



Transbay Transit Center
San Francisco, CA
CM/GC Contract No. 08-04-CMGC-000
Project No. 30100

**BID PACKAGE TG07.9
ADDENDUM # 6**

DATE: 11/12/2014
TO: All Qualified Bidders
FROM: Webcor/Obayashi Joint Venture
BID DUE DATE: **November 18, 2014 at 3:00 p.m.**

COMMUNICATION WITH WEBCOR/OBAYASHI JOINT VENTURE

At no time during the bid process (defined as the time between issuance of the IFB until award of Subcontract to Trade Subcontractor) shall Bidders contact any person(s) or staff of the TJPA, TJPA Program Management/Program Controls (PMPC) team, Webcor/Obayashi Joint Venture, CM Oversight (CMO), or other TJPA Consultants regarding the IFB. The only contact is for submission of questions using the contact directions as described in Exhibit A, Section III. "Communication with Webcor Obayashi Joint Venture".

The QBD and Pre-Bid Request for Substitution submission time frame expired on **Thursday, October 30, 2014 at 2:00 p.m.**

Bids are due on **Tuesday November 18, 2014 at 3:00 p.m.** (formerly Tuesday November 18, 2014 at 2:00 p.m.)

Reference the Project Bidding Manual, Section III.B.1 regarding document availability and how to obtain the documents.

MODIFIED DOCUMENTS PER ADDENDUM # 6

The items listed below make up the TG07.9 – Bollards and Barriers Bid Package Addendum # 6. This Addendum shall supersede all previously issued Bidding Documents. All other conditions and requirements remain unchanged.

- a. Exhibit A – Trade Subcontractor Bid Package Manual and Forms – Subcontracts #301000709, dated 11/12/2014.
 - 1) Revised Table of Contents
 - 2) Revised Section II. “Key Dates for Bidding Process”; Package Timeline
 - 3) Revised Section IV. “ Scope of the Package and Bid Item Information”; Estimated Value
 - 4) Revised Section VII. “Contract Document List”
- b. Long Form Subcontract – Rev. B, dated 11/12/2014
- c. Questions on Bid Documents (QBD) Responses
 - 1) The attached IFB Questions and Answers are incorporated into the Bid Documents by this Addendum.

END OF ADDENDUM # 6

TG07.9 – Bollards and Barriers

Questions are numbered in the order received.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-001	8/20/2014		ASI 121 28 16 44	We respectfully request that proprietary M50 rated active vehicle wedge barrier (SW 1900) be added to the approved manufactured list. Please see attached documentation.	FutureNet is an acceptable manufacturer of phalanx barriers and operable bollards. The Trade Subcontractor will be required to submit specific product data for the FutureNet barriers they intend to provide that meets the criteria identified within Specification Sections 28 16 44 and 28 16 44/APA.

SUMMARY TEST REPORT

Contract No.: P2011375
Summary Test Report No.: STR-400001-SWS1
Project Name: ASTM F2656-07 M50 Testing of 9 ft Wedge
Sponsor Name: Smith & Wesson Security Solutions

DATE: August 22, 2011

TO: Mark R. Morgan
Smith & Wesson Security Solutions

FROM: D. Lance, Bullard, Jr., P.E., Research Engineer, TTI Roadside Safety &
Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground
Richard A. Zimmer, Senior Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:

Name: D. L. Bullard, Jr.
Phone: 979-845-6153
E-mail: l-bullard@tamu.edu

SUMMARY TEST REPORT:

Disclaimer:

This report does not constitute a standard, specification, or regulation. Texas A&M University and Texas Transportation Institute assume no liability for its contents or use thereof. The names of specific products or manufacturers listed herein do not imply endorsement of those products or manufacturers. The results reported herein apply only to the security device being crash tested. The crash test was performed according to *ASTM F2656-07* standard specifications and TTI Proving Ground quality procedures.

Test Article Design and Construction

Drawings for the Smith & Wesson 9 ft wedge barrier are provided in Attachment A.

Assessment and Conclusions

On the morning of July 18, 2011, TTI Proving Ground performed *ASTM F2656-07* M50 test on 9 ft wedge barrier designed and manufactured by Smith & Wesson Security Solutions. A 2000 International 4700 single-unit flatbed truck impacted the 9 ft wedge barrier at 90.1 degrees,

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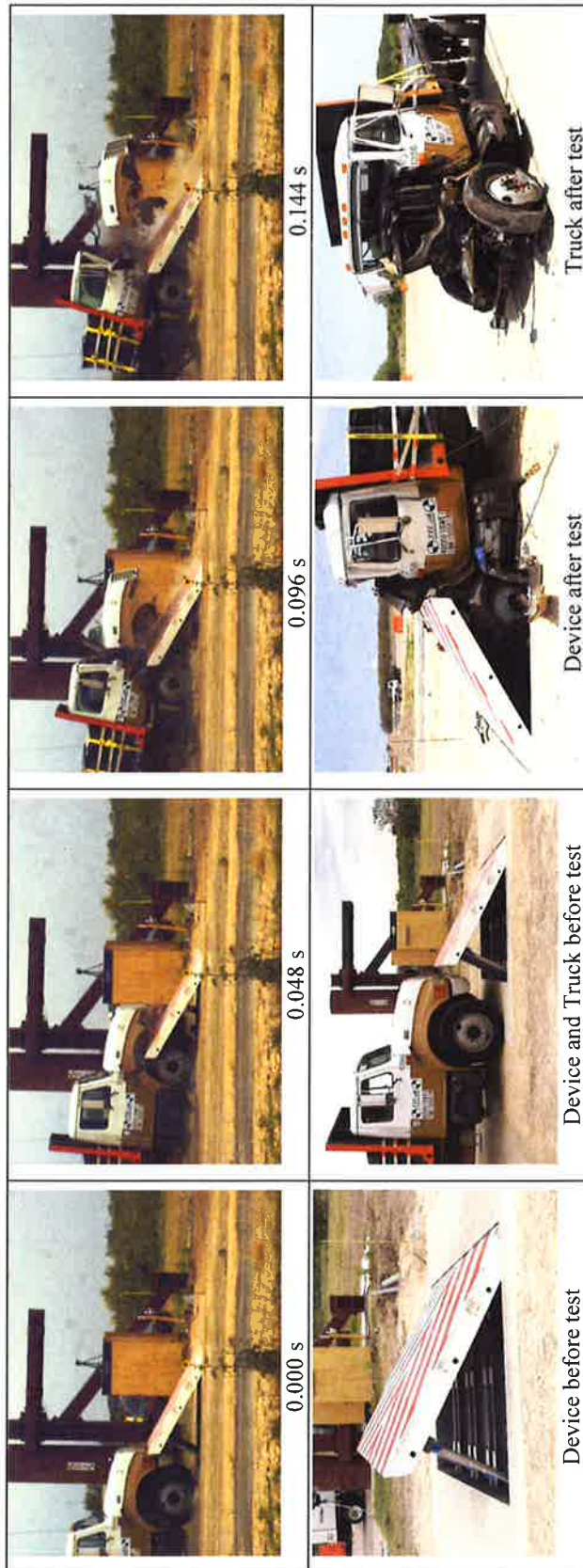
TTI Proving Ground
3100 SH 47, Bldg. 7091
Bryan, TX 77807

with the centerline of the vehicle aligned with the centerline of the 9 ft wedge barrier. The acceptable range for impact speed for this M50 test was 47.0 mi/h or above, and the actual impact speed was 50.2 mi/h. The 9 ft wedge brought the vehicle to a stop. The cargo remained onboard the vehicle; however, the hood of the vehicle was thrown beyond the inside edge of the 9 ft wedge. The vehicle was disabled. The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier.

ASTM F2656-07 provides a range of vehicle test designations and penetration levels that allow agencies to select perimeter security devices that satisfy their specific facility needs. The amount of vehicle penetration of the security device at the required impact velocity determines the dynamic penetration rating for each condition designation.

The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier. According to *ASTM F2656-07*, the Smith & Wesson 9 ft wedge barrier meets Condition Designation/Penetration Rating M50/P1, which allows penetration of ≤ 3.3 ft when impacted by the medium duty truck at 50 mi/h.

Prior to the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operated under its own power, demonstrating 30 full cycles and an EFO speed of less than 2 seconds. Noise data was measured 10 ft away from the edge of the wedge as it cycled. The average sound level measured during the up motion was 65 dBa, with a peak of 95 dBa at the moment the wedge closed. After the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operational under its own power after several brackets that had been deformed during the test were removed. Vehicles were able to drive over the wedge, and the wedge was capable of opening and closing under its own power.



General Information

Test Agency..... Texas Transportation Institute (TTI)
 Test Standard Test No..... ASTM F2656-07 M50
 Test No. TTI 400001-SWS1
 Date July 18, 2011

Test Article

Type..... Security Barrier
 Name..... Smith & Wesson 9 ft wedge
 Installation Dimensions..... 109 inches x 86 inches
 Material or Key Elements ... Lid assembly and base assembly of plate steel in concrete foundation

Test Vehicle

Type..... Medium Duty Truck
 Designation..... M50
 Model..... 2000 International 4700
 Mass
 Curb..... 12,090 LB
 Test Inertial 15,050 LB

Impact Conditions

Speed 50.2 mi/h
 Angle 90.1 degrees

Exit Conditions

Speed Stopped
 Angle N/A

Occupant Risk Values

Impact Velocity
 Longitudinal..... 39.7 ft/s
 Lateral 10.5 ft/s
 Ridedown Accelerations
 Longitudinal 29.6 G
 Lateral 20.6 G
 Max. 0.050-s Average
 Longitudinal..... -18.6 G
 Lateral 10.3 G

Penetration of Cargo Bed

Distance Beyond Inside
 Edge of Security Device Did not penetrate
 Truck Disabled? Yes

Soil/Foundation Type Concrete foundation in crushed limestone

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 9 ft wedge barrier.

SW1900 SERIES WEDGE

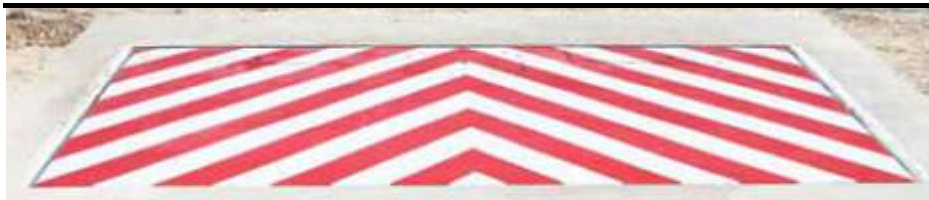


For clients that specify a crash-rated retractable plate wedge barrier for their facility's physical security project, FutureNet Security Solutions has designed an innovative wedge barrier that eliminates many of the challenges experienced during the procurement, installation, use, and maintenance of traditional systems.

Available in either Hydraulic or Electro-Mechanical models that utilize the same as-tested barrier structure, the SW1900 wedge provides ASTM M50 P1 rated protection suitable for a wide variety of facilities such as embassies, military installations, corporate headquarters, data centers, and Federal Government agencies. Innovative noise dampening technology has been incorporated into the barrier design, making the SW1900 well-suited for installations located near businesses or other properties that are sensitive to noise levels.

Following independent 3rd party testing, the test vehicle's crash-test wreckage was removed, and the SW1900 was immediately cycled multiple times under its own power – requiring no replacement hoses or fittings, and demonstrating no hydraulic leaks or damage to operating components. Test vehicles were also driven over the barrier following the conclusion of the test, demonstrating that the SW1900 could withstand an impact and remain functional.

FutureNet has designed the SW1900 with removable access panels on the top of the wedge plate which allow all operating components to be serviced or replaced without raising the barrier. To make installation as fast and cost effective as possible, the shallow (18" foundation) mount barrier is shipped in one piece, requires no concrete inside the vault, and has pre-plumbed drains and control pathways that ensure that there is no interference with rebar placement.



overview

SW1900 SERIES FEATURES

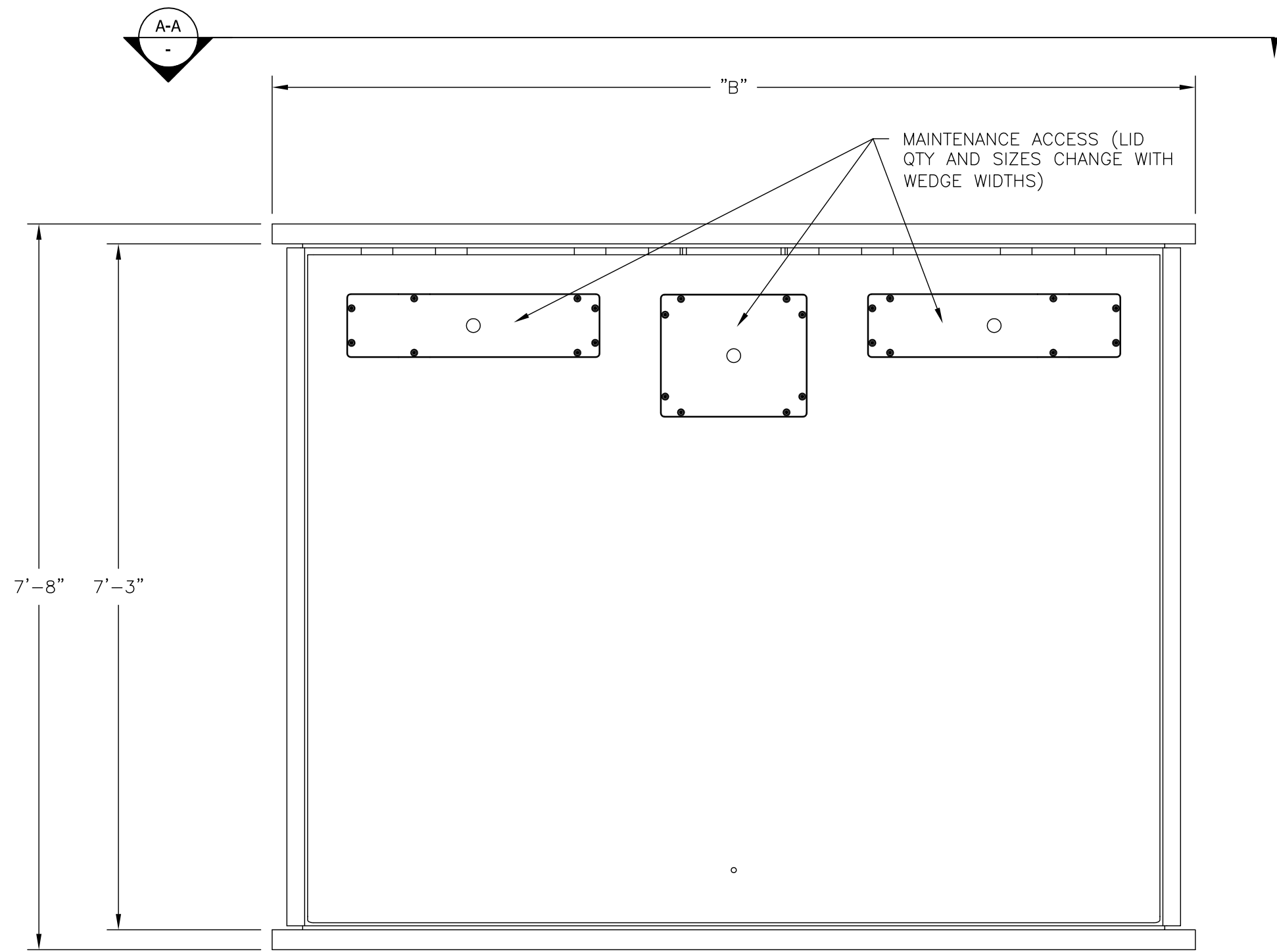
- Certified to ASTM M50 P1 standards
- Electro-mechanical or hydraulic actuation with identical certified barrier structure
- Noise dampening technology
- 18-inch shallow mount foundation
- Available in 8 to 15-foot widths
- One day installation, ready to install as shipped
- No concrete required inside barrier
- Access panels that allow service and component replacement without raising the barrier
- Pre-plumbed drains and control pathways designed not to interfere with rebar placement
- UL certified electrical power unit (EPU)
- NEMA rated control enclosures
- Standard feature with all models EFO capability (deploys in less than 2 seconds)



PART

SW1900-xxE	ASTM M50 P1 Rated Electro-Mechanical Operation
SW1900-xxH	ASTM M50 P1 Rated Hydraulic Operation

* xx = specified feet 08 to 15-foot widths.



1
-
PLAN VIEW
SCALE: NTS

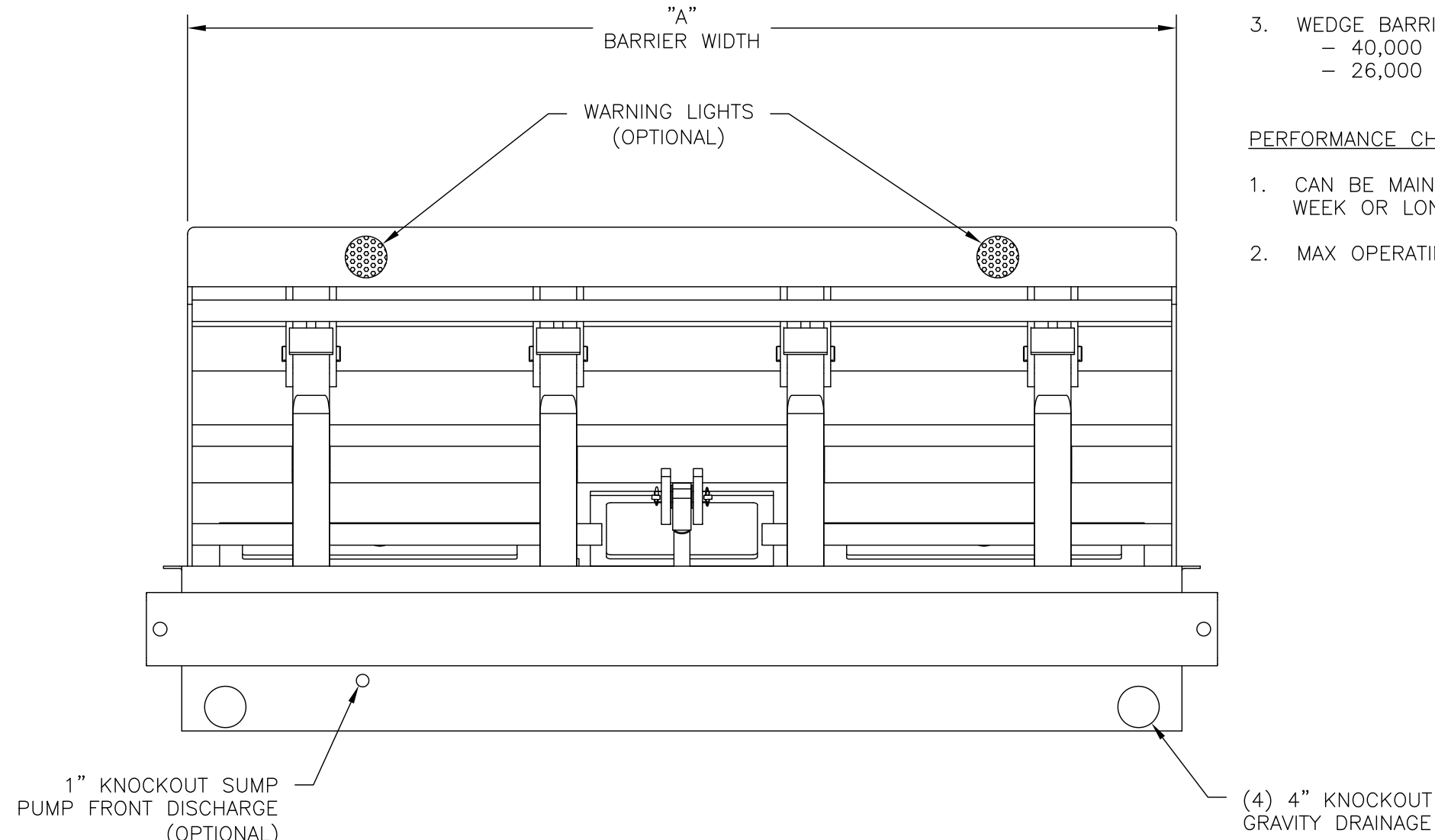
BARRIER WIDTHS	
DIM "A"	DIM "B"
8'-0"	8'-9"
9'-0"	9'-9"
10'-0"	10'-9"
11'-0"	11'-9"

NOTES:

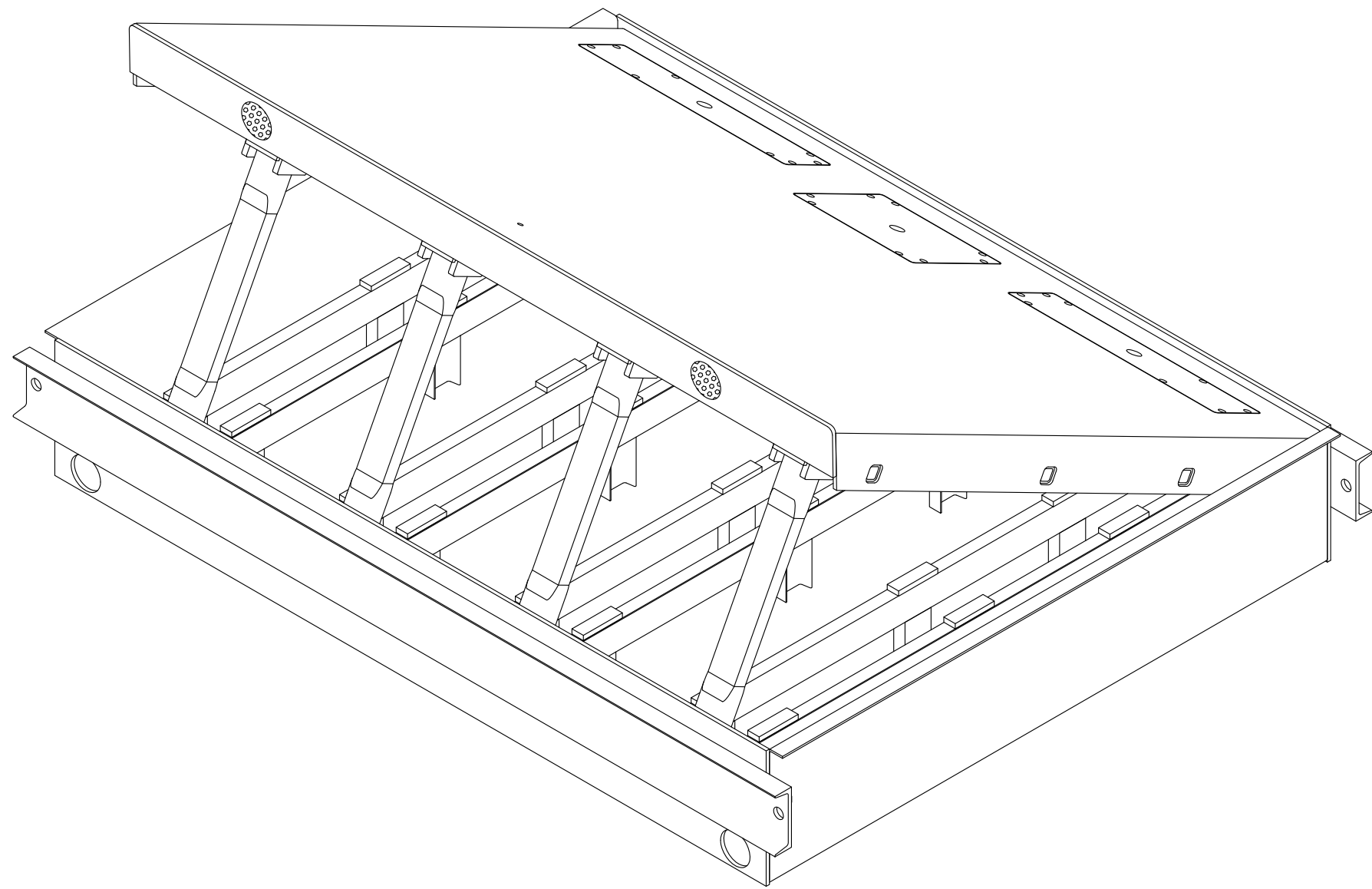
- 9'-0" WEDGE BARRIER SHOWN FOR REFERENCE ONLY.
- MEETS ASTM 2656-07 M50-P1 AND SD-STD-02.01 Rev. A K12 STANDARDS.
- WEDGE BARRIER IS CAPABLE OF SUPPORTING
 - 40,000 AXLE LOAD
 - 26,000 WHEEL LOAD

PERFORMANCE CHARACTERISTICS

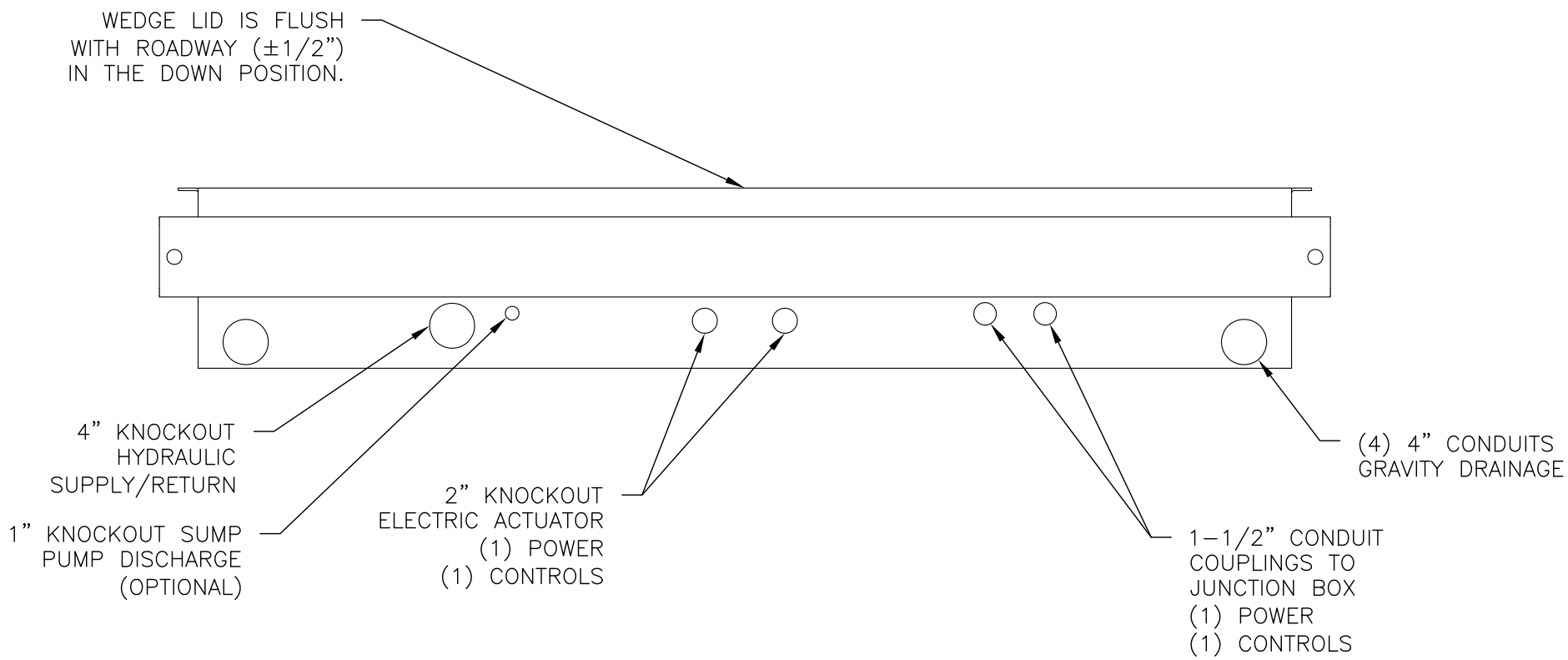
- CAN BE MAINTAINED IN THE UP POSITION FOR 1 WEEK OR LONGER WITHOUT MAINTENANCE.
- MAX OPERATING SPEED 1.5 SECONDS.



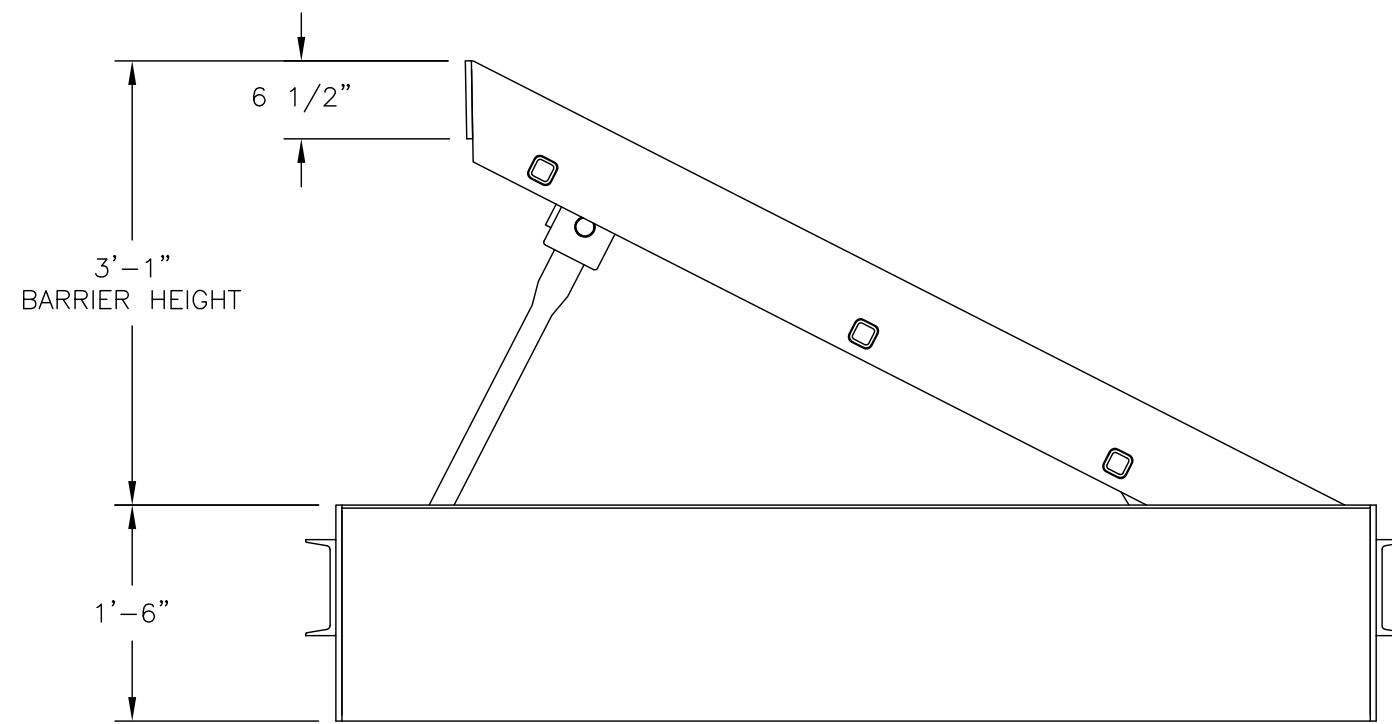
2
-
FRONT ELEVATION VIEW
SCALE: NTS



1
-
ISO VIEW
SCALE: NTS



A-A
-
SECTION VIEW
SCALE: NTS



3
-
SIDE ELEVATION VIEW
SCALE: NTS

FOR APPROVAL
DO NOT BUILD

DATE: -		SCALE: AS NOTED		REV: -		REV: -		DATE: -		DESCRIPTION: -		BY: -					
DRAWN BY: -		CHECKED BY: -		SIZE: ANSI D		DRAWING NUMBER: -		REV: -		REV: -		REV: -					
<p>This work contains CONFIDENTIAL and PROPRIETARY information. It is not to be reproduced in any form without the express written permission of FUTURE NET SECURITY SOLUTIONS.</p> <p>© COPYRIGHT 2012 FUTURE NET SECURITY SOLUTIONS. ALL RIGHTS RESERVED.</p> <p>WARNING: THE EXPORT OR RE-EXPORT OF THIS PRODUCT OR TECHNOLOGY, OR THE DISCLOSURE OF THIS INFORMATION, IS SUBJECT TO U.S. EXPORT ADMINISTRATION REGULATIONS AND RESTRICTIONS OF REGULATIONS.</p>												PROJECT NAME SW1900 WEDGE BARRIER (8' THRU 11') GENERAL ARRANGEMENT		SHEET ID -		SHEET:-	

SUMMARY TEST REPORT

Contract No.: P2011375
Summary Test Report No.: STR-400001-SWS1
Project Name: ASTM F2656-07 M50 Testing of 9 ft Wedge
Sponsor Name: Smith & Wesson Security Solutions

DATE: August 22, 2011

TO: Mark R. Morgan
Smith & Wesson Security Solutions

FROM: D. Lance, Bullard, Jr., P.E., Research Engineer, TTI Roadside Safety &
Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground
Richard A. Zimmer, Senior Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:

Name: D. L. Bullard, Jr.
Phone: 979-845-6153
E-mail: l-bullard@tamu.edu

SUMMARY TEST REPORT:

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Test Article Design and Construction

Drawings for the Smith & Wesson 9 ft wedge barrier are provided in Attachment A.

Assessment and Conclusions

On the morning of July 18, 2011, TTI Proving Ground performed *ASTM F2656-07* M50 test on 9 ft wedge barrier designed and manufactured by Smith & Wesson Security Solutions. A 2000 International 4700 single-unit flatbed truck impacted the 9 ft wedge barrier at 90.1 degrees,

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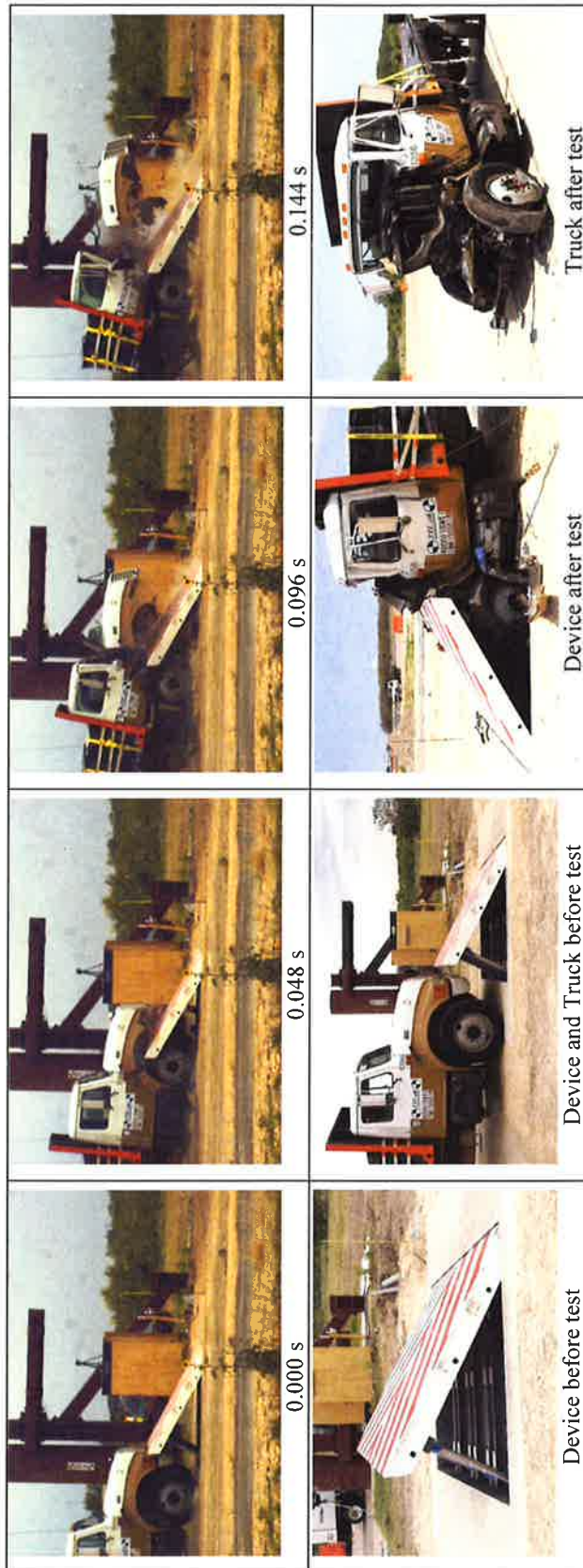
TTI Proving Ground
3100 SH 47, Bldg. 7091
Bryan, TX 77807

with the centerline of the vehicle aligned with the centerline of the 9 ft wedge barrier. The acceptable range for impact speed for this M50 test was 47.0 mi/h or above, and the actual impact speed was 50.2 mi/h. The 9 ft wedge brought the vehicle to a stop. The cargo remained onboard the vehicle; however, the hood of the vehicle was thrown beyond the inside edge of the 9 ft wedge. The vehicle was disabled. The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier.

ASTM F2656-07 provides a range of vehicle test designations and penetration levels that allow agencies to select perimeter security devices that satisfy their specific facility needs. The amount of vehicle penetration of the security device at the required impact velocity determines the dynamic penetration rating for each condition designation.

The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier. According to *ASTM F2656-07*, the Smith & Wesson 9 ft wedge barrier meets Condition Designation/Penetration Rating M50/P1, which allows penetration of ≤ 3.3 ft when impacted by the medium duty truck at 50 mi/h.

Prior to the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operated under its own power, demonstrating 30 full cycles and an EFO speed of less than 2 seconds. Noise data was measured 10 ft away from the edge of the wedge as it cycled. The average sound level measured during the up motion was 65 dBa, with a peak of 95 dBa at the moment the wedge closed. After the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operational under its own power after several brackets that had been deformed during the test were removed. Vehicles were able to drive over the wedge, and the wedge was capable of opening and closing under its own power.



General Information

Test Agency..... Texas Transportation Institute (TTI)
 Test Standard Test No..... ASTM F2656-07 M50
 Test No. TTI 400001-SWS1
 Date July 18, 2011

Test Article

Type..... Security Barrier
 Name..... Smith & Wesson 9 ft wedge
 Installation Dimensions..... 109 inches x 86 inches
 Material or Key Elements ... Lid assembly and base assembly of plate steel in concrete foundation

Test Vehicle

Type..... Medium Duty Truck
 Designation..... M50
 Model..... 2000 International 4700
 Mass
 Curb..... 12,090 LB
 Test Inertial 15,050 LB

Impact Conditions

Speed 50.2 mi/h
 Angle 90.1 degrees

Exit Conditions

Speed Stopped
 Angle N/A

Occupant Risk Values

Impact Velocity
 Longitudinal..... 39.7 ft/s
 Lateral 10.5 ft/s
 Ridedown Accelerations
 Longitudinal 29.6 G
 Lateral 20.6 G
 Max. 0.050-s Average
 Longitudinal..... -18.6 G
 Lateral 10.3 G

Penetration of Cargo Bed

Distance Beyond Inside
 Edge of Security Device Did not penetrate
 Truck Disabled? Yes

Soil/Foundation Type Concrete foundation in crushed limestone

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 9 ft wedge barrier.

SUMMARY TEST REPORT

Contract No.: P2012316
Summary Test Report No.: STR-Insert Project No-Test No
Project Name: ASTM F2656-07 M50 Testing of 16 Ft. Wedge System
Sponsor Name: Smith & Wesson Security Solutions

DATE: June 22, 2012

TO: Mark Morgan
Smith & Wesson Security Solutions

FROM: D. Lance Bullard, Jr., P.E., Research Engineer, TTI Roadside
Safety & Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:
Name: D. Lance Bullard, Jr., P.E.
Phone: 979-845-6153
E-mail: d-bullard@tamu.edu

SUMMARY TEST REPORT:

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Test Article Design and Construction

Detailed drawings of the Smith & Wesson Security Solutions' 16-ft wedge system are provided in Attachment A.

Assessment and Conclusions

On June 19, 2012, TTI Proving Ground performed *ASTM F2656-07* M50 test on the 16-ft wedge system manufactured by Smith & Wesson Security Solutions. A 2000 International 4700 single-unit flatbed truck weighing 15,160 lb impacted the 16-ft wedge system at approximately

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SUMMARY TEST REPORT

Contract No.: P2012316
Summary Test Report No.: STR-Insert Project No-Test No
Project Name: ASTM F2656-07 M50 Testing of 16 Ft. Wedge System
Sponsor Name: Smith & Wesson Security Solutions

DATE: June 22, 2012

TO: Mark Morgan
Smith & Wesson Security Solutions

FROM: D. Lance Bullard, Jr., P.E., Research Engineer, TTI Roadside
Safety & Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:
Name: D. Lance Bullard, Jr., P.E.
Phone: 979-845-6153
E-mail: d-bullard@tamu.edu

SUMMARY TEST REPORT:

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Test Article Design and Construction

Detailed drawings of the Smith & Wesson Security Solutions' 16-ft wedge system are provided in Attachment A.

Assessment and Conclusions

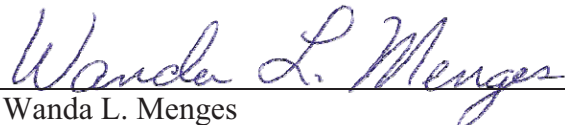
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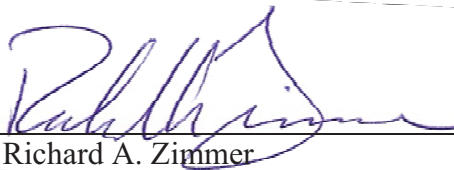
90 degrees, with the centerline of the vehicle aligned with the centerline of the 16-ft wedge system. The acceptable range for impact speed for this M50 test was 47.0 mi/h or above, and the actual impact speed was 50.2 mi/h. The 16-ft wedge system brought the vehicle to a stop. The cargo remained onboard the vehicle. The vehicle was disabled. The leading edge of the cargo bed did not penetrate beyond the inside edge of the 16-ft wedge system.

ASTM F2656-07 provides a range of vehicle test designations and penetration levels that allow agencies to select perimeter security devices that satisfy their specific facility needs. The amount of vehicle penetration of the security device at the required impact velocity determines the dynamic penetration rating for each condition designation.

The leading edge of the cargo bed did not penetrate beyond the inside edge of the 16-ft wedge system. According to *ASTM F2656-07*, the Smith & Wesson 16-ft wedge system meets Condition Designation/Penetration Rating M50/P1, which allows penetration of less than or equal to 3.2 ft when impacted by the medium duty truck at 47 mi/h or greater.



Wanda L. Menges
Deputy Quality Manager, TTI Proving Ground



Richard A. Zimmer
Test Facility Manager, TTI Proving Ground
Quality Manager, TTI Proving Ground
Technical Manager, TTI Proving Ground

0.000 s	0.xxx s	0.xxx s	0.xxx s
Device before test	Device and Truck before test	Device after test	Truck after test
			
Sequential photos not available at time of this letter.			

General Information

Test Agency Texas Transportation Institute (TTI)
Test Standard Test No. ASTM F2656-07 M50
Test No. 510602-SWS3
Date 2012-06-19

Test Article

Type Security Wedge
Name Smith & Wesson 16-ft wedge system
Installation Length 192 inches x 84.4 inches
Material or Key Elements ... Steel wedge frame in concrete footing
Soil/Foundation Type Concrete footing in crushed limestone

Test Vehicle

Type Medium Duty Truck
Designation M50
Model 2000 International 4700
Mass
Curb 12030 lb
Test Inertial 15160 lb

Impact Conditions

Speed 50.2 mi/h
Angle ~90 degrees

Exit Conditions

Speed Stopped
Angle N/A

Occupant Risk Values

Impact Velocity
Longitudinal 57.4 ft/s
Lateral No contact
Ridedown Accelerations
Longitudinal 41.8 G
Lateral 22.2 G
Max. 0.050-s Average
Longitudinal -27.5 G
Lateral 6.8 G

Penetration of Cargo Bed

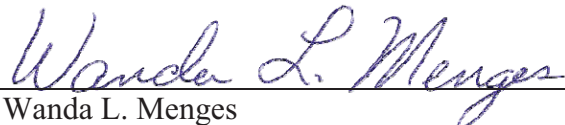
Distance Beyond Inside
Edge of Security Device Did not penetrate
Truck Disabled? Yes
Rating M50/P1

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 16-ft wedge system.

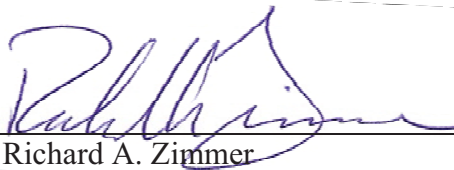
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Deputy Quality Manager, TTI Proving Ground



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Test Facility Manager, TTI Proving Ground
Quality Manager, TTI Proving Ground
Technical Manager, TTI Proving Ground

0.000 s	0.xxx s	0.xxx s	0.xxx s
Device before test	Device and Truck before test	Device after test	Truck after test
			
Sequential photos not available at time of this letter.			

General Information

Test Agency Texas Transportation Institute (TTI)
Test Standard Test No. ASTM F2656-07 M50
Test No. 510602-SWS3
Date 2012-06-19

Test Article

Type Security Wedge
Name Smith & Wesson 16-ft wedge system
Installation Length 192 inches x 84.4 inches
Material or Key Elements ... Steel wedge frame in concrete footing
Soil/Foundation Type Concrete footing in crushed limestone

Test Vehicle

Type Medium Duty Truck
Designation M50
Model 2000 International 4700
Mass
Curb 12030 lb
Test Inertial 15160 lb

Impact Conditions

Speed 50.2 mi/h
Angle ~90 degrees

Exit Conditions

Speed Stopped
Angle N/A

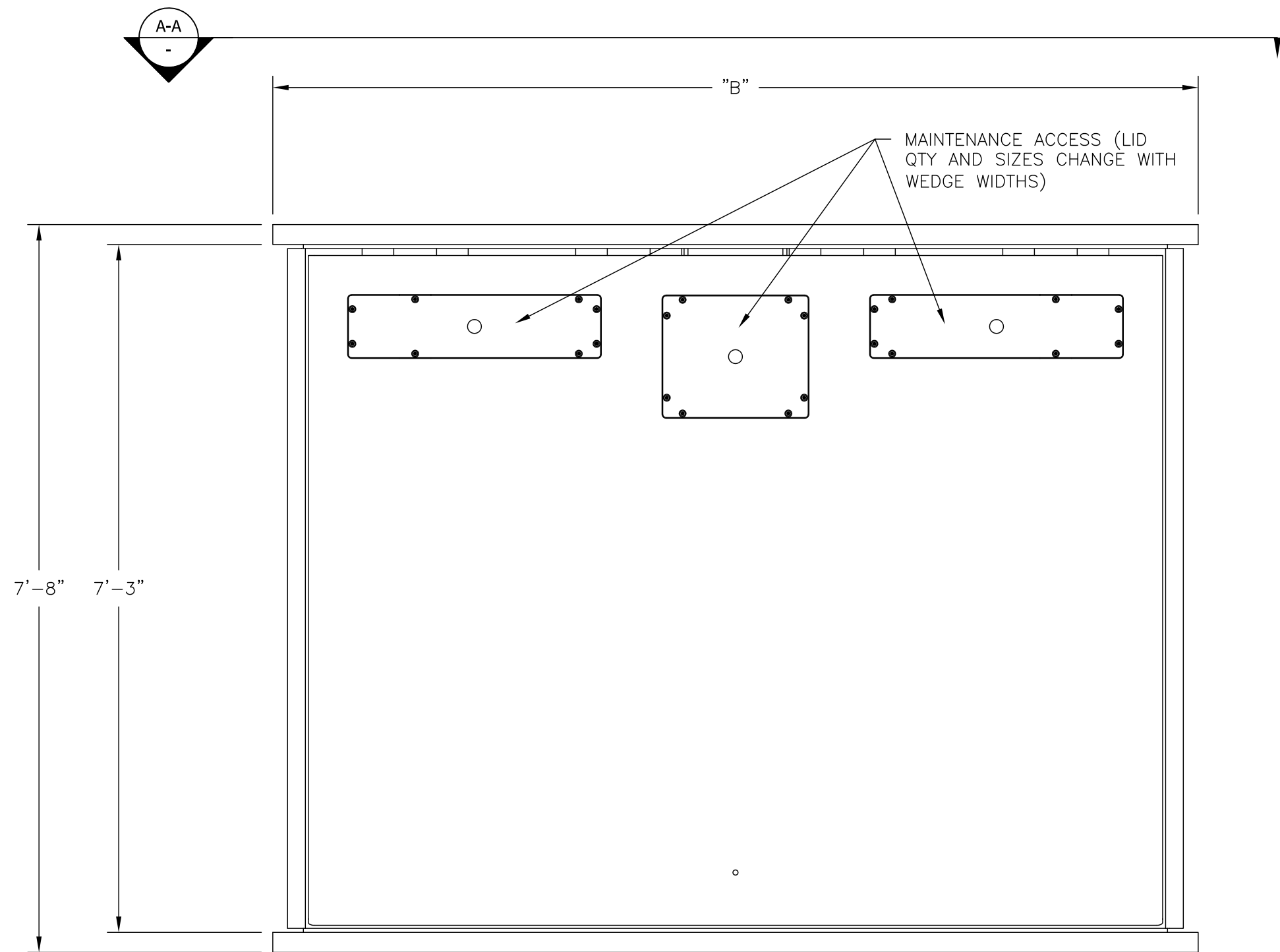
Occupant Risk Values

Impact Velocity
Longitudinal 57.4 ft/s
Lateral No contact
Ridedown Accelerations
Longitudinal 41.8 G
Lateral 22.2 G
Max. 0.050-s Average
Longitudinal -27.5 G
Lateral 6.8 G

Penetration of Cargo Bed

Distance Beyond Inside
Edge of Security Device Did not penetrate
Truck Disabled? Yes
Rating M50/P1

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 16-ft wedge system.



1
-
PLAN VIEW
SCALE: NTS

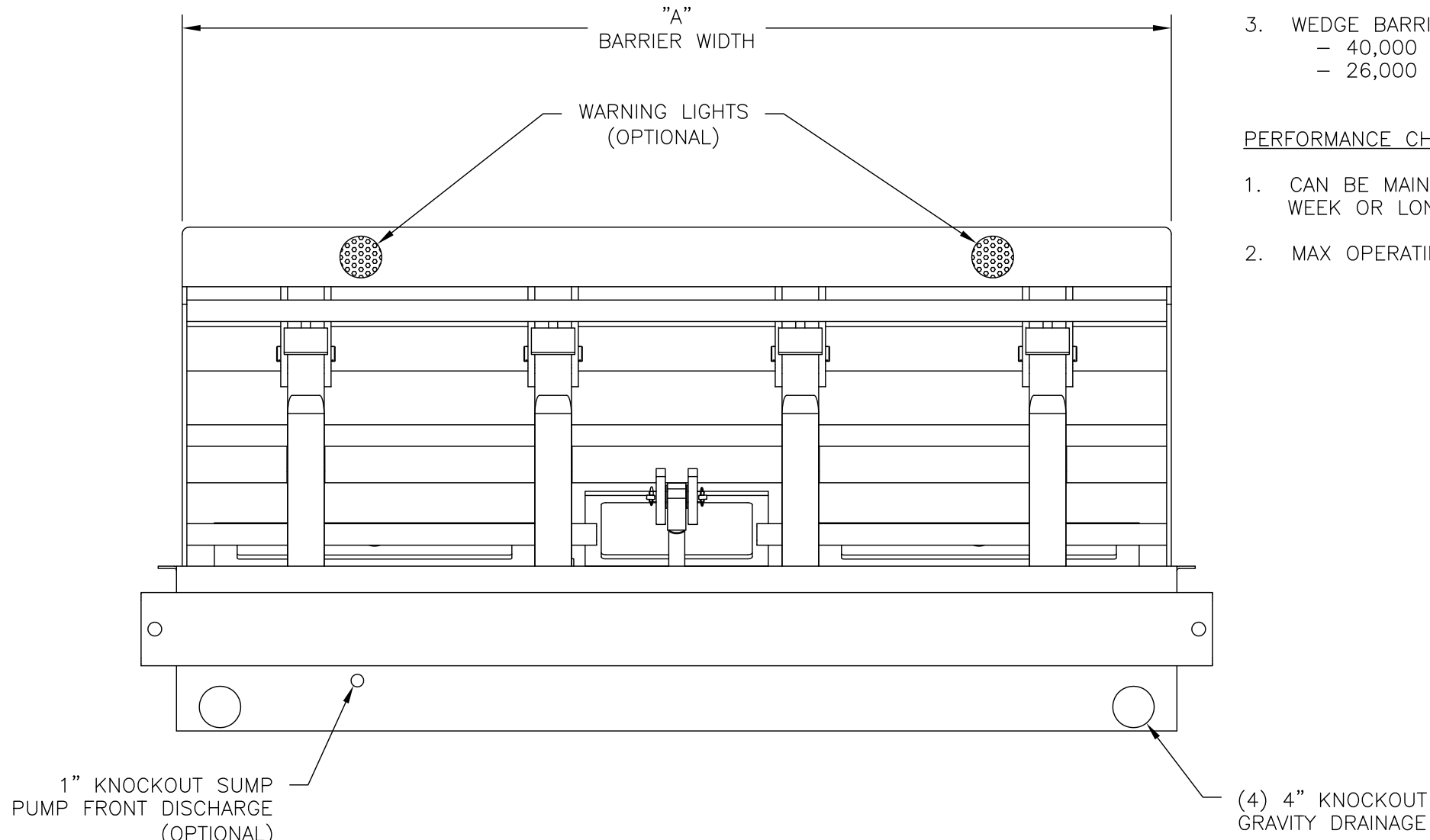
BARRIER WIDTHS	
DIM "A"	DIM "B"
8'-0"	8'-9"
9'-0"	9'-9"
10'-0"	10'-9"
11'-0"	11'-9"

NOTES:

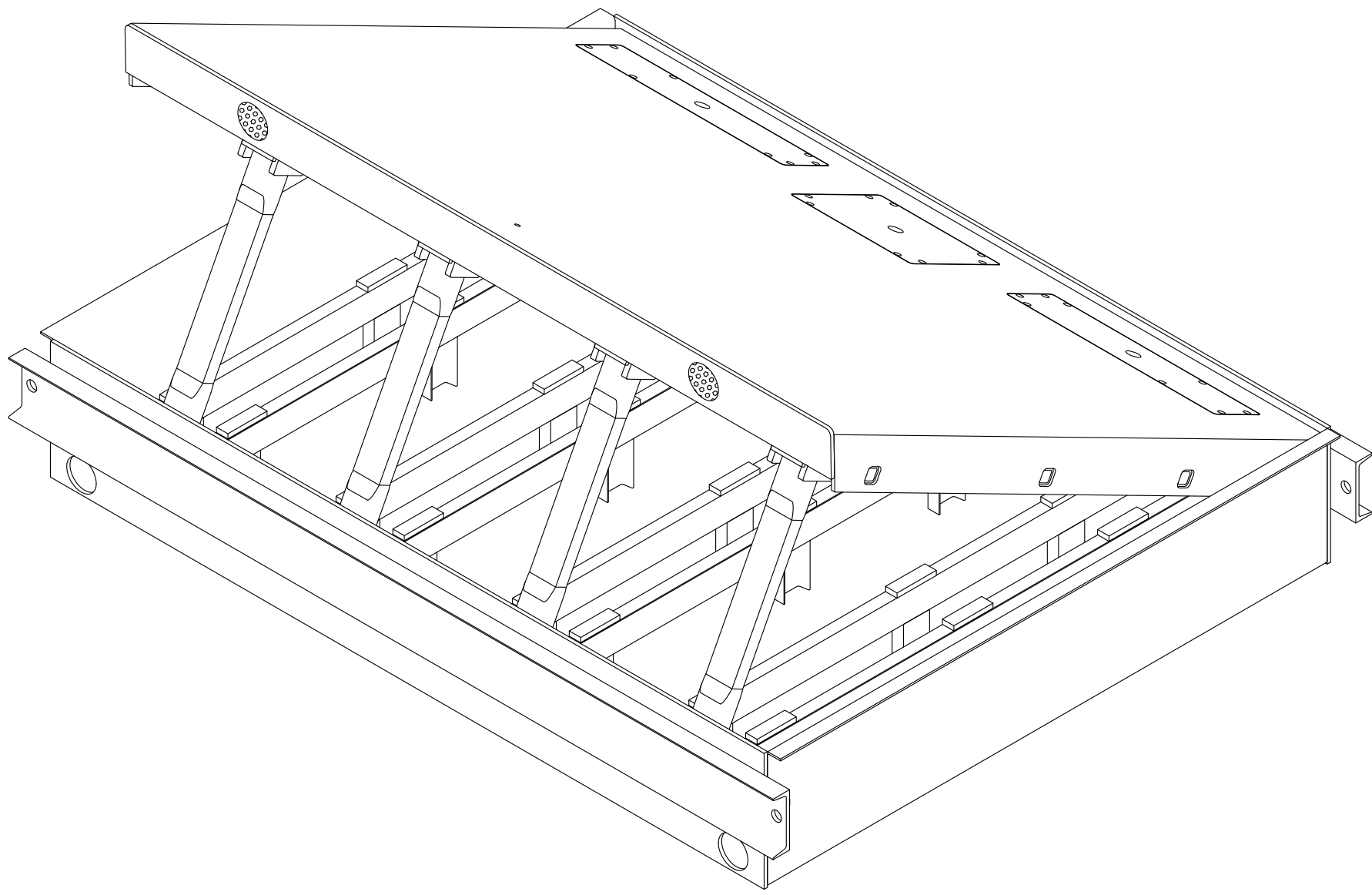
- 9'-0" WEDGE BARRIER SHOWN FOR REFERENCE ONLY.
- MEETS ASTM 2656-07 M50-P1 AND SD-STD-02.01 Rev. A K12 STANDARDS.
- WEDGE BARRIER IS CAPABLE OF SUPPORTING
 - 40,000 AXLE LOAD
 - 26,000 WHEEL LOAD

PERFORMANCE CHARACTERISTICS

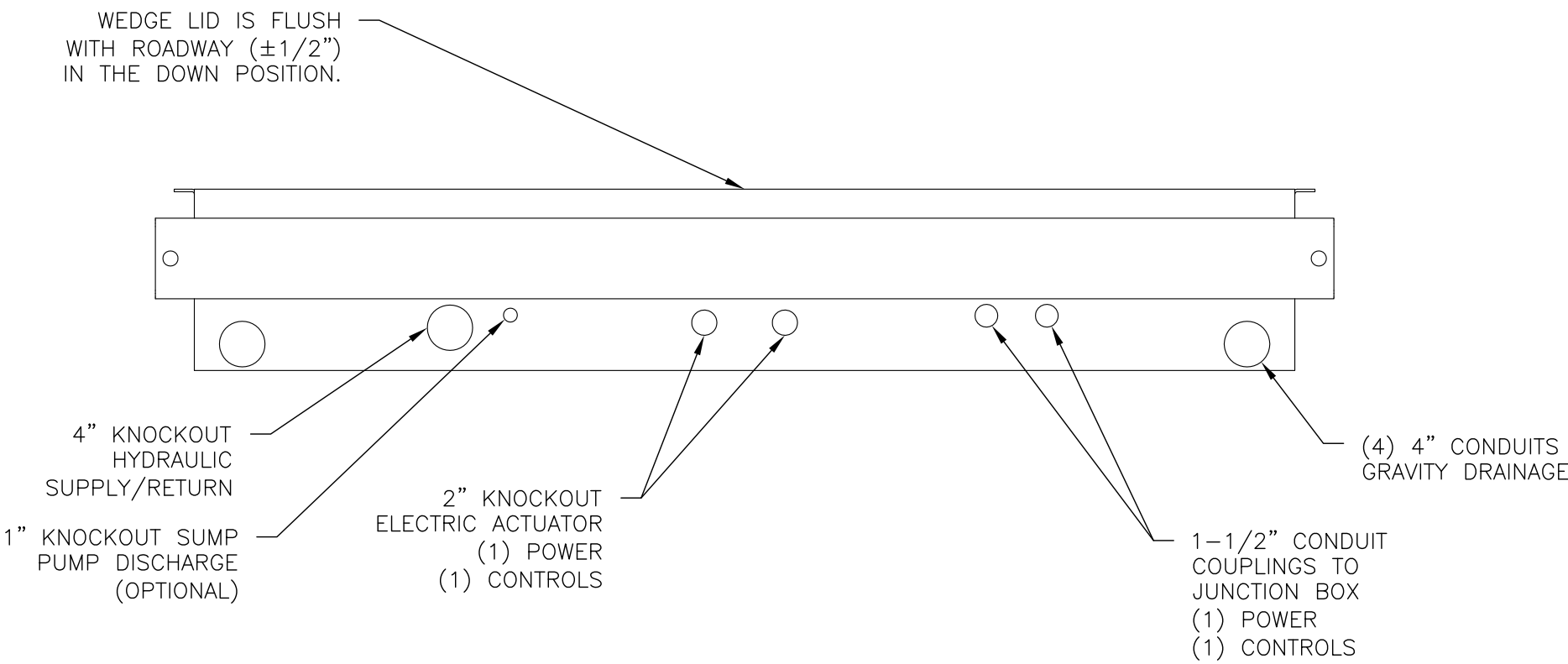
- CAN BE MAINTAINED IN THE UP POSITION FOR 1 WEEK OR LONGER WITHOUT MAINTENANCE.
- MAX OPERATING SPEED 1.5 SECONDS.



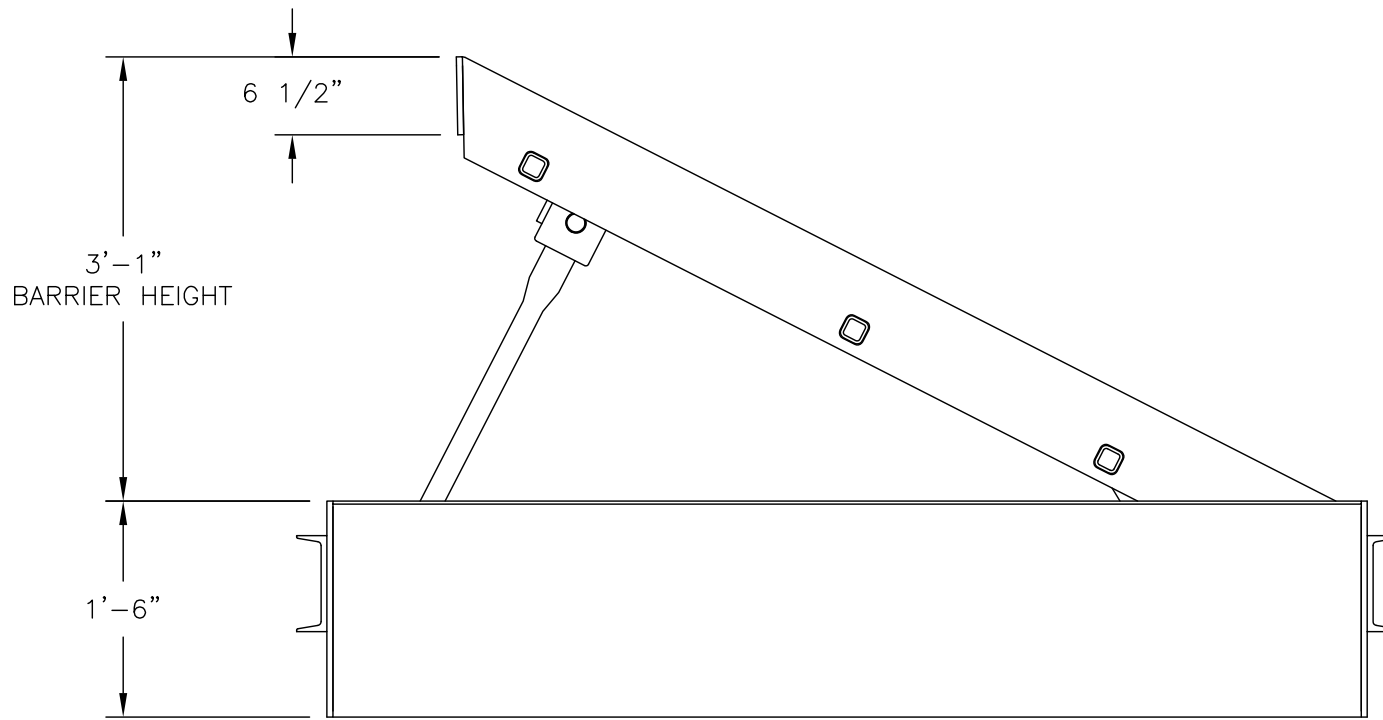
2
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FRONT ELEVATION VIEW
SCALE: NTS



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ISO VIEW
SCALE: NTS



A-A
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SECTION VIEW
SCALE: NTS



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SIDE ELEVATION VIEW
SCALE: NTS

FOR APPROVAL
DO NOT BUILD

DATE: -		SCALE: AS NOTED		REV: -		REV: -		DATE: -		DESCRIPTION: -		BY: -	
DRAWN BY: -		CHECKED BY: -		SIZE: ANSI D		DRAWING NUMBER: -		REV: -		DATE: -		BY: -	
<p>This work contains CONFIDENTIAL and PROPRIETARY information. It is not to be reproduced in any form without the express written permission of FUTURE NET SECURITY SOLUTIONS.</p> <p>© COPYRIGHT 2012 FUTURE NET SECURITY SOLUTIONS. ALL RIGHTS RESERVED.</p> <p>WARNING: THE EXPORT OR RE-EXPORT OF THIS PRODUCT OR TECHNOLOGY, OR THE DISCLOSURE OF THIS INFORMATION, IS SUBJECT TO U.S. EXPORT ADMINISTRATION REGULATIONS AND RESTRICTIONS OF REGULATIONS.</p>													
PROJECT NAME SW1900 WEDGE BARRIER (8' THRU 11') GENERAL ARRANGEMENT													
SHEET ID -													
SHEET:-													

SW1900 SERIES WEDGE



For clients that specify a crash-rated retractable plate wedge barrier for their facility's physical security project, FutureNet Security Solutions has designed an innovative wedge barrier that eliminates many of the challenges experienced during the procurement, installation, use, and maintenance of traditional systems.

Available in either Hydraulic or Electro-Mechanical models that utilize the same as-tested barrier structure, the SW1900 wedge provides ASTM M50 P1 rated protection suitable for a wide variety of facilities such as embassies, military installations, corporate headquarters, data centers, and Federal Government agencies. Innovative noise dampening technology has been incorporated into the barrier design, making the SW1900 well-suited for installations located near businesses or other properties that are sensitive to noise levels.

Following independent 3rd party testing, the test vehicle's crash-test wreckage was removed, and the SW1900 was immediately cycled multiple times under its own power – requiring no replacement hoses or fittings, and demonstrating no hydraulic leaks or damage to operating components. Test vehicles were also driven over the barrier following the conclusion of the test, demonstrating that the SW1900 could withstand an impact and remain functional.

FutureNet has designed the SW1900 with removable access panels on the top of the wedge plate which allow all operating components to be serviced or replaced without raising the barrier. To make installation as fast and cost effective as possible, the shallow (18" foundation) mount barrier is shipped in one piece, requires no concrete inside the vault, and has pre-plumbed drains and control pathways that ensure that there is no interference with rebar placement.



overview

SW1900 SERIES FEATURES

- Certified to ASTM M50 P1 standards
- Electro-mechanical or hydraulic actuation with identical certified barrier structure
- Noise dampening technology
- 18-inch shallow mount foundation
- Available in 8 to 15-foot widths
- One day installation, ready to install as shipped
- No concrete required inside barrier
- Access panels that allow service and component replacement without raising the barrier
- Pre-plumbed drains and control pathways designed not to interfere with rebar placement
- UL certified electrical power unit (EPU)
- NEMA rated control enclosures
- Standard feature with all models EFO capability (deploys in less than 2 seconds)



PART

SW1900-xxE	ASTM M50 P1 Rated Electro-Mechanical Operation
SW1900-xxH	ASTM M50 P1 Rated Hydraulic Operation

* xx = specified feet 08 to 15-foot widths.

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-002	8/22/2014			We are really struggling with only being able to view SSI bid documents. We need to be able to print a hard copy to work with. Our firm handles SSI documents all the time and we have custodial processes in place to make sure that sensitive documents are accounted for, not duplicated and are destroyed after the bid. Please reconsider your policy.	At this time, TJPA will not be changing policy regarding access and printing of Certain SSI documents.
TG07.9-003	8/26/2014		All SSI Documents	We respectfully request that pre-qualified contractors be granted access to print the SSI documents. The current retrieval method is very cumbersome for review of the documents and nearly impossible to cross reference between documents as only one document can be viewed at a time. The individual review time varies due to the size of the document, lag time at the host site, errors when scrolling (jump/freeze, etc.). On other sensitive procurements (both commercially and for the Federal government), we have seen these documents allowable by CD or other similar method. We request that the security considerations be reconsidered so that pre-qualified contractors may be able to review all of the documents efficiently in order to provide the most competitive quotes.	At this time, TJPA will not be changing policy regarding access and printing of Certain SSI documents.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-004	9/3/2014			At the Pre-Bid Meeting it was mentioned that the Bollards and Barriers will be required to be Hot Dip Galvanized. Please provide all details and requirements for Hot Dip Galvanizing of the Bollards and Barriers and any other finishes required.	All bollards and barriers shall be protected from the effects of long-term corrosion. Corrosion resistant materials to be provided. Use hot dip galvanizing for all exposed components, foundation structures and undersides. Refer to Specification Section 05 05 12 Hot Dip Galvanizing for hot dip galvanizing requirements.
TG07.9-005	9/4/2014		Paragraph 2.11 28 16 44	We respectfully request that proprietary M50 rated active vehicle wedge barrier (SW 1900) be added to the approved manufactured list. Please see attached documentation.	FutureNet is an acceptable manufacturer of phalanx barriers and operable bollards. In the post bid submittal process, the TG07.9 Trade Subcontractor will be required to submit specific product data for the FutureNet barriers they intend to provide that meets the criteria identified within Specification Sections 28 16 44 and 28 16 44/APA.

00 04 41 – PRE-BID REQUEST FOR SUBSTITUTION

During the bidding period, a proposed change by a bidder of a product, equipment, or service required by the Contract Documents is considered a pre-bid request for substitution. A pre-bid request for substitution will be considered as part of the questions on bid documents (QBD) process. Refer to the CM/GC's Bid Manual for QBD instructions and forms.

During the bidding period and prior to the deadline for the submission of QBDs, Bidders may submit a request for a substitution of an "or equal" product, equipment, or service specified in the Contract Documents by completing and submitting this form as an attachment to a QBD, in accordance with the QBD process. The TJPA will respond in writing to a pre-bid request for substitution in accordance with the QBD process and deadlines specified in the bidding documents.

Pre-bid requests for substitution requested during the bidding period and accepted by Addendum prior to opening of bids are included in the Contract Documents.

Main Package IFC ASI 121 Specifications SSI/

Spec. Section: 28 16 44 Perimeter Security Systems Date: 08/20/14
Drawing Sheet: Paragraph(s):
Detail(s):

Proposed Substitution: SW 1900 Series crash-rated retractable wedge barrier
Manufacturer/Address/Phone: FutureNet Security Solutions / 277 Mallory Station Road, Ste 112, Franklin, TN / 615.224.0400
Trade Name/Model No.: SW 1900 H

Product History: ___ New X 2-5 years old ___ 5-10 years old ___ More than 10 years old

Differences between proposed substitution and specified product (attach required point-by-point comparative data):

See attached cut sheet from original QBD 001. In addition to meeting the specifications of the approved products, the SW1900 has proprietary straps which significantly reduce noise from operation.

Reason for not providing specified item:

The SW1900 is an equal or better product meeting the required specifications. As the manufacturer, we can provide TJPA with unique support and lower cost while also serving as the prime contractor.

Similar installation where proposed substitution has been used (Project/Address/Architect/Owner/Date Installed):

Entry Control Point - Shaw AFB, SC - August 2014 / Access Control Point - Dulles International Airport, Washington, D.C. - November 2013 / Data Center Access Point - Leavittown, PA - Bank of America

Corporation - August 2014 / Entry Control Point - Naval Weapons Station, Seal Beach, CA - May 2012 / Data Center Access Point, Austin, TX - Oracle - December 2013

Marine Corps Recruit Depot, San Diego, CA - Under contract with installation scheduled 1Q 2015

Proposed substitution affects other parts of the Work: X No ___ Yes: explain

Changes or modifications needed to coordinate other parts of the Work that will be necessary to accommodate the proposed substitution:

N/A

Supporting data attached: ☒ Product Data ☒ Drawings ☒ Test Reports ☐ Samples

☐ Manufacturer's Standard Form of Warranty or Guarantee

Other: _____

The Bidder certifies that

- The proposed substitution has been fully investigated and determined to be equal or superior in all respects to the specified product.
- The proposed substitution conforms in all respects to the requirements of the Contract Documents and all applicable regulatory requirements and is appropriate for the application intended.
- The same warranty or guarantee for the specified product will be furnished for the proposed substitution.
- The proposed substitution does not affect dimensions or functional clearances.

Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Attachments _____

END OF SECTION 00 04 41

SPECIFICATION ISSUE LOG

Revision	Date
0	August 11, 2014

SUMMARY TEST REPORT

Contract No.: P2011375
Summary Test Report No.: STR-400001-SWS1
Project Name: ASTM F2656-07 M50 Testing of 9 ft Wedge
Sponsor Name: Smith & Wesson Security Solutions

DATE: August 22, 2011

TO: Mark R. Morgan
Smith & Wesson Security Solutions

FROM: D. Lance, Bullard, Jr., P.E., Research Engineer, TTI Roadside Safety &
Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground
Richard A. Zimmer, Senior Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:

Name: D. L. Bullard, Jr.
Phone: 979-845-6153
E-mail: l-bullard@tamu.edu

SUMMARY TEST REPORT:

Disclaimer:

This report does not constitute a standard, specification, or regulation. Texas A&M University and Texas Transportation Institute assume no liability for its contents or use thereof. The names of specific products or manufacturers listed herein do not imply endorsement of those products or manufacturers. The results reported herein apply only to the security device being crash tested. The crash test was performed according to *ASTM F2656-07* standard specifications and TTI Proving Ground quality procedures.

Test Article Design and Construction

Drawings for the Smith & Wesson 9 ft wedge barrier are provided in Attachment A.

Assessment and Conclusions

On the morning of July 18, 2011, TTI Proving Ground performed *ASTM F2656-07* M50 test on 9 ft wedge barrier designed and manufactured by Smith & Wesson Security Solutions. A 2000 International 4700 single-unit flatbed truck impacted the 9 ft wedge barrier at 90.1 degrees,

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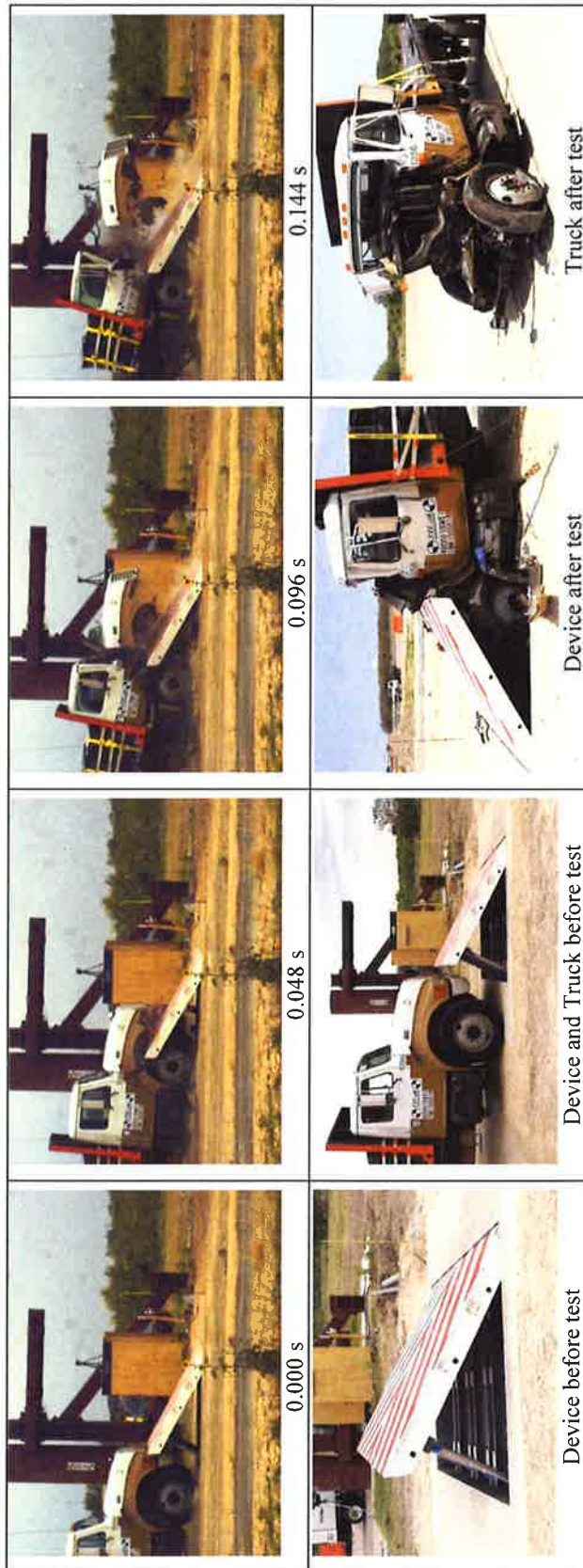
TTI Proving Ground
3100 SH 47, Bldg. 7091
Bryan, TX 77807

with the centerline of the vehicle aligned with the centerline of the 9 ft wedge barrier. The acceptable range for impact speed for this M50 test was 47.0 mi/h or above, and the actual impact speed was 50.2 mi/h. The 9 ft wedge brought the vehicle to a stop. The cargo remained onboard the vehicle; however, the hood of the vehicle was thrown beyond the inside edge of the 9 ft wedge. The vehicle was disabled. The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier.

ASTM F2656-07 provides a range of vehicle test designations and penetration levels that allow agencies to select perimeter security devices that satisfy their specific facility needs. The amount of vehicle penetration of the security device at the required impact velocity determines the dynamic penetration rating for each condition designation.

The leading edge of the cargo bed did not penetrate beyond the inside edge of the 9 ft wedge barrier. According to *ASTM F2656-07*, the Smith & Wesson 9 ft wedge barrier meets Condition Designation/Penetration Rating M50/P1, which allows penetration of ≤ 3.3 ft when impacted by the medium duty truck at 50 mi/h.

Prior to the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operated under its own power, demonstrating 30 full cycles and an EFO speed of less than 2 seconds. Noise data was measured 10 ft away from the edge of the wedge as it cycled. The average sound level measured during the up motion was 65 dBa, with a peak of 95 dBa at the moment the wedge closed. After the full-scale crash test, the Smith & Wesson 9 ft wedge barrier was operational under its own power after several brackets that had been deformed during the test were removed. Vehicles were able to drive over the wedge, and the wedge was capable of opening and closing under its own power.



General Information		Test Vehicle		Occupant Risk Values	
Test Agency.....	Texas Transportation Institute (TTI)	Type.....	Medium Duty Truck	Impact Velocity.....	39.7 ft/s
Test Standard Test No.....	ASTM F2656-07 M50	Designation.....	M50	Lateral.....	10.5 ft/s
Test No.	TTI 400001-SWS1	Model.....	2000 International 4700	Ridgedown Accelerations	
Date	July 18, 2011	Mass		Longitudinal.....	29.6 G
		Curb.....	12,090 LB	Lateral.....	20.6 G
		Test Inertial	15,050 LB	Max. 0.050-s Average	
		Impact Conditions		Longitudinal.....	-18.6 G
		Type.....	Security Barrier	Lateral.....	10.3 G
		Name.....	Smith & Wesson 9 ft wedge		
		Installation Dimensions.....	109 inches x 86 inches		
		Material or Key Elements ..	Lid assembly and base assembly of plate steel in concrete foundation		
Soil/Foundation Type		Exit Conditions		Penetration of Cargo Bed	
Concrete foundation in crushed limestone		Speed	Stopped	Distance Beyond Inside	Did not penetrate
		Angle	N/A	Edge of Security Device	Truck Disabled?
					Yes

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 9 ft wedge barrier.

SUMMARY TEST REPORT

Contract No.: P2012316
Summary Test Report No.: STR-Insert Project No-Test No
Project Name: ASTM F2656-07 M50 Testing of 16 Ft. Wedge System
Sponsor Name: Smith & Wesson Security Solutions

DATE: June 22, 2012

TO: Mark Morgan
Smith & Wesson Security Solutions

FROM: D. Lance Bullard, Jr., P.E., Research Engineer, TTI Roadside
Safety & Physical Security Division

PREPARED BY: Wanda L. Menges, Research Specialist, TTI Proving Ground

FOR MORE INFORMATION:
Name: D. Lance Bullard, Jr., P.E.
Phone: 979-845-6153
E-mail: d-bullard@tamu.edu

SUMMARY TEST REPORT:

Disclaimer:

This report does not constitute a standard, specification, or regulation. Texas A&M University and Texas Transportation Institute assume no liability for its contents or use thereof. The names of specific products or manufacturers listed herein do not imply endorsement of those products or manufacturers. The results reported herein apply only to the security device being crash tested. The crash test was performed according to *ASTM F2656-07* standard specifications and TTI Proving Ground quality procedures.

Test Article Design and Construction

Detailed drawings of the Smith & Wesson Security Solutions' 16-ft wedge system are provided in Attachment A.

Assessment and Conclusions

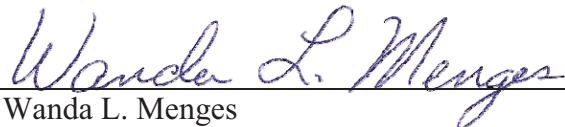
On June 19, 2012, TTI Proving Ground performed *ASTM F2656-07* M50 test on the 16-ft wedge system manufactured by Smith & Wesson Security Solutions. A 2000 International 4700 single-unit flatbed truck weighing 15,160 lb impacted the 16-ft wedge system at approximately

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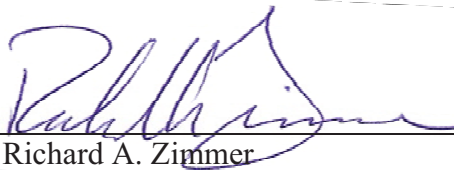
90 degrees, with the centerline of the vehicle aligned with the centerline of the 16-ft wedge system. The acceptable range for impact speed for this M50 test was 47.0 mi/h or above, and the actual impact speed was 50.2 mi/h. The 16-ft wedge system brought the vehicle to a stop. The cargo remained onboard the vehicle. The vehicle was disabled. The leading edge of the cargo bed did not penetrate beyond the inside edge of the 16-ft wedge system.

ASTM F2656-07 provides a range of vehicle test designations and penetration levels that allow agencies to select perimeter security devices that satisfy their specific facility needs. The amount of vehicle penetration of the security device at the required impact velocity determines the dynamic penetration rating for each condition designation.

The leading edge of the cargo bed did not penetrate beyond the inside edge of the 16-ft wedge system. According to *ASTM F2656-07*, the Smith & Wesson 16-ft wedge system meets Condition Designation/Penetration Rating M50/P1, which allows penetration of less than or equal to 3.2 ft when impacted by the medium duty truck at 47 mi/h or greater.



Wanda L. Menges
Deputy Quality Manager, TTI Proving Ground



Richard A. Zimmer
Test Facility Manager, TTI Proving Ground
Quality Manager, TTI Proving Ground
Technical Manager, TTI Proving Ground

0.000 s	0.xxx s	0.xxx s	0.xxx s
Device before test	Device and Truck before test	Device after test	Truck after test
			
Sequential photos not available at time of this letter.			

General Information

Test Agency Texas Transportation Institute (TTI)
Test Standard Test No. ASTM F2656-07 M50
Test No. 510602-SWS3
Date 2012-06-19

Test Article

Type Security Wedge
Name Smith & Wesson 16-ft wedge system
Installation Length 192 inches x 84.4 inches

Material or Key Elements ... Steel wedge frame in concrete footing

Soil/Foundation Type Concrete footing in crushed limestone

Test Vehicle

Type Medium Duty Truck
Designation M50
Model 2000 International 4700
Mass
Curb 12030 lb
Test Inertial 15160 lb

Impact Conditions

Speed 50.2 mi/h
Angle ~90 degrees

Exit Conditions

Speed Stopped
Angle N/A

Occupant Risk Values

Impact Velocity
Longitudinal 57.4 ft/s
Lateral No contact
Ridedown Accelerations
Longitudinal 41.8 G
Lateral 22.2 G
Max. 0.050-s Average
Longitudinal -27.5 G
Lateral 6.8 G

Penetration of Cargo Bed

Distance Beyond Inside
Edge of Security Device Did not penetrate
Truck Disabled? Yes
Rating M50/P1

Summary of results for *ASTM F2656-07 M50* test on the Smith & Wesson 16-ft wedge system.

SW1900 SERIES WEDGE



For clients that specify a crash-rated retractable plate wedge barrier for their facility's physical security project, FutureNet Security Solutions has designed an innovative wedge barrier that eliminates many of the challenges experienced during the procurement, installation, use, and maintenance of traditional systems.

Available in either Hydraulic or Electro-Mechanical models that utilize the same as-tested barrier structure, the SW1900 wedge provides ASTM M50 P1 rated protection suitable for a wide variety of facilities such as embassies, military installations, corporate headquarters, data centers, and Federal Government agencies. Innovative noise dampening technology has been incorporated into the barrier design, making the SW1900 well-suited for installations located near businesses or other properties that are sensitive to noise levels.

Following independent 3rd party testing, the test vehicle's crash-test wreckage was removed, and the SW1900 was immediately cycled multiple times under its own power – requiring no replacement hoses or fittings, and demonstrating no hydraulic leaks or damage to operating components. Test vehicles were also driven over the barrier following the conclusion of the test, demonstrating that the SW1900 could withstand an impact and remain functional.

FutureNet has designed the SW1900 with removable access panels on the top of the wedge plate which allow all operating components to be serviced or replaced without raising the barrier. To make installation as fast and cost effective as possible, the shallow (18" foundation) mount barrier is shipped in one piece, requires no concrete inside the vault, and has pre-plumbed drains and control pathways that ensure that there is no interference with rebar placement.



overview

SW1900 SERIES FEATURES

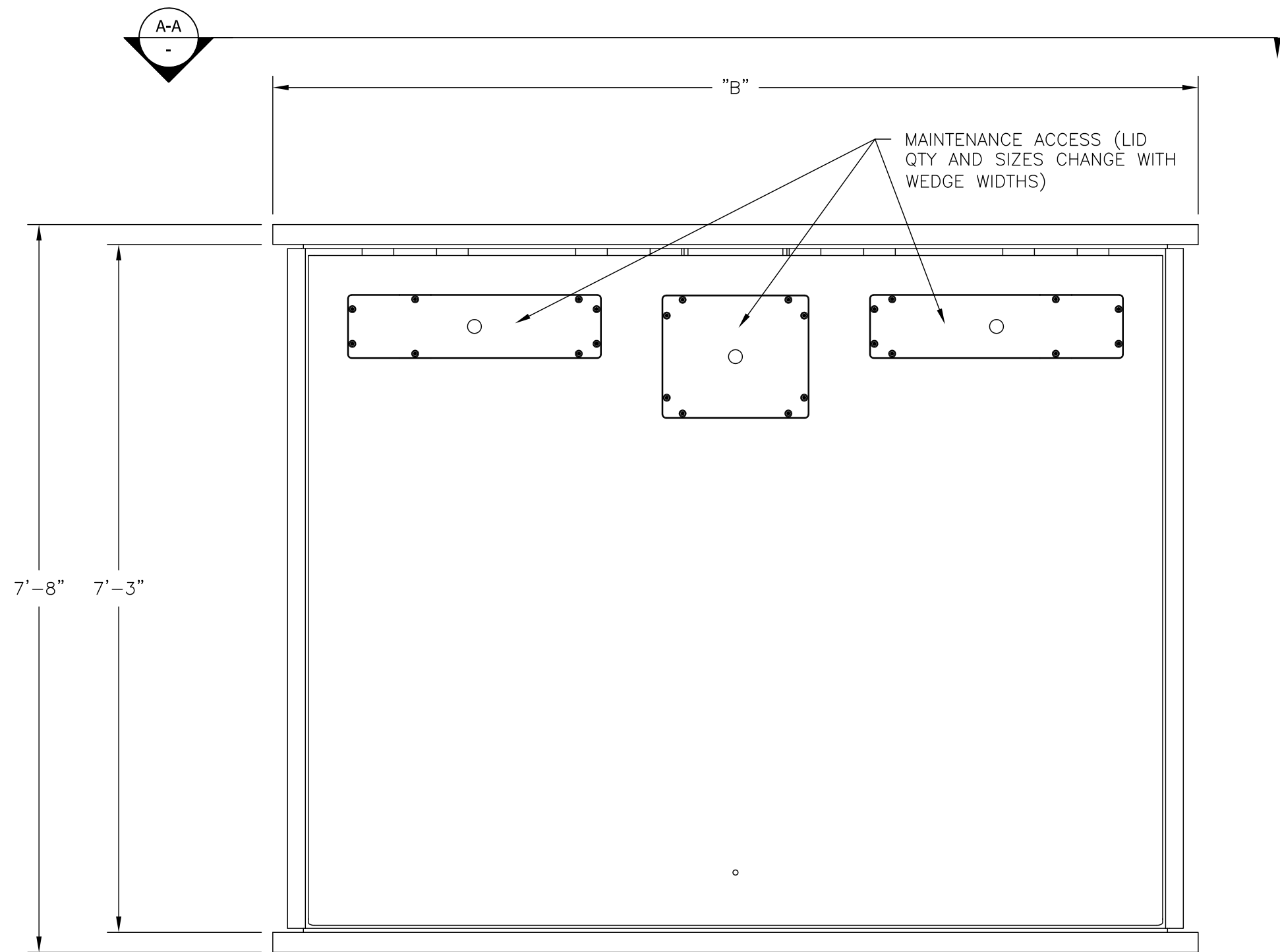
- Certified to ASTM M50 P1 standards
- Electro-mechanical or hydraulic actuation with identical certified barrier structure
- Noise dampening technology
- 18-inch shallow mount foundation
- Available in 8 to 15-foot widths
- One day installation, ready to install as shipped
- No concrete required inside barrier
- Access panels that allow service and component replacement without raising the barrier
- Pre-plumbed drains and control pathways designed not to interfere with rebar placement
- UL certified electrical power unit (EPU)
- NEMA rated control enclosures
- Standard feature with all models EFO capability (deploys in less than 2 seconds)



PART

SW1900-xxE	ASTM M50 P1 Rated Electro-Mechanical Operation
SW1900-xxH	ASTM M50 P1 Rated Hydraulic Operation

* xx = specified feet 08 to 15-foot widths.



1
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PLAN VIEW
SCALE: NTS

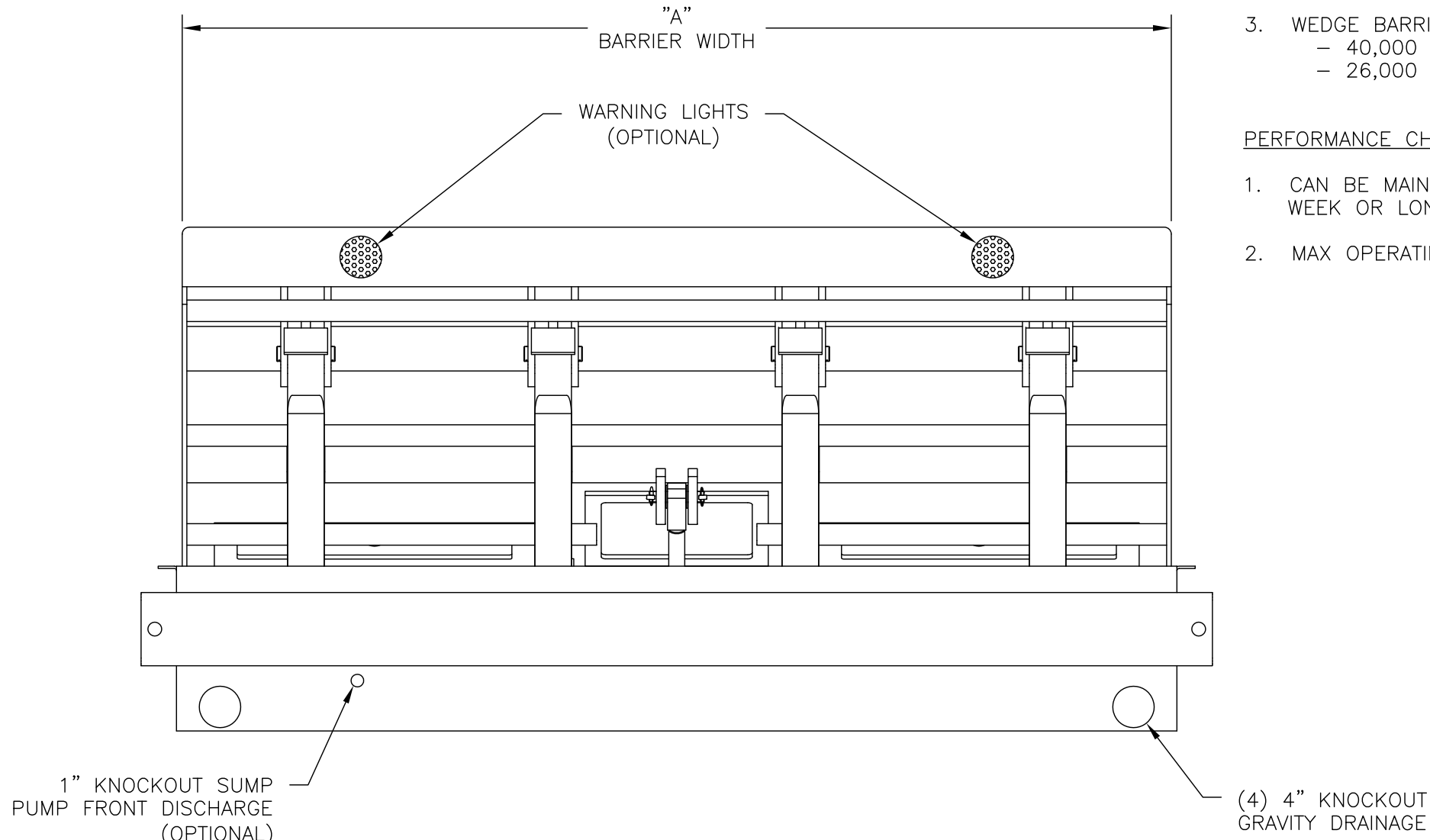
BARRIER WIDTHS	
DIM "A"	DIM "B"
8'-0"	8'-9"
9'-0"	9'-9"
10'-0"	10'-9"
11'-0"	11'-9"

NOTES:

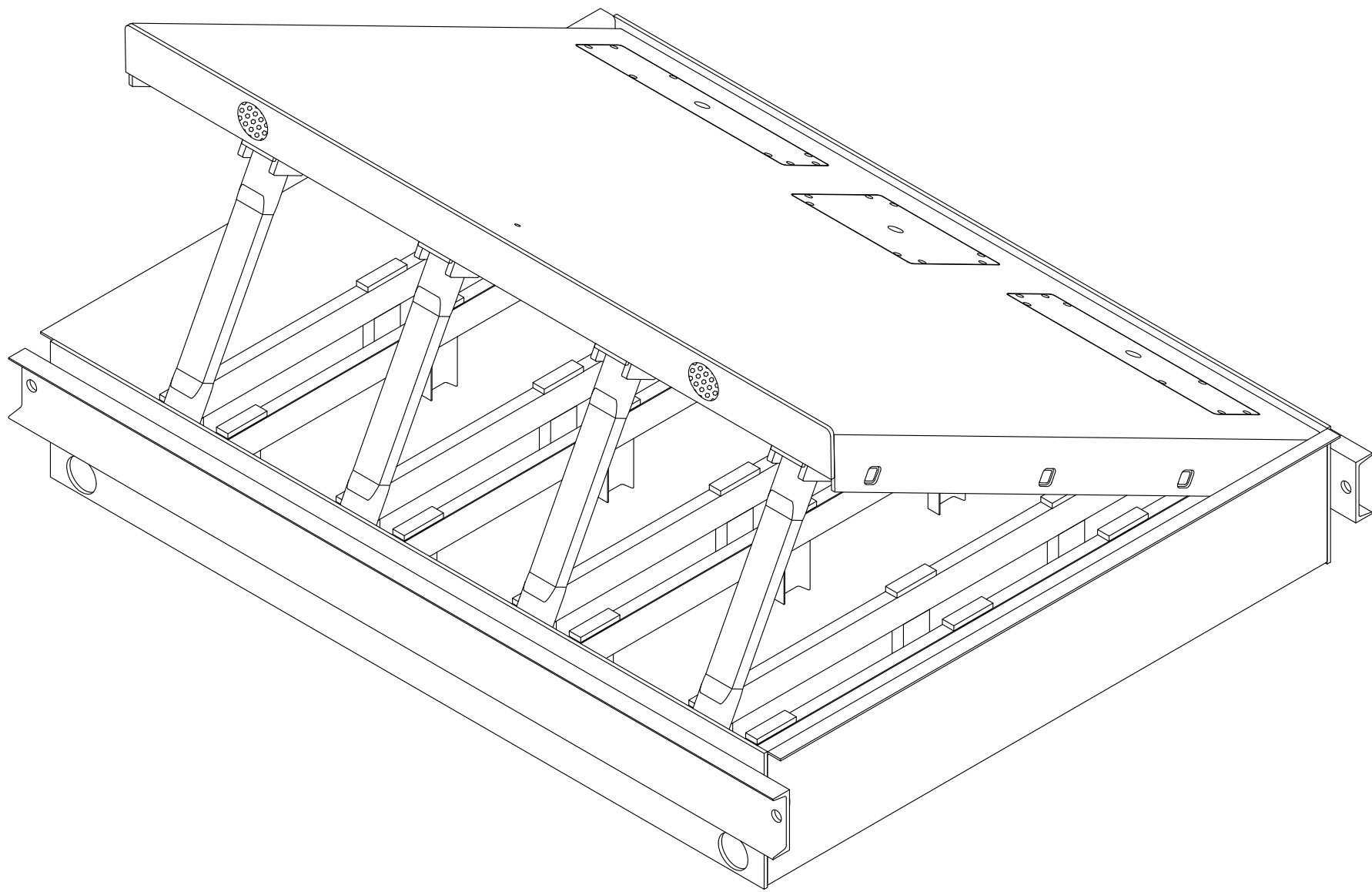
- 9'-0" WEDGE BARRIER SHOWN FOR REFERENCE ONLY.
- MEETS ASTM 2656-07 M50-P1 AND SD-STD-02.01 Rev. A K12 STANDARDS.
- WEDGE BARRIER IS CAPABLE OF SUPPORTING
 - 40,000 AXLE LOAD
 - 26,000 WHEEL LOAD

PERFORMANCE CHARACTERISTICS

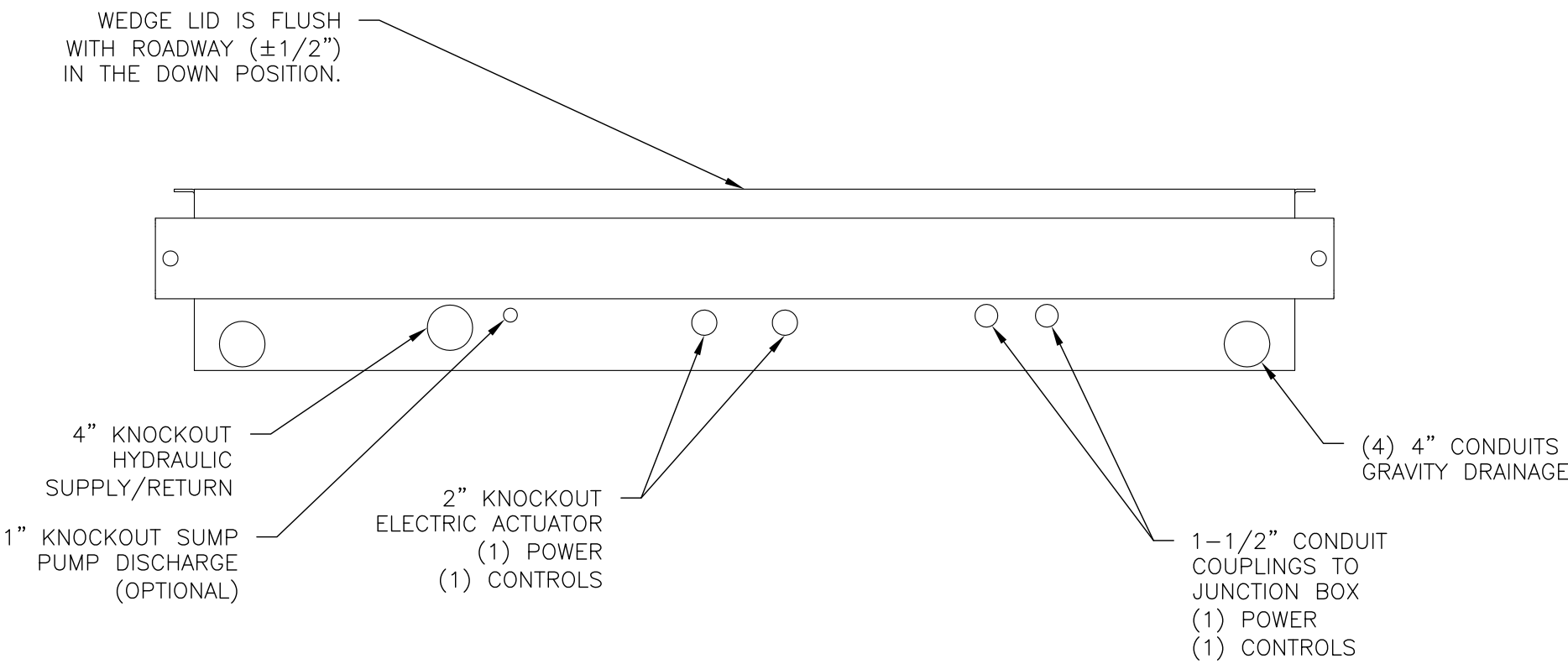
- CAN BE MAINTAINED IN THE UP POSITION FOR 1 WEEK OR LONGER WITHOUT MAINTENANCE.
- MAX OPERATING SPEED 1.5 SECONDS.



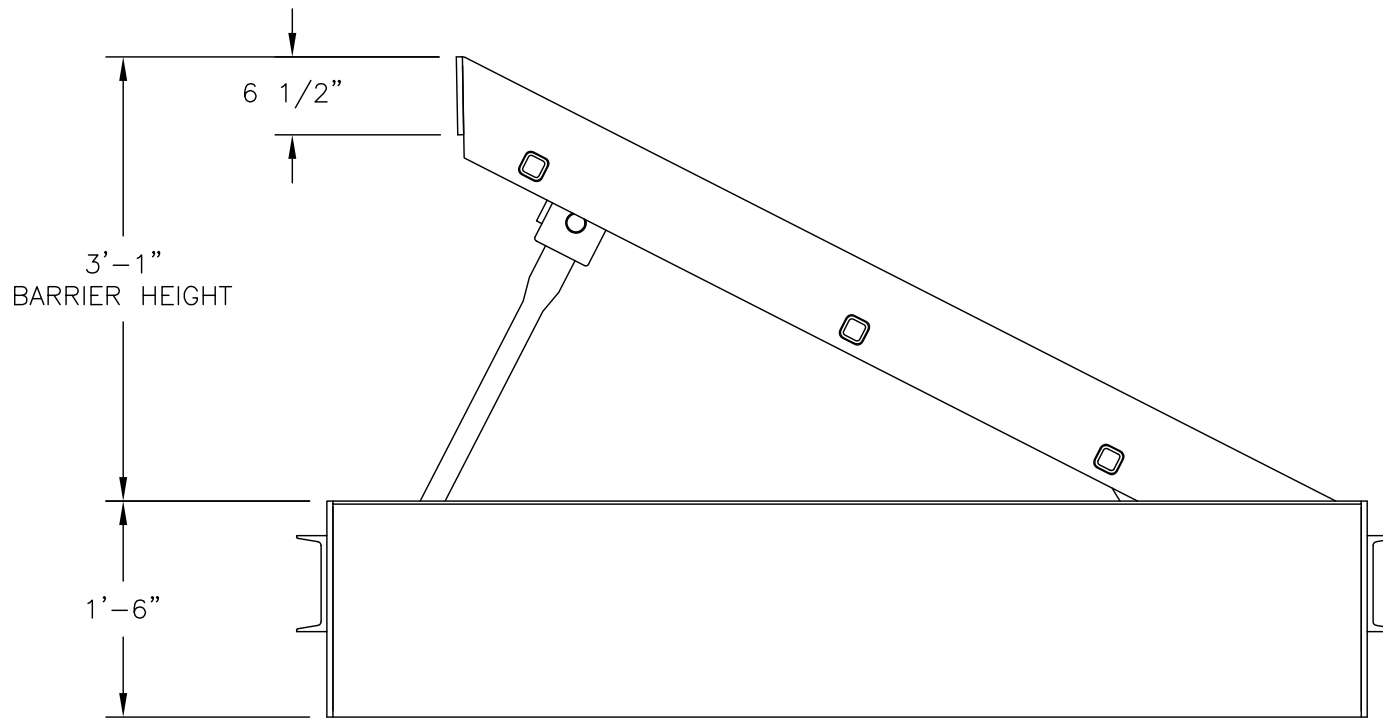
2
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FRONT ELEVATION VIEW
SCALE: NTS



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ISO VIEW
SCALE: NTS



A-A
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SECTION VIEW
SCALE: NTS



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SIDE ELEVATION VIEW
SCALE: NTS

FOR APPROVAL
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PROJECT NAME SW1900 WEDGE BARRIER (8' THRU 11') GENERAL ARRANGEMENT				SHEET ID - SHEET:-			
FutureNet Security Solutions Formerly known as Sentinel Systems				DESCRIPTION DATE REV			
				BY			

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-006	9/11/2014			Is there a specification for a contractor's job trailer and storage containers? What kind of on-site materials staging area is available?	There are no specifications for job trailers and storage containers for Trade Subcontractors. No space will be allocated for trailers on-site. Due to limited on-site space, Trade Subcontractors shall coordinate and schedule all deliveries as close to installation as possible without impacting the schedule. All deliveries shall be phased in coordination with the installation schedule. The on-site materials staging area is extremely limited, may only be temporarily available and is not guaranteed. All deliveries and on-site materials staging shall be in coordination with the CM/GC.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-007	9/11/2014		00 04 20	Regarding Value Engineering proposals. Do you require the submitting contractor to carry Errors and Omissions insurance as part of the newly proposed submittal design?	<p>Please see the following section from Exhibit A, VI. Insurance and Bonding Requirements, 2. Additional Coverages, A. Professional Liability Insurance:</p> <p>"Professional Liability Insurance: In the event that Trade Subcontractor employs professional engineer(s) or land surveyor(s) for performing Pre-Construction Services, field engineering, or preparing design calculations, plans and specifications, Trade Subcontractor shall carry or shall require its retained engineers and land surveyors to carry professional liability insurance with limits not less than \$2,000,000 each claim/\$2,000,000 aggregate with respect to acts, errors, or omissions in connection with professional services to be provided under the subcontract, with any deductible not to exceed \$250,000 each claim. With respect to land surveyors only, the Trade Subcontractor or its retained engineers should only have to evidence \$1,000,000 in professional liability insurance covering that scope of work, consistent with the standard requirements set forth in Article 16 of the Long Form Subcontract."</p>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-008	9/11/2014			If portions of the structure are in place and X-Rays and coring are needed, who is responsible for their costs?	<p>Please see the following section from Exhibit A, IV. Scope of the Package and Bid Item Information, 3. Base Bid Item Scope, General:</p> <p>10. "Portions of the overall structure will already be in place prior to award of the TG07.9 package. The Trade Subcontractor may be required to provide additional coring and cutting services in portions of the building. To facilitate competitive cost the Trade Subcontractor shall provide a minimum of three separate unit rate quotes from different firms that provide required scanning and coring services once every six (6) months starting the first month after contract award for Webcor/Obayashi Joint Venture review, quote selection, and approval for cost tracking and change order processing. Cost for preparatory field layout, clean up, and debris disposal is excluded in the current bid price and this Trade Subcontractor shall bill at prescribed labor rates and field verified daily by Webcor/Obayashi Joint Venture. All activity and locations associated with coring and cutting must be submitted for review and approval in sufficient time as to avoid overall schedule impacts. "</p>

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-011	9/16/2014	A1-8676	28 16 44 Paragraph(s): 2.2 .K pg 8 Fixed Bollard, 28 16 44	BOL-2 Specification calls for a max allowable embedment of 5" (the same as BOL-1). The drawing A1-8676 indicates 12". Please confirm the correct dimension.	Maintain maximum 5" embedment, achieved by blocking up base plate of bollard.
TG07.9-012	9/16/2014		28 16 44 Paragraph(s): 2.2.L BOL-3 28 16 44	Specification 28 16 44 page 9 Paragraph L 2 BOL-3 requires Design bollard BOL-3 to comply with CFC 312 2007. Please provide this document CFC 312 2007.	CFC 312 2007 refers to the 2007 edition of the California Fire Code section 312. Referenced codes are not provided to bidders. This Code is available from a number of sources.
TG07.9-013	9/16/2014		28 16 44 2.2 28 16 44	Specification 28 16 44 Paragraph 2.2 requires the bollards to be painted. Please provide the paint specification and color (pattern if applicable).	Refer to Specification Section 28 16 44, paragraph 3.7 issued as part of ASI 127 for finishes.
TG07.9-014	9/16/2014		28 16 44 2.3 28 16 44	Specification 28 16 44 Paragraph 2.3 Wedge Barrier does not provide coating information. Please provide the paint/ coating specification and color (pattern if applicable).	Please refer to response to TG07.9-013.
TG07.9-015	9/16/2014		28 16 44 2.4 28 16 44	Specification 28 16 44 Paragraph 2.4 Operable Bollard does not provide coating information. Please provide the paint/ coating specification and color (pattern if applicable).	Please refer to response to TG07.9-013.
TG07.9-018	9/16/2014			Exhibit C (page 9) indicates: "Design, furnish, and install all bollards, barriers and their associated components, including but not limited to all embeds, sleeves, pull boxes, covers, base plates, anchors, concrete, footings, framing, retractable bollard foundation, structural polystyrene, backing, sealant, indicator lights, touch screens, remote and local access controls, vehicle and safety sensors/detectors, road loops, electric, plumbing and hydraulic connections." Page 10 "General" Item 2 indicates "All embeds and sleeves shall be furnished by this trade subcontractor and placed	<p>The TG07.9 Bollards and Barriers package is design build. The TG07.9 Trade Subcontractor shall provide all components required to achieve the performance criteria outlined in the Contract Documents.</p> <p>See Exhibit A, IV. Scope of the Package and Bid Item Information, 3. Base Bid Item Scope, General. The following language in item 2 shall be deleted in a future addendum, "All embeds and sleeves shall be furnished by this trade subcontractor and placed by the TG07.2 Structural Concrete</p>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
				<p>by the TG07.2 Structural Concrete Superstructure and TG12.1 Civil trade subcontractor." The two Exhibit A statements appear to conflict with one another:</p> <p>a. Which contract is responsible for installing any required sleeves necessary for bollards and barriers?</p> <p>b. Which contract is responsible for installing any anchor bolts necessary for the bollards and barriers?</p> <p>c. Which contract is responsible for installing any embeds for the bollards and barriers?</p>	<p>Superstructure and TG12.1 Civil trade subcontractor." The following language shall be added to item 2, "Trade Subcontractor to coordinate installation of all items at ground level with the TG12.1 Civil/Sitework Trade Subcontractor.</p> <p>a) Sleeves and blockouts for the retractable bollards and wedge barriers to connect with their designated HPU through the structural slab have been included in the drawings. These will be installed as part of the TG07.2 Superstructure Concrete scope for use by the TG07.9 Trade Subcontractor. Any more sleeves or blockouts through the structural slab, above and beyond what is already indicated in the Contract Documents; need to be requested immediately so that the TG07.2 Trade Subcontractor may be able to incorporate them before pouring the slab.</p> <p>b) If anchor bolts are being installed into the structural slab, then the TG07.2 Trade Subcontractor would need to be provided the embeds immediately for incorporation in the pour, unless they are post-pour anchors, in which case the TG07.9 Trade Subcontractor would be responsible for them. The TG07.9 Trade Subcontractor is responsible for all anchors placed in their own concrete.</p> <p>c) The TG07.9 Trade Subcontractor shall ensure that all embeds are correctly placed.</p>
TG07.9-019	9/16/2014			<p>Exhibit C indicates the TG07.9 contract includes "concrete"; please provide the limits/extent of concrete for this contract; is it limited to the structural concrete around the retractable bollards only?</p>	<p>The TG07.9 Bollards and Barriers package is design build. The TG07.9 Trade Subcontractor shall provide all components required to achieve the performance criteria outlined in the Contract Documents.</p> <p>Concrete work that is a requirement of the TG07.9 scope of work includes, but is not limited to, bollard and barrier footings, bollard and barrier foundations, and concrete within bollards.</p>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-020	9/16/2014			Exhibit C indicates the TG07.9 contract includes "plumbing"; please identify the plumbing work to be included in this contract; for example SKA-3543 (A1-8721) indicates a retractable bollard drain; does the TG07.9 contract only include the plumbing upstream of the drain receptacle?	<p>The TG07.9 Bollards and Barriers package is design build. The TG07.9 Trade Subcontractor shall provide all components required to achieve the performance criteria outlined in the Contract Documents.</p> <p>Plumbing work that is a requirement of the TG07.9 scope of work includes, but is not limited to, retractable bollard drains and connection to plumbing lines. The TG10.2 Plumbing Trade Subcontractor will furnish and install the drains and drain line for the retractable bollard basins, as shown in the Contract Documents.</p>
TG07.9-021	9/16/2014			<p>Exhibit C indicates the TG07.9 contract includes "electrical"; please confirm the electrical work to be included in this contract.</p> <p>a. Does this contract furnish and install conduit from controller to the bollard indicator lights?</p> <p>b. Does this contract install any necessary conduits from the HPU/Controller to each barrier or bollard?</p> <p>c. Does this contract furnish and install conduit between control locations and the HPU (i.e. A1-3100 note "Bollard Control Connection")?</p>	<p>The TG07.9 Bollards and Barriers package is design build. The TG07.9 Trade Subcontractor shall provide all components required to achieve the performance criteria outlined in the Contract Documents.</p> <p>See Exhibit A, IV. Scope of the Package and Bid Item Information, 3. Base Bid Item Scope. "This Trade Subcontractor shall coordinate with and connect all low and line voltage provided by the TG10.4 Trade Subcontractor at predetermined points of connection for HPUs. All low and line voltage connections downstream of the HPUs is by this Trade Subcontractor."</p> <p>a) "If indicator lighting requires wiring upstream of HPUs this too shall be provided by this Trade Subcontractor."</p> <p>b) Confirmed. "All low and line voltage connections downstream of the HPUs is by this Trade Subcontractor."</p> <p>c) The "Bollard Control Connection" to the HPU will be installed by the TG10.4 Electrical Trade Subcontractor.</p>
TG07.9-022	9/16/2014			Does this contract furnish and install all necessary embedded conduits/raceways for the hydraulic lines to each bollard?	Yes.

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TG07.9-023	9/16/2014			Are all the bollard and barrier locations required by the contract identified in the highlighted documents included in the pre-bid meeting presentation?	As stated in Exhibit A, VIII. Supplemental Documents List, "Scoping Drawings are for use in clarifying the general scope of work, but are not all inclusive of the scope described."
TG07.9-024	9/16/2014			Exhibit I (schedule) does not provide a timeline for the bollard and barrier installation, other than a nearly three year window. Please advise if the bollards and barriers will be installed in a more condensed time frame (i.e. over a six month period versus three years).	The general schedule of the work is described in Exhibit I of the Contract Documents. A schedule with a higher level of detail is not currently available for distribution. Please refer to the Project Bidding Manual, Section IV. Trade Subcontractor Requirements, Subsection C. Scheduling and Phasing.
TG07.9-025	9/16/2014			Please confirm that TG07.9 is responsible for furnishing the structural polystyrene within the envelope of the retractable bollards.	Confirmed.
TG07.9-026	9/16/2014			Is the TG07.9 contractor responsible for reinforcing steel at the retractable bollard concrete fill areas?	<p>The TG07.9 Bollards and Barriers package is design build. The TG07.9 Trade Subcontractor shall provide all components required to achieve the performance criteria outlined in the Contract Documents.</p> <p>All reinforcement required for the retractable bollard concrete fill areas is the responsibility of the TG07.9 Trade Subcontractor.</p>
TG07.9-027	9/19/2014			[Bidder] requests a two week bid date extension on this project.	The bid date has been extended as requested and was issued in Addendum #4. Bids are now due October 30, 2014 at 2:00 p.m.

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-010	9/16/2014		28 16 44 Paragraph(s): 2.2 Fixed Bollard 28 16 44	Please provide foundation information for the MUNI OCS pole referenced in Bollard 2B & 2C.	OCS pole foundations over the train box are called out on the Ground Level slab edge plans, drawings A1-2862 through A1-2871, and on the Ground Level protection slab plans, drawings A1-2922 through A1-2931. The structural detail of the OCS pole foundation is shown on S1-9101.
TG07.9-016	9/16/2014		28 16 44/APA Paragraph(s): 2.2.M 28 16 44/APA	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-017	9/16/2014		Trade Package TG07.9 Paragraph IV Scope of the Package	The fixed Bollards are installed on top of the structural slab. The bollard concrete is placed as part of the concrete wear surface. The concrete wear surface extends over the entire surface of the deck. Where is the demarcation of our work? Will the wear surface be placed first and a block section out be provided at the bollards for the TG07.9 contractor to place? If so please provide dimensions, joint detail, concrete requirements etc. Or will the concrete at/over the bollards be placed by the wear concrete contractor that installs this surface?	The TG07.9 Trade Subcontractor is responsible for the concrete required for the footings of each bollard in order to meet the performance requirements. The Ground Level concrete subcontractor will place the topping slab after the bollards are placed.
TG07.9-028	9/23/2014	ASI 127 A1-7402		Confirm location of card reader upon exit at Howard Street vehicle ramp is meant to be within the Sally Port and not on the interior of the wedge barrier. See sheet A1-7402 in ASI 127.	Location confirmed. The card reader located on the exit side of the vehicle ramp within the Sally Port is meant to control the vehicle ramp exit-side retractable bollards. The operation of the exit-side wedge barrier is controlled by the in-ground loop before and after the wedge barrier.
TG07.9-029	9/23/2014		28 16 44 3.7.C 28 16 44	Clarify if 09 91 00 Painting or 09 97 13 Site Paints specifications apply to the painted retractable and stationary bollards and barriers.	Specification Section 09 97 15, High Performance Coatings, shall govern painting of galvanized retractable and stationary bollards and barriers. Specification Section 09 91 00, Painting, paragraph 3.7.A refers to Section 09 97 15.

TG07.9-035	9/23/2014	ASI 127 - A1-2870		Confirm that bollards at GL 3 are still retractable bollards and have not been changed to fixed bollards as indicated.	Confirmed. The three (3) bollards shown directly to the right of GL3 are retractable bollards. For updated annotations on A1-2870 for the retractable bollards, refer to the attached sketch, SKA-4232.
TG07.9-037	9/23/2014			Please confirm that rubber tired equipment can operate unimpeded on the structural concrete for handling and setting of the security equipment.	Handling and setting of the security equipment shall be in coordination with the CM/GC and all other trade subcontractors, as outlined in the Project Bidding Manual, Section IV, Trade Subcontractor Requirements, subsection E, Coordination. Unimpeded access is not guaranteed. All equipment utilized on site shall comply with structural loading limits, as outlined in the Contract Documents.
TG07.9-038	9/23/2014			Please confirm that topping slabs, sidewalk, vehicle concrete paving and any associated reinforcing is by others.	The TG07.9 Trade Subcontractor is responsible for the concrete and any reinforcement required for each bollard in order to meet the performance requirements. The topping slab, sidewalk, vehicle concrete paving, and any associated reinforcing of these components is by others.
TG07.9-041	9/25/2014	A1- 2503 (SKA-3629) Detail(s): BOL-2	28 16 44 Sec 3.3 Paragraph(s): A 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-042	9/25/2014	A1- 2505 (SKA-3633) Detail(s): BOL-2	28 16 44 Sec 3.3 Paragraph(s): A 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-043	9/25/2014	A1- 2506 (SKA-3634) Detail(s): BOL-2	28 16 44 Sec 3.3 Paragraph(s): A 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.

TG07.9-044	9/25/2014	SKA-3907 Detail(s): BOL-3	28 16 44 Sec 3.3 Paragraph(s): A 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
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TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set, or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-009	9/16/2014		28 16 44 Paragraph(s): 2.2 Fixed Bollard 28 16 44	What is the max allowable embedment for Bollard type 1, 1A, 1B, 1C, 2, 2A, 2B, 2C, 3, 3A?	Refer to A1-2922 through A1-2931 (Ground Level Zone Protection Slab Plans) and L1-3302 through L1-3310 for maximum allowable depths. Bollards may be embedded to the top of the protection slab.
TG07.9-030	9/23/2014		ASI 127	ASI 127 added bollard types B1B, B1C and BOL-5. Clarify where B1B, B1C and BOL-5 are located. Updated drawings were not included with these bollard types.	Location of bollard types B1B and B1C can be found on sheets L1-2304, L1-2304A, L1-2306, L1-2306A, L1-2307, and L1-2307A. Bollard type BOL-5 is shown on attached "SKLA 325 RFI TG07.9-030, Location of Bollards Consolidated.pdf."
TG07.9-031	9/23/2014		RFI P1-0051.1	RFI P1-0051.1 answers two locations on Natoma Street, but does not address the retractable bollard drains at each of the loading docks, one on Minna and one on Natoma, or those located at the vehicle ramp. Clarify if the retractable bollard drain lines indicated on P1-2252, P1-2202 and P1-2204 are meant to be a combined drainage line running from the retractable bollard pit and the retractable bollard unit. For example, on P1-2204 it states "2" SAN/AD – UP (TYP 8) TO RETRACTABLE BOLLARDS CASING AND PIT". On P1-2202 it states "2" SAN/AD – UP (TYP 9) TO RETRACTABLE BOLLARDS CASING AND PIT. On P1-2252 it states "2" UP TO RETRACTABLE BOLLARD DRAINS (TYP 6). Clarify if the note on P1-2252 should be consistent with those on P1-2202 and P1-2204. The plumbing drawings are showing only one drain line while the architectural drawings are showing two separate drain lines, for example on A1-8720 and A1-8721. Clarify if one combined or two separate drain lines are meant to run from the retractable bollards. If two drain lines are running from the retractable bollards then clarify the route in the plumbing drawings for both lines. If a combined drain line is required then indicate	There is only one drain line from the bollards. The two drain lines shown in the architectural details will tie-in together. TG07.9 Trade Subcontractor to include provisions for connecting the retractable bollards casing drain lines to the retractable bollard pit drain line and coordinate with TG10.2 Plumbing Trade Subcontractor.

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				where these drains connect into the single line and revise the architectural details.	
TG07.9-032	9/23/2014		P1-0241.1	RFI P1-0241.1 addresses sleeves and blockouts at most locations, but not all. Provide sleeves or blockouts for the lines running from retractable bollards located at GL 1 and 10 at J to their designated HPU. They are missing from A1-2862 and A1-2863.	Refer to attached sketches SKA-4268 and SKA-4269 for the requested Blockouts for Bollard Arrays at Gridlines 1 and 10 at J.
TG07.9-033	9/23/2014	ASI 127 A1-8720 and A1-8721		Sheets A1-8720 and A1-8721 have retractable bollards with SS Sleeves, which was removed in ASI 119 and replaced with painted steel. Confirm that the retractable bollards are meant to now have SS Sleeves again. If so, update the specifications to correspond with revised scope requirements.	<p>Per base bid documents, retractable bollards were detailed with SS sleeves. Per Secondary Mitigation VE sketches issued with ASI 0119, retractable bollards sleeves are removed and replaced with painted finish. Retractable bollards shall NOT revert to former SS sleeves. Current Specification Section 28 16 44 is correct.</p> <p>Secondary Mitigation VE sketches (SKAs) are intended to supplement and not supersede the drawing sheets.</p> <p>Sketch revisions will only supersede previous sketches. Sheet revisions will only supersede previous sheets.</p> <p>All Secondary Mitigation VE items were issued as SKAs in ASI-0119, ASI-0122, and ASI-0124. All Secondary Mitigation VE items have been documented as Red or Blue markups, clearly identified with revision clouds and noted with VE Item ID numbers, on top of the previously issued IFC/Addenda drawings. Secondary Mitigation VE items are based on frozen-in-time backgrounds. Only information in the clouded areas with VE Item ID numbers is relevant on the sketches. See the narrative issued with ASIs for additional information/clarification and description of VE items. There are also other clouded revisions, without VE Item ID numbers, on the Secondary Mitigation VE sketches that are on the backgrounds used for the sketches. These clouded areas without VE Item ID number are not relevant to the VE content.</p> <p>ASI 0127 does not supersede Secondary Mitigation VE sketches, nor does ASI 0127 imply the acceptance of any Secondary Mitigation VE items.</p>
TG07.9-034	9/23/2014	ASI 127 2/A1-3190		BOL-3 is indicated on 2/A1-3190 and 7/A1-7027 with conflicting details. Clarify	Refer to the attached updated SKA-4233.

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		and 7/A1-7027		which details are correct or if they are meant to be two different types of bollards.	
TG07.9-036	9/23/2014	ASI 127 A1-2870, A1-2852, and A1-7401		A1-2870 and A1-7401 indicate that the sleeves on the vehicle ramp are for wedge barriers only. On sheet A1-2852 the sleeves are indicated as being for wedges on the east side and for bollards on the west side between GL 2 and 3. Clarify the intent of which sleeves are meant for the bollards and which for the wedge barriers. Since the retractable bollards are outside of the shoring wall, is the intent that the lines running to the HPU run over or through the shoring wall?	Refer to attached sketches SKA-4272, SKA-4273, and SKA-4274.
TG07.9-039	9/25/2014	A1-7027 Detail(s): TELCOM ENCLOSURE	28 16 44 Sec 2.2 Paragraph(s): L 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-040	9/25/2014	A1-3190 Detail(s): BOL-3 Typical	28 16 44 Sec 2.2 Paragraph(s): L 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-047	9/25/2014		28 16 44 Part 1, Sec. 1.2 Paragraph(s): B 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-049	9/25/2014	Retractable bollard details, A1-8720		Drawing shows a 5'-0" max depth from what looks like top of grade to top of sub-structure. With an insulation or rubber barrier between. What is the thickness of that membrane between the sub-structure and bollard framing?	1. The thickness of WPM-1A waterproofing assembly between the sub-structure and bollard foundation/framing is approximately 2½ inches. 2. The maximum depth of the retractable bollard foundation/frame from the top of the sidewalk level to

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
				Please clarify the maximum depth of the operational bollard frame from top of grade to resting point of the bollard frame?	<p>the resting point of the bollard foundation/frame can be derived by referring to the following drawings read in conjunction:</p> <p>a. Architectural drawings – For ground floor TOC elevations and slopes, refer to ground floor slab edge plans on A1-2862, A1-2863, and A1-2864.</p> <p>b. Structural drawings – For ground-floor structural slab elevations from the building line to the foundation wall, refer to ground-floor framing plans on S1-2302, S1-2303, and S1-2304. For moment-frame beam depths, refer to ground floor moment frame beam schedule on S1-3600; and for ground floor slab thickness, refer to concrete slab schedule on S1-3500.</p> <p>c. Landscape drawings – For ground floor sidewalk grading, refer to ground level grading and drainage plans on L1-3302, L1-3303, and L1-3304. For ground-floor sidewalk thickness, refer to ground-floor material plans on L1-2302, L1-2303, and L1-2304. Also refer to sketches attached with the response to RFI TG07.0-030 (SKLA 325 RFI TG07.9-030 Location of Bollards Consolidated.pdf)</p>
TG07.9-052	10/2/2014	Drawing Sheet: L-002, L1-7360 Detail(s): A1-8676, A1-3190	28 16 44 paragraph 2.2 28 16 44	We respectfully request that proprietary SW1800 series fixed bollards be added to the approved manufactured list. Please see attached documentation for further reference	Specific and proprietary products will not be added to the Specification Section 28 16 44. Approved manufacturers have been identified. It is the barrier contractor's responsibility to select the barrier and provide appropriate information to substantiate its required performance per the specifications.
TG07.9-053	10/7/2014		1.7.A.2 28 16 44	Under Section 1.7.A.2, it states "provide for inspections and permits required by Federal, State and Local authorities in furnishing, transporting and installing materials." Are these permits covered by the project's overall permit or will we be expected to pay for them? If so, please indicate what type and scope of permits we will be required to obtain.	Refer to Specification Sections 01 14 10 and 01 14 10 APA for inspections and permits information.
TG07.9-054	10/7/2014	AI-7417_SKA-3525 Detail(s): 1	28 16 44 Paragraph(s): 2.2.N 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
				opening the relevant folder.	
TG07.9-055	10/8/2014		Addendum 4 Exhibit A Paragraph(s): Exclusions on page 12	In the revised Exhibit A under exclusions, it states to exclude Five Years Maintenance per 28 16 44, Section 3.7. Typically Bollard and Barrier manufacturers require some type of monthly, semi-yearly and yearly system maintenance. Since the maintenance requirement for the contract has been excluded, who is responsible for providing this required maintenance so that the manufacturer's warranty is valid?	The manufacturer's recommended maintenance and service shall be performed under a future facility manager professional services contract.
TG07.9-056	10/8/2014			What is the expectation for warranty response in the event of malfunction of a wedge barricade or retractable bollard unit? Does TJPA expect the installing contractor to have 24- hour, 7-day response available?	1) An expectation for warranty response in the event of malfunction of a wedge barricade or retractable bollard unit has not been specified. Reasonable warranty response will be one business day. 2) No, 24-hour, 7-day response by the installing contractor is not anticipated by the TJPA.
TG07.9-057	10/8/2014	AI-2306, AI-2307	28 16 44 2.5.A 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-061	10/9/2014		2.11 28 16 44	In reviewing 28 16 44 2.11 – Approved Manufacturers, we would like to confirm that any contractor wishing to propose a different manufacturer from those listed must have TJPA approval prior to the date bid packages are due.	Confirmed: a bidder may submit a pre-bid substitution request, using Specification Section 00 04 41, in order to use a manufacturer different from those listed in the specifications, if approved prior to bid. The date for pre-bid substitution requests has passed; however, a contractor may submit a request for substitution after contract award, in accordance with Specification Section 01 16 30.
TG07.9-062	10/9/2014		Project Bidding Manual	The Bidding Manual: Section D: Bidding Process and procedures, Paragraph 6: Bidding Requirements (pg 14 of 50) Sentence d): Nondiscrimination, references specification 00 04 70, Non Discrimination in Contracts and benefits form. This form is required to be submitted with our bid. We are unable to find this form and it is not listed on the specification table of contents. Please provide.	Section III. Instructions to Bidders, D. Bidding Process and Procedures, 6. Bidding Requirements, d) Nondiscrimination will be deleted from the Project Bidding Manual.
TG07.9-063	10/9/2014	2/L1-7360		Drawing L Drawing L1-7360 Rev 1 issued	Sleeves are not required at these bollards.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
				with addendum 4 shows a Bollard sleeve in detail 1 and 2. Please confirm sleeves are not provided at these bollards. 1-7360 Rev 1 issued with addendum 4 shows a Bollard sleeve in detail 1 and 2. Please confirm sleeves are not provided at these bollards.	
TG07.9-064	10/9/2014		Exhibit A Attachment 2	A detailed schedule or planned sequence of construction has not been provided. Is this available? Please advise the anticipated date that the structure of the Ground Level will be complete and available for the TG07.9 contractor to commence work. Please advise the anticipated date that the Geosynthetic fill of the Ground Level will be complete and available for the TG07.9 contractor to work. Please provide the date we should have our structures set to allow the contractors that follow us to start their work (Vehicular Concrete Paving contractor).	The general schedule of the work is described in Exhibit I of the contract documents. A schedule with a higher level of detail is not currently available for distribution. Please refer to the Project Bidding Manual, Section IV. Trade Subcontractor Requirements, Subsection C, Scheduling and Phasing.
TG07.9-065	10/9/2014		Exhibit A Attachment 2	Will trucks be allowed to drive on the structure of the Ground Level to unload our bollards and wedges relatively close to their install locations? If not, provide the unloading locations. Will we be allowed to operate forklifts and equipment (including concrete trucks) on the structure, on top of Geosynthetic fill?	Handling and setting of the bollards and wedges shall be in coordination with Webcor/Obayashi Joint Venture and all other trade subcontractors, as outlined in the Project Bidding Manual, IV. Trade Subcontractor Requirements, E. Coordination. All equipment used on site shall comply with structural loading limits as outlined in the Contract Documents. Driving on top of the geosynthetic fill is not allowed.
TG07.9-066	10/9/2014		Project Bidding Manual IV.A.5	The Project Bidding Manual section IV., paragraph A, Item 5 Weekly Meeting, requires attendance at weekly meetings. We anticipate attending a preconstruction conference and weekly meetings while we are working on site. The duration of our scope of work is relatively short; please confirm we do not have to attend the weekly progress meeting when we are not working on site.	While Trade Subcontractor is under contract, Trade Subcontractor is required to attend all meetings as required by Specification Section 01 10 40 – Coordination, Specification Section 01 12 00 – Project Meetings, and as requested by Webcor/Obayashi Joint Venture.
TG07.9-068	10/10/2014		Project Bidding Manual IV.A.5	What are the requirements to bill for materials stored off site? Will retainage be held, what percentage?	See Specification Section 00 07 00 – General Conditions.

00 04 41 – PRE-BID REQUEST FOR SUBSTITUTION

During the bidding period, a proposed change by a bidder of a product, equipment, or service required by the Contract Documents is considered a pre-bid request for substitution. A pre-bid request for substitution will be considered as part of the questions on bid documents (QBD) process. Refer to the CM/GC's Bid Manual for QBD instructions and forms.

During the bidding period and prior to the deadline for the submission of QBDs, Bidders may submit a request for a substitution of an "or equal" product, equipment, or service specified in the Contract Documents by completing and submitting this form as an attachment to a QBD, in accordance with the QBD process. The TJPA will respond in writing to a pre-bid request for substitution in accordance with the QBD process and deadlines specified in the bidding documents.

Pre-bid requests for substitution requested during the bidding period and accepted by Addendum prior to opening of bids are included in the Contract Documents.

Spec. Section: 28 16 44 Date: 09/29/2014
Drawing Sheet: L-002, L1-7360 Paragraph(s): 2.2
Detail(s): A1-8676, A1-3190

Proposed Substitution: SW1800 series fixed bollards
Manufacturer/Address/Phone: FutureNet Security Solutions, LLC / 277 Mallory Station Road, Ste 112, Franklin, TN 37067
Trade Name/Model No.: SW1800-BOL1, SW1800-Typ1, SW1800-Typ1A, SW1800-Typ2, SW1800-Typ3, SW1800-Typ4 615-224-0400

Product History: X New 2-5 years old 5-10 years old More than 10 years old
Note: The specific design required to meet TJPA is a new product, however FNSS has designed and installed comparable products for similar clients

Differences between proposed substitution and specified product (attach required point-by-point comparative data):

The proposed products are custom designed to meet the specific requirements of TJPA, in specifics, the products meet the foundation, depth, and height requirements while offering ease of installation and providing an engineered crash rated design

Reason for not providing specified item:

The specified item is a custom design and does not exist as an off-the-shelf item from any manufacturer. The proposed products offer an equal or better product meeting the required specifications. As the manufacturer, FutureNet can provide TJPA with unique in-house engineering support and lower cost while also serving as the prime contractor.

Similar installation where proposed substitution has been used (Project/Address/Architect/Owner/Date Installed):

The products required for this project are custom in nature, therefore the proposed substitution in its exact form has not previously been installed, however FNSS has custom designed and installed bollards at the following locations - Joint Use Intelligence Analysis Facility (JUIAF), Charlottesville, VA / MILDEP, Quantico, VA

General Services Administration (GSA), Louisville, KY / Fort Eustis, VA / Fort Jackson, SC / Customs & Border Patrol, Land Port of Entry (multiple locations) / Sovereign Bank, Wyomissing, PA

Proposed substitution affects other parts of the Work: X No Yes: explain

Changes or modifications needed to coordinate other parts of the Work that will be necessary to accommodate the proposed substitution:

N/A

Supporting data attached: X Product Data X Drawings Test Reports Samples

 Manufacturer's Standard Form of Warranty or Guarantee

Other: Letter regarding engineered design / Note - due to the custom design required by TJPA, the drawings are marked "Confidential." Should the reviewer require any additional information, please do not hesitate to contact us directly so that we may assist with the request (615-224-0400, Joey Brennan, Primary Point of Contact)

The Bidder certifies that

- The proposed substitution has been fully investigated and determined to be equal or superior in all respects to the specified product.
- The proposed substitution conforms in all respects to the requirements of the Contract Documents and all applicable regulatory requirements and is appropriate for the application intended.
- The same warranty or guarantee for the specified product will be furnished for the proposed substitution.
- The proposed substitution does not affect dimensions or functional clearances.

Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Attachments _____

END OF SECTION 00 04 41

SPECIFICATION ISSUE LOG

Revision	Date
0	August 11, 2014

Note: If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

Crystal D:_BL_2014 - 12\New 2\WPG\000\Current\020\Transbay\TJLA-0002.dwg

XREFS: TJPA-TB FOLLOW 34x44E.dwg

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LEGEND

GENERAL ALL SHEETS

MATCHLINE

MATCHLINE

SECTION/ DETAIL

11-XXX

2

11-XXX

1

01-0000

DETAIL NUMBER

SHEET NUMBER

REVISION CLOUD AND DELTA

ENLARGEMENT

DESIGN AND CONSTRUCTION WORK OUTSIDE OF LANDSCAPE SCOPE

-SAD

-SCD

BREAKLINE

SLOPE RATIO

1

1

ALIGN

CENTERLINE

AREA OF ASSISTED RESCUE

PEDESTRIAN PUSH BUTTON

-SAD

FIRE DEPARTMENT CONNECTION

-SPD

LIMIT OF WORK LINE

CURB RAMP

MUNI OCS POLE

-SAD

LEGEND

GENERAL ALL SHEETS GROUND LEVEL PLANS

RADIAL PLANTERS

- PRECAST CONCRETE

TRENCH DRAIN IN PAVING

MONUMENT BOULDER AT GROUND LEVEL

- SAW BOTTOM FLAT

- REFER TO SIGNAGE DRAWINGS FOR TEXT ON BOULDER

BIKE RACK

BOLLARD TYPE 1

- STATIONARY

BOLLARD TYPE 1A

- STATIONARY

- SPECIAL FOOTING AT CURB RAMP

BOLLARD TYPE 1B

- STATIONARY

- SPECIAL FOOTING AT MUNI OCS POLE

BOLLARD TYPE 1C

- STATIONARY

- SPECIAL FOOTING AT CURB RAMP AND MUNI OCS POLE

BOLLARD TYPE 2

- STATIONARY

BOLLARD TYPE 2A

- STATIONARY

- SPECIAL FOOTING AT CURB RAMP

BOLLARD TYPE 2B

- STATIONARY

- SPECIAL FOOTING AT MUNI OCS POLE

BOLLARD TYPE 2C

- STATIONARY

- SPECIAL FOOTING AT CURB RAMP AND MUNI OCS POLE

BOLLARD TYPE 3

- REMOVABLE

BOLLARD TYPE 3A

- REMOVABLE

- SPECIAL FOOTING AT UTILITY VAULTS

BOLLARD TYPE 4

- STATIONARY

BOL-5

- SAD

BOLLARD

- RETRACTABLE

- SAD

SIGNAGE PYLON

HOSE BIB

- SPD

RETRACTABLE DISPENSER

- SED

IN-GRADE FLUSH UPLIGHT

- SLD, SED

FIRE DEPARTMENT CONNECTION

- SPD

FRESH AIR INLET

-SED

FUEL INTAKE

-SED

FIRE ALARM REMOTE ANNUNCIATOR

-SED

STREET SIGNAGE

-SCD

LEGEND

GROUND LEVEL MATERIAL PLANS

VEHICULAR CONCRETE PAVING ON-STRUCTURE WITH SAW CUT CONCRETE PAVING JOINTS

FINISH B

FINISH A

PEDESTRIAN CONCRETE PAVING ON-STRUCTURE WITH SAW CUT CONCRETE PAVING JOINTS

FINISH B

FINISH A

VEHICULAR CONCRETE PAVING ON-GRADE WITH SAW CUT CONCRETE PAVING JOINTS

FINISH B

FINISH A

PEDESTRIAN CONCRETE PAVING ON-GRADE WITH SAW CUT CONCRETE PAVING JOINTS

FINISH B

FINISH A

AGGREGATE MULCH

CONCRETE INFILL IN PG&E UTILITY VAULT LIFT OUT LID WITH DECORATIVE CONCRETE PAVING JOINTS

FINISH A

FINISH B

SPECIALTY CONCRETE PAVING AT SHAW ALLEY

CONCRETE PAVING AT AREAS OF INSUFFICIENT DEPTH TO ACCOMMODATE FULL PAVING PROFILE

- OMIT PROTECTION SLAB AND REPLACE WITH STEEL PLATE

- REFER TO ARCHITECTURE DRAWINGS FOR TRAIN BOX LID, SIMILAR TO 2/A1-B710

CRACK CONTROL JOINT

EXPANSION JOINT

KEYED JOINT

SAW CUT CRACK CONTROL JOINT

SAW CUT EXPANSION JOINT

RADIAL PLANTERS WITH PLANTING SOILS AND 2" OF MULCH

ILLUMINATED PAVER AT SHAW ALLEY

METAL

GLASS

ILLUMINATED BENCH AT SHAW ALLEY

METAL

CONCRETE

CLOSURE WALL AT STAIR 201

-SAD

WALK-OFF MAT

-SAD

LEGEND

GROUND LEVEL GRADING AND DRAINAGE PLANS

PROPOSED FINISHED SURFACE ELEVATION

FS 00.00

PROPOSED TOP OF CURB ELEVATION

TC 00.00

TOP OF CURB ELEVATION

- SCD

<TC 00.00>

FLOW LINE

- SCD

<FL 00.00>

EXISTING FINISHED SURFACE ELEVATION

(00.00)

PROPOSED RIM ELEVATION

RIM 00.00

TRENCH DRAIN HIGH POINT ELEVATION

TDHP 00.00

TRENCH DRAIN LOW POINT ELEVATION

TDLP 00.00

INVERT ELEVATION

INV 00.00

PIPE DIAMETER

6"

GRADE BREAK

FINISHED SURFACE SLOPE PERCENTAGE

1.14%

FLUSH

Z

AREA DRAIN IN PAVING

⊠

AREA DRAIN IN PLANTING

●

CATCH BASIN WITH AREA DRAIN GRATE

⊙

CLEAN-OUT

▷

DUEL CLEAN-OUT

⊙

CATCH BASIN WITH CLEAN OUT

- SOLID COVER

⊙

CATCH BASIN WITH SAND FILTER

- SCD

⊙

SOLID PIPE

—

PERFORATED PIPE

- - -

SOLID PIPE

- SCD

—

POINT OF CONNECTION

- SPD

⋈

POINT OF CONNECTION

- SCD

T

TRANSBAY TRANSIT CENTER

TRANSBAY JOINT POWERS AUTHORITY

CONSULTANT

PWP LANDSCAPE ARCHITECTURE

100 CALIFORNIA AVE. BERKELEY, CALIFORNIA 94710 • TEL 946.840.1111 • FAX 946.840.1000

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

LEGEND

NO.

DATE

ISSUED FOR CONSTRUCTION

DESCRIPTION

BY

DATE

NO.

DATE

ISSUED FOR CONSTRUCTION

DESCRIPTION

BY

APPROVED:

PRINCIPAL LANDSCAPE ARCHITECT

D. FINDLAY

APPROVED:

PROJECT MANAGER

A. GREENSPAN

APPROVED:

PROJECT MANAGER

J. SASSON

DESIGNED BY:

P. WALKER

CHECKED BY:

J. CANTER

DRAWN BY:

L. HUNTER

DATE:

03/31/2014

REVISION:

0

SHEET NUMBER:

140

SEQUENCE NUMBER:

0

L-0002

of

DRAWING TITLE:
Response to RFI TG07.9-030 Locations of
Bollards B1B, B1C, BOL-5

SKLA-325.1

PWP
LANDSCAPE ARCHITECTURE

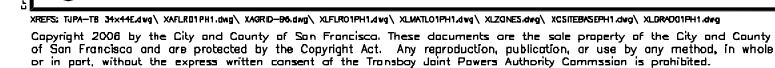
Transbay Transit Center

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CHECKED BY: CL

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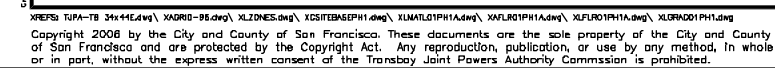
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Tromsø Travel Center

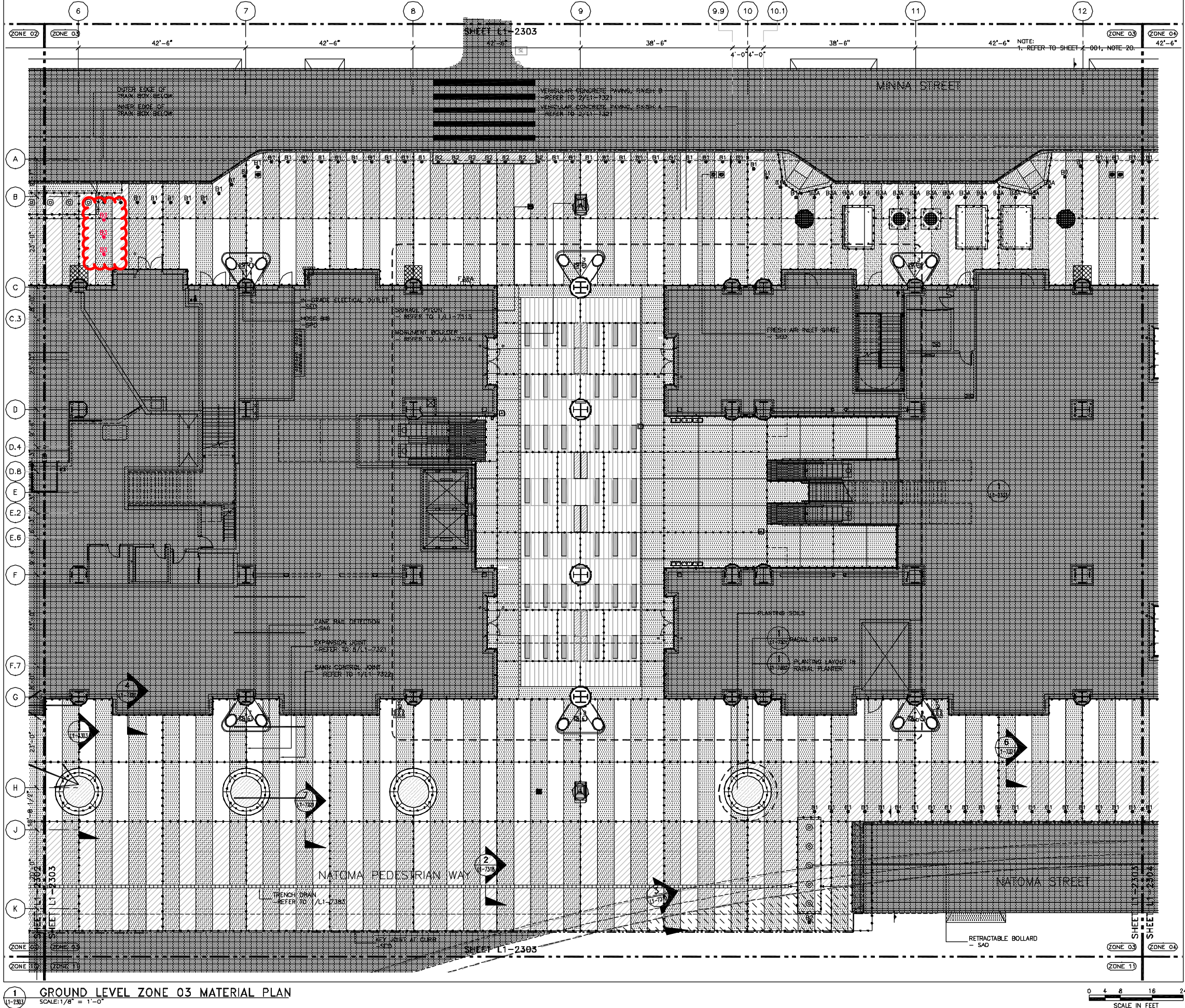
Trenchard Transit Center

ISSUED FOR CONSTRUCTION

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08-04-CMGC-000
TRANSBAY TRANSIT CENTER PROGRAM
TRANSBAY TRANSIT CENTER
SAN FRANCISCO, CA
GROUND LEVEL
ZONE 03 MATERIAL PLAN
PHASE I

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TRANSBAY TRANSIT CENTER
TRANSBAY JOINT POWERS AUTHORITY

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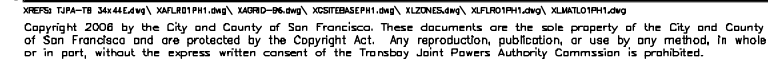
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Key Map

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DRAWING TITLE:
Response to RFI TG07.9-030 Locations of
Bollards B1B, B1C, BOL-5

SCALE: AS SHOWN
PROJECT NO. 10-10-10

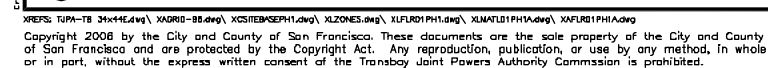
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Franklin D. Roosevelt Center





DRAWING TITLE: **Response to RFI TG07.9-030 Locations of Bollards B1B, B1C, BOL-5**

SCALE: **AS SHOWN** DATE: **09/30/14**

PROJECT NO. **SKLA-325.6**

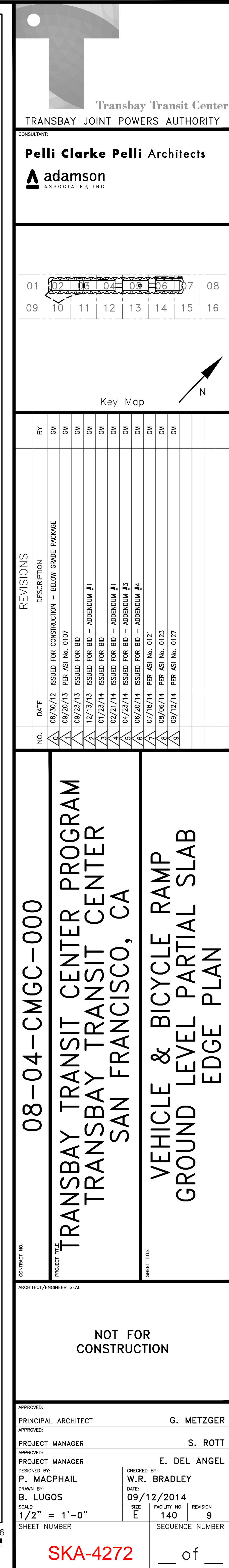
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Trenchway Transit Center

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TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-046	9/25/2014		28 16 44, Part 2, Sec 2.1 Paragraph(s): A.1.	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-048	9/25/2014	L1-7360 Detail(s): 1 typical bollard layout	28 16 44 sec 2.4 Paragraph(s): C	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-050	9/25/2014		28 16 44 Part 2, sec 2.9 Paragraph(s): B	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-051	9/25/2014		Specification Section 28 16 44/APA, sec 1.3 Paragraph(s): A.3	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-058	10/8/2014		28 16 44/APA 1.3.A.5	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-059	10/9/2014		28 16 44 3.7	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-060	10/9/2014		28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-067	10/10/2014		Specification Section 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.

TG07.9 – Bollards and Barriers

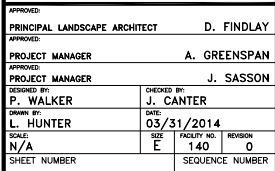
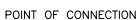
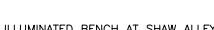
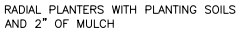
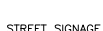
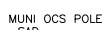
Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Document/ Spec. No.	Question	Response
TG07.9-070	10/20/2014	Bidding Manual	We have not been able to locate BOL-5 that is specified in specification 28 16 44 (SSI) page 9 paragraph 2.2 P issued with addenda 4. Please provide direction.	Bollard type BOL-5 is shown on the attached sketches: SKLA-325.1 through SKLA-325.6.
TG07.9-072	10/20/2014	Bidding Manual	As of today we have not received answers to all the questions submitted. The answers we have received have prompted a few more questions. We are requesting to reopen questions. We are requesting an extension of the bid date by at least a week or if allowed 2 weeks.	The due date for questions on TG07.9 has been extended to October 30, 2014. The TG07.9 bid due date has been extended to November 18, 2014. See TG07.9 Addendum #5, posted on October 22, 2014.

Crystal Oct 01, 2014 - 11:34am Z:\PCP\801\Current\ACAD\Plans\Layouts\L-0002.dwg

LEGEND

GROUND LEVEL GRADING AND DRAINAGE PLANS



of

PROJECT NO.

DRAWN BY: SJP
CHECKED BY: CL

PWP
LANDSCAPE ARCHITECTURE

University of Toronto, Toronto, Ontario

XREFS: TJPA--TB FOLLOW 34x44E.dwg

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ISSUED FOR CONSTRUCTION

Note: If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

Drawn by: SJP
Checked by: CL

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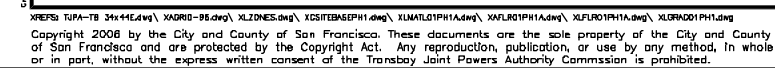
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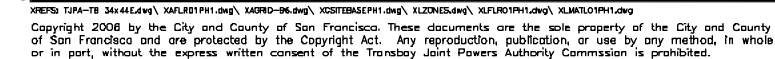
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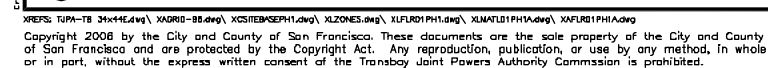
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PWP
LANDSCAPE ARCHITECTURE



Transbay Transit Center

SCALE: AS SHOWN
PROJECT NO.

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-069	10/20/2014		Project Bidding Manual	We have not received a detailed schedule. Will the Bus Ramp be complete and available for us to use so that materials can be unloaded on the Bus deck Level from a truck? Will we be allowed to bring a concrete truck up the ramp to place our concrete or will we have to pump from the street?	The Bus Ramps are currently projected to be available for use beginning the fourth quarter of 2016. This date is subject to change. Any equipment, such as concrete or delivery trucks, on the Bus Deck level shall comply with loading limits, height limits, etc., as outlined in the Contract Documents. The TG07.9 Trade Subcontractor shall ensure that no oil leaks or stains on the Bus Ramps and/or Bus Deck result from any equipment used or work performed by the TG07.9 Trade Subcontractor. The TG07.9 Trade Subcontractor shall be liable for the repair or cleaning of any damage to the Bus Ramps and/or Bus Deck resulting from this Trade Subcontractor's usage or work. Prior to Bus Ramps availability, all unloading shall occur at the street level. Rooftop cranes will be available for use as outlined in the Contract Documents. All deliveries, crane usage, etc., shall be in coordination with the CM/GC, Webcor/Obayashi Joint Venture, and all other Trade Subcontractors.
TG07.9-076	10/30/2014			Are we required to provide submittals in accordance with Exhibit F (to be provided in BIM). Our scope of work, fixed bollards, wedges, and operable bollards are simple details. Most of these details are created in AutoCad and Solidworks. To submit in BIM adds substantial cost with-out providing benefit. Can we submit in AutoCad or Solidworks?	BIM coordination is required for the TG07.9 Bollards and Barriers package. As stated in Exhibit F Section II. 3D Modeling Requirements, "Subcontractors will be required to print their shop drawings directly from the Federated Model, including dimensions, elevations and location of specific trade elements, based off of the building grid and/or coordinates. The printed material shall comply with the submittal requirements."

TG07.9 – Bollards and Barriers

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-059	10/9/2014		28 16 44 - Perimeter Security Systems	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-071	10/20/2014	1,3,4/A1-8676, 2/L1-2306	TG07.9-017, Answer Pre-bid Questions Aug 27 #16 03 30 02	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-073	10/21/2014			<p>Pre-bid Q & A #1 states:</p> <p>What type of drainage system is used for the retractable bollards and wedge barriers? Is there a pit with a catch basin and sump pump to the storm drain? A little input with hydraulics: if you blow a line it is going to go right out into the storm drain so you may want to consider a pit so at least if you lose a line then you cannot have a drain out into the storm water system. You may want to consider a secondary containment.</p> <p>The drainage is a gravity system to the sewer/stormwater system, so there is no pit. The retractable bollards themselves are located within pits, but there are no catch basins or sump pumps. The retractable bollard drain runs directly from the unit itself into the sewer/stormwater system. In the specifications, secondary containment of the hydraulic lines is outlined as a requirement.</p>	<p>1. TG07.9 is a design/build system. Design Team does not dictate how a Bollard/Barrier bidder/manufacturer designs individual components of the system.</p> <p>2. All Transbay drainage passes through sand/oil interceptors at B-2 (Train Platform) level before being ejected to the municipal combined sewer.</p> <p>3. Specification 28 16 44 shall be updated to require "Synthetic Biodegradable Hydraulic Oil".</p>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
				<p>Please verify the following:</p> <p>No material specs are provided for the hydraulic lines & drainage lines. On past similar projects, these lines were run in stainless welded systems & in some cases required double containment with leak detection systems because of the potential of hydraulic fluid leakage)</p> <p>-No material specs for the drainage systems for the wedges & bollards. Once again, depending upon the inspecting agency, these drainage lines may have to be a different material spec from the plumbing drainage & may also require double-containment with leak detection.</p> <p>-In most cases we have been involved with, the drainage lines from the units dump into sump pits/tanks specific to this system to avoid hydraulic fluid contaminating the drainage system</p>	
TG07.9-074	10/23/2014		28 16 44 2.2P, Q & A 6 SKLA 325 RFI 28 16 44	This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG07.9-075	10/30/2014			TG07.9 Q & A #66 Requires the Trade subcontract to attend every meeting during the contract. The cost to attend every meeting over the life of the contract while we are not working on site is substantial without any gain for the project. This places a hardship for any contractor that is not local. Please review this requirement.	While Trade Subcontractor is under contract, Trade Subcontractor is required to attend meetings as required by Specification Section 01 10 40 Coordination, and Specification Section 01 12 00 Project Meetings, and as requested by Webcor/Obayashi Joint Venture.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG07.9-077	10/30/2014			TG07.9 Q &A Prebid # 16 and TG07.9-17 State that the bollards and concrete will be placed below the Vehicular Paving slab. Therefore Detail 2 shown L1-7360 provided in the bid package is not correct. Please provide this detail corrected. In order to get the required crash rating the bollards will be installed in the Geosynthetic Fill. Cutting and removal of the Geosynthetic fill for the foundation is not practical and could cause environmental issues. The Geosynthetic fill contractor will have to provide a partial depth block out in the Geosynthetic fill for the Bollard foundations. The project will have to be scheduled in a manner to allow the bollards to be installed after the Geosynthetic is installed (with block out) and before the Paving is installed. Please confirm the Geosynthetic contractor will provide these block outs and time will allowed in the schedule between the Fill and the Paving.	TG07.9 is a design-build package; refer to Specification Section 28 16 44, and install bollards per manufacturer's recommendations.
TG07.9-078	10/30/2014		09 97 15 2.7 and 28 16 44 3.7	Per the answer to RFI TG07.9-029, confirm that the powder coating color specified for the bollards in 28 16 44, 3.7 is meant to be used for the high performance coating applied to the bollards over galvanized steel, as specified in 09 97 15, 2.7. Confirm that the bollards and barriers are not meant to be powder coated. Confirm that these requirements also apply to the wedge barriers and clarify what color the wedge barriers are meant to be.	<p>1. Confirmed—specified color is meant to be used for the high-performance coating over galvanized steel per 09 97 15.</p> <p>2. Confirmed—bollards and barriers are not to be powder coated.</p> <p>3a. Confirmed—answers 1 and 2 apply to the wedge barriers.</p> <p>3b. Color of wedge barrier shall be selected from the manufacturer's standard palette of colors.</p>