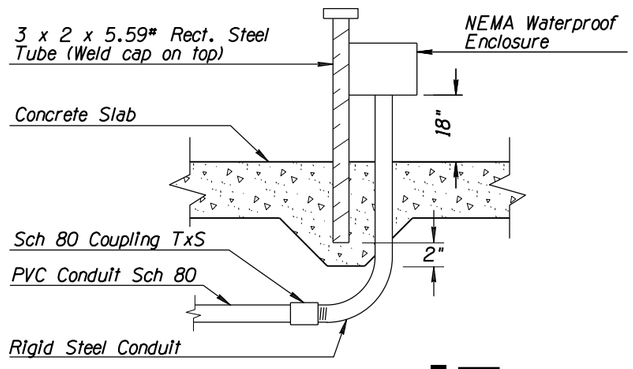
LOCKING PIPE SUPPORT



DETAIL 13

NTS

FLOW METER/MASTER VALVE/FILTER/ PRESSURE TRANSDUCER ASSEMBLY



DETAIL 15

NTS

NEMA BOX

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION DETAILS

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	Exhibit
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	L6.2
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

NO.1 DESCRIPTION OF REVISION | NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

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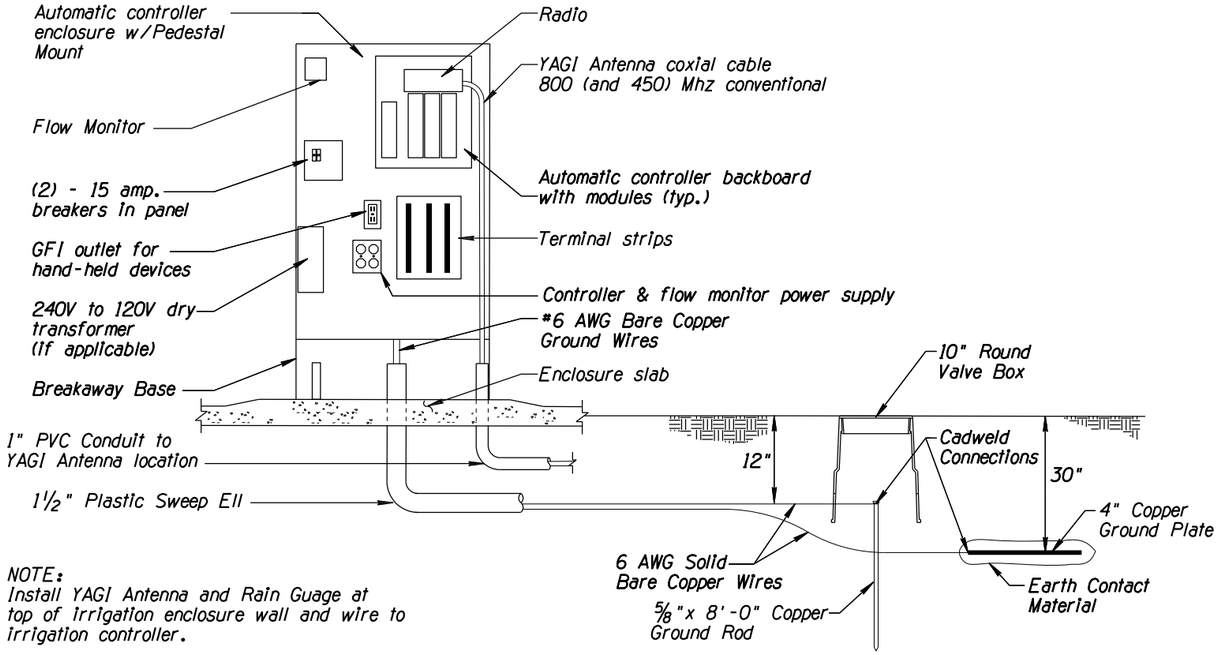
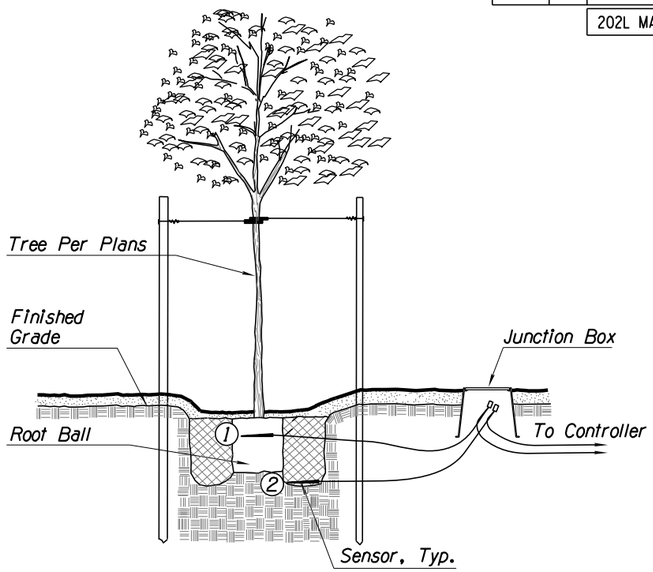
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



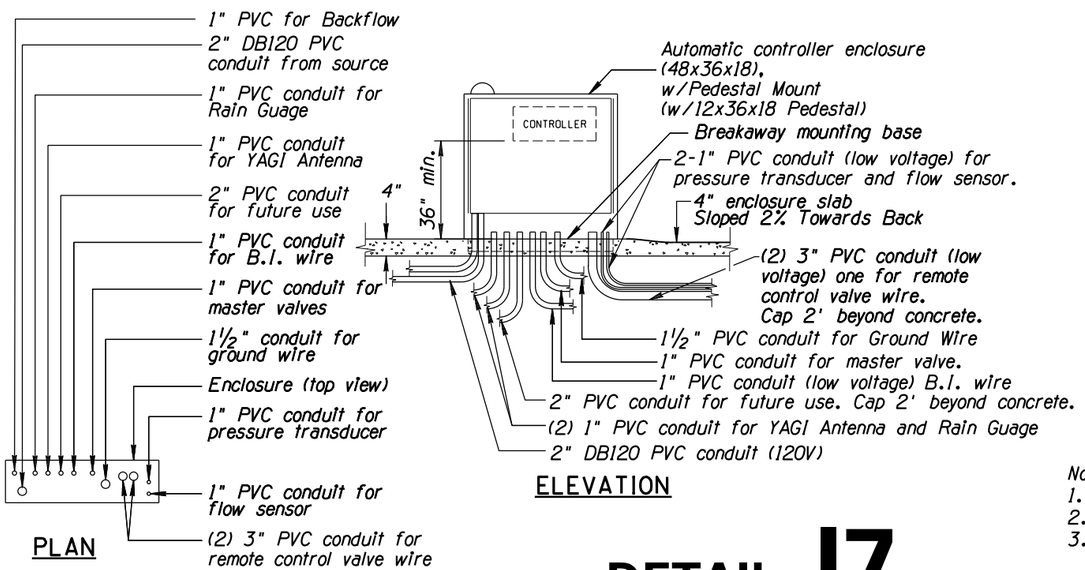
NOTE:
Install YAGI Antenna and Rain Guage at top of irrigation enclosure wall and wire to irrigation controller.

DETAIL 16 NTS

CONTROLLER ENCLOSURE COMPONENTS

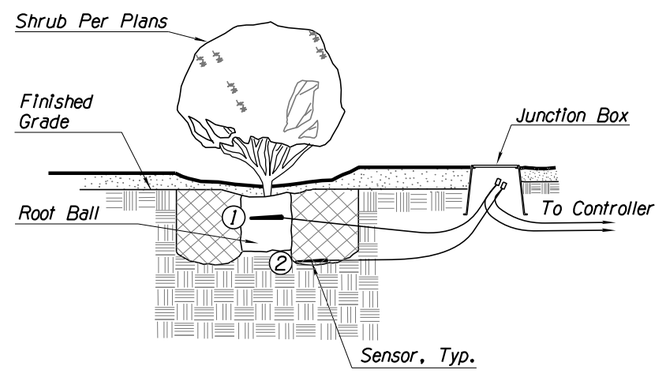


TREES: (1) Locate Sensor 1 4" Below Top of Root Ball
(2) Locate Sensor 2 Beside Bottom of Root Ball



DETAIL 17 NTS

CONTROLLER



SHRUBS: (1) Locate Sensor 1 4" Below Top of Root Ball
(2) Locate Sensor 2 Beside Bottom of Root Ball

DETAIL 18 NTS

MOISTURE SENSOR PLACEMENT

Notes:
1. Where possible, all wire shall be routed within conduit.
2. All wiring not in conduit shall be bundled.
3. All electric components and installations shall be in accordance with applicable codes.

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

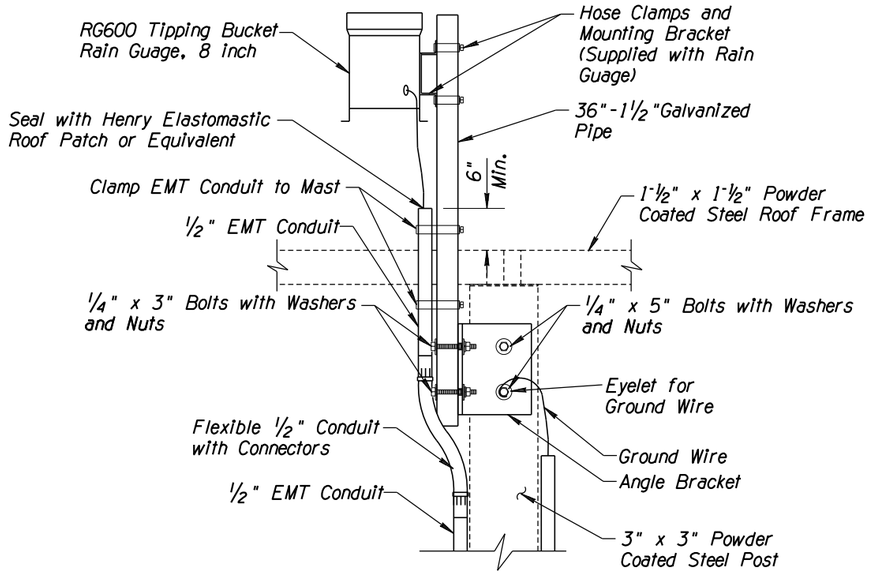
TYPICAL IRRIGATION DETAILS

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)
TRACS NO. H5764 01L
NH-202-D (ADY)

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING
Exhibit L6.3
___ OF ___

NO. | DESCRIPTION OF REVISION | DATE | MADE BY

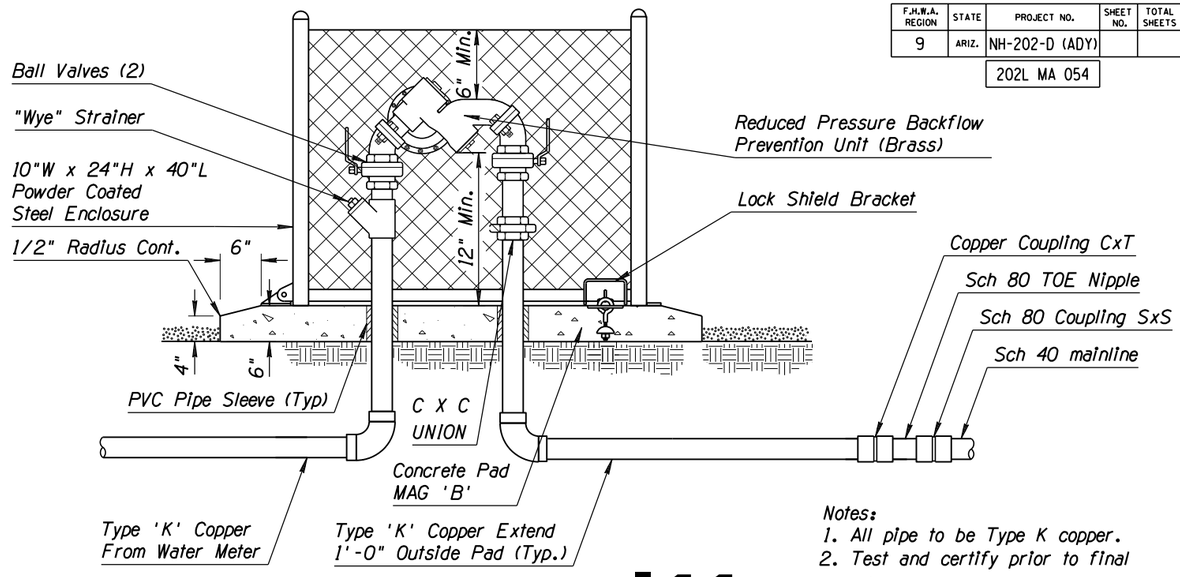
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



DETAIL I9

NTS

TIPPING BUCKET RAIN GUAGE MOUNTING DETAIL

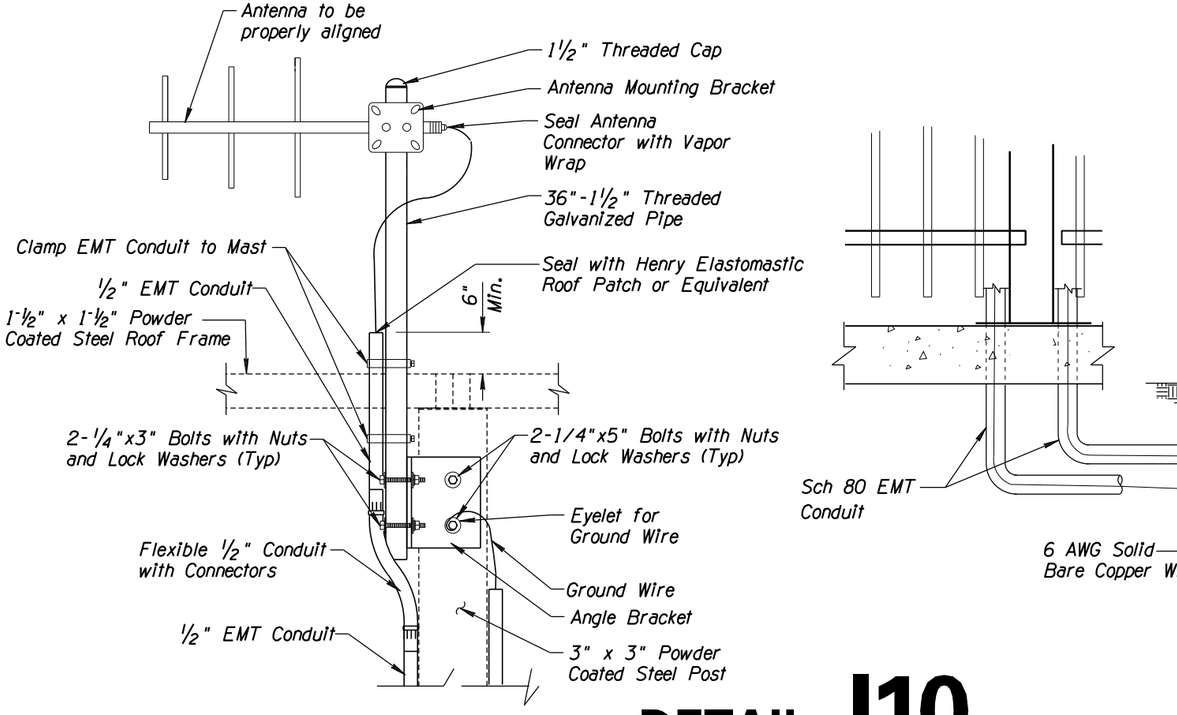


Notes:
1. All pipe to be Type K copper.
2. Test and certify prior to final acceptance.

DETAIL I11

NTS

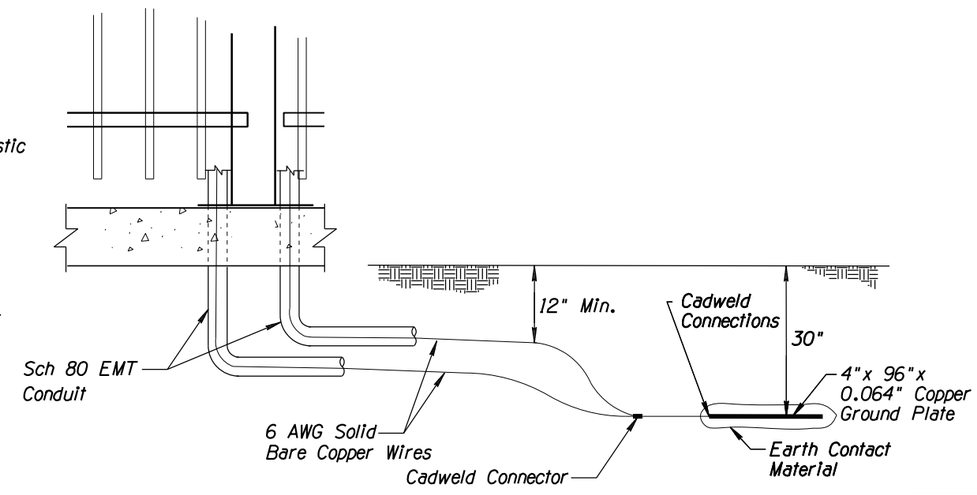
BACKFLOW PREVENTION ASSEMBLY

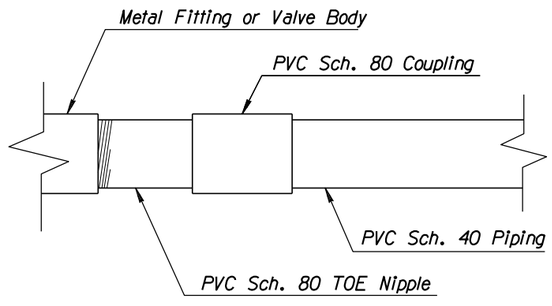


DETAIL I10

NTS

ANTENNA MOUNTING & GROUNDING DETAIL





Note:
This detail applies to all PVC-to-Metal connections throughout the project.

DETAIL I12

NTS

PVC TO METAL CONNECTION DETAIL

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION DETAILS

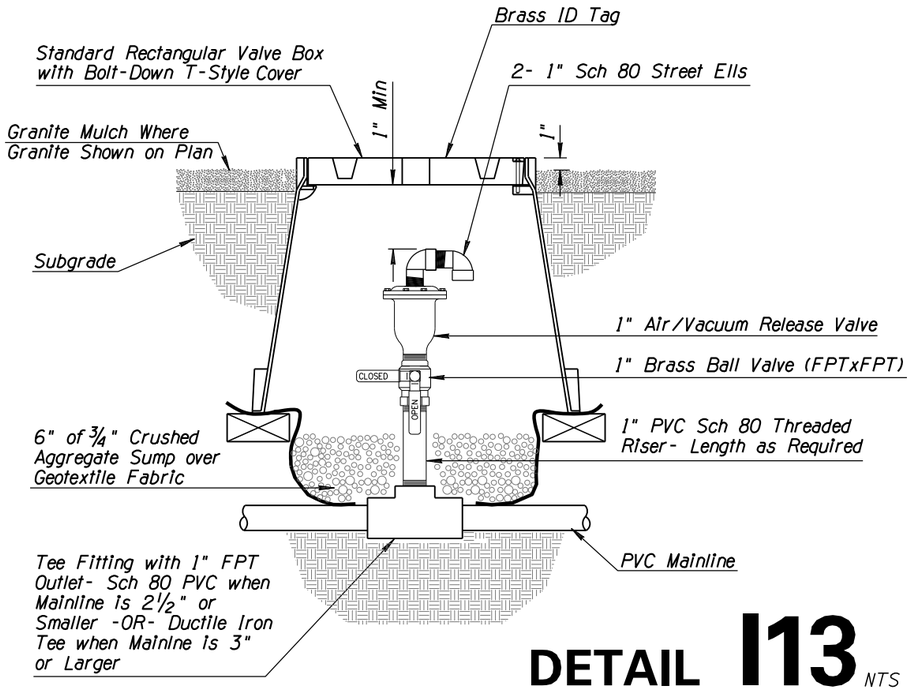
PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit L6.4
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

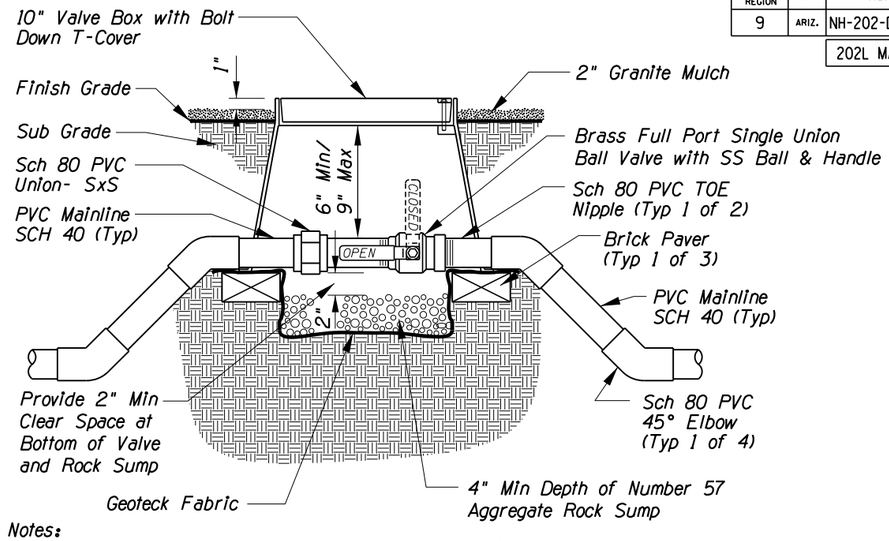
NO.1 DESCRIPTION OF REVISION | NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



DETAIL I13 NTS

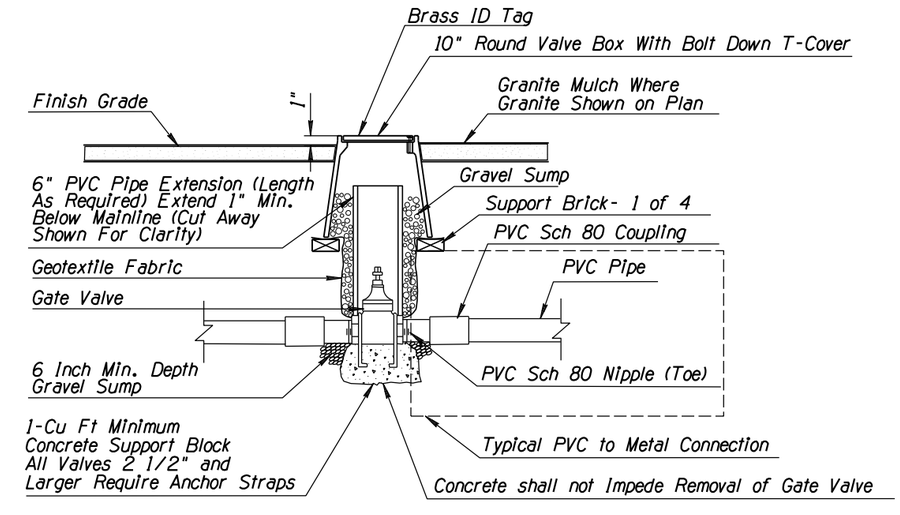
AIR RELEASE VALVE



Notes:
1. Nominal size of ball valve to match nominal mainline size.
2. Valve box to include stainless steel bolt and washer.
3. Emboss cover with "B.V." in 1-inch high Stencil Letters using Stylus Tip Torch.

DETAIL I15 NTS

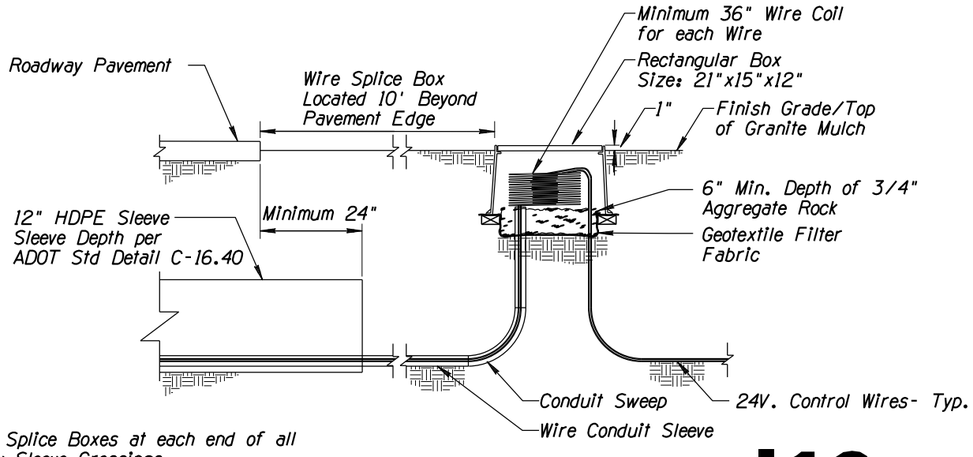
1-1/2" AND SMALLER MAINLINE BALL VALVE



NOTE
1. Concrete Shall Not Impede Removal of the Valve.

DETAIL I14 NTS

GATE VALVE



Notes:
1. Provide Splice Boxes at each end of all Roadway Sleeve Crossings.
2. Provide Minimum 36" Wire Coil for each Wire in the Splice Box.
3. Emboss Splice Box Covers with Copper Tag. Tag to indicate 'Irrigation Wire'.
4. Any Necessary Wire Splices to Conform to Wire Splice Requirements for Remote Control Valve.

DETAIL I16 NTS

SPLICE AND SLEEVE END BOX CONNECTIONS

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
4649 East Cotton Gin Loop, Suite 82
Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION DETAIL

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

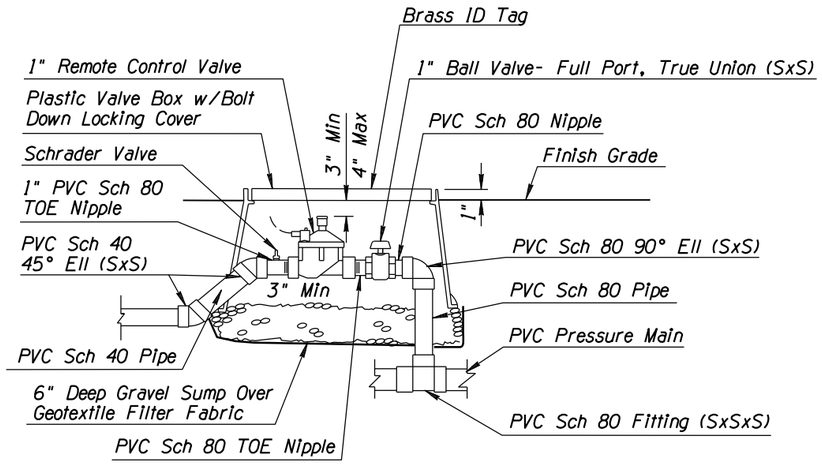
Exhibit L6.5

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L		NH-202-D (ADY)

___ OF ___

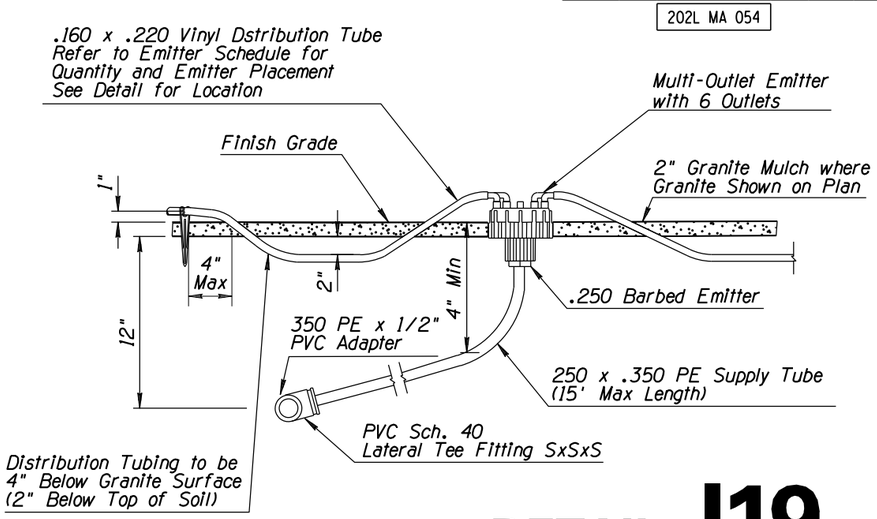
NO.1 | DESCRIPTION OF REVISION: | DATE: | MADE BY:
NO.2 | DESCRIPTION OF REVISION: | DATE: | MADE BY:

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

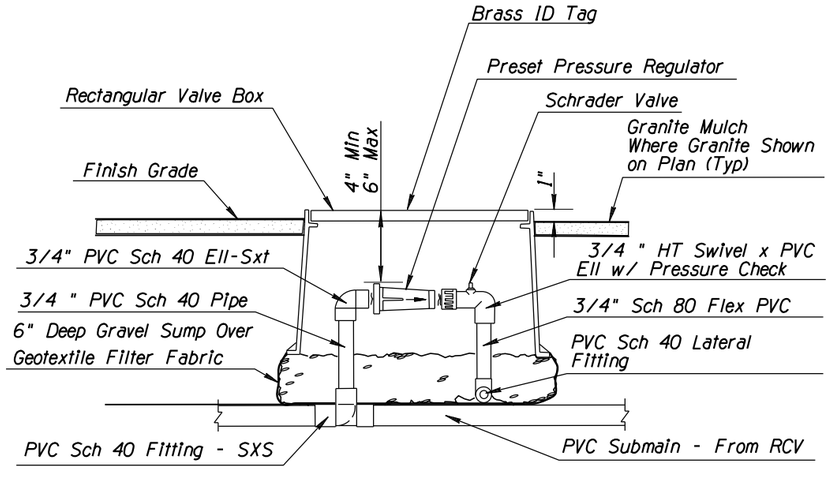


Notes:
1. Provide Expansion Coil for Each Wire in Valve Box. Wrap 10 Times Around 1" Pipe.
2. Provide Latching Solenoids Compatible with City Controllers when Valves are Installed as City Control Valves.
3. Provide 2" Round Brass ID Tags for ADOT Valves on top of box.
4. Provide 1½" Tall Heat Branded ID for All City Valves on top of box.
5. City Valves Do Not Receive Schrader Valves.

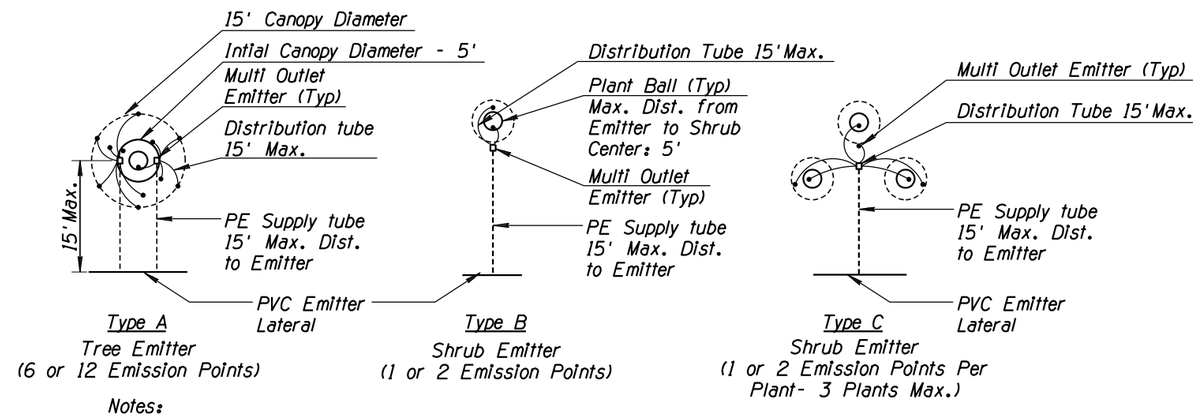
DETAIL I17 NTS
CONTROL VALVE



DETAIL I19 NTS
EMITTER, MULTI-OUTLET



DETAIL I18 NTS
PRESSURE REGULATOR RISER



Notes:
1. Where tree center exceed 15' from PVC emitter lateral, contractor to install a PVC sublateral branch to tree, as required.
2. All emission points shall be located on the uphill side of plant material where slopes occur.
3. Distribution tubing shall not exceed 15' in length, as shown.
4. Elevation differences between emission points (along common laterals) shall not exceed eight feet.
5. Locate 1 emission point directly over the root ball as shown.
6. Multiple plants (shrubs) can be serviced by one emitter when the distribution tube length does not exceed 15', and when the plant water requirements are the same.
7. See Detail I22 for Palm Emitter Location Type D.

DETAIL I20 NTS
EMITTER / EMISSION POINT PLACEMENT

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION DETAILS

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

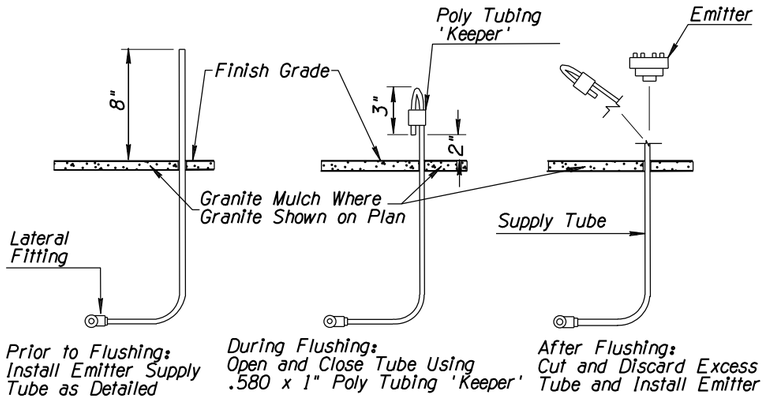
NOT FOR CONSTRUCTION OR RECORDING

Exhibit L6.6

___ OF ___

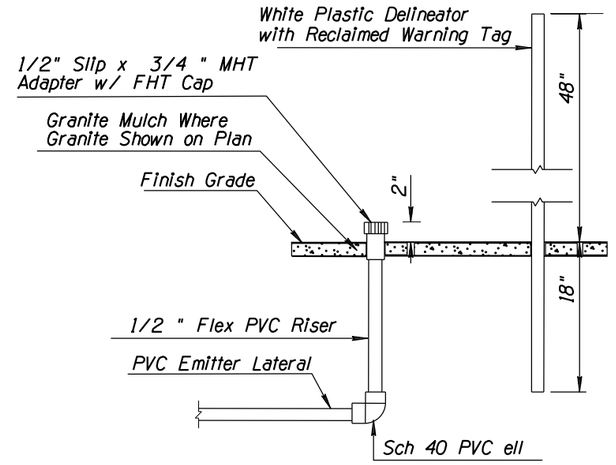
NO.1 DESCRIPTION OF REVISION | NO.2 DESCRIPTION OF REVISION | DATE | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

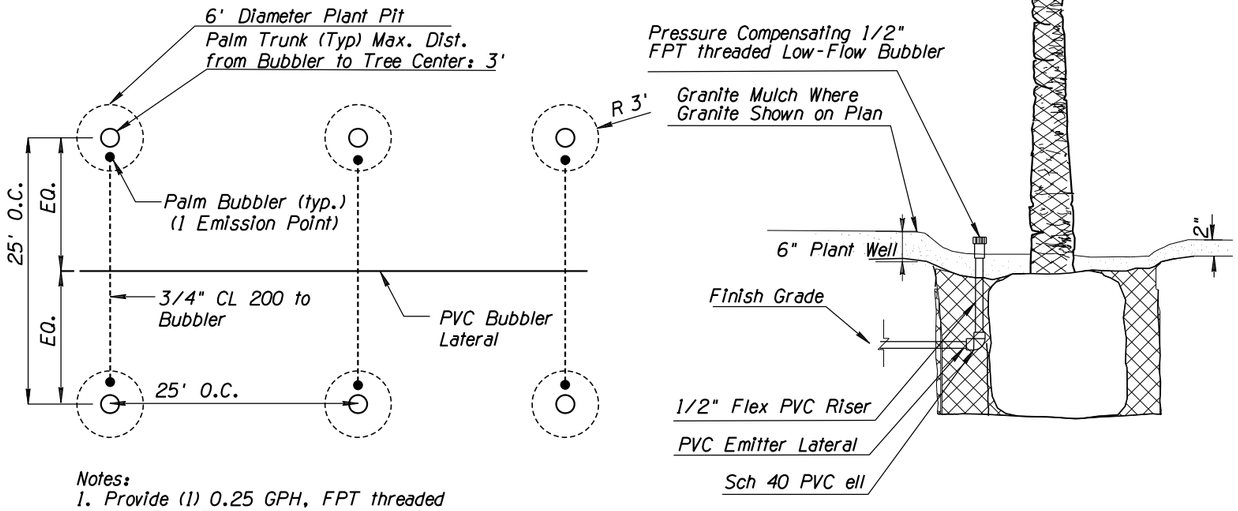


Notes:
1. Crimp in supply tube must be in discarded portion of tube.

DETAIL 121 NTS
EMITTER FLUSHING



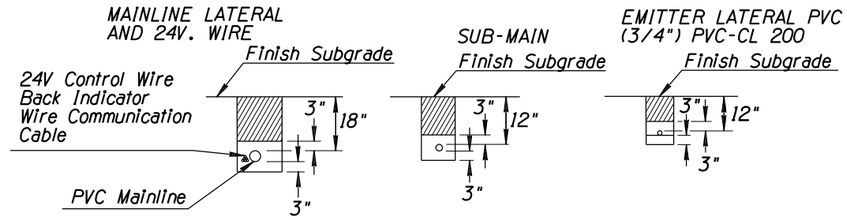
DETAIL 123 NTS
LATERAL END CAP



Notes:
1. Provide (1) 0.25 GPH, FPT threaded Low-Flow Pressure Compensating Bubbler to each Palm Tree

Type D
Palm Bubbler
(1 Emission Point)

DETAIL 122 NTS
PALM EMITTER



Notes:
1. Trench width may vary with number of pipes in trench and soil type. Provide a min. of 2" clearance to side of trench and between pipes both vertically and horizontally.
2. Where two mainlines are shown in the same trench, place lines at same depth and maintain 3" separation between mainlines.

DETAIL 124 NTS
TRENCHING CROSS SECTION

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

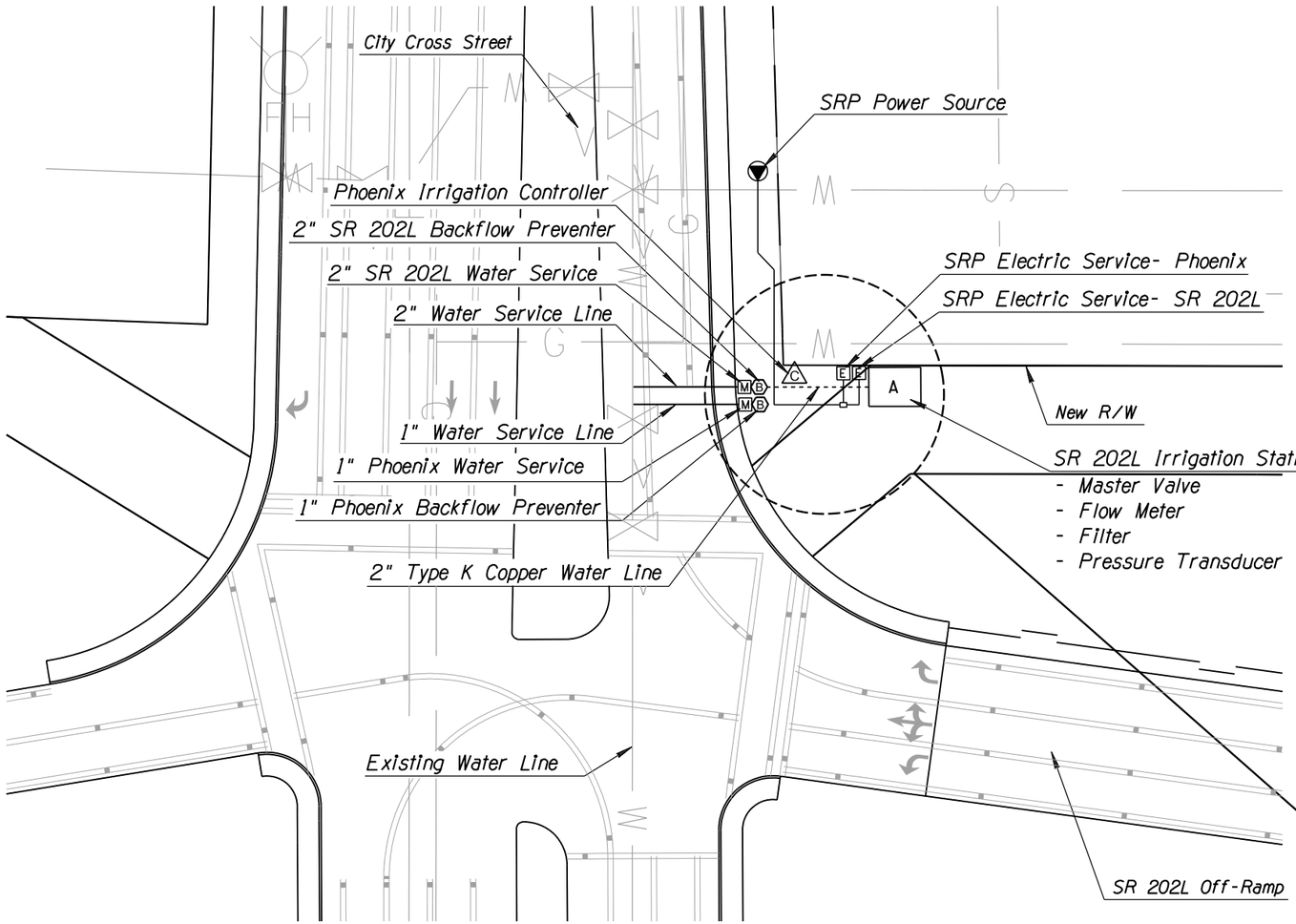
TYPICAL IRRIGATION DETAILS

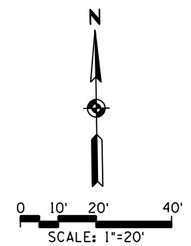
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit L6.7
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
1			
2			

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



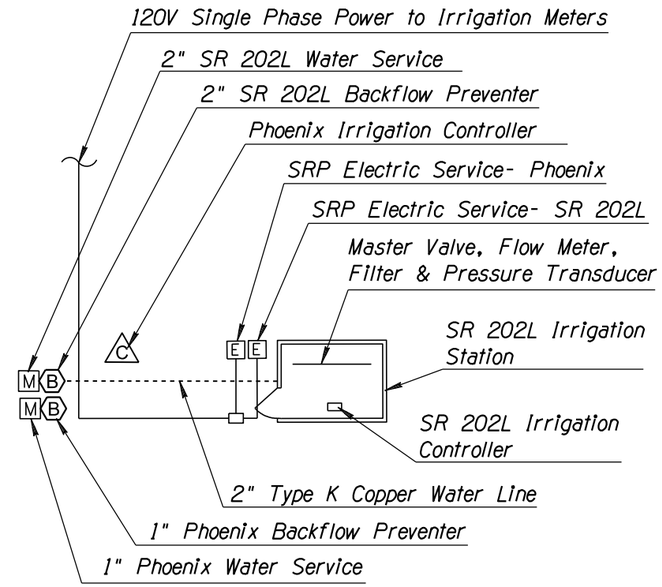


Notes:

1. Water meter taps, corporation stop, piping, curb stop water meters and meter boxes are installed by City of Phoenix. Developer shall activate accounts and extend 2" type K copper service line to ADOT and 1" type K copper to City of Phoenix Backflow Preventers.

2. Electrical meter pedestals and conduits were installed by the Developer. Landscape Contractor shall contact SRP to install conductors, meter head and activate accounts for the ADOT and Phoenix electric meters.

3. Landscape Contractor shall construct Irrigation Station and Enclosure per Exhibits Lx-x to Lx-x Typical Irrigation Detail.



NO.1 DESCRIPTION OF REVISION	MADE BY	DATE	NO.2 DESCRIPTION OF REVISION	MADE BY	DATE

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL POINT OF CONNECTION

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		Exhibit L6.8
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
1			
2			

P1 10 T
P1 9 S
P1 8 S
P1 7 T
P1 6 S
A 10 T
A 9 S
A 13 S
A 14 T
A 11 S
A 12 T
A 1 S
A 2 T
A 7 S
A 8 T
A 3 S
A 4 T
A 5 S
A 6 T
P1 1 S
P1 2 T
P1 3 S
P1 4 S
P1 5 T

SR 202L Off-Ramp
Sound / Retaining Wall
New R/W
Sound / Retaining Wall
SR 202L Cst ℄
MATCHLINE- SEE SHEET L6.10
Concrete Drainage Channel
Maintenance Road
Seeded Retention Basin- See Landscape Plans
New R/W
SR 202L On-Ramp
POC 'A'
City Cross Street

1.5" 2" 3"

IRRIGATION LEGEND

SYM.	DESCRIPTION
A	Irrig Station Enclosure- ADOT: 2" Master Valve, 1½" Flow Meter, 2" Filter, & Controller
P	Irrigation Controller- City: TBD
B	Backflow Preventer- ADOT: 2"
B	Backflow Preventer- City: 1" or 2"
A	Air Release Valve- ADOT: 1"
	Gate Valve- ADOT: 2" & Larger (Size per Pipe Size)
	Ball Valve- ADOT or City: 1 1/2" & Smaller (Size per Pipe Size)

SYM.	DESCRIPTION
	ADOT Control Valve: 1"
	Pressure Regulator- ADOT: ¾"
	City Control Valve (1") w/ Pressure Reg & Filter (¾")
X"	Mainline Pipe: 1½", 2", 3", or 4" Schedule 40 PVC
	Submain Pipe: 1" Class 200 PVC
Not Shown	Lateral Pipe: ¾" Class 200 PVC
X"	Pipe Sleeve: 3" or 6" Sch 40 PVC, or 12" HDPE;

0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION PLAN

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

Exhibit L6.9

___ OF ___

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

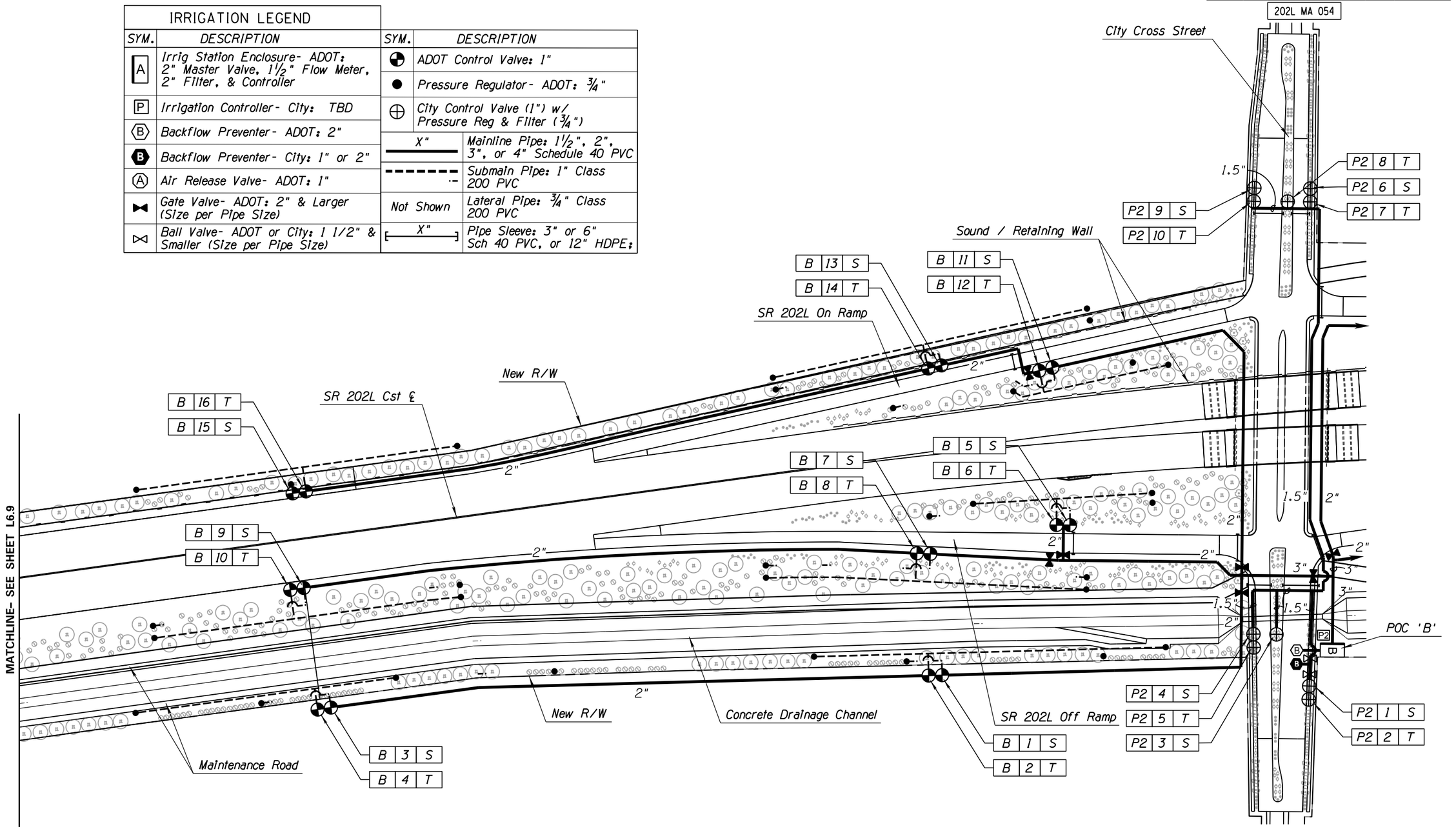
202L MA 054

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

IRRIGATION LEGEND

SYM.	DESCRIPTION
A	Irrig Station Enclosure- ADOT: 2" Master Valve, 1½" Flow Meter, 2" Filter, & Controller
P	Irrigation Controller- City: TBD
B	Backflow Preventer- ADOT: 2"
B	Backflow Preventer- City: 1" or 2"
A	Air Release Valve- ADOT: 1"
	Gate Valve- ADOT: 2" & Larger (Size per Pipe Size)
	Ball Valve- ADOT or City: 1 1/2" & Smaller (Size per Pipe Size)

SYM.	DESCRIPTION
	ADOT Control Valve: 1"
	Pressure Regulator- ADOT: ¾"
	City Control Valve (1") w/ Pressure Reg & Filter (¾")
X"	Mainline Pipe: 1½", 2", 3", or 4" Schedule 40 PVC
	Submain Pipe: 1" Class 200 PVC
Not Shown	Lateral Pipe: ¾" Class 200 PVC
X"	Pipe Sleeve: 3" or 6" Sch 40 PVC, or 12" HDPE:



0 50' 100' 200'
SCALE: 1"=100'

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL IRRIGATION PLAN

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit L6.10

___ OF ___

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

PART 1 - To be completed by the Landscape Architect or Design Engineer

I. PROJECT DESCRIPTION

A. Owner Name and Address:

Arizona Department of Transportation
205 South 17th Avenue
Phoenix, Arizona 85007-3213

B. Project TRACS Number: H5764 01L

C. Project Location: SR202

City: PHOENIX County: MARICOPA

Beginning Latitude (NAD 83): _____

Beginning Longitude (NAD 83): _____

Ending Latitude (NAD 83): _____

Ending Longitude (NAD 83): _____

To obtain the project latitude/longitude data, refer to the Flash Earth web link below (Bing Maps with labels): *http://www.flashearth.com/*

D. Project Description: _____

II. HYDROLOGIC INFORMATION

A. Project Size:
Length (Mi.) _____

Area (Ac.) _____

B. Area to be Graded (Ac.) *: _____

* Blading of the shoulder build-up area is considered as grading and ground disturbance and should be covered by stormwater and/or other environmental regulations.

C. Percentage of the site that is impervious before and after construction:
Percentage before Construction: _____

Percentage after Construction: _____

D. Receiving Water(s), refer to the Arizona Department of Water Resources Web Link below (USGS Topo) :
https://gisweb.azwater.gov/WellRegistry/Default.aspx

III. PRESERVATION OF EXISTING VEGETATION

A. In accordance with the specifications, existing vegetation will be preserved. Clearing limits shall be confined to areas that require grading. Existing vegetation outside the boundaries of the cleared area shall be protected from damage by construction activities. Existing trees within the area to be cleared shall be preserved and protected, wherever possible.

IV. SOIL STABILIZATION MEASURES

A. All disturbed soil, which will not be paved, riprapped or otherwise covered to prevent erosion, will be revegetated and/or landscaped in accordance with the project plans and specifications.

B. Scheduling of the revegetation effort can be found on PART 2 of this sheet under SCHEDULE OF MAJOR ACTIVITIES.

V. MEASURES TO CONTROL EROSION AND SEDIMENT

A. Temporary Erosion and Sediment Controls: (Refer to the Following SWPPP Site Plan and Specifications)

_____ Erosion Control Mattings
_____ Temporary Diversion Dikes
_____ Check Dams
_____ Rock Inlet/Outlet Protection
_____ Sediment Control Berms
_____ Silt Fences
_____ Wattles (Excelsior/Straw)
_____ Excelsior Logs / Sediment Logs
_____ Seeding (Class II with mulch)
_____ Others Describe: _____

B. Permanent Erosion and Sediment Controls and Post-construction Storm Water Management Measures: (Refer to SWPPP Site Plan and Specifications)

_____ Crown Ditch/Dike
_____ Rock Protection
_____ Rock Riprap Channel Lining
_____ Sediment Basin
_____ Embankment Curb
_____ Spillways and Downdrains
_____ Minibenching
_____ Seeding established as a perennial vegetative cover with a density of 70% of the native background vegetative cover.
_____ Others Describe: _____

VI. MAINTENANCE AND INSPECTIONS

A. Frequency of Inspections:

___ At least once every 7 calendar days, OR

___ Every 14 calendar days and within 24 hours after a rainfall of 0.5 inches (12.7 mm) or more.

NOTE: RAINFALL GAUGE TO BE KEPT ON-SITE TO DETERMINE DEPTH OF RAINFALL

B. Inspection Procedure:

ADOT's Contractor's Inspection Log and Compliance Evaluation Report (CER) will be completed by the contractor or his representative and will be kept on file for 3 years. A signed copy of the CER will be sent to the ADOT resident engineer. If repairs are necessary, they shall be initiated within 24 hours of the inspection report.

PART 2 - To be completed by ADOT & CONTRACTOR

http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/Docs/swppp_construction_template.dot

I. SCHEDULE OF MAJOR ACTIVITIES

A. Project Schedule: _____

Start Date: _____

End Date: _____

B. Construction Sequencing Schedule: (Attach Additional Sheets)
Construction Activities _____

II. INVENTORY OF POLLUTANTS

A. The materials or substances checked below are expected to be onsite during construction:

___Concrete ___Asphalt
___Paints ___Fertilizer
___Herbicides ___Wood
___Fuel ___ Oil
___Others, List: _____

III. POLLUTION CONTROL MEASURES

A. Other Best Management Practices:

___Wind Erosion and Dust Control
___Solid Waste Management
___Equipment Maintenance Procedures
___Designated Washout Areas
___Stabilized Construction Entrance
___Protected Chemical and Material Storage Area
___Other, Describe: _____

IV. SPILL PREVENTION AND RESPONSE

A. Spill Prevention:
The procedures outlined in the Best Management Practices listed under Pollution Control Measures will be followed to prevent and contain spills of hazardous material. These preventative action include BMP's on equipment maintenance and proper handling, storage and disposal of chemicals and materials. All manufacturer's recommendations for usage, clean-up and disposal shall be followed.

B. Spill Response:
In the event of any accidental spill of chemicals or hazardous materials, contact the ADOT Traffic Operations Center at 800-379-3701. If a reportable quantity is discharged into the storm water, ADOT shall contact the National Response Center and document the spill to the EPA. ADOT's Hazardous Materials Specialist shall provide instructions.

V. CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

A. This Storm Water Pollution Prevention Plan (SWPPP) has been prepared in accordance with the latest updated version of ADOT's EROSION AND POLLUTION CONTROL MANUAL FOR HIGHWAY DESIGN AND CONSTRUCTION, published by ADOT Intermodal Transportation Division.

___SWPPP is in compliance with other Federal, State Laws, or Local Regulations.

VI. POLLUTION PREVENTION PLAN CERTIFICATION

A. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Applies to VI. B., C., and D)

B. The operator/contractor as defined in AZPDES should sign the SWPPP in accordance with CGP Part VIII. J, and retain the SWPPP on-site at the construction site or other location easily accessible during normal business hours.

Signature: (operator/contractor) _____
Date: _____
Name: _____
Title: _____
Company: _____

C. ADOT Resident Engineer
Signature: (owner) _____
Date: _____
Name: _____
Title: _____
ADOT District: _____

D. MUNICIPALITY for Municipal Separate Storm Sewer System (MS4)
Signature: _____
Date: _____
Name: _____
Title: _____
MS4 Name: _____

VII. OTHER REQUIREMENTS

A. A copy of the General Permit and NOI are attached in accordance to AZPDES General Permit for Storm Water Discharges From Construction Activities To The Water Of The United States.

B. Projects that are within ¼ mile of impaired or unique waters require the SWPPP to be sent to ADEQ in combination with the NOI. Refer to the Arizona Outstanding, Impaired and Not-Attaining Waters *.PDF Maps by County web link:
http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/outstanding_unique_waters_maps_by_county.asp

C. For further requirements, check the ADEQ's Smart NOI Web Page: *https://az.gov/app/smartnoi/*

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

SWPPP STANDARD SHEET

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit: L7.01
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY | NO.2 DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

EROSION CONTROL TYPE INSTALLATION & QUANTITY

LOCATION	20" Sediment Wattle Check Dam (LF) CD E1		Storm Drain Protection 12" Sediment Wattle (LF) SD E2		Rock Protection Gradation 'C' (CY) RP E3		Sediment Wattle Slope Protection (LF) SW-X E4				Cut & Fill Transition (Gradation 'A') (CY) CF E5		QUANTITIES						REMARKS
							9"		20"				20" Sediment Log Check Dam (LF)	Storm Drain Protection 12" Sediment Wattle (LF)	Rock Protection Gradation 'C' (CY)	9" Sediment Wattle Slope Protection (LF)	20" Sediment Wattle Slope Protection (LF)	Cut & Fill Transition Gradation 'A' (CY)	
	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right							
SR202 Median Cst ℄																			
Sheet E-3.01																			
Sheet E-3.02																			
Sheet E-3.03																			
Sheet E-3.04																			
Sheet E-3.05																			
Sheet E-3.06																			
Sheet E-3.07																			
Ect.																			
Total:																			

CD = Check Dam
SD = Storm Drain Protection
RP = Rock Protection
SW-9" = 9" Sediment Wattle Slope Protection
SW-20" = 20" Sediment Wattle Slope Protection
CF = Cut & Fill Transition
SB = Sediment Berm
SF = Silt Fence
IP = Gravel Bag Inlet Protection
CE = Construction Entrance

CD / E1 Reference letters 'CD" correspond to the type of installation. 'E1' corresponds to the plan detail number.

NOTES:
1. The placement of all Erosion Control Measures listed above may be subject to change and may be adjusted by the Engineer.

2. Engineer is responsible to verify the Contractor has sufficient protective measures in place to contain all storm water runoff sediment within project limits and protect all disturbed slopes from erosion.

3. The Contractor shall monitor/maintain all "Control Measures" during any shutdown period.

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL SUMMARY

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit: L7.02

___ OF ___

NO.1 NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

EROSION CONTROL TYPE INSTALLATION & QUANTITY

LOCATION	Silt Fence (LF) SF E7 Left	Silt Fence (LF) SF E7 Right	Inlet Protection Gravel Bags (EA) IP E8 Left	Inlet Protection Gravel Bags (EA) IP E8 Right	Construction Entrance (SY) CE E9 Left	Construction Entrance (SY) CE E9 Right	Storm Drain Protection Rock Protection (Gradation 'C') (CY) RP E10 Left	Storm Drain Protection Rock Protection (Gradation 'C') (CY) RP E10 Right	Erosion Control Seeding (H-I) Left	Erosion Control Seeding (H-I) Right	Erosion Control Seeding (H-II) Left	Erosion Control Seeding (H-II) Right	QUANTITIES: Silt Fence (LF)	QUANTITIES: Inlet Protection Gravel Bags (EA)	QUANTITIES: Construction Entrance (SY)	QUANTITIES: Storm Drain Protection Rock Protection (Grad 'C') (CY)	QUANTITIES: Erosion Control Seeding (H-I) (Acres)	QUANTITIES: Erosion Control Seeding (H-II) (Acres)	REMARKS
SR202 Median Cst ℄																			
Sta 100+00 to Sta 114+00																			
Sta 114+00 to Sta 128+00																			
Sta 128+00 to Sta 142+00																			
Sta 142+00 to Sta 156+00																			
Sta 156+00 to Sta 170+00																			
Sta 170+00 to Sta 198+00																			
Sta 198+00 to Sta 212+00																			
Sta 212+00 to Sta 226+00																			
Total:																			

CD = Check Dam
SD = Storm Drain Protection
RP = Rock Protection
SW-9" = 9" Sediment Wattle Slope Protection
SW-20" = 20" Sediment Wattle Slope Protection
CF = Cut & Fill Transition
SB = Sediment Berm
SF = Silt Fence
IP = Gravel Bag Inlet Protection
CE = Construction Entrance

CD / E1 Reference letters 'CD" correspond to the type of installation. 'E1' corresponds to the plan detail number.

NOTES:
1. The placement of all Erosion Control Measures listed above may be subject to change and may be adjusted by the Engineer.

2. Engineer is responsible to verify the Contractor has sufficient protective measures in place to contain all storm water runoff sediment within project limits and protect all disturbed slopes from erosion.

3. The Contractor shall monitor/maintain all "Control Measures" during any shutdown period.

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL SUMMARY

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

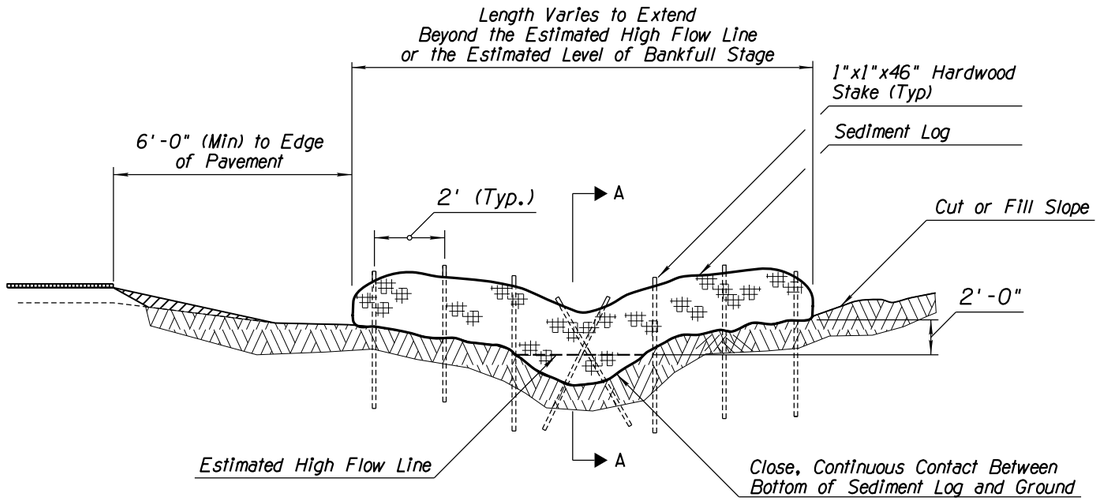
NOT FOR CONSTRUCTION OR RECORDING

Exhibit: L7.03

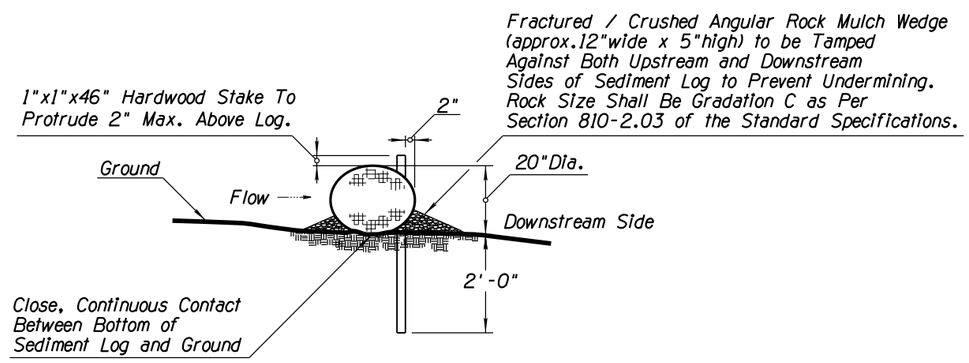
___ OF ___

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE | NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

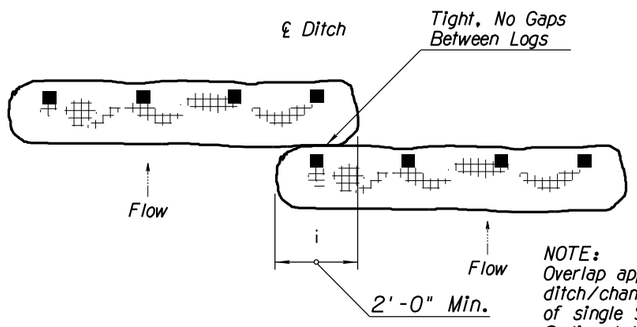
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



SEDIMENT LOG IN DITCH/CHANNEL
SECTIONAL ELEVATION (NTS)

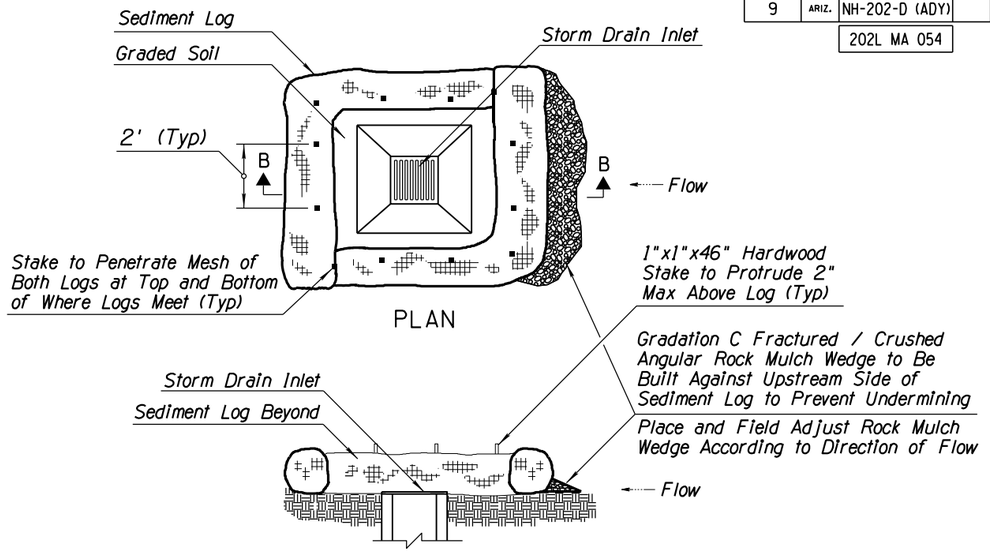


SECTION A-A (NTS)



NOTE:
Overlap applies to situations where ditch/channel is wider than length of single Sediment Log. Two or multiple Sediment Logs may be necessary.

TYPICAL OVERLAP
PLAN (NTS)



SEDIMENT LOG AT STORM DRAIN
SECTION B-B (NTS)

SD
E2

DETAIL E2

SEDIMENT LOG /WATTLE AT STORM DRAIN AREA INLET (TEMPORARY PROTECTION)

NOTES:
1. Sediment Logs shall not be installed in the urban freeway medians, nor where cable barrier systems are employed.
2. Locate Sediment Logs as indicated in plans, SWPPP or as directed by the Engineer.
3. Select, install and maintain Logs per manufacturers' specifications and good engineering practices.
4. Lay Sediment Log across prepared roadside ditch or channel. Trenching or burial of Sediment Logs is not required. The close, continuous contact between the bottom of the Log and the ground is mandatory. The Logs shall be installed in the roadside ditch, swale or channel bottom perpendicular to the flow of water as shown on detail this sheet.
5. Stake Log as shown. Stakes shall be placed through downstream side only as shown.
6. DO NOT drive stakes through center of the Log. Stakes must be driven into the ground as shown.
7. Ensure that no gaps exist between soil and bottom of Sediment Log. Repair any rills or undercuts promptly.
8. Placement of Sediment Logs shall be evaluated by the Engineer in rocky soil conditions.
9. Remove Sediment Log BMPs within the ditches/channels and around the storm drain inlets as per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
10. Dispose of Sediment Logs and trapped sediment material and fill trench created by Sediment Log.
11. The installation and maintenance of Sediment Log BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Sediment Logs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
12. Make field adjustments and corrections of Sediment Log BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
13. Rock mulch/riprap may be required for channel/ditch lining or rock check dams for longitudinal ditch slopes that exceed 5% and/or for soil conditions not suitable for Log installation.
14. The Sediment Log BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal, and disposal, as well as returning the area to an acceptable condition as approved by the Engineer.
15. Refer to Standard Specification Section 810-2.06(B) for Sediment Log material specifications.
16. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.
17. Construct Rock Wedge with angular-shaped Gradation C Rock Mulch as defined in Section 810-2.03 of the Standard Specifications and these special provisions. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.

CD
E1

DETAIL E1

NTS

20" SEDIMENT LOG CHECK DAM

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E1 & E2

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO.		
H5764 01L		NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit: L7.04

____ OF ____

NO.1 DESCRIPTION OF REVISION | NO.2 | MADE BY | DATE

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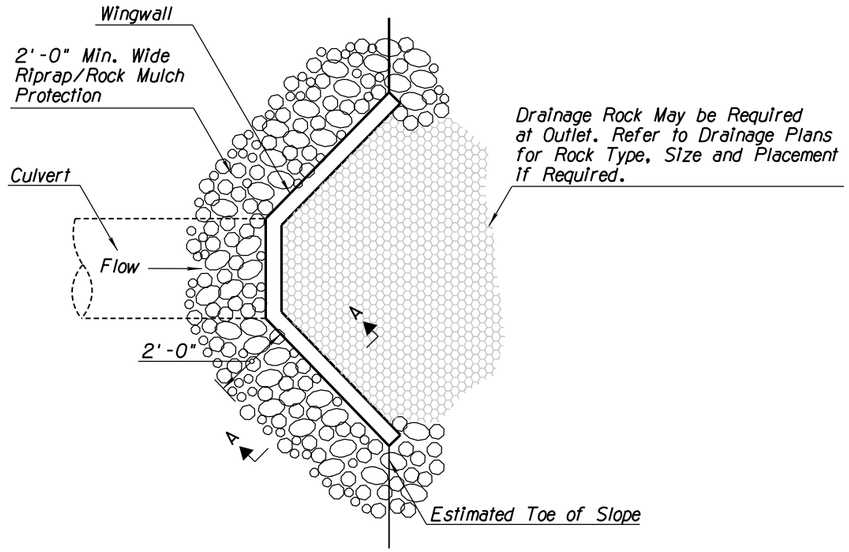
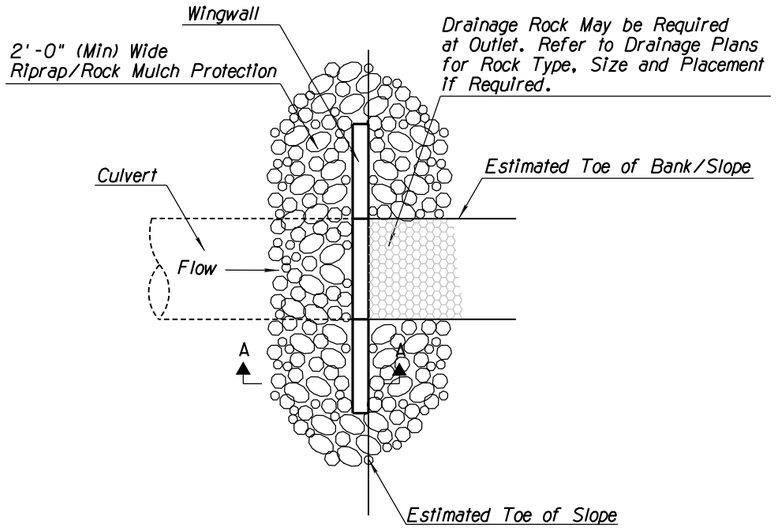
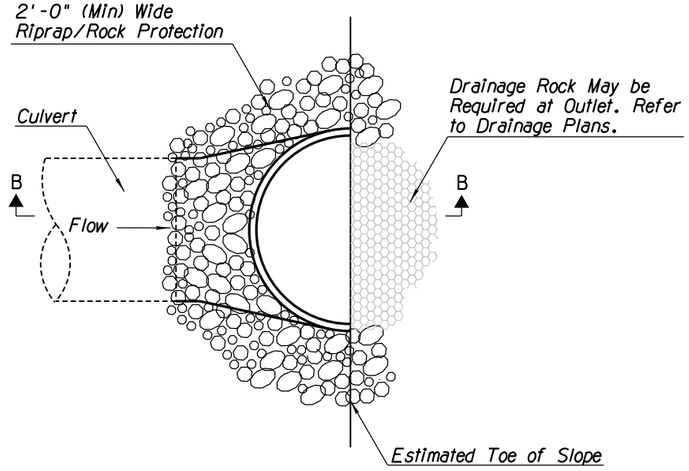
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



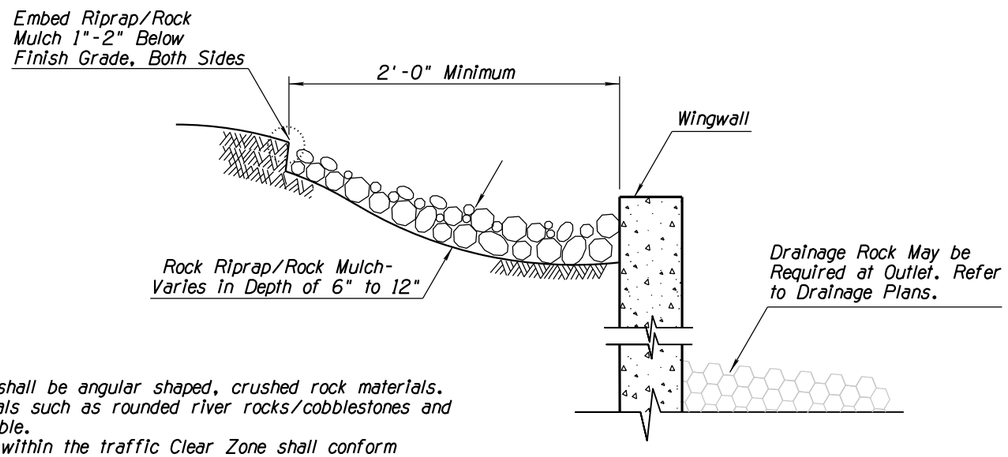
ANGLED HEADWALL
PLAN VIEW (NTS)



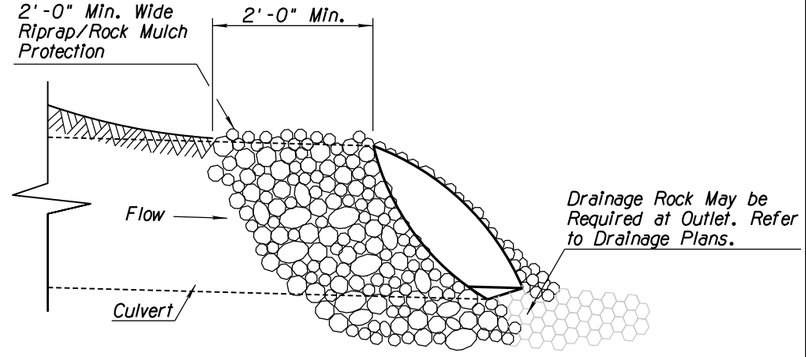
FLUSH HEADWALL
PLAN VIEW (NTS)



FLARED END
PLAN VIEW (NTS)



WINGWALL
SECTION A-A (NTS)



FLARED END
SECTION B-B (NTS)

NOTES:

1. Rock Riprap/Rock Much shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications.
3. Embed rock within traffic recovery area/clear zone into the finished grade so that any portion of the rock above the grade will be less than 4" in height.
4. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Make field adjustments and corrections of Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
6. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintaining as well as returning the area to an acceptable condition as approved by the Engineer.
7. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

RP
E3

DETAIL E3

ROCK PROTECTION FOR INLETS, OUTLETS AND HEADWALL TRANSITION

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E3

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

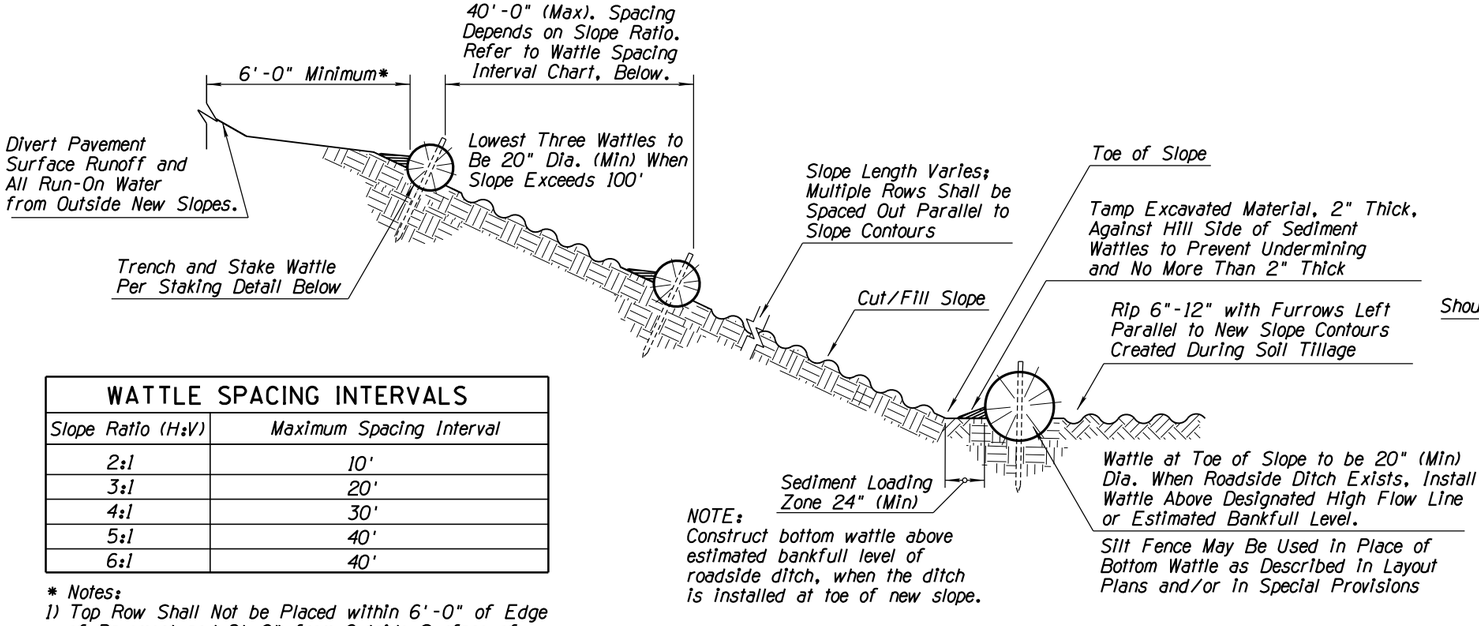
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

Exhibit: L7.05

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY
NO.2 DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

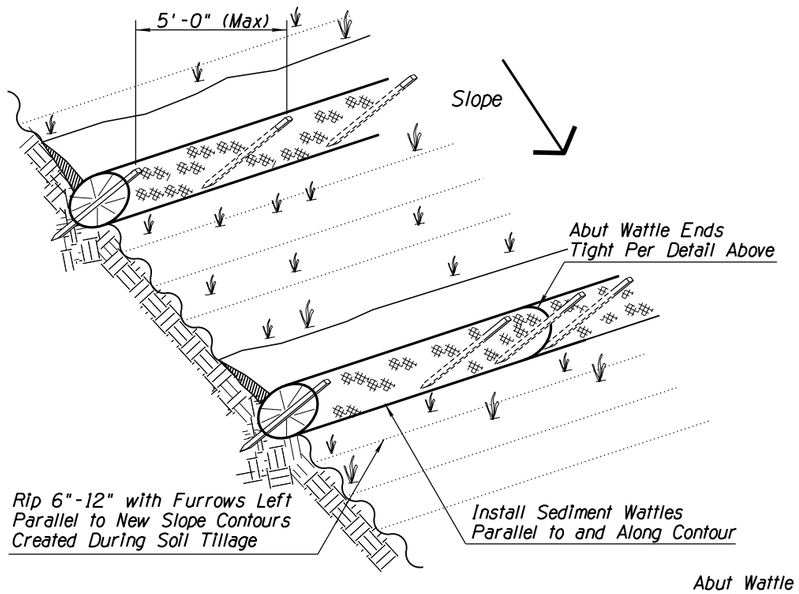


NOTE:
Construct bottom wattle above estimated bankfull level of roadside ditch, when the ditch is installed at toe of new slope.

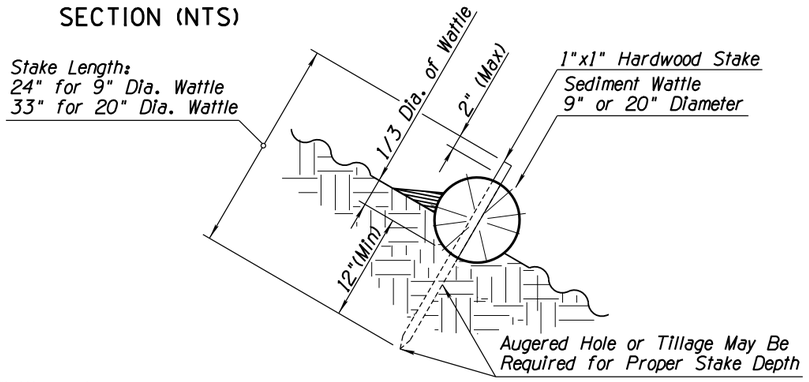
SECTION (NTS)

WATTLE SPACING INTERVALS	
Slope Ratio (H:V)	Maximum Spacing Interval
2:1	10'
3:1	20'
4:1	30'
5:1	40'
6:1	40'

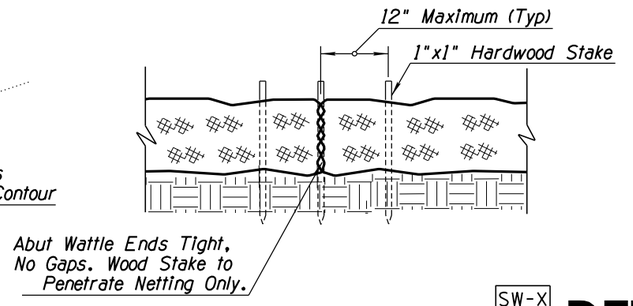
* Notes:
1) Top Row Shall Not be Placed within 6'-0" of Edge of Pavement and 9'-0" from Outside Surface of Barrier.
2) For erosive soils, place rows of wattles closer together.
3) For soils with low erosive potential, place rows of wattles further apart.



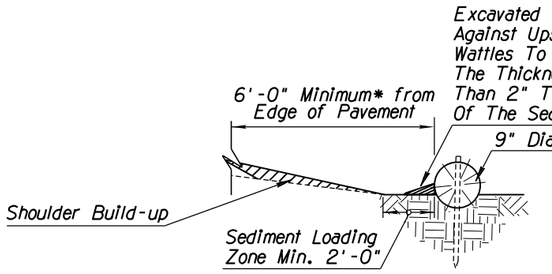
SEDIMENT WATTLE LAYOUT (NTS)



SEDIMENT WATTLE STAKING DETAIL (NTS)



SEDIMENT WATTLE OVERLAP (NTS)



** Note:
Applicable only in the areas of concentrated flow - to include but not be limited to roadway sag spots and drop-off repair locations as per the direction of the Engineer.

NEW SHOULDER BUILDUP ** PROTECTION SECTION (NTS)

NOTES:

1. Install Sediment Wattles as slopes are constructed to grade or as directed by the Engineer. Select, install and maintain in conformance with manufacturers' specifications to meet site conditions for slope protection and in accordance with good engineering practices. No Sediment Wattles shall be installed in urban freeway medians, nor where cable barrier systems are employed.
2. Sediment Wattles shall be in continuous contact with trench bottom and sides. Do not overlap wattle ends on top of each other. A 20" Dia. wattle may be made from 2-3 rolled excelsior or straw blankets.
3. Butt adjoining wattles tightly against each other. Drive the first end stake of the second wattle at an angle toward the first wattle to help abut them tightly.
4. Repair any rills or gullies promptly. Make field adjustments and corrections of Wattle BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
5. Construction of cut slopes 2:1 and steeper in soil and rock materials that can be ripped shall be constructed, whenever possible, by Minibenching. Refer to Slope Minibenching BMP Detail.
6. Loosening surface soil is not required where Minibenches are used. For seeded areas, tillage shall be performed to form minor ridges and furrows parallel to new slope contours and as specified in Section 805 of the Standard Specifications and these special provisions.
7. Divert and direct run-on water from outside of the slopes to the spillways and/or rock riprap/rock mulch. Diversion dikes and/or ditches are necessary on natural undisturbed slopes beyond the top limits of new slopes to divert run-on water.
8. Installation and maintenance of Sediment Wattle BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities.
9. Install and maintain Sediment Wattle BMPs to carry the stormwater of at least 2-year, 24-hour events.
10. The Sediment Wattle BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
11. Refer to Standard Specification Section 810-2.06(C) for Sediment Wattle material specifications.
12. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

NO.	DESCRIPTION OF REVISION	MADE BY	DATE

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E4

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	Exhibit: L7.06
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SW-X
E4

DETAIL E4
SEDIMENT WATTLE

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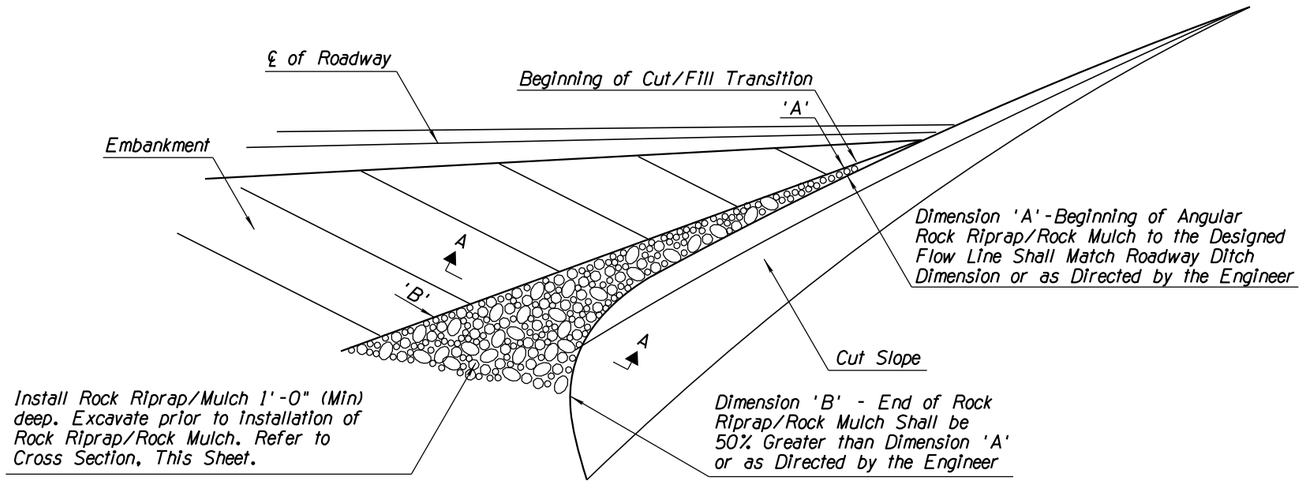
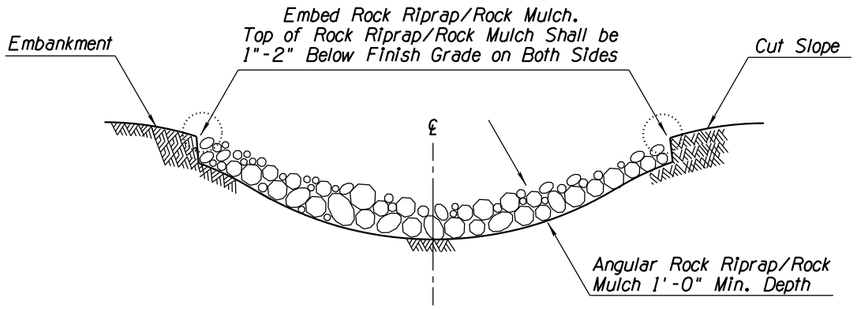
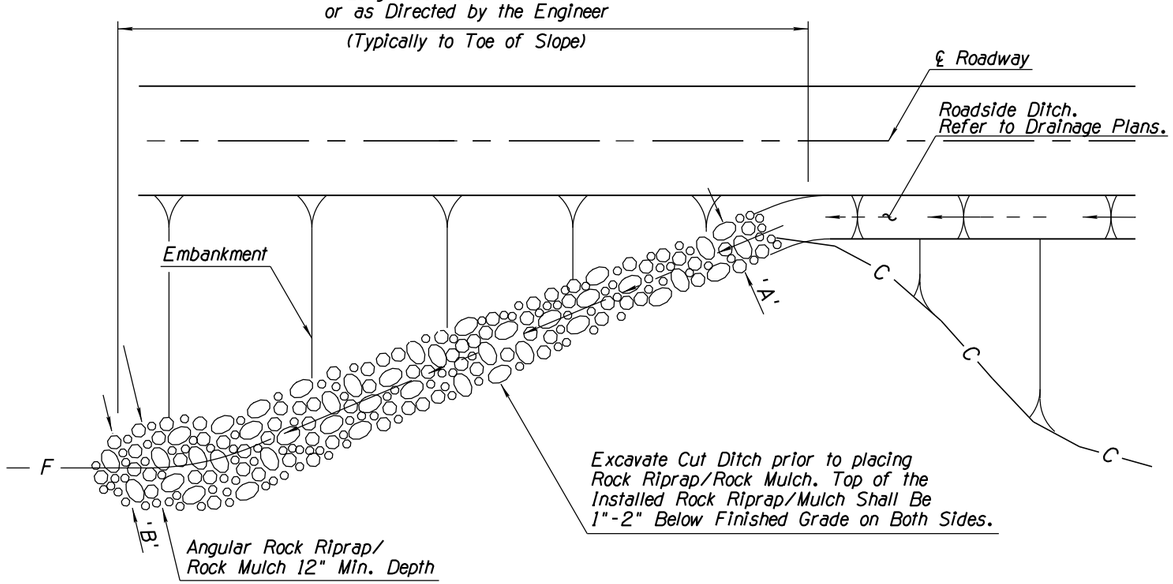
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



PERSPECTIVE (NTS)



ROCK RIPRAP/ROCK MULCH EMBEDMENT
SECTION A-A (NTS)



PLAN VIEW (NTS)

NOTE:
Cut and fill transition shall be placed as shown on plans or where the length of the roadside ditch is 50 feet or greater. Field adjust per direction of Engineer.

NOTES:

1. Rock Riprap/Rock Mulch shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone/Recovery Area shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications and these special provisions.
3. Install Rock Riprap/Rock Mulch to a minimum depth of 12" for Channel Lining and Cut/Fill Transition. Excavate ground surface to a depth that the top of Rock is 1"-2" below the grade of the ditch.
4. Embed any rock into the finished grade so that any portion of the Rock is less than 4" above grade, within traffic recovery area/clear zone.
5. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
6. Make field adjustments and corrections of Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Make field adjustments to ensure the top surface of Rock Riprap/Rock Mulch is graded lower than the surrounding finished grade to collect surface stormwater runoff and concentrated flow.
8. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintaining, as well as returning the area to an acceptable condition as approved by the Engineer.
9. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

CF
E5

DETAIL E5

ROCK PROTECTION FOR CUT & FILL TRANSITION AND CHANNEL LINING

	NAME	DATE
DESIGN	D. DEWITT	04/15
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CHECKED	J. ENGELMANN	04/15

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INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E5

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

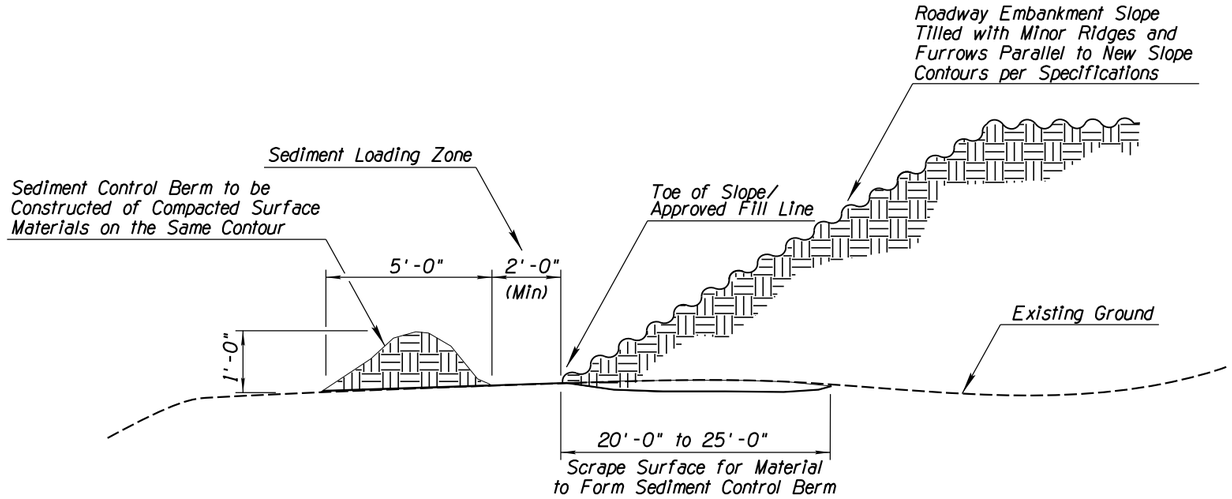
TRACS NO. H5764 01L | NH-202-D (ADY)

Exhibit: L7.07

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
1			
2			

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



SEDIMENT CONTROL BERM
SECTION (NTS)

(X,XXX LF)

NOTES:

1. Locate Sediment Control Berms as indicated on plans or as directed by the Engineer.
2. Surface materials i.e. soil, rock, branches, leaves, slash and chips shall be scraped from the existing grade as needed to construct the berm prior to placement of roadway embankment. After scraping material into berm, compact berm as shown. Rock and slash shall extend no more than 4" above the surface.
3. Construct Sediment Control Berm on the same contour as the toe of new slope and a minimum of 2'-0" beyond the toe of new slope. For the seeded areas, till to form minor ridges and furrows parallel to new slope contours and as specified in Section 805 of the Standard Specifications and these special provisions.
4. The installation and maintenance of Sediment Control Berm BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Control Berm BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Remove Sediment Control Berms per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
6. Make field adjustments and corrections of Sediment Control Berm BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Sediment Control Berms may be paid as a part of slope construction/ roadway excavation. When paid separately, the Sediment Control Berm BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
8. OPTION TO SEDIMENT CONTROL BERM: When shown on layout plans and/or called for in Special Provisions, for urban situations, or where surface materials are not available, use wattles. Wattles shall be selected, installed, and maintained in accordance with manufacturers' specifications and good engineering practices. Refer to Sediment Wattle BMP detail.
9. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

SB
E6

DETAIL E6

SEDIMENT CONTROL BERM

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E6

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

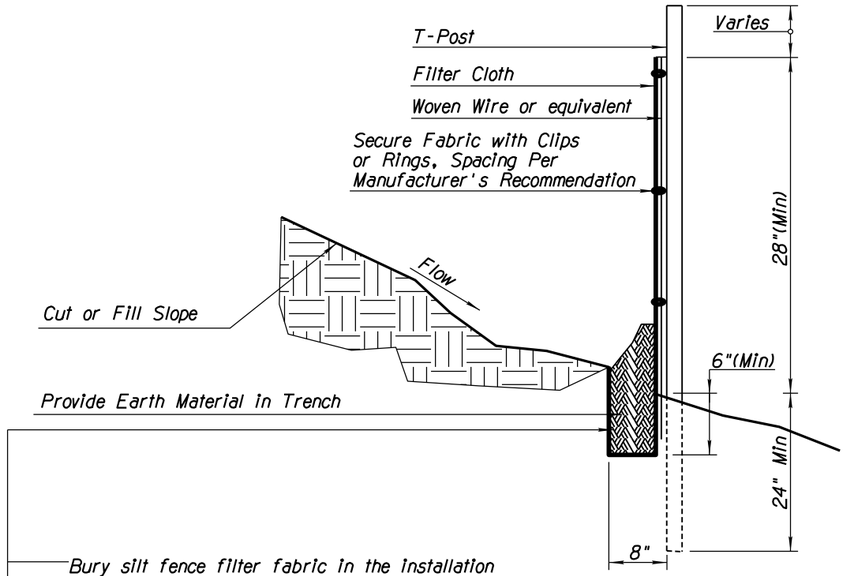
Exhibit: L7.08

ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		
TRACS NO. H5764 01L			NH-202-D (ADY)

____ OF ____

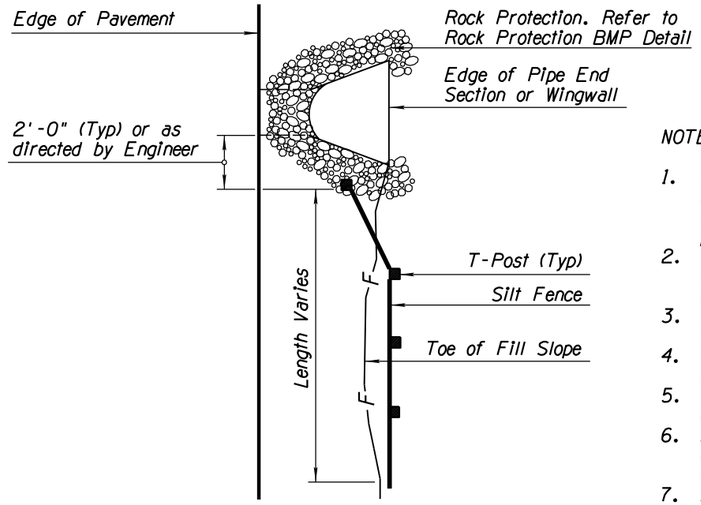
NO.| DESCRIPTION OF REVISION | DATE | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

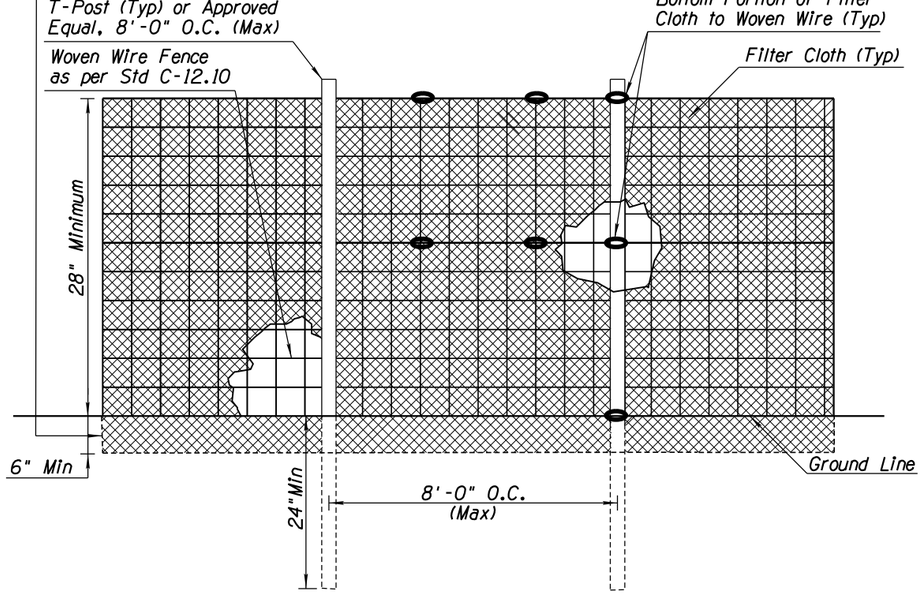


SECTION (NTS)

Bury silt fence filter fabric in the installation trench a minimum of twenty inches along perimeter of trench. The section of the trench shall be a minimum of 6" (deep) x 8" (wide). Bury filter fabric along the sides and bottom of the trench to form a "J".



SILT FENCE PLACEMENT
AT PIPE INLET/OUTLET
PLAN VIEW (NTS)



ELEVATION (NTS)

NOTES:

1. Select, install, and maintain Silt Fence per the manufacturer's specifications and good engineering practices. Remove Silt Fences per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
2. Install Silt fences at areas of construction disturbance as required, especially the downslope perimeters of construction disturbed areas.
3. Filter cloth shall be a woven polypropylene fabric and shall conform to Standard Specification Sub-section 1014-8.
4. Wire mesh fence fabric shall be standard woven wire fence fabric, as specified in Construction Standard C-12.10.
5. T-posts shall be steel line posts as specified in Construction Standard C-12.10 with a minimum length of 6'-0".
6. Attach Filter Cloth to the top wire and midpoint of the fence fabric every 3'-0" and attach to each T-post at the top, middle, and bottom with wire ties.
7. Attach Silt Fence filter fabric on the upslope side of T-posts to withstand potential surface runoff and trap sediment.
8. Install Silt Fences on the contour line, unless otherwise specified.
9. Make field adjustments and corrections of Silt Fence BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
10. The installation and maintenance of Silt Fence BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities.
11. Silt Fence BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
12. The Silt Fence BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
13. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

SF
E7

DETAIL E7
SILT FENCE

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite B2
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E7

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

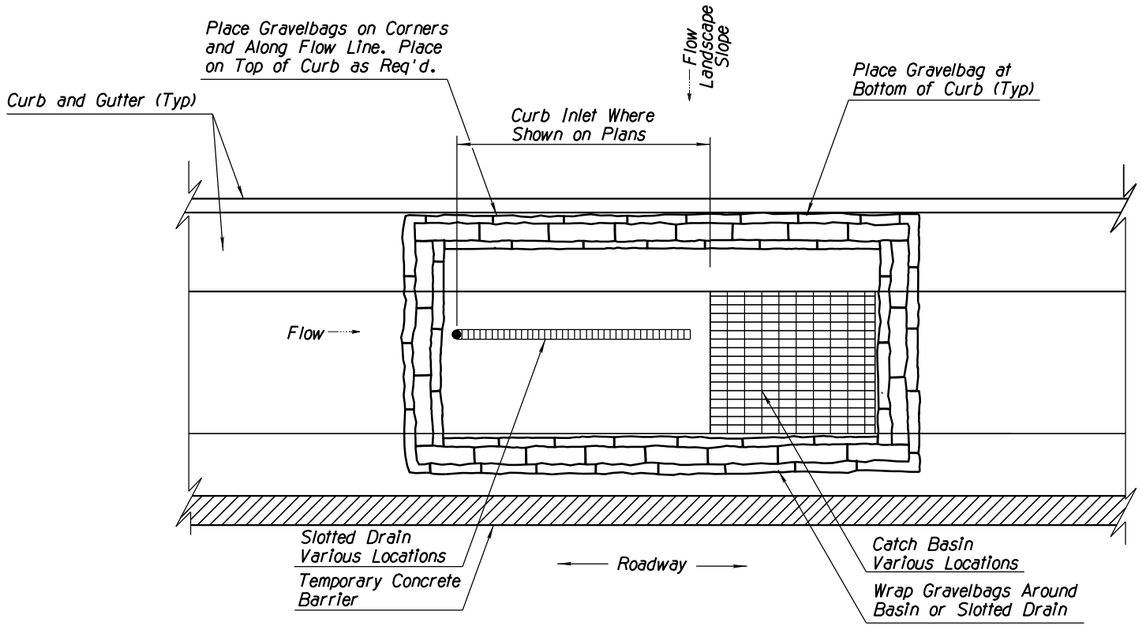
ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		
TRACS NO. H5764 01L			NH-202-D (ADY)

Exhibit: L7.09

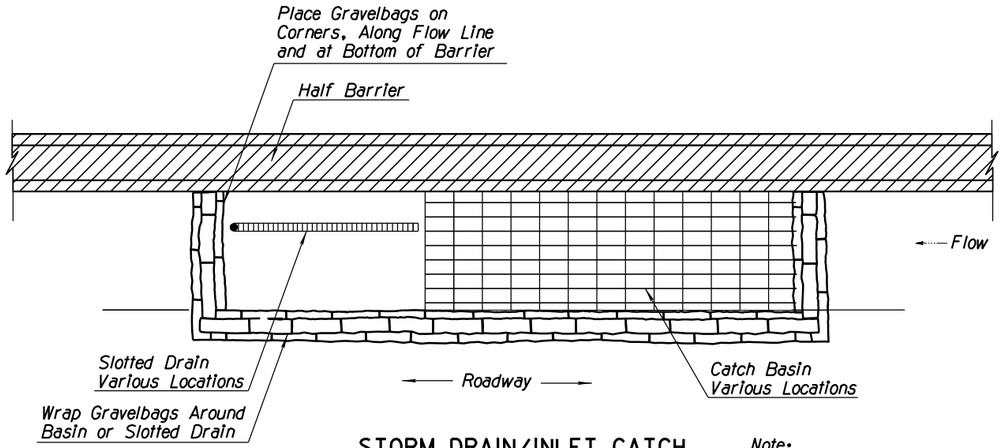
___ OF ___

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			

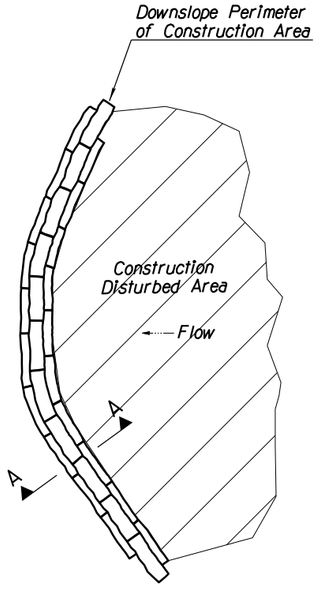


STORM DRAIN/INLET CATCH BASIN AT CURB PLAN VIEW (NTS)



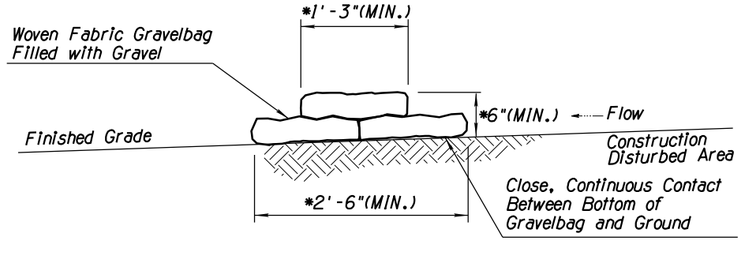
STORM DRAIN/INLET CATCH BASIN AT HALF BARRIER PLAN VIEW (NTS)

Note:
Apply Under Traffic Control.



Note:
Apply Under Traffic Control or Outside of ClearZone/Recovery Area

GRAVELBAG SEDIMENT TRAP PLAN VIEW (NTS)



SECTION A-A (NTS)

NOTES:

1. *Gravelbag material shall be from polypropylene, polyethylene, or polyamide woven fabric. Refer to Special Provisions for Mullen burst strength and ultraviolet stability requirements.*
2. *When sediment depth reaches 3 inches, remove and properly dispose of accumulated material.*
3. *Do not apply Gravelbag BMP in the area of open traffic.*
4. *When applied as a perimeter control BMP, Gravelbags shall be used for surface areas where wattles and silt fences are not suitable.*
5. *Do not install Gravelbags as multiple ditch check dams.*
6. *The installation and maintenance of Gravelbag BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Gravelbag BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.*
7. *Gravelbags are designed for temporary water quality protection only. Remove Gravelbags per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.*
8. *Make field adjustments and corrections of Gravelbag BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.*
9. *Refer to Special Provisions for gradation of gravel material.*
10. *The Gravelbag BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal, and disposal, as well as returning the area to an acceptable condition as approved by the Engineer.*
11. *Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.*

IP E8 **DETAIL E8**
GRAVELBAG INLET PROTECTION

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL DETAIL E8

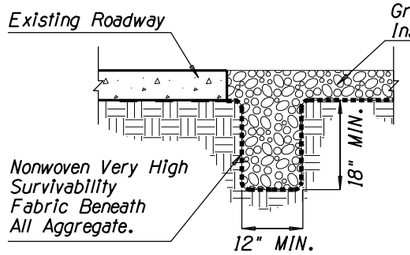
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING
Exhibit: L7.10
___ OF ___

NO.1 NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

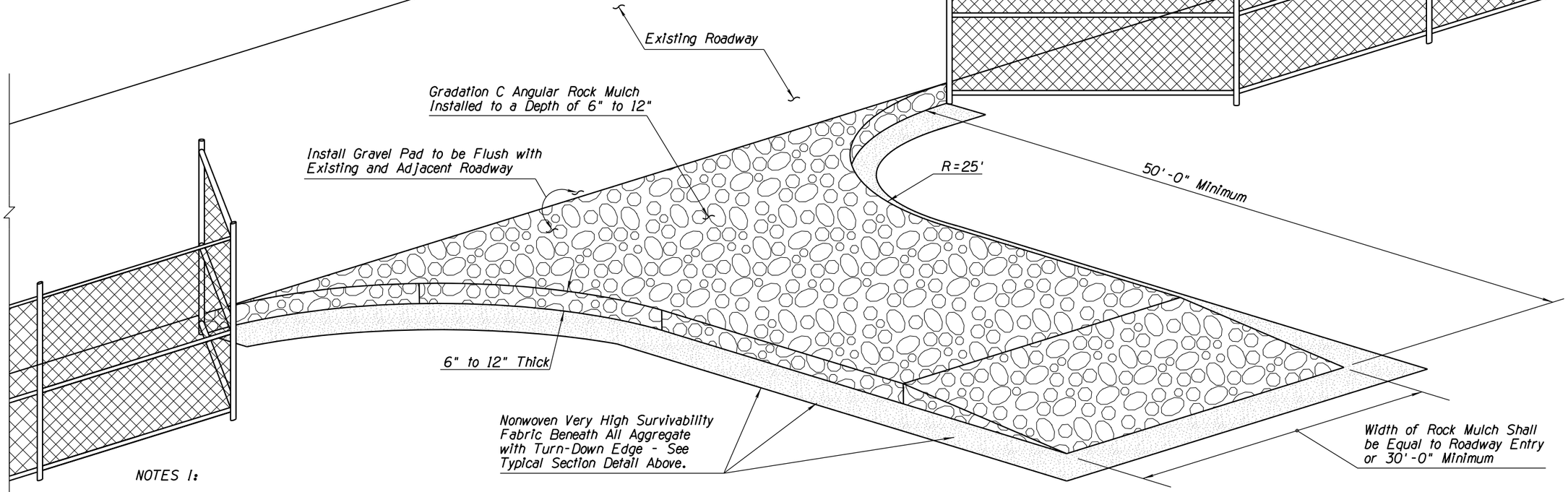
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



EDGE TREATMENT TRENCHING
TYPICAL SECTION (NTS)

NOTES II:

1. Install nonwoven fabric when water is applied for construction vehicle/equipment cleaning on Gravel Pad.
2. Edge treatment trenching and nonwoven fabric shall not be required if NO wash water is used for vehicle/equipment cleaning.
3. The depth of Gravel Pad varies from 6" to 12" based on the necessities of construction vehicle/equipment as per the approval of the Engineer.



BIRD'S EYE VIEW (NTS)

NOTES I:

1. Install Stabilized Construction Entrance/Exit Gravel Pad BMP for traffic entering or exiting a construction site where sedimentation, clay, silt or other pollutants can be tracked onto public roads and/or adjacent water bodies, as approved by the Engineer. It may also be applied for construction entrance/exit wind erosion/dust control, as approved by the Engineer.
2. Locate new Construction Entrance(s)/Exit(s) at appropriate project entrance/exit points as determined in field with the approval of the Engineer. Relocate Stabilized Construction Entrance/Exit Gravel Pad BMP as needed as project progresses. Replace Rock Mulch materials in drive paths when dirt or mud accumulates.
3. Nonwoven Very High Survivability Fabric shall conform to the standards of Sub-section 1014-4.04 of the Standard Specifications.
4. Rock Mulch materials shall be fractured/crushed rocks in angular shape and as defined in the Sub-section 810-2.03 of the Standard Specifications. Natural river-run materials, especially rounded natural river rocks are not acceptable.
5. Make field adjustments and corrections of Construction Entrance/Exit Gravel Pad BMP immediately if it is causing flooding and/or affecting roadway safety.
6. When paid separately, the Stabilized Construction Entrance/Exit Gravel Pad BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
7. * Fence/barricade pay/bid item shall not be included as a component of the Stabilized Construction Entrance/Exit Gravel Pad BMP pay/bid item.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

CE E9

DETAIL E9

STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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4649 East Cotton Gin Loop, Suite 82
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E9

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

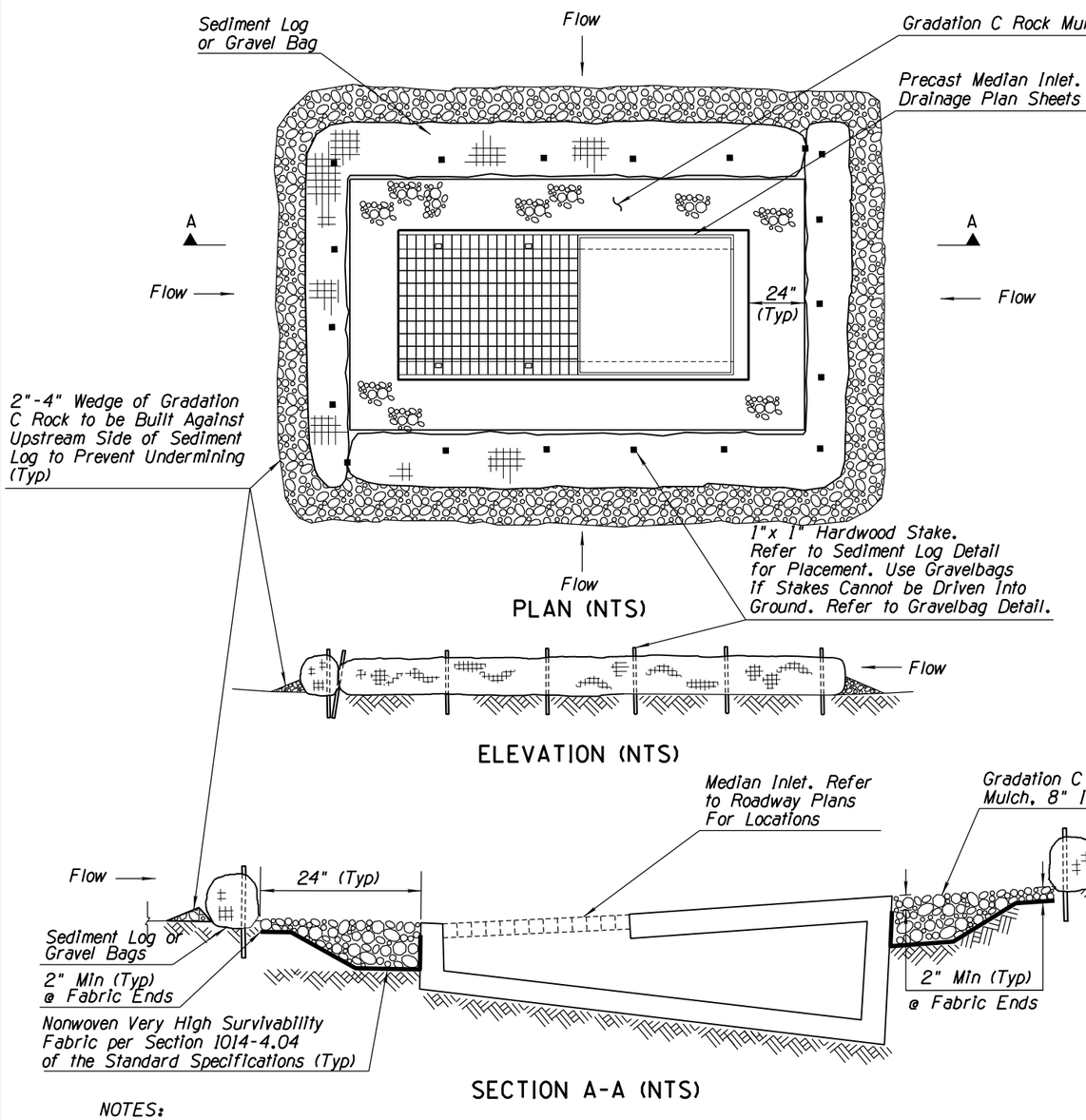
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

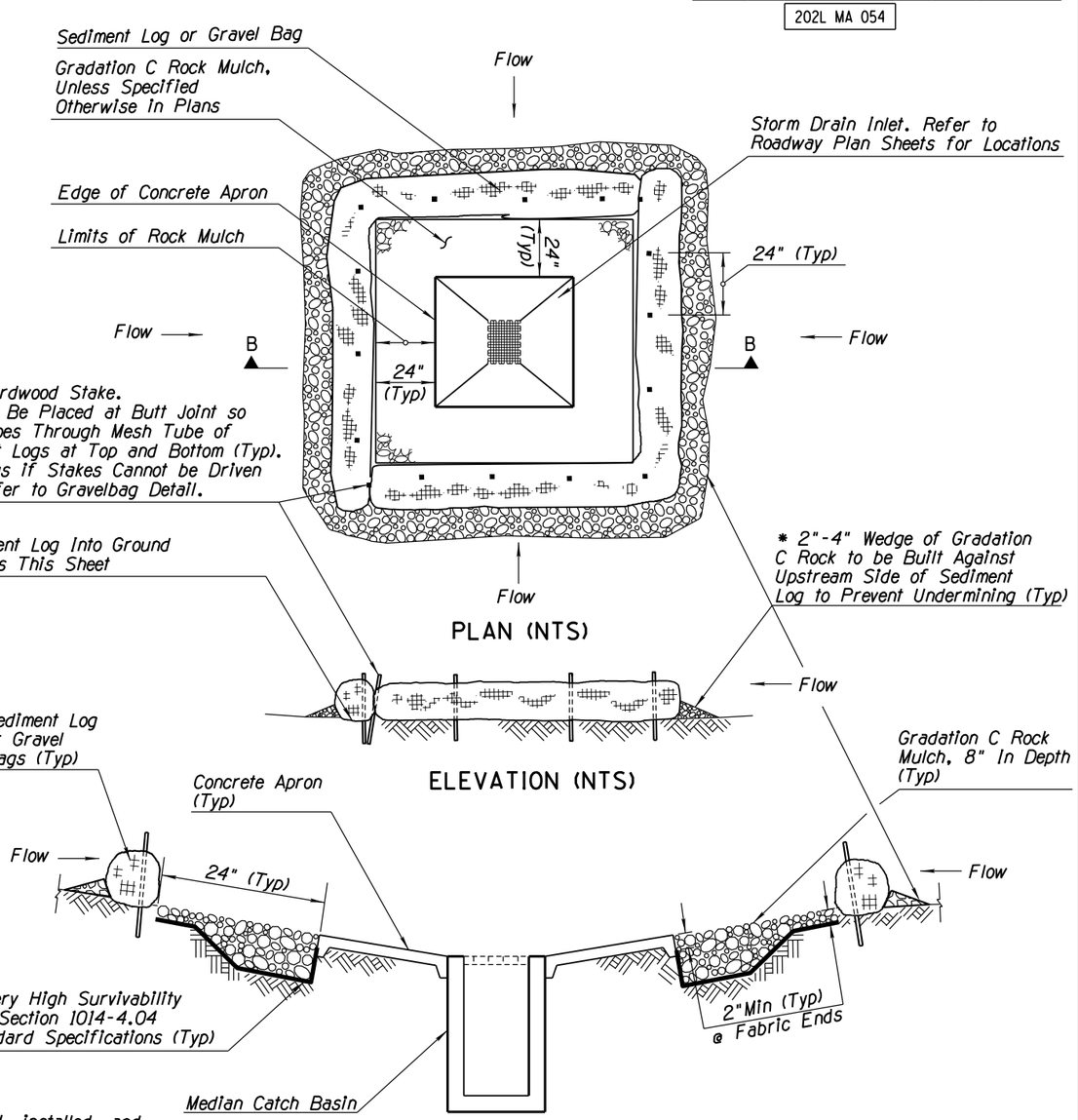
Exhibit: L7.11

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

NO.1 DESCRIPTION OF REVISION DATE MADE BY
NO.2 DESCRIPTION OF REVISION DATE MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			





NOTES:

1. Sediment logs or gravel bags shall be located as indicated on plans or as directed by the Engineer. They shall be selected, installed, and maintained per manufacturer's specifications and good engineering practices. Logs or bags shall be installed perpendicular to the flow of water. Continuous contact between the bottom of the log or bags and the ground is mandatory.
2. Stake log with 1"x1"x46" Min. hardwood stakes 24" on center. The stake shall be placed through the downstream side only. It is necessary for the stakes to grab one or two inches of netting. Do not drive stake through center of log. The stakes must be driven into the ground 24". Stakes at corners shall be placed in an "X" pattern.
3. Make sure no gaps exist between subgrade and sediment logs or gravel bags. Runoff must not pass under control measures. May require subgrade preparation as directed by Engineer.
4. Repair any rills or gullies promptly.
5. Remove Sediment Log and stakes or gravel bags once construction activities are complete. Dispose of control measures and trapped sediment material and fill trench created by sediment log.
6. Refer to Roadway and Drainage Plans and Details for Locations of Inlets and Catch Basins.
7. Make field adjustments and corrections of Inlet Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.
9. * Construct Rock Wedge with angular-shaped Gradation C Rock Mulch as defined in Section 810-2.03 of the Standard Specifications and these special provisions. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.

RP E10

DETAIL E10

STORM DRAIN PROTECTION (PERMANENT ROCK PROTECTION)

	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

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Phoenix, Arizona 85040
Phone: 602.438.2221
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

EROSION CONTROL
DETAIL E10

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

TRACS NO. H5764 01L | NH-202-D (ADY)

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

Exhibit: L7.12

___ OF ___

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1			
NO.2			

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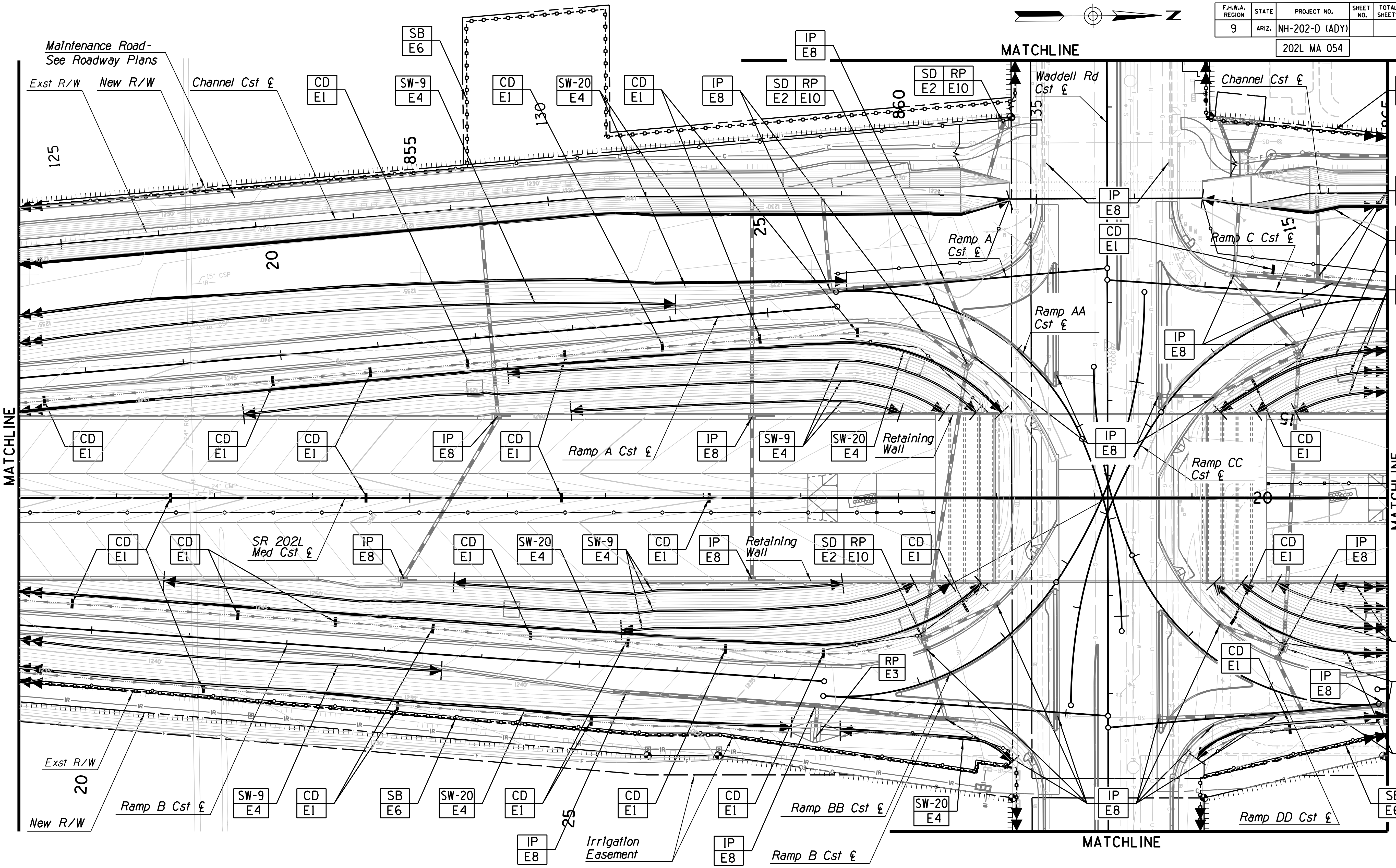
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054



	NAME	DATE
DESIGN	D. DEWITT	04/15
DRAWN	J2	04/15
CHECKED	J. ENGELMANN	04/15

J2 Engineering and Environmental Design
4649 East Cotton Gin Loop, Suite B2
Phoenix, Arizona 85040
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

TYPICAL EROSION CONTROL PLAN

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

ROUTE: SR 202L

LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)

Exhibit: L7.13

TRACS NO. H5764 01L

NH-202-D (ADY)

____ OF ____

NO.1 DESCRIPTION OF REVISION | MADE BY | DATE
NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

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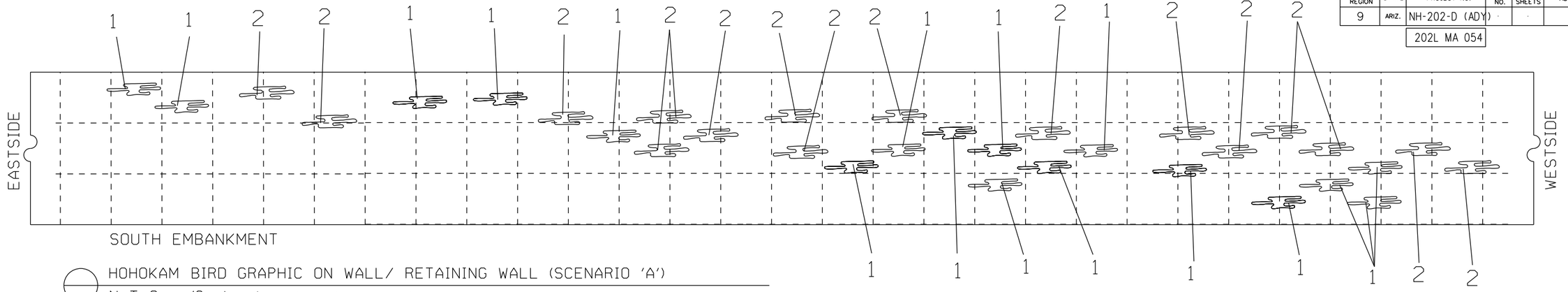
CONCEPT

UPDATES

2015

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

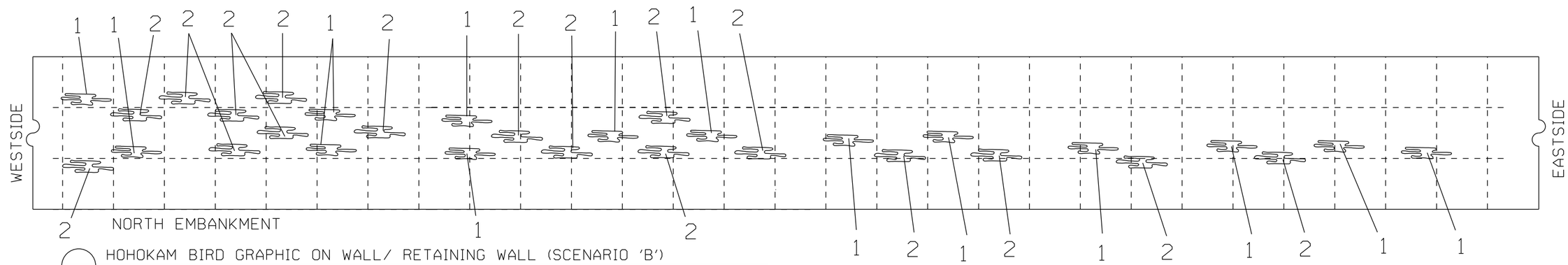
202L MA 054



SOUTH EMBANKMENT

HOHOKAM BIRD GRAPHIC ON WALL/ RETAINING WALL (SCENARIO 'A')

N. T. S. (Grid is based on 5' squares)

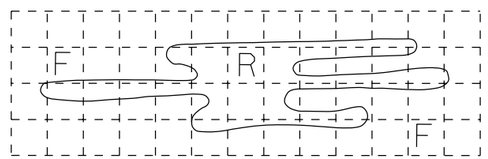


NORTH EMBANKMENT

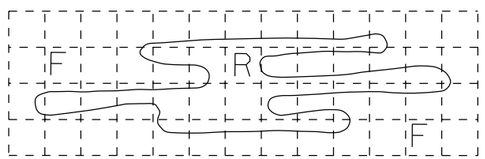
HOHOKAM BIRD GRAPHIC ON WALL/ RETAINING WALL (SCENARIO 'B')

N. T. S. (Grid is based on 5' squares)

NOTES:
R=2" Recess
F=Flush



BIRD 1 (TYP)



BIRD 2 (TYP)

HOHOKAM BIRD DETAILS/ MOCK-UP SAMPLE SIZE REFERENCE

N. T. S. (Grid is based on 6" squares)

NOTE: HOHOKAM BIRDS

33 Hohokam Birds on South Embankment and 31 Hohokam Birds on North Embankment shall be laid out.

All recessed Hohokam Birds shall be painted with accent color and flush areas shall be painted with a base color. The accent paint color for the Hohokam birds and the base paint color for the flush areas are to be determined.

Hohokam Bird wall graphic will be approx. 5'-4"x1'-8" and will have 3" rounded, tapered edges. Note dimensions are approximate and shall be field verified by the engineer prior to installation. Contractor shall provide the full size completed sample of each type of graphic (2 Hohokam Birds).

	NAME	DATE
DESIGN	JOSEPH SALAZAR	08/14
DESIGN	TAO ZIFONG	08/14
DESIGN	HAN MENG	08/14
DRAWN		08/14
CHECKED	JOSEPH SALAZAR	08/14
TEAM LEADER	JOSEPH SALAZAR	08/14

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

LANDSCAPE ARCHITECTURE
AESTHETIC DESIGN

PRELIMINARY
STAGE 11 15%
PLANS
NOT FOR CONSTRUCTION OR RECORDING

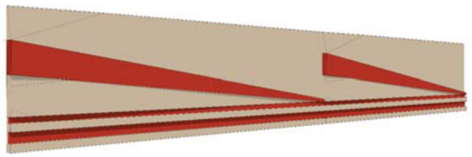
ROUTE	LOCATION	DWG NO
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	

TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

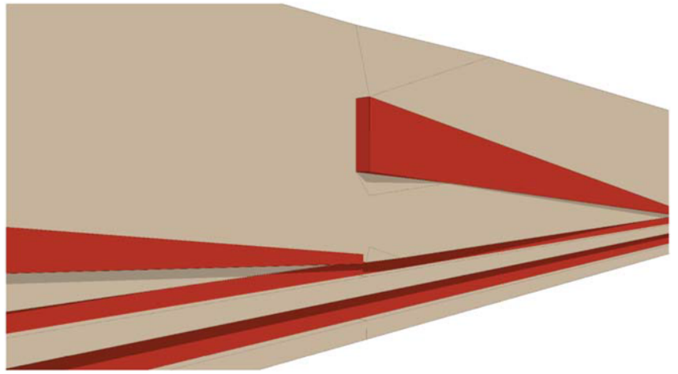
PLOT SCALE=$PLOTSCALE$ PLOT BY:$USER$
TIME:$TIME$ DATE- LOCATION- REVISIONS- FINISHED PLANS- SURVEY NO.
PLOT DATE=$DATE$ DATE- LOCATION- REVISIONS- FINISHED PLANS-
FILE NAME=$FILE$ SURVEY NO.

cccccSYSTIMEccccc cccccDGNcSPECIFICATIONccccc

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A
N.T.S.



3D BARRIER WALL VIEW B
N.T.S.

LEGEND

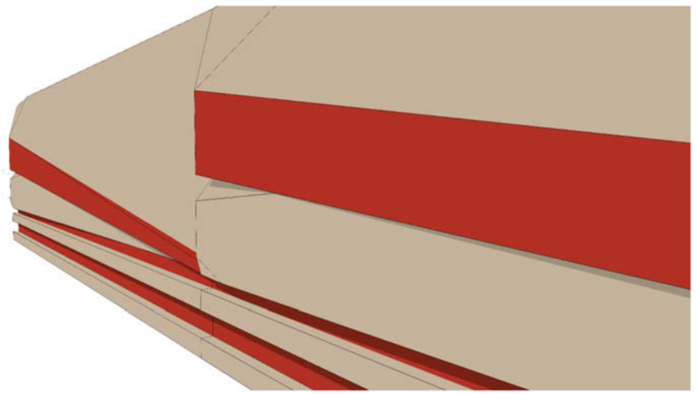
Rustication Thickness Key:

1. Flush
2. Recessed 1/2"
3. Recessed 1"
4. Recessed 1 1/2"
5. Recessed 2"

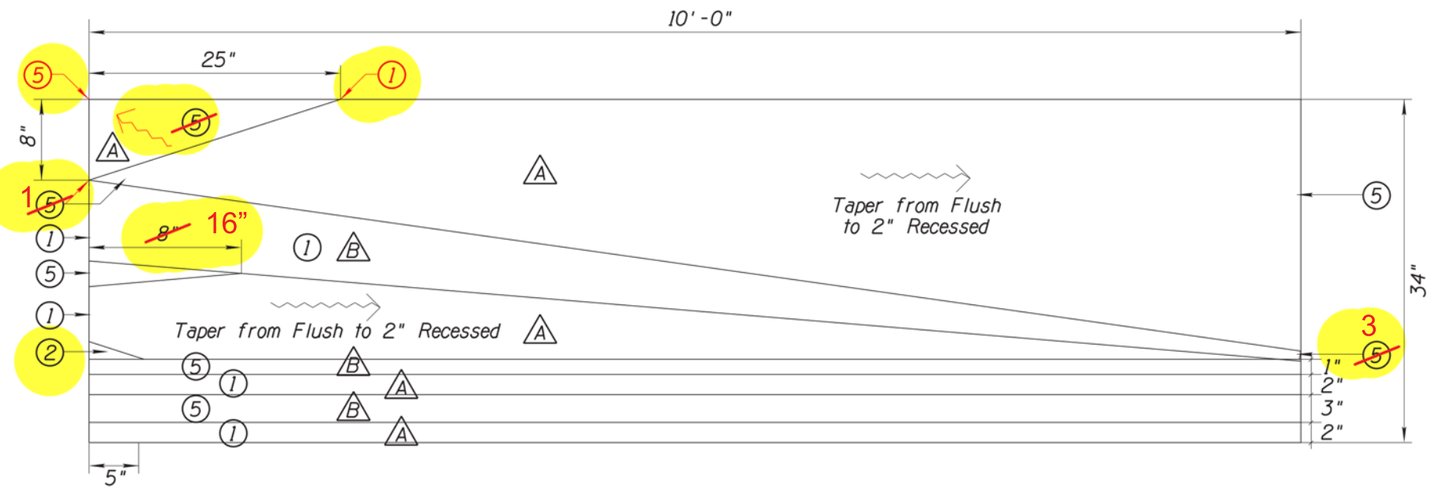
Paint Color Key:

A. Base Color: 'Silt'

B. Accent Color: 'Ocotillo Bloom'



3D BARRIER WALL VIEW C
N.T.S.



BARRIER WALL ELEVATION
N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

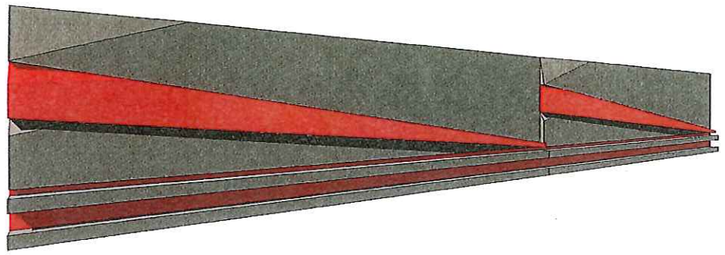
OCATILLO SETTLEMENT PATTERN
BARRIER WALL DETAILS
PROJECT BEGIN TO STA 22+20.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

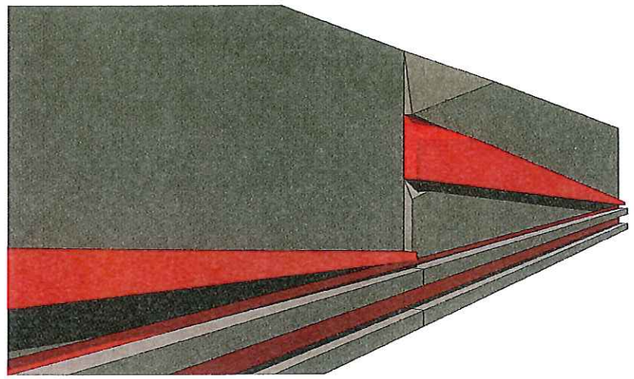
ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		EXHIBIT NO. L2.14
TRACS NO. H5764 01L		NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A
N.T.S.



3D BARRIER WALL VIEW B
N.T.S.

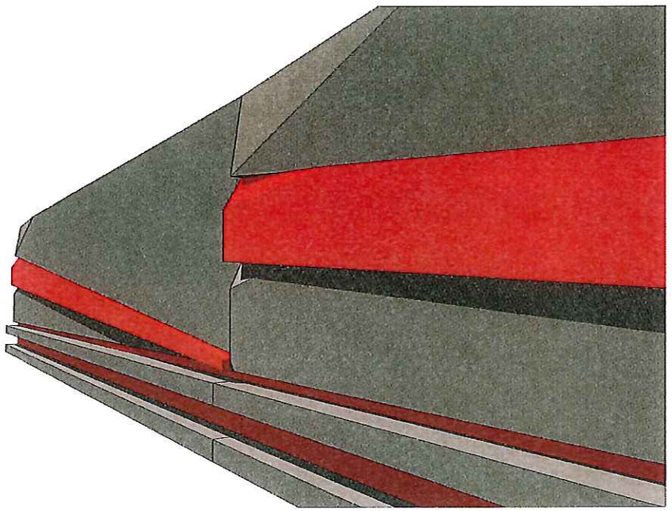
LEGEND

Rustication Thickness Key:

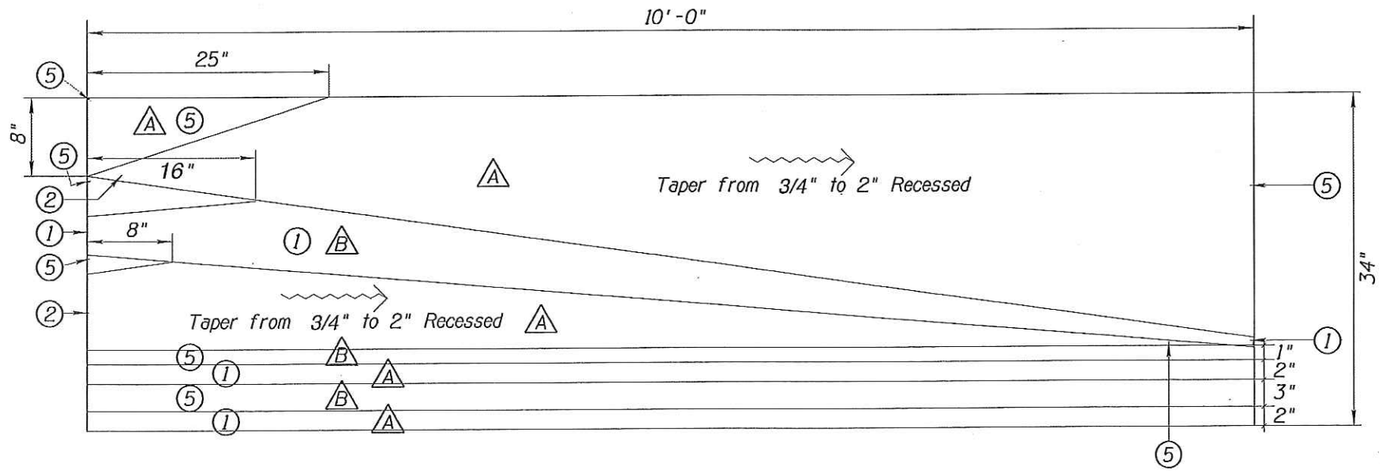
1. *Flush*
2. *Recessed 3/4"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*



3D BARRIER WALL VIEW C
N.T.S.



BARRIER WALL ELEVATION
N.T.S.

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

	NAME	DATE
DESIGN	VICTOR SIDY	10/15
DESIGN	JOSEPH SALAZAR	10/15
DESIGN	TAO ZI FONG	10/15
DRAWN	HAN MENG	10/15
CHECKED	JOSEPH SALAZAR	10/15
TEAM LEADER	JOSEPH SALAZAR	10/15

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

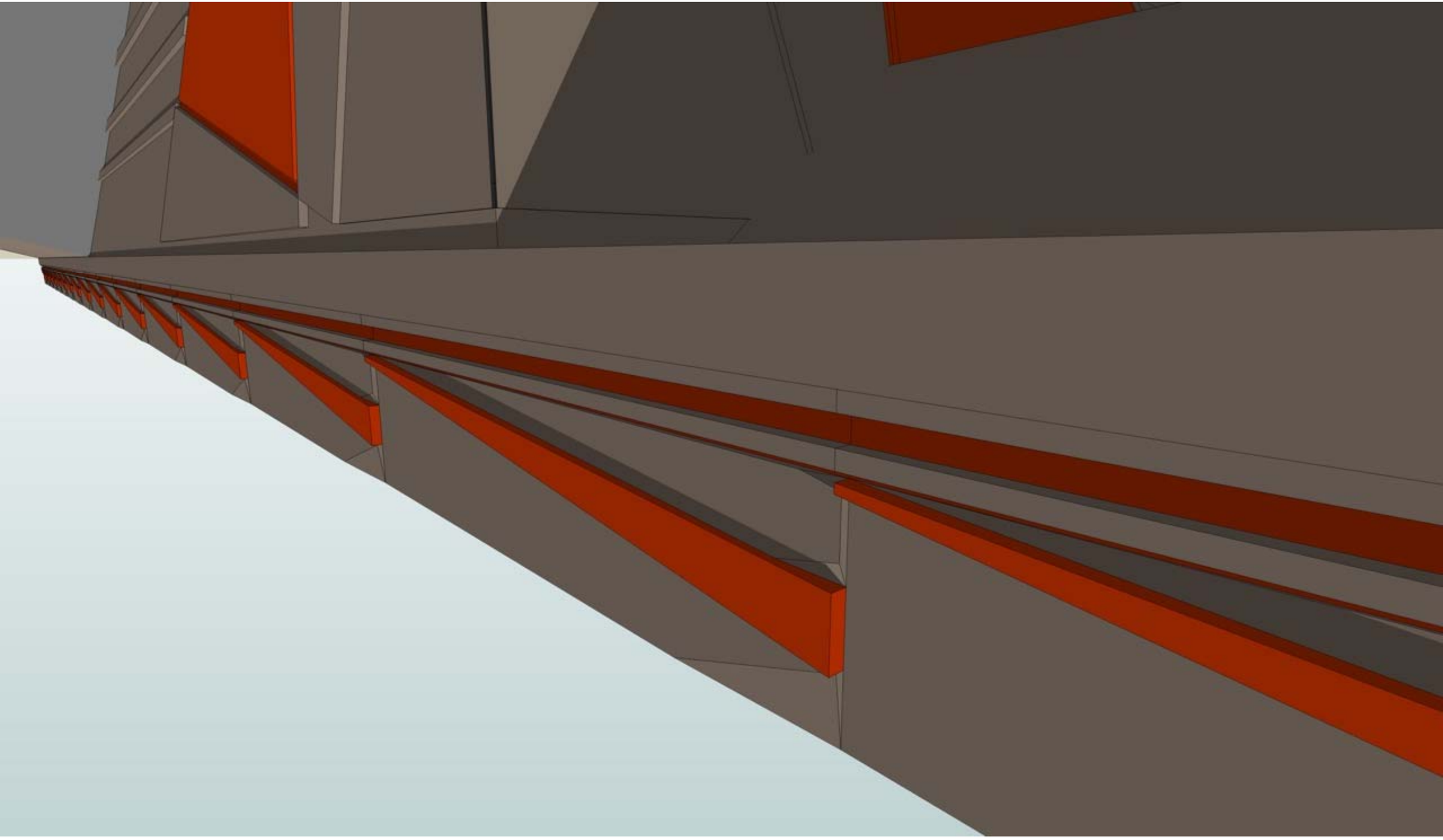
LANDSCAPE ARCHITECTURE
AESTHETIC DESIGN

11197 E. LEROY BRADY — Date Signed 10-18-17 — ARIZONA U.S.A. — Expires 3/31/2017

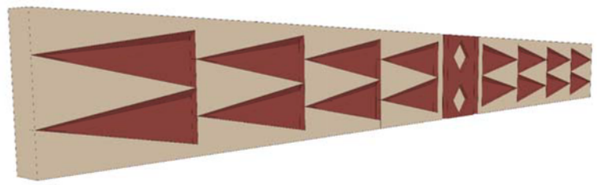
ROUTE	LOCATION	EXHIBIT NO.
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	L2.14
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE- | SURVEY NO.

9:18:09 AM ------ 12/17/2014 ------ MARISSA.PELLEGRINO:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 1 - BARRIER WALL DETAILS.DGN -------

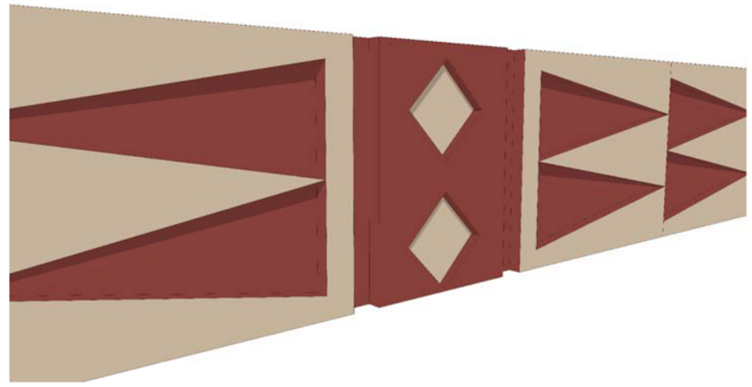


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



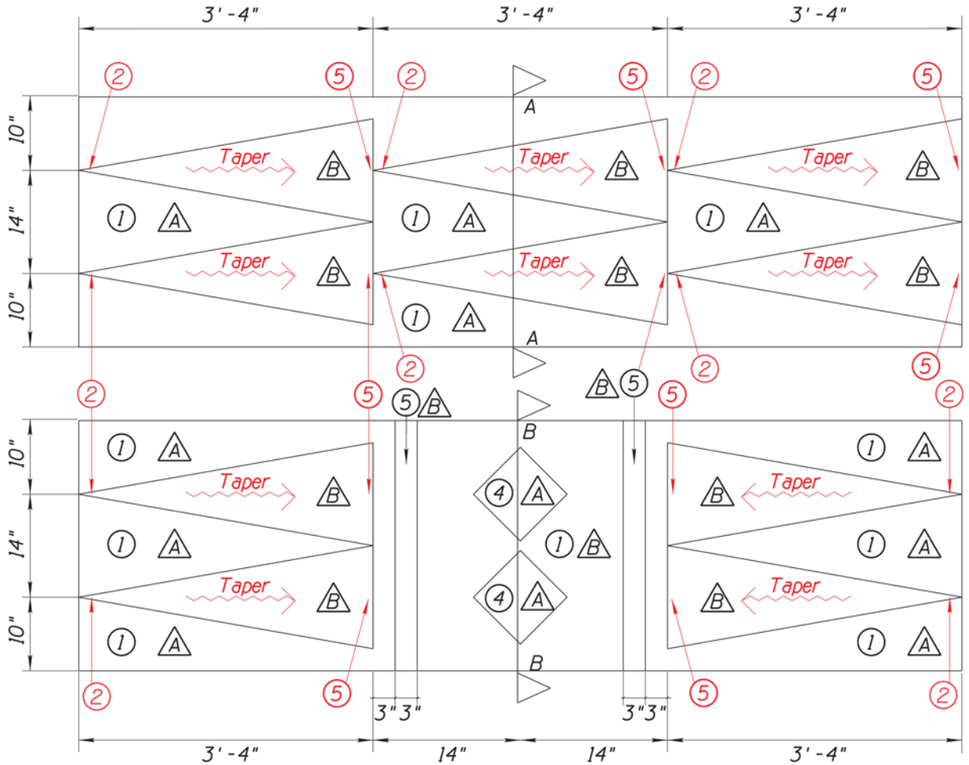
3D BARRIER WALL VIEW A

N.T.S.



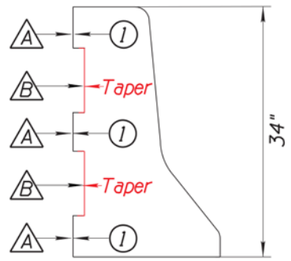
3D BARRIER WALL VIEW B

N.T.S.

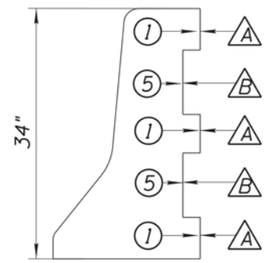


BARRIER WALL ELEVATION

N.T.S.



Section A-A



Section B-B

LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Earth Red'*

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

	NAME	DATE
DESIGN	-	-
DRAWN	YLR	10/15
CHECKED	JRS	10/15

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

CHOLLA/OCOTILLO PATTERN
BARRIER WALL DETAILS
STA 22+20.00 TO STA 26+20.00

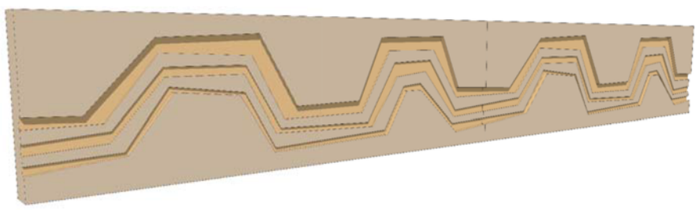
REGISTERED LANDSCAPE ARCHITECT — CERTIFICATE NO. 11197 — E. LEROY BRADY — Date Signed — ARIZONA U.S.A. — Expires 3/31/2017

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.18
TRACS NO. H5764 01L		NH-202-D (ADY) — ___ OF ___

DATE | LOCATION | REVISIONS | FINISHED PLANS | SURVEY NO.

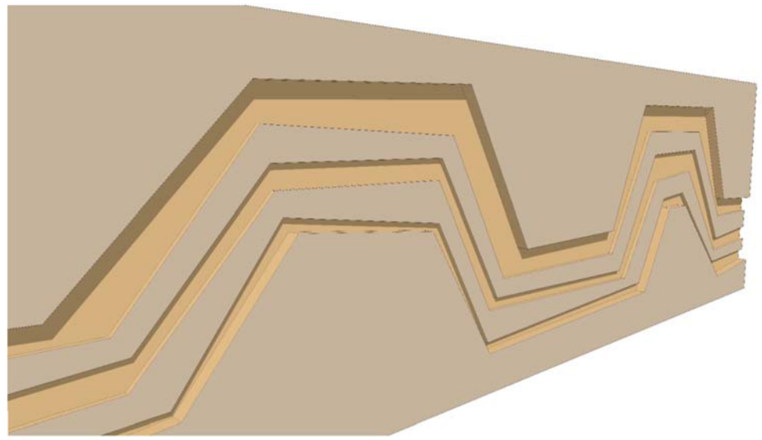
9:18:15 AM 12/17/2014 MARISSA.PELLEGRINI:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 2 BARRIER WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

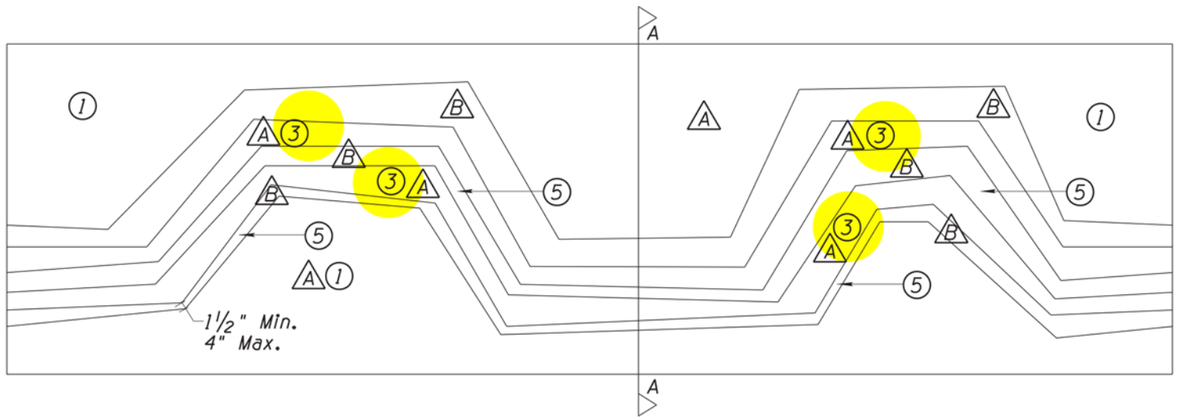
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

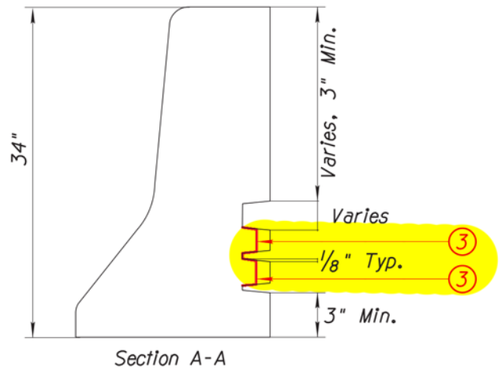
Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Yellow Ochre'*



BARRIER WALL ELEVATION

N.T.S.



Section A-A

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN RIVER BANK PATTERN
BARRIER WALL DETAILS
STA 26+20.00 TO STA 31+20.00

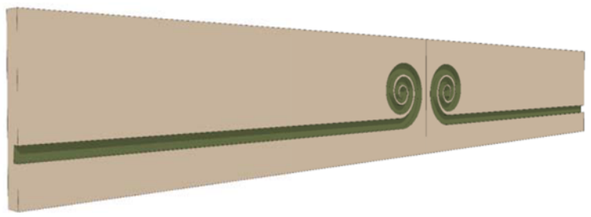
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.22
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

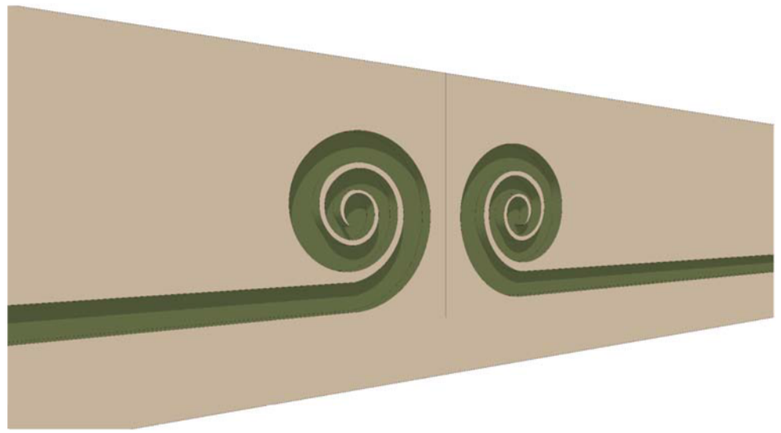
9:18:21 AM 12/17/2014 MARISSA.PELLEGRINI: \PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 3 BARRIER WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

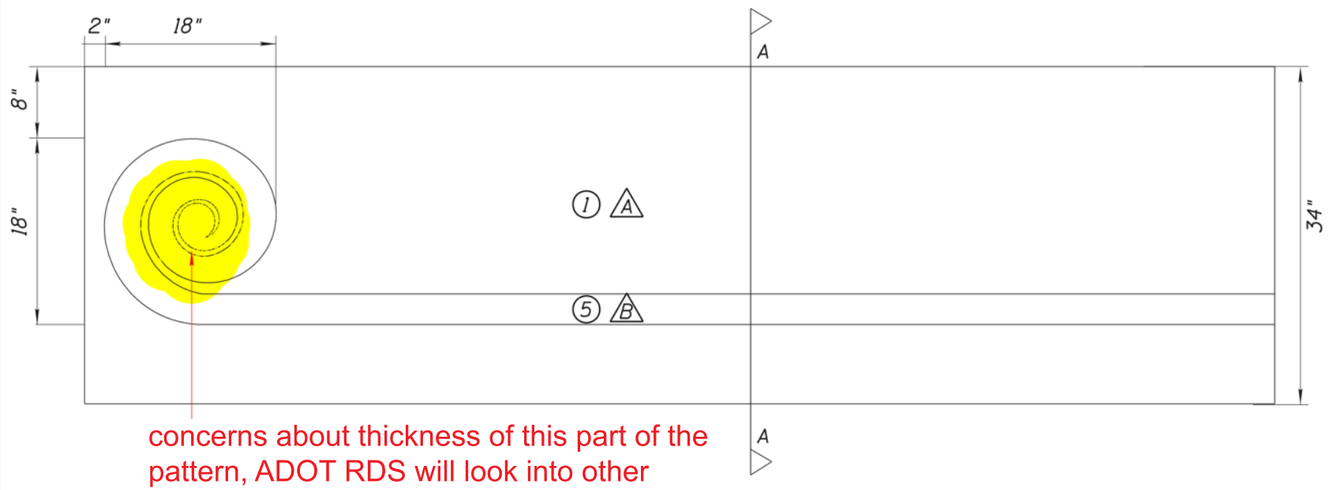
LEGEND

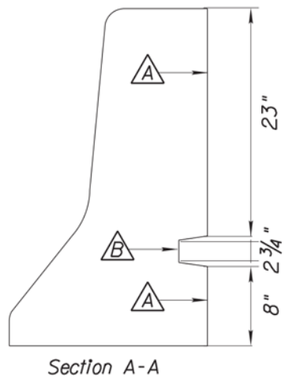
Rustication Thickness Key:

1. *Flush*
2. *Recessed ½"*
3. *Recessed 1"*
4. *Recessed 1½"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*





Section A-A

BARRIER WALL ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

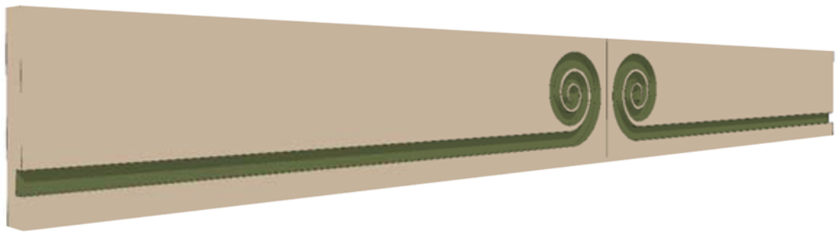
LEAF PORTAL PATTERN
BARRIER WALL DETAILS
STA 31+20.00 TO STA 32+85.00

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	EXHIBIT NO. L2.26
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

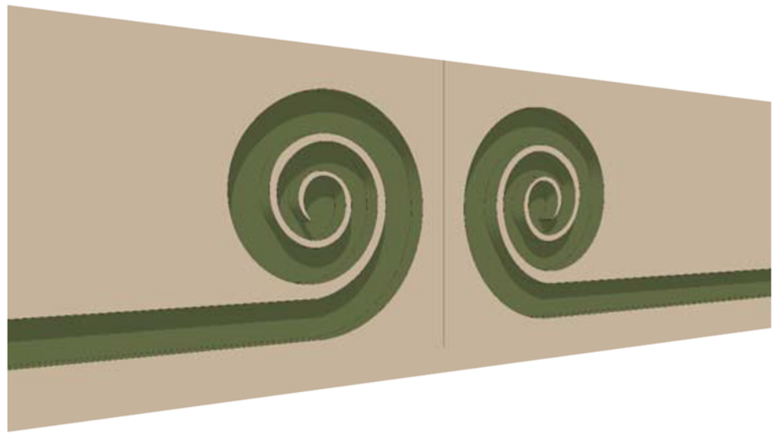
SURVEY NO. | DATE | LOCATION | REVISIONS | FINISHED PLANS | SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

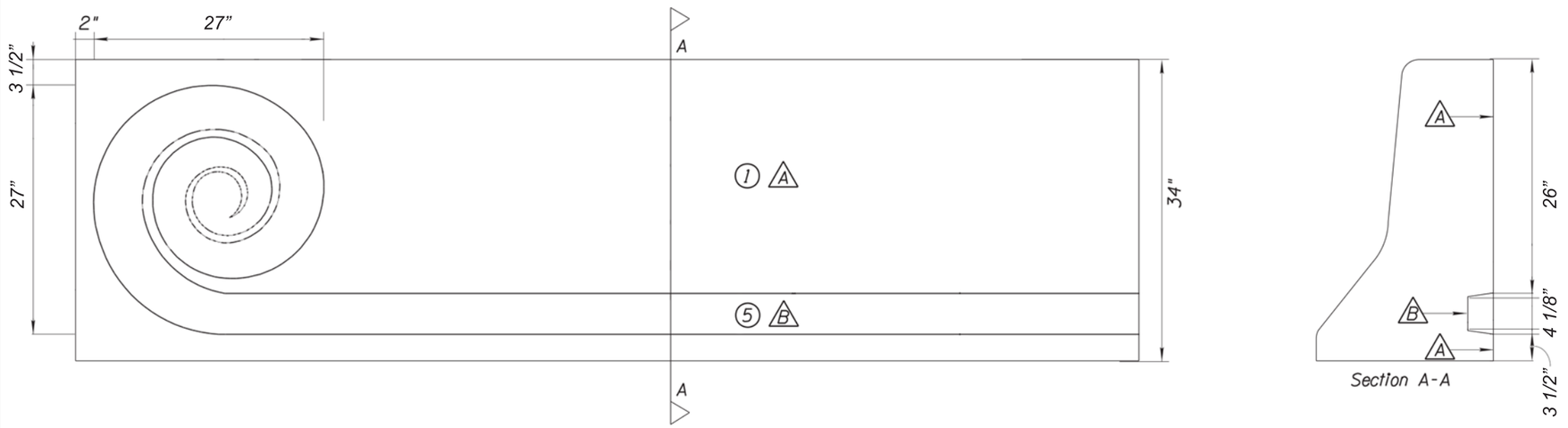
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

- A *Base Color: 'Silt'*
- B *Accent Color: 'Field Green'*



Section A-A

BARRIER WALL ELEVATION

N.T.S.

PRELIMINARY

NOT FOR CONSTRUCTION OR RECORDING

	NAME	DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADSIDE DEVELOPMENT SERVICES
DESIGN	-	-	
DRAWN	YLR	10/15	
CHECKED	JRS	10/15	
			LEAF PORTAL PATTERN BARRIER WALL DETAILS STA 31+20.00 TO STA 32+85.00
ROUTE	LOCATION		
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)		
TRACS NO. H5764 01L		NH-202-D (ADY)	

REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 11197 E. LEROY BRADY Date Signed ARIZONA, U.S.A. Expires 3/31/2017

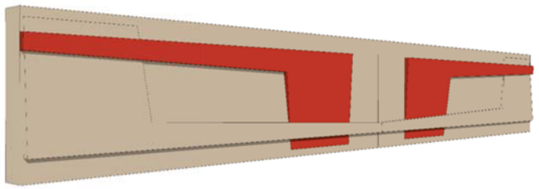
EXHIBIT NO. L2.26

___ OF ___

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

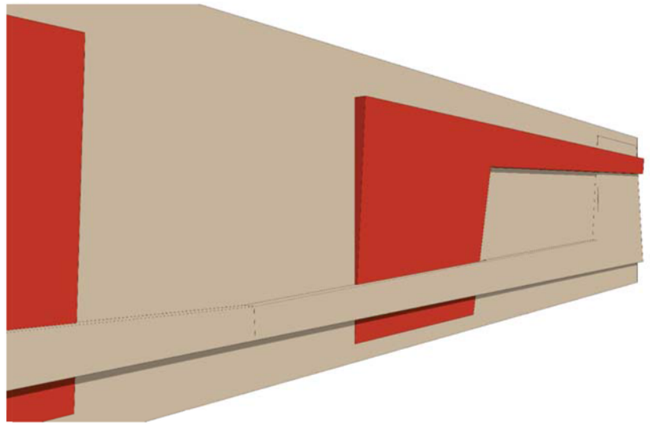
9:18:27 AM 12/17/2014 MARISSA.PELLEGRINI N:\PHX_LA\091995002_SOUTH MOUNTAIN AESTHETICS\CADD\PLANS\CONCEPT 4 BARRIER WALL DETAILS.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

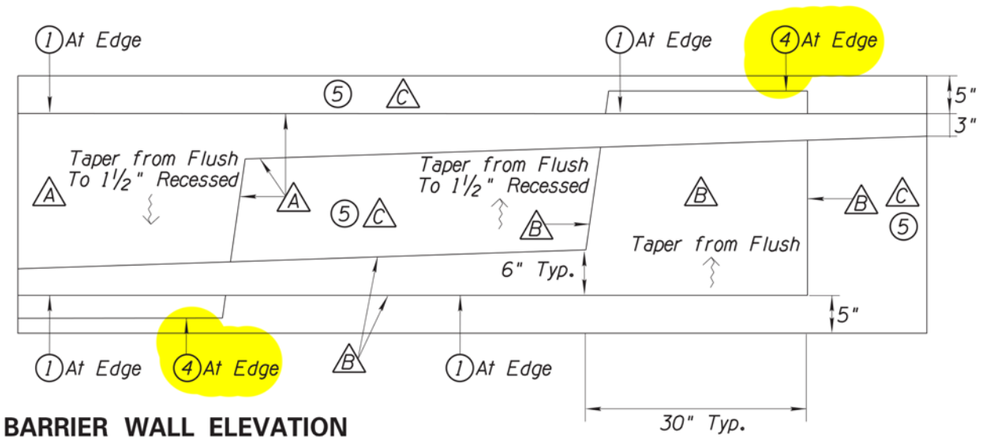
LEGEND

Rustication Thickness Key:

1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

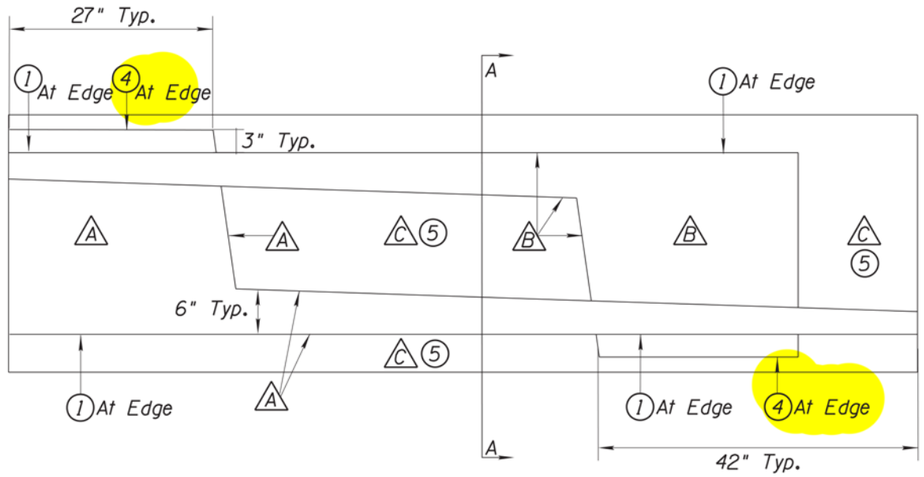
Paint Color Key:

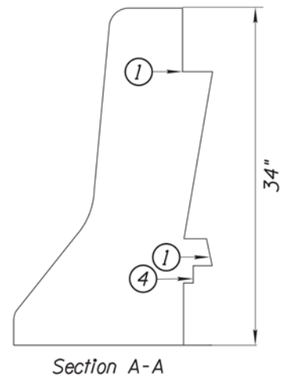
- A *Base Color: 'Silt'*
- B *Accent Color: 'Ocotillo Bloom'*
- C *Accent Color: 'Warm Earth'*



BARRIER WALL ELEVATION

N.T.S.





Section A-A

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

MOUNTAIN URBAN LINK PATTERN
BARRIER WALL DETAILS
STA 32+85.00 TO PROJECT ENDING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

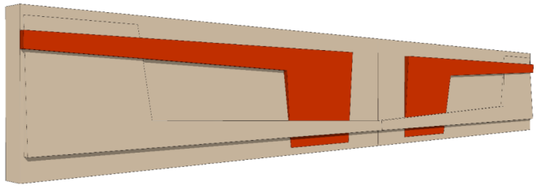
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.30

TRACS NO. H5764 01L | NH-202-D (ADY) | ____ OF ____

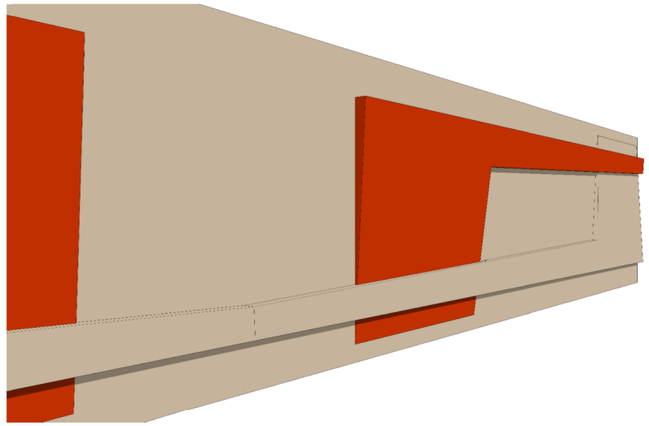
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D BARRIER WALL VIEW A

N.T.S.



3D BARRIER WALL VIEW B

N.T.S.

LEGEND

Rustication
Thickness Key:

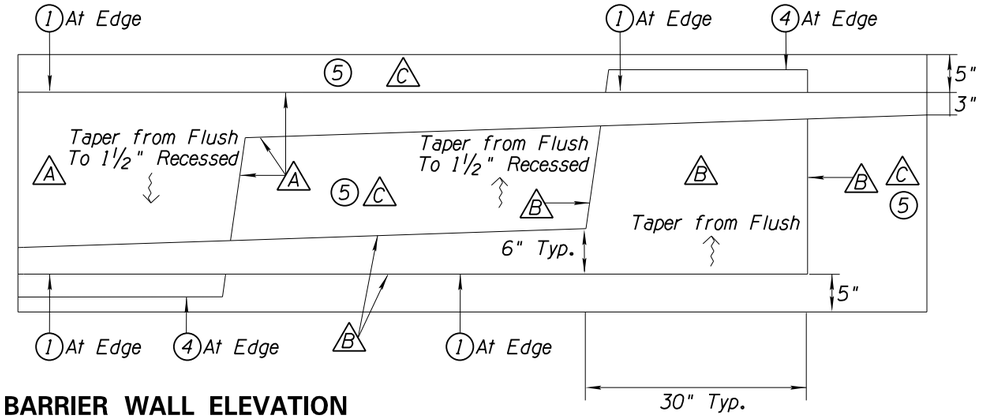
1. Flush
2. Recessed 1/2"
3. Recessed 1"
4. Recessed 1 1/2"
5. Recessed 2"

Paint Color Key:

C → ~~A~~ Base Color: 'Silt'

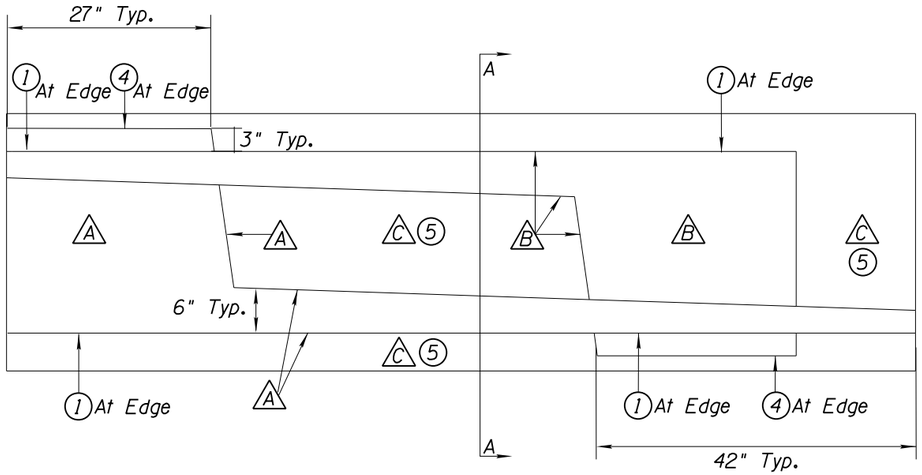
B Accent Color: 'Ocotillo Bloom'

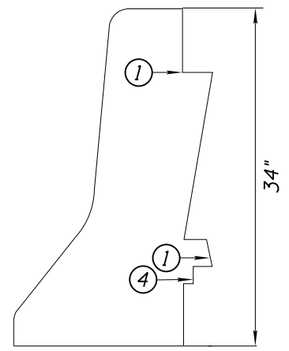
A → ~~C~~ Accent Color: 'Warm Earth'



BARRIER WALL ELEVATION

N.T.S.





Section A-A

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES
MOUNTAIN URBAN LINK PATTERN
BARRIER WALL DETAILS
STA 32+85.00 TO PROJECT ENDING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

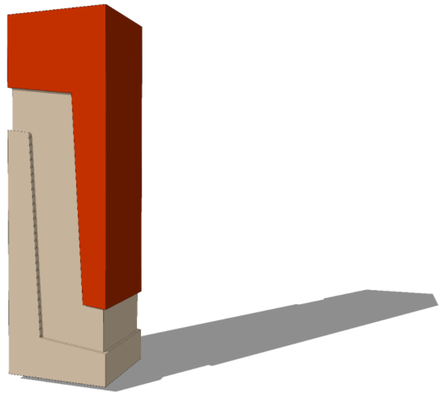
ROUTE	LOCATION
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)

EXHIBIT NO. L2.30

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

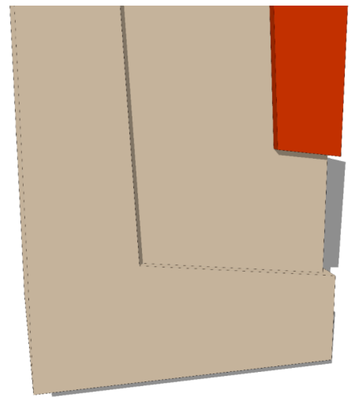
SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			
		202L MA 054			



3D PIER VIEW A

N.T.S.



3D PIER VIEW B

N.T.S.

LEGEND

Rustication Thickness Key:

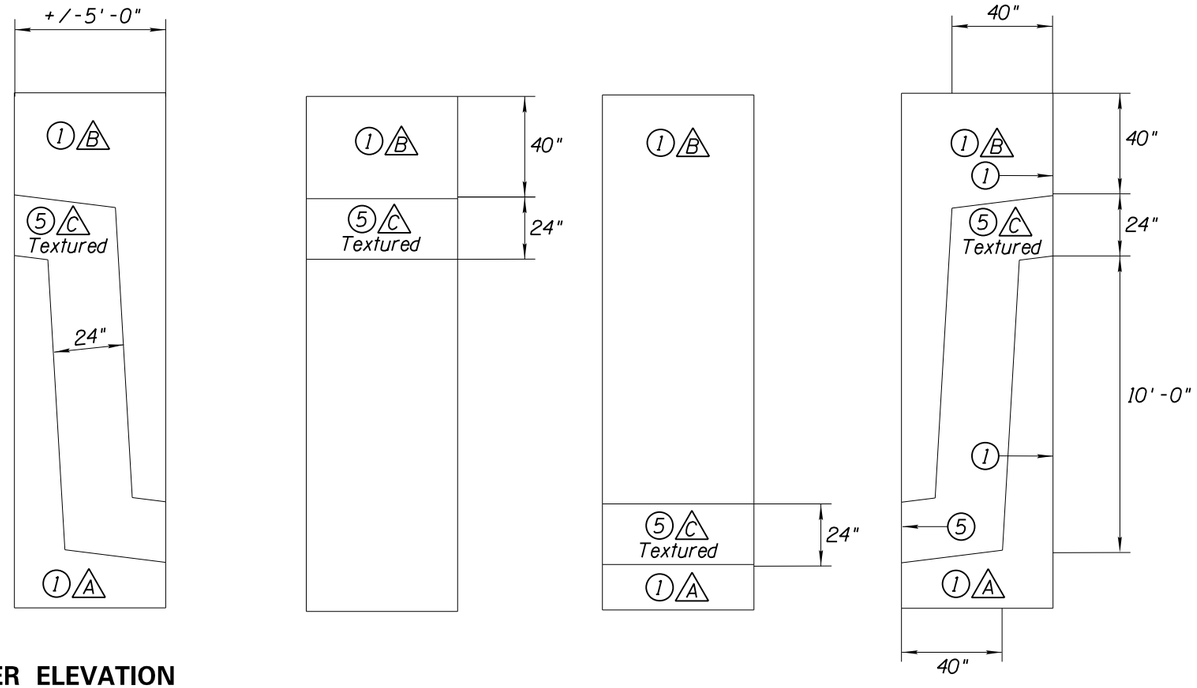
1. *Flush*
2. *Recessed 1/2"*
3. *Recessed 1"*
4. *Recessed 1 1/2"*
5. *Recessed 2"*

Paint Color Key:

C → ~~A~~ *Base Color: 'Silt'*

B Accent Color: 'Ocotillo Bloom'

A → ~~C~~ *Accent Color: 'Warm Earth'*



PIER ELEVATION

N.T.S.

	NAME	DATE
DESIGN	CMR	12/14
DRAWN	CMR	12/14
CHECKED	ACP	12/14

Kimley»Horn

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES

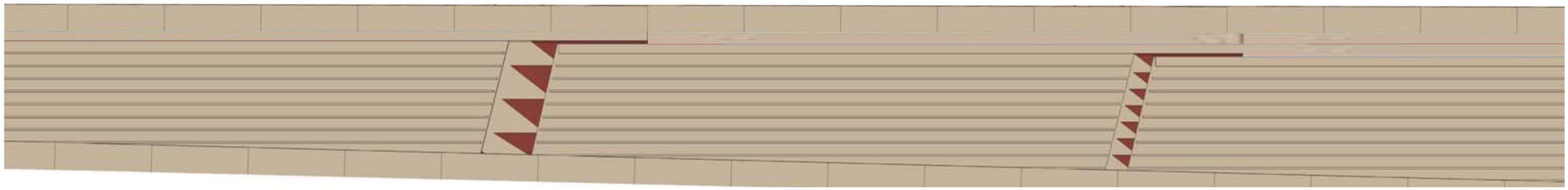
MOUNTAIN URBAN LINK PATTERN
PIER DETAILS
STA 32+85.00 TO PROJECT ENDING

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ROUTE	LOCATION	EXHIBIT NO. L2.31
SR 202L	I-10 (MARICOPA) - I-10 (PAPAGO)	
TRACS NO. H5764 01L	NH-202-D (ADY)	___ OF ___

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

Retaining Wall with barrier



Retaining Wall with fence

Retaining Wall

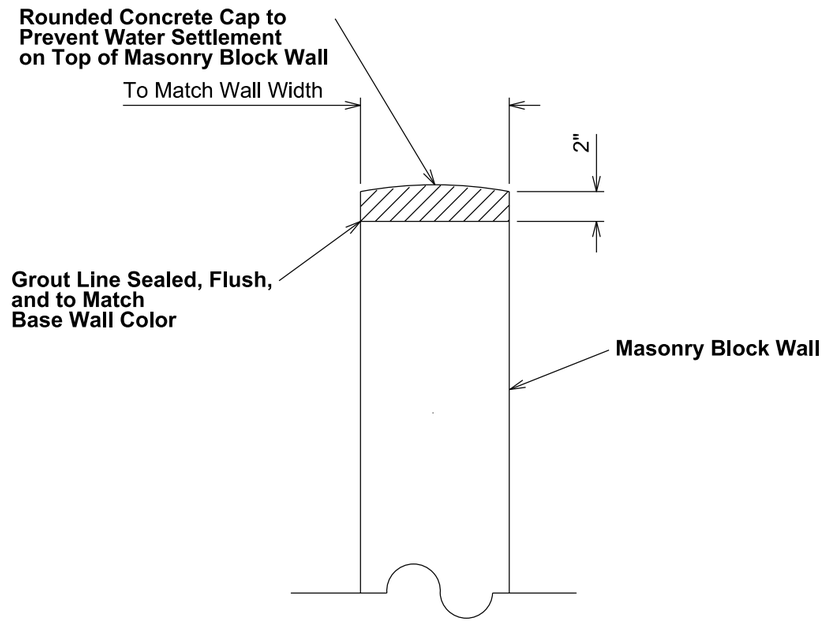
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	NH-202-D (ADY)			

202L MA 054

***Note:**

Wall Cap to match base wall paint color.

Expansion joints are to be grouted flush to wall cap and weather sealed.



Section View of Masonry Block Wall Concrete Cap
N. T. S.

	NAME	DATE
DESIGN	JOSEPH SALAZAR	05/15
DESIGN	TAO ZIFONG	05/15
DESIGN	HAN MENG	05/15
DRAWN		-
CHECKED	JOSEPH SALAZAR	05/15
TEAM LEADER	JOSEPH SALAZAR	05/15

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE
AESTHETIC DESIGN

PRELIMINARY
STAGE 11 15%
PLANS
NOT FOR CONSTRUCTION OR RECORDING

ROUTE: SR 202L
LOCATION: I-10 (MARICOPA) - I-10 (PAPAGO)
DWG NO

TRACS NO. H5764 01L | NH-202-D (ADY) | ___ OF ___

FILE NAME=$FILE$ SURVEY NO. FINISHED PLANS- REVISIONS- PLOT DATE=$DATE$ TIME=$TIME$ SURVEY NO. FINISHED PLANS- REVISIONS- PLOT SCALE=$PLOTSCALE$ PLOT BY:$USER$ LOCATION- DATE-

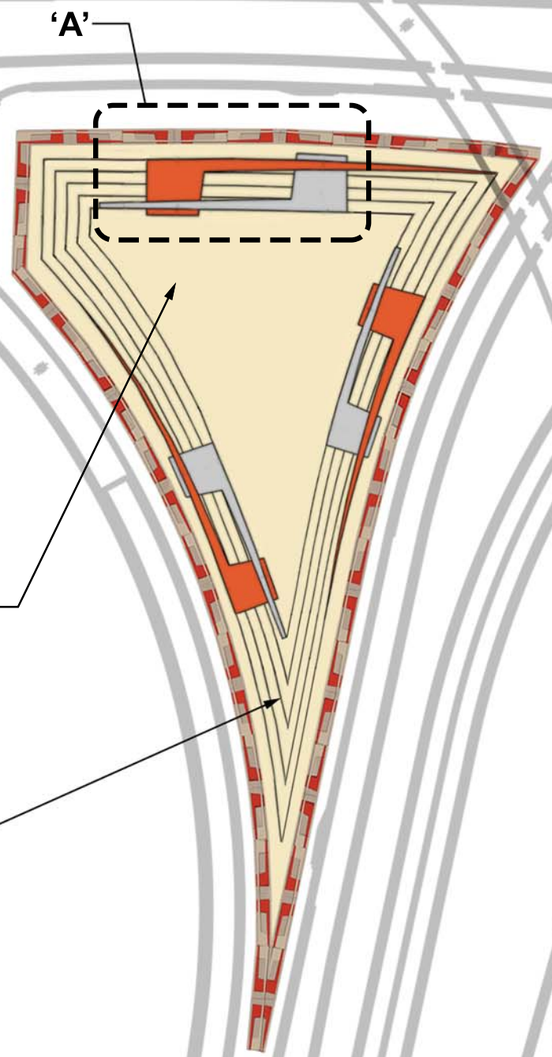
cccccSYSTIMEccccc ccccDGNcSPECIFICATIONccccc

L202/ I-10 T.I.

Landform Graphic

I-10

59TH AVE.

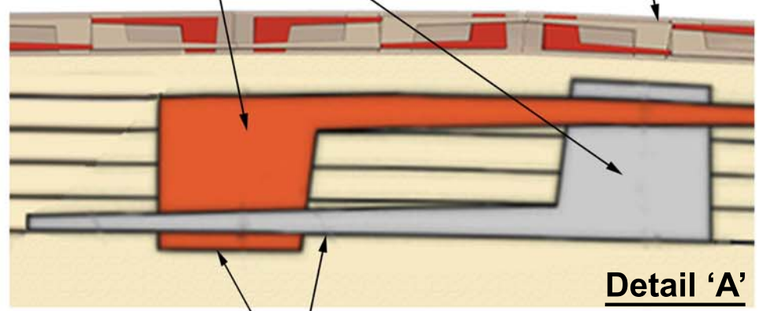


Accent landform rock mulch, 2”-4” screened,accent color per Aesthetic Area, typ.(TBD)

Accent border pattern, 1-1/4” base & accent granite per Character Area, typ. (TBD)

1-1/4” Base granite,base color per Character Area, typ. (TBD)

8” Concrete header edging (typ.), painted color per Aesthetic Area (TBD)



4” Concrete edging, painted color per Aesthetic Area (TBD)

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 11197 E. LEROY BRADY Date Signed ARIZONA U.S.A. Expires 3/31/2017

L202

ROOSEVELT STREET

Notes:
1. Landform Graphic typical on T.I. potential LFG areas and is to be field adjusted to achieve general scale, size, and proportions shown here.
2. Landform Graphics where used are to be on slope embankments, and mainline embankments.

Exhibit L2.45