

HISTORIC AND DESIGN REVIEW COMMISSION

December 02, 2015

Agenda Item No: 2

HDRC CASE NO: 2015-391
COMMON NAME: 500 E Martinez St
LEGAL DESCRIPTION: NCB 901 ALL OF BLOCK EXC LOTS 44, 45 & 46
ZONING: C3R H
CITY COUNCIL DIST.: 1
DISTRICT: Lavaca Historic District
APPLICANT: Gary Boyd/City of San Antonio
OWNER: City of San Antonio
TYPE OF WORK: Final approval of a temporary parking lot
REQUEST:

Applicant is requesting a Certificate of Appropriateness to construct a temporary parking lot located at 500 E Martinez Street (NCB 901), which is bound by Cesar Chavez, S Alamo, S Presa, and E Martinez Streets. The applicant has noted that none of the existing trees nor the PASA art piece will be removed. This will be a paid parking lot and will be operated by the City's Parking Division.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 5, Guidelines for Site Elements

3. Landscape Design

D. TREES

i. Preservation—Preserve and protect from damage existing mature trees and heritage trees. See UDC Section 35-523 (Tree Preservation) for specific requirements.

7. Off-Street Parking

A. LOCATION

i. Preferred location—Place parking areas for non-residential and mixed-use structures at the rear of the site, behind primary structures to hide them from the public right-of-way. On corner lots, place parking areas behind the primary structure and set them back as far as possible from the side streets. Parking areas to the side of the primary structure are acceptable when location behind the structure is not feasible. See UDC Section 35-310 for district-specific standards.

ii. Front—Do not add off-street parking areas within the front yard setback as to not disrupt the continuity of the streetscape.

iii. Access—Design off-street parking areas to be accessed from alleys or secondary streets rather than from principal streets whenever possible.

B. DESIGN

i. Screening—Screen off-street parking areas with a landscape buffer, wall, or ornamental fence two to four feet high—or a combination of these methods. Landscape buffers are preferred due to their ability to absorb carbon dioxide. See UDC Section 35-510 for buffer requirements.

ii. Materials—Use permeable parking surfaces when possible to reduce run-off and flooding. See UDC Section 35-526(j) for specific standards.

8. Americans with Disabilities Act (ADA) Compliance

C. DESIGN

iii. Curb cuts—Install new ADA curb cuts on historic sidewalks to be consistent with the existing sidewalk color and texture while minimizing damage to the historical sidewalk.

FINDINGS:

- a. The applicant received conceptual approval for the construction of a temporary parking lot at this location on October 7, 2015, with the stipulations that the applicant provide information regarding landscaping, buffering and screening, lighting and handicap parking prior to returning to the HDRC and that an archaeological investigation is required. This request was reviewed by the Design Review Committee on September 22, 2015, where committee members noted their concern regarding a pervious paving system, the existing PASA installation and parking rates and parking lot management.
- b. During conceptual review, staff commented that a temporary parking lot at this location is appropriate as long as needed, however, staff finds that a two year time frame for a Certificate of Appropriateness is appropriate and that if additional time is needed after two years from the date of permit issuance, the applicant shall reapply for parking at this location.
- c. The site currently features approximately twelve moderately sized trees, all of which the applicant has noted will remain on the site. This is consistent with the Guidelines for Site Elements 3.D.i.
- d. According to the Guidelines for Site Elements 7.A.i. the preferred location for off street parking is at the rear of the site behind primary structures. Given the unique nature of this site being an island and the proposed temporary status of the parking lot, staff finds this placement of parking appropriate.
- e. The required buffering and screening of off street parking is noted in both the UDC Section 35-510 and the Guidelines for Site Elements 7.B.i. The applicant has noted that the proposed parking lot will be landscaped to meet these requirements. The applicant has proposed to install curbing, decomposed granite and turf. This is consistent with the Guidelines.
- f. The applicant has provided specifications and product details regarding lighting and adequate handicap and compact car designated parking. This is consistent with the Guidelines.
- g. The applicant has proposed to install a TRUEGRID Permeable Paver system which will allow for a pervious paving service, reducing the impact of the proposed parking lot. Staff commends the applicant for selecting a pervious paving solution of the previously proposed asphalt paving.
- h. The property is adjacent to the La Villita National Register of Historic Places District, the Lavaca National Register of Historic Places District, and the King William National Register of Historic Places District. It is also within the Lavaca Local Historic District. In addition, a portion of the Madre Acequia traverses the project area. The Madre Acequia is a designated Local Landmark. Moreover, the property is within the site boundaries of previously recorded archaeological site 41BX303 and in close proximity to previously recorded archaeological sites 41BX591 and 41BX2068. Therefore, archaeological investigations shall be required for the project area.

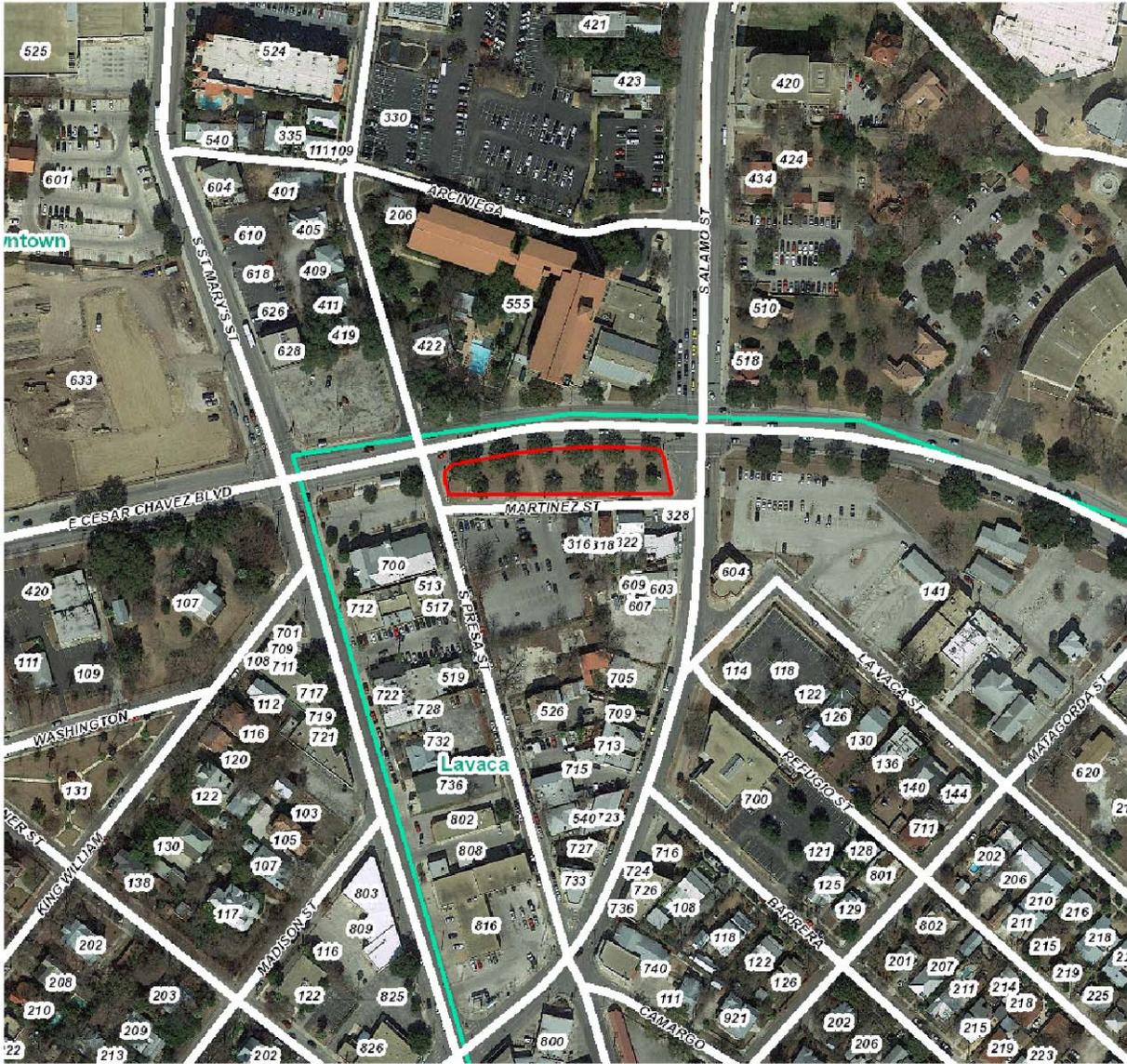
RECOMMENDATION:

Staff recommends approval based on findings a through h with the stipulation that an archaeological investigation is required.

Staff finds that a two year time frame for a Certificate of Appropriateness is appropriate and that if additional time is needed after two years from the date of permit issuance, the applicant can reapply for parking at this location.

CASE MANAGER:

Edward Hall





N

Flex Viewer

Powered by ArcGIS Server

Printed: Nov 23, 2015

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Proposed Temporary Parking Lot at 500 East Martinez Street

As there is a current pressing need for vehicular parking adjacent to the new Yanaguana Garden park development and in general throughout the Lavaca / Southtown area, Hemisfair Park Area Redevelopment Corporation proposes to develop a temporary surface parking lot on NCB 901 which is bounded by: Cesar Chavez, S. Alamo, S. Presa and East Martinez Streets.

The parking lot will be developed so that none of the existing trees are removed as well as the PASA art piece at the corner of Martinez and Presa.

The lot will be lighted, landscaped, have adequate handicap and compact car designated parking.

This will be a paid parking lot and will be operated by the City's Parking Division.



Martinez Street Temporary Parking Lot – View from corner of South Alamo and Cesar Chavez Streets



Martinez Street Temporary Parking Lot – View from corner of South Presa and Cesar Chavez Streets looking southwest



Martinez Street Temporary Parking Lot – View from Cesar Chavez Street looking southwest



Martinez Street Temporary Parking Lot – View from Cesar Chavez Street looking southeast



Martinez Street Temporary Parking Lot – View from South Presa Street looking east



Martinez Street Temporary Parking Lot – View from South Alamo Street looking west



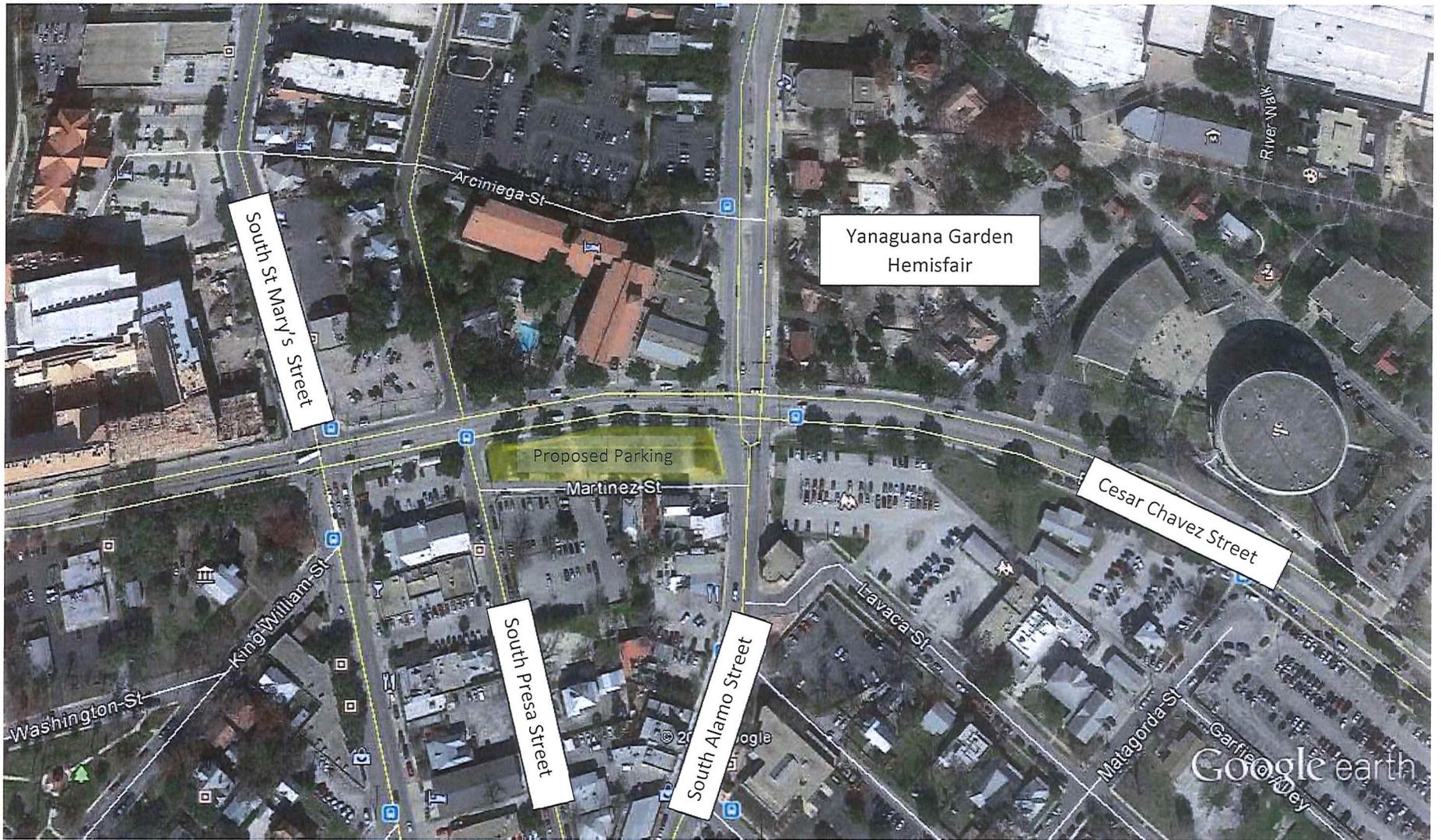
Martinez Street Temporary Parking Lot – View from Martinez Street looking east toward South Alamo Street



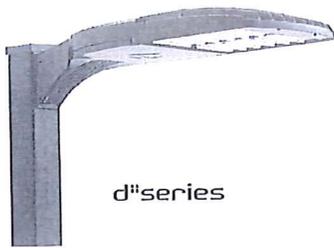
Martinez Street Temporary Parking Lot – View from Martinez Street looking east



Views of current sidewalk and curb conditions along Martinez Street.



Location Map of Proposed Martinez Street Temporary Parking Lot



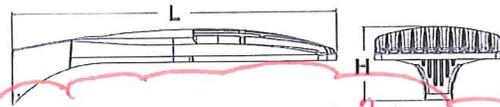
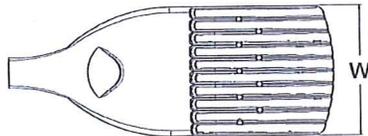
D-Series Size 1 LED Area Luminaire



d^{series}

Specifications

EPA:	1.2 ft ² (0.11 m ²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



Catalog Number
Notes
Type

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing 100 - 400W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

All lighting on Hemisphere must be below 3000K. Prefer 2700K

Ordering Information

EXAMPLE: DSX1 LED 60C 1000 40K T3M MVOLT SPA DDBXD

DSX1LED

Series	LEDs	Driver current	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	Forward optics	530 530 mA	30K 3000 K	T1S Type I Short	MVOLT ³	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁵ RPUMBA Round pole universal mounting adaptor ⁵ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁶
	30C 30 LEDs (one engine)	700 700 mA	40K 4000 K	T2S Type II Short		
	40C 40 LEDs (two engines)	1000 1000 mA (1 A)	50K 5000 K	T2M Type II Medium	208 ³	
	60C 60 LEDs (two engines)		AMBPC Amber phosphor converted ²	T3S Type III Short	240 ³	
	Rotated optics ¹			T3M Type III Medium	277 ³	
	60C 60 LEDs (two engines)			T4M Type IV Medium	347 ⁴ 480 ⁴	

Control options	Other options	Finish (optional)
Shipped installed PER NEMA twist-lock receptacle only (no controls) ⁷ PERS Five-wire receptacle only (no controls) ^{7,8} PER7 Seven-wire receptacle only (no controls) ^{7,8} DMG 0-10V dimming driver (no controls) ⁹ DCR Dimmable and controllable via ROAM [®] (no controls) ¹⁰ DS Dual switching ^{11,12} PIR Motion sensor, 8-15' mounting height ¹³	Shipped installed HS House-side shield ¹⁶ WTB Utility terminal block ¹⁷ SF Single fuse (120, 277, 347V) ¹⁵ DF Double fuse (208, 240, 480V) ¹⁵ L90 Left rotated optics ¹³ R90 Right rotated optics ¹³	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

Controls & Shields

Accessories <small>Ordered and shipped separately.</small>	DLL127F 1.5 JU Photocell - SSL twist-lock (120-277V) ²³
	DLL347F 1.5 CUL JU Photocell - SSL twist-lock (347V) ²³
	DLL480F 1.5 CUL JU Photocell - SSL twist-lock (480V) ²³
	SCU Shorting cap ²³
	DSX1HS 30C U House-side shield for 30 LED unit
	DSX1HS 40C U House-side shield for 40 LED unit
	DSX1HS 60C U House-side shield for 60 LED unit
	PUMBA DDBXD U* Square and round pole universal mounting bracket (specify finish)
	KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁶

For more control options, visit [www.lithonia.com](#) and [www.acuitybrands.com](#) online.

NOTES

- Rotated optics available with 60C only.
- AMBPC only available with 530mA or 700mA.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120V, 208V, 240V or 277V options only when ordering with fusing (SF, DF options).
- Not available with single board, 530mA product (30C 530 or 60C 530 DS). Not available with BL30, BL50 or PNMT options.
- Available as a separate combination accessory: PUMBA (finish U); 1.5 G vibration load rating per ANCI C136.31.
- Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option.
- If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR.
- DMG option for 347V or 480V requires 1000mA.
- Specifies a ROAM[®] enabled luminaire with 0-10V dimming capability; PER option required. Additional hardware and services required for ROAM[®] deployment; must be purchased separately. Call 1-800-442-6745 or email: sales@roomservices.net. N/A with DS, PIR, PIRH, PERS, PER7, BL30, BL50 or PNMT options.

- Requires 40C or 60C. Provides 50/50 luminaire operation via two independent drivers on two separate circuits. N/A with PER, DCR, WTB, PIR or PIRH.
- Requires an additional switched circuit.
- PIR specifies the SensorSwitch 58GR-10-ODP control; PIRH specifies the SensorSwitch 58GR-6-ODP control; see Motion Sensor Guide for details. Dimming driver standard. Not available with DS, PERS or PER7.
- Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PERS, PER7 or PNMT options.
- Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PERS, PER7, BL30 or BL50.
- Also available as a separate accessory; see Accessories information.
- WTB not available with DS.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Available with 60 LEDs (60C option) only.
- Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Controls.



TRUEGRID[®] PRO Plus Manufacturer's Product Specification Sheet

Dimensions:	24" x 24" x 1.8" (4 sq/ft)
Pre-Assembled:	16 sq/ft per layer (4' x 4' sheet) (4 grids per layer)
Cell Width:	3-3/16"
Weight:	5.22 lbs
Porosity:	90%
Compressive strength:	6,880 psi pre fill. Psi increases significantly with aggregate fill.
Material:	Recycled High Density Polyethylene (100% post-consumer)
Color:	Black with UV Stabilizer
Temperature Range:	Dimensionally Stable for -58F to 194F
Moisture Absorption:	.01%
Environmental Compatibility:	Nontoxic, harmless to plants, animals, and microorganisms. Inert material, groundwater neutral
Installation Speed:	1000 sq/ft per man hour

Other features of TRUEGRID

- Highly resistant to oils, gasoline, acids, salt, ammonia, and alcohol
- May be saw cut
- Patented design yields ultimate hoop strength
- Circular elements provide multi-directional crush and shear strength
- Flexible links allow expansion and contraction depending on environmental conditions
- Built in X-Anchors allows weight of filler to hold grid down without any extra staking
- Interlocking connectors

Ground Preparation: Depends upon site condition and local conditions.

Suggested Sub-base: 1/2" – 1-1/2" diameter clean/washed, angular gravel.
Depth of this layer should be a minimum of 2" - 6".
For additional drainage, increase depth of sub-base.
Class 2 road base (crushed concrete) is also a typical sub-base material.
Gravel/sandy soil mix (60/40) is also common for grass fill applications.
Level sub-base before laying TrueGrid.

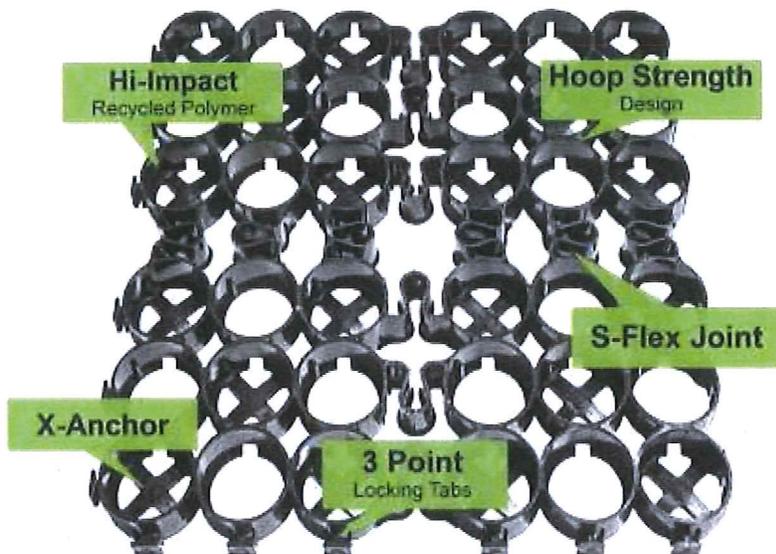
Installation: Layout and snap together pre-assembled sheets. (9 pcs per layer = 16 sq/ft)
If body weight does not level the grids, use plate vibrator or heavy cylinder to level.

Backfill: Any angular or round medium may be used. Fill cells with filler of choice.
3/4" diameter or smaller is recommended for gravel fill.

- TRUEGRID may be cut on site
 - Pre-cutting is not required
- Angle grinder, circular saw, compass saw, or handsaw are all options for cutting TRUEGRID.

Delivery:

- Pallet content: 800 sq/ft = 50 layers per pallet = 200 pcs
- Pallet dimensions: 48" x 48" x 95"
- Approximate pallet weight: 1,050 lbs
- Truckload: 24 pallets or 19,200 sq/ft



For more info on TRUEGRID
Please visit our website:

www.truegridpaver.com

TRUEGRID Permeable Paver Technical Specifications

SECTION 32 12 43 – Porous Flexible Paving

PART 1 – GENERAL

1.1 Description of Work

A. Work Included

1. Provide and install sub-base material as shown on drawings or per recommended sub-base alternatives as provided from additional manufacturer's information. See 2.2 Materials
2. Provide all TRUEGRID Permeable Paver products and installation per the manufacturer's instructions provided on this specification sheet and other available specification material.
3. Provide and install specified fill material for TRUEGRID gravel fill options and provide and install specified fill material for TRUEGRID grass fill options.

B. Related Work

1. Subgrade preparation under Section 31 20 00 Earth Moving.
2. Subsurface drainage materials – Section 33 46 00 Sub Drainage, when needed.
3. Irrigation installation – Section 32 80 00 Irrigation, when needed.

1.2 Quality Assurance

- A. Follow Section 01 33 00 Submittal Procedures requirements.
- B. Installation performed to provided specification or accepted alternative specification
- C. Certificates: Manufacturer signed certificate stating the product is MADE IN THE USA.
- D. Substitutions: No material will be considered as an equivalent to TRUEGRID unless it meets all areas of available specifications.

1.3 Delivery, Storage and Handling

- A. Protect TRUEGRID Permeable Paver units from damage during delivery and unloading.

1.4 Project Conditions

- A. Review installation and coordinate TRUEGRID Permeable Paver work with other work affected.
- B. All hard surface paving adjacent to TRUEGRID Permeable Paver areas, including concrete walks and asphalt paving should be completed prior to installation of TRUEGRID Permeable Pavers.

- C. For TRUEGRID’s grass fill application, install turf when ambient air temperatures is at least 55 degrees.
- D. In cold weather, do not use on frozen materials or materials mixed or coated with ice or frost, and do not build on a frozen base or wet, saturated or muddy subgrade
- E. Protect partially completed paving against damage from other construction traffic when work is in progress.

1.5 Limited Warranty

- A. TRUEGRID Permeable Paver warrants to its purchasers that all products furnished will be free from defects in material and/or workmanship.
- B. This warranty shall extend for a period of (5) years following the date of shipment.
- C. Providing a written claim is presented TRUEGRID within the warranty period and after inspection by TRUEGRID showing the materials have failed under the warranty, all defective materials shall be refurbished under the warrant at no charge, excluding re-installation costs.
- D. Our liability under this warranty is limited to the refurbishing of materials and does not include any responsibility for incidental consequential, or other damages of any nature.

PART 2 – PRODUCTS

2.1 Availability

- A. Acceptable Manufacturer: TRUEGRID Pavers, 2500 Summer St., Suite 3225, Houston, TX 77007
Phone: 1-855-355-GRID. Email: nwood@truegridpaver.com Website: www.truegridpaver.com

2.2 Materials

- A. Base Course: TRUEGRID was developed for multiple acceptable base materials. Locally sourced angular stone/clean for base material. Crushed granite, sandy gravel material, crushed concrete, limerock, and crushed lava are acceptable materials. Variations in permeability of aggregates should be considered.

- 1. Conforming to the following sieve analysis and requirements:

<u>% Passing</u>	<u>Sieve Size</u>
100	¾" - 1"
85	3/8"
60	#4
30	#40
<3	#200

- 2. Sources of the material may include “pit run” or “crusher run”. Crusher run material will typically require sand to be added (20 to 30 percent by volume) for long term high porosity. Should local sources not be available an alternative mixture can be created by mixing 2/3 crushed stone (.75 dia) with 1/3 sand as available.
- 3. Geo grid or Geo fabric may be required for soil stabilization between sub grade and base material. Consult with site engineer or TRUEGRID for specifics or recommendation.

- B. TRUEGRID Permeable Pavers: Injection molded, highly durable, plastic grid structure with unique design components for high load capacity, high traffic applications. Produced from 100% Post Consumer Plastic. 1.8" cell height. Pre-assembled in 4' x 4' sheets for quick installation. Sheets can be reconfigured if needed. (See TRUEGRID Specifications Sheet for more specifications and information.)
- C. *Gravel Fill*: Obtain clean, washed angular rock to fill the 1.8" tall TRUEGRID cells and spaces between. TRUEGRID can be filled to top of cells and exposed or overfilled to hide cells. Maximum rock should be 3/4" in diameter and below.
 - 1. TRUEGRID's design does not require anchors on level ground or slopes up to 15 degrees. TRUEGRID is designed for slopes above 15 degrees. However, as a precaution, anchors/staking may need to be considered per each sloped install above 8 degrees.
- D. *Grass Fill*: A sandy loam or loam soil should be used to fill the empty grass paver cells. The selection of sandy loam or loam soil should be made based upon the soil requirements of the turf variety selected for the project. Other soils if compatible with type of seed or sod are acceptable.

PART 3 – EXECUTION

3.1 Limited Warranty

- A. Examine sub-grade course installed conditions. Do not start TRUEGRID Permeable Paver installation until unsatisfactory conditions are corrected. Check for improperly compacted trenches, debris, and improper gradients.
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance. If existing conditions are found unsatisfactory, contact Quality Control Manager for resolution.

3.2 Preparation

- A. Place base course material over prepared sub base to grades shown on plans or from TRUEGRID's recommended depths per application type, in lifts not to exceed 6", compacting each lift separately to 95% Modified Proctor for non-open grade material. Open grade base material to be leveled and compacted to settle and lock in angular stone. Leave minimum 1.8" for TRUEGRID Permeable Paver unit for final elevation.

3.3 Installation of TRUEGRID Permeable Pavers

- A. Install TRUEGRID Permeable Paver units by placing cells face up. Sheets come preassembled in 4'x4' sheets and connect with friction fit interlocking connectors. No tooling required to connect or disconnect TRUEGRID units. (9) Individual 16"x16" pieces can be disconnected from each 4'x4' sheet and reconfigured as needed. Units can be cut around curves and organic shapes on the job site with any electrical handsaw. Maintain 1" clearance to any pre-installed object or surface structure. Top of cells shall be between .25" to .5" below the surface of adjacent hard-surface pavements.
- B. Rock or soil fill aggregate can be driven directly on pre-filled TRUEGRID to be dumped and spread

3.4 Installation of Gravel Fill: TRUEGRID gravel fill applications only

- A. Install Gravel into TRUEGRID cavities by back dumping directly from dump truck or from buckets mounted to tractors. Hand shoveling fill gravel into the cells is also acceptable for smaller jobs. Direct exit the site by driving forward. While TRUEGRID Permeable Pavers can handle high load capacities while empty, avoid sharp turns over unfilled rings.

The gravel fill can then be spread from the pile using steer loaders, power brooms, blades, flat bottomed shovels, and/or wide “asphalt rakes” to fill the cells. The gravel should then be compacted when the cells are at capacity by using a roller for larger areas or a vibrating plate for smaller areas. If fully covering TRUEGRID cells, typical coverage is .25” - .5” above cells.

3.5 Installation of Grass Fill: TRUEGRID grass fill applications only – See Section 32 92 19 Seeding and 32 91 13 Soil Preparation. Choose either seed or sod.

- A. Hydroseeding/hydro-mulching – A combination of water, seed and fertilizer are homogeneously mixed in a truck mounted tank. The seed mixture is sprayed onto the site at rates shown in specification section 32 92 19.16 Hydraulic Seeding. Coverage should be uniform and complete. Following germination of the seed, areas lacking germination larger than 8”x 8” must be reseeded immediately. Seeded areas must be fertilized and kept moist during development of the turf.
- B. Sod – Use 0.5” thick (soil thickness) rolled sod from a reputable grower. Species should be wear resistant, free from disease, and in excellent condition.

3.6 Protection

- A. Gravel fill: Avoid sharp turns or “jack knives” in trailered vehicles when cells are empty. Damage due to buckling can occur.
- B. Grass Fill / Seeded: Seeded areas must be protected from any traffic, other than emergency vehicles, for a period of 4 – 6 weeks, or until the grass is mature to handle traffic. Avoid sharp turns or “jack knives” in trailered vehicles when cells are empty. Damage due to buckling can occur.
- C. Grass Fill / Sodded: Seeded areas must be protected from any traffic, other than emergency vehicles, for a period of 3 – 4 weeks, or until root system has been established.

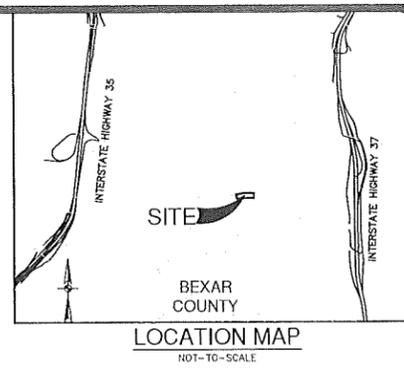
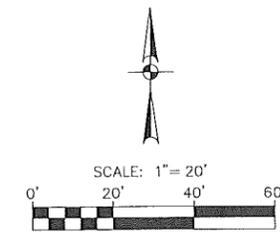
3.7 Field Quality Control

- A. Any damaged sections of TRUEGRID Permeable Pavers during install can be removed and replaced with no evidence of replacement apparent.
- B. Remove all excess materials, debris, and equipment from site upon completion of install.

3.8 Maintenance

- A. Grass Fill: Normal turf care procedures should be followed including as specified in Section 32 92 00 Manufacturers of Turfs and Grasses.
- B. Gravel Fill: If the install is one that is initially a cell covered install, raking gravel back over exposed cell tops may be necessary if over fill aggregate migrates.
- C. When snow removal is required, keep edged plow blade a minimum of 1” above the TRUEGRID surface to avoid damage to the TRUEGRID Permeable Paver Surface.

END OF SECTION 32 12 43

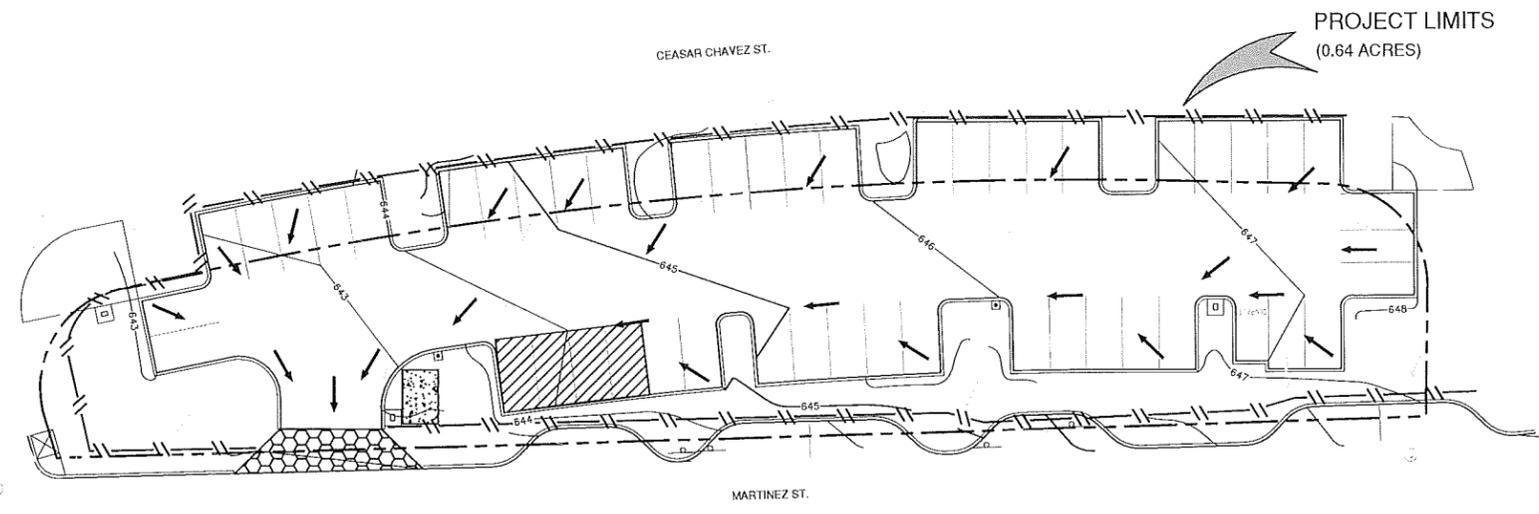


NO.	REVISION	DATE

This document is released for INTERIM REVIEW purposes ONLY under the authorization of Thomas Matthew Carter, P.E. #79272 on 10/16/2015. This document is not to be used for CONSTRUCTION.

LEGEND

- PROPERTY LINE ————
- EXISTING CONTOURS ————
- PROPOSED CONTOURS ———— 855
- FLOW ARROW (EXISTING GRADES) →
- FLOW ARROW (PROPOSED GRADES) →
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED) [Symbol]
- CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED) [Symbol]
- CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED) [Symbol]
- SILT FENCE [Symbol]
- PROJECT LIMITS [Symbol]
- GRAVEL FILTER BAGS [Symbol]
- INLET PROTECTION [Symbol]



GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO CONCLUDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS. OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

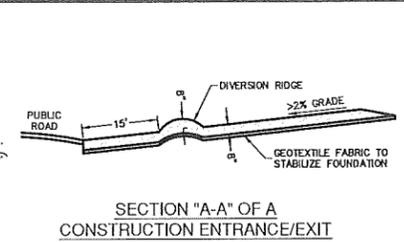
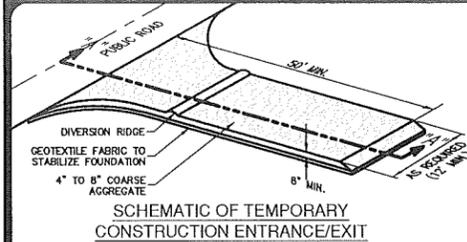
PAPE-DAWSON ENGINEERS
 2000 HW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9600
 TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 1002850
 TEXAS BOARD OF PROFESSIONAL LAND SURVEYING, FIRM REGISTRATION # 1002850

HEMISFAIR SURFACE PARKING LOT
 SAN ANTONIO, TEXAS
 SWPPP

PLAT NO.	-
JOB NO.	7845-20
DATE	OCTOBER 2015
DESIGNER	AB
CHECKED	CO DRAWN JR
SHEET	C2.00

Date: Oct 16, 2015, 4:42pm User ID: jrbayna
 File: P:\7646\20\Version\DWG\764620.dwg

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MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD². A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SEIVE.
4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

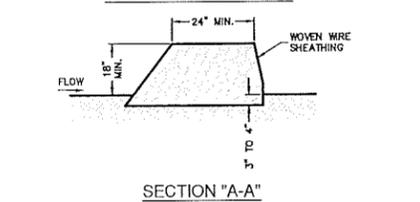
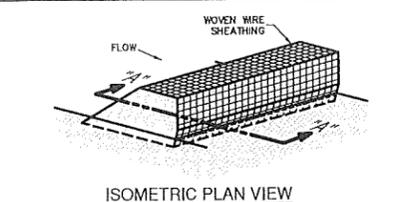
1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2% CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL—SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC—EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.
5. UNSTABLE FOUNDATION—USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT—ADDED RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FURTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMS/EDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
3. REPAIR ANY LOOSE WIRE SHEATHING.
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOOT RINGS.
2. CLEAN, OPEN GRADES 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

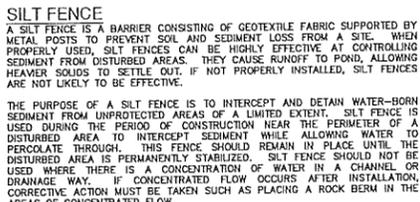
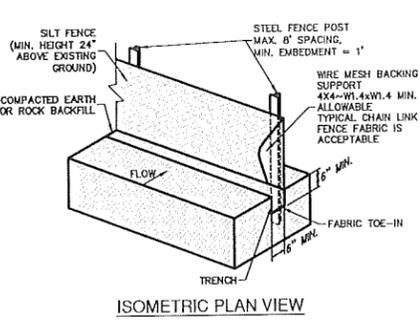
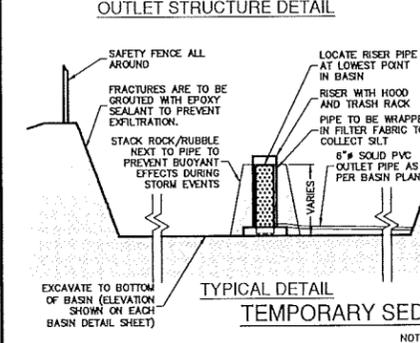
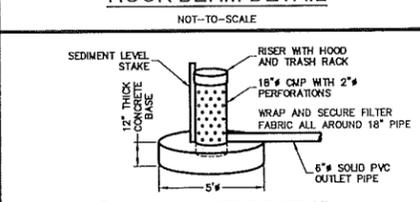
INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTOUR.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL



SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVY SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGEWAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD², MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SEIVE NUMBER 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH 1/2" OR 1" BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRIDGELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.
3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPRADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

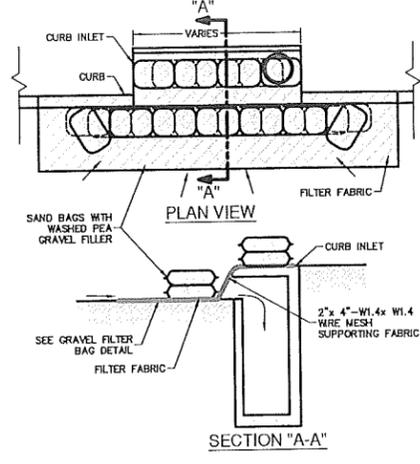
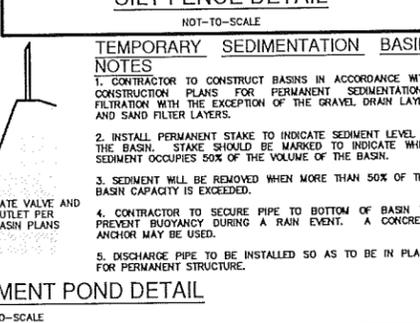
COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.
2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).
3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).
4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

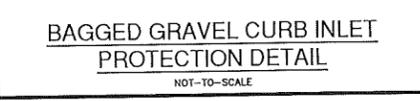
1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERRED TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE DETAIL

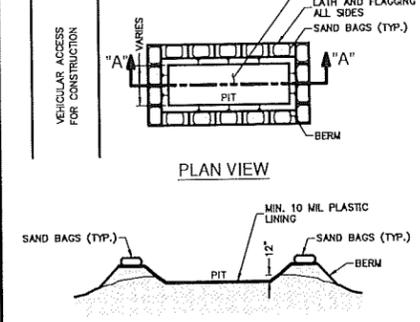


BAGGED GRAVEL CURB INLET PROTECTION DETAIL

- GENERAL NOTES**
1. CONTRACTOR TO INSTALL 2" X 4" X 1/4" WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.
 2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
- INSPECTION AND MAINTENANCE GUIDELINES**
1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
 2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
 3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
 4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
 5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



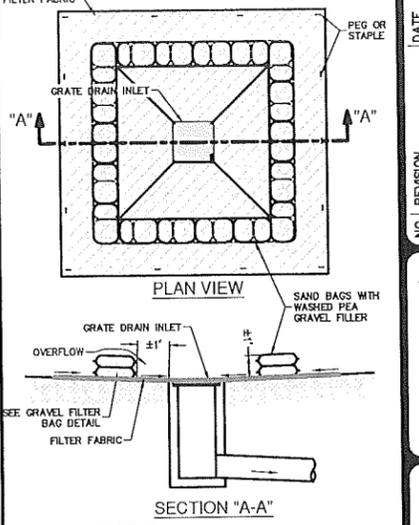
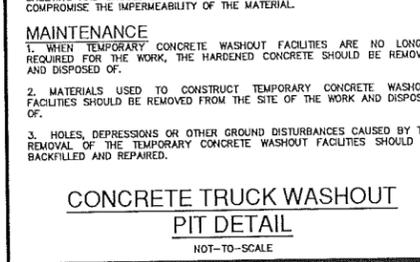
BAGGED GRAVEL GRATE INLET PROTECTION DETAIL



GRAVEL FILTER BAG DETAIL

- GENERAL NOTES**
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.
 2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).
 3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

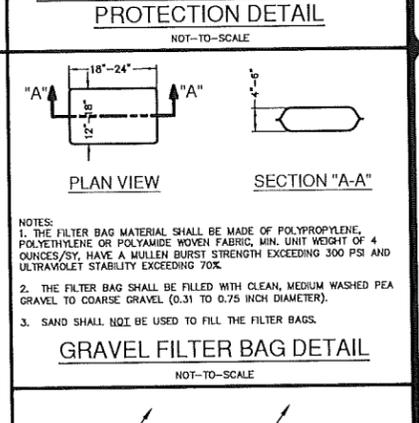
CONCRETE TRUCK WASHOUT PIT DETAIL



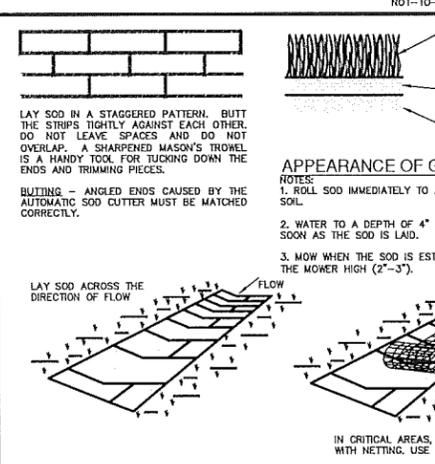
CONSTRUCTION STAGING AREA

- GENERAL NOTES**
1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
 2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
 3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
 4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
 5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

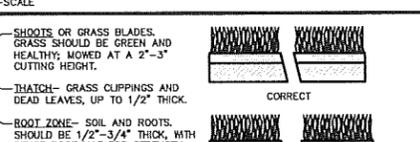
CONCRETE TRUCK WASHOUT PIT DETAIL



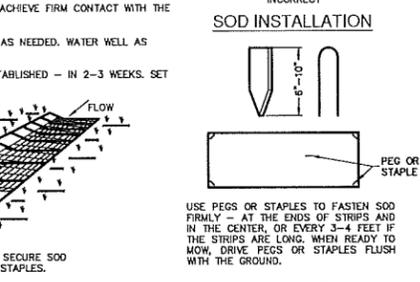
STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL



APPEARANCE OF GOOD SOD



SOD INSTALLATION



MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.
3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.
4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOD PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.
2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.
3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).
4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).
5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.
7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.
8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.
2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL



DATE	
NO.	
REVISION	

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 TEXAS BOARD OF PROFESSIONAL ENGINEERS, REGISTRATION # 1002880
 TEXAS BOARD OF PROFESSIONAL LAND SURVEYORS, REGISTRATION # 1002880

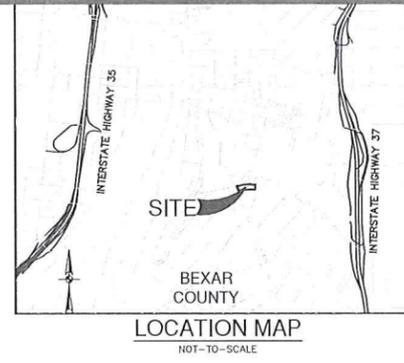
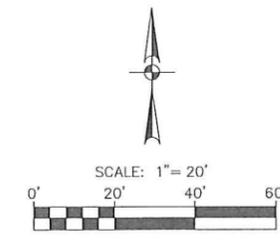
HEMISFAIR SURFACE PARKING LOT
 SAN ANTONIO, TEXAS

SWPPP DETAILS

PLAT NO.	
JOB NO.	7645-20
DATE	OCTOBER 2015
DESIGNER	AB
CHECKED	CO
DRAWN	JR
SHEET	C2.10

Date: Oct 16, 2015 4:42pm User: ID: 60498
 File: P:\2015\10\16\201507\SWPPP\C2.10.dwg

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NO.	REVISION	DATE

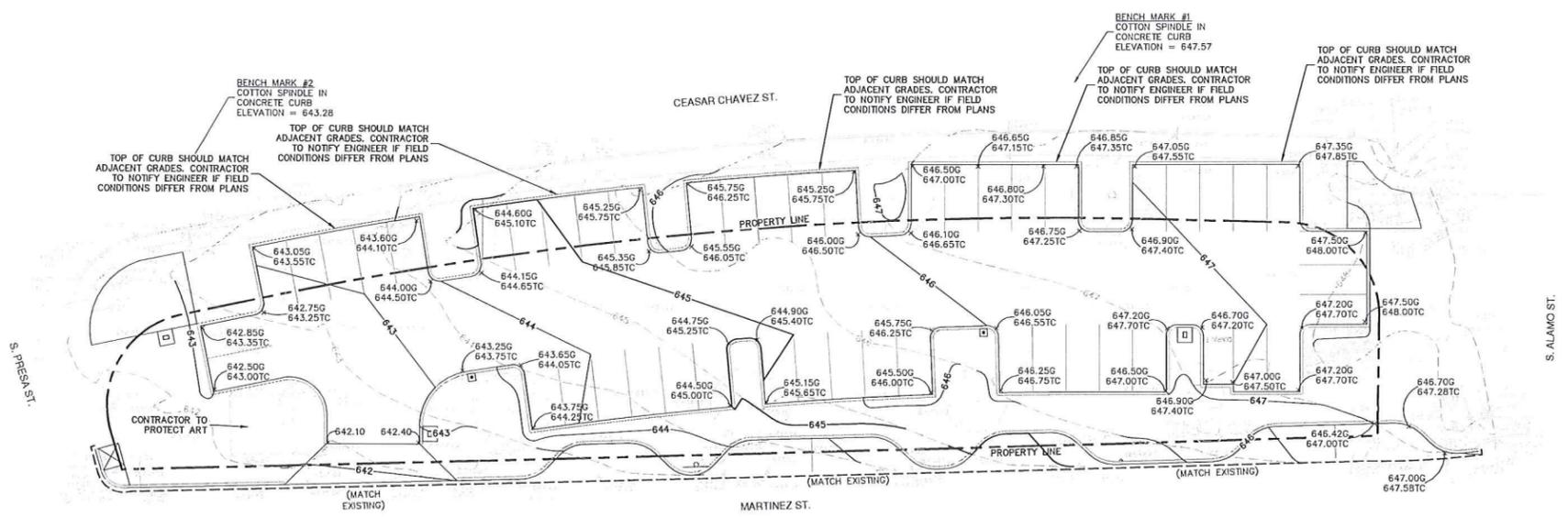
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LEGEND

PROPERTY LINE	---
EXISTING CURB	====
PROPOSED STANDARD CURB	=====
PROPOSED HEADER CURB	=====
EXISTING CONTOURS	- - - -
PROPOSED CONTOURS	— 85 —
PROPOSED SPOT ELEVATIONS	*885.00
EXISTING SPOT ELEVATION	

GRADING NOTES:

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
- ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
- ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGEWAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
- THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
- IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1%. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1:0.8 UNLESS OTHERWISE SHOWN.
- THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
- UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
- POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
- FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
- NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.



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PARE-DAWSON ENGINEERS

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HEMISFAIR SURFACE PARKING LOT
 SAN ANTONIO, TEXAS

GRADING PLAN

PLAT NO.	-
JOB NO.	7645-20
DATE	OCTOBER 2015
DESIGNER	AB
CHECKED	CD, DRAWN JR
SHEET	C5.00