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May 25th, 2021

Philadelphia Art Commission
1515 Arch St., 13th Floor
Philadelphia, PA 19102

RE: Vehicle Denial Barrier System at Independence National Historical Park

To the Art Commission:

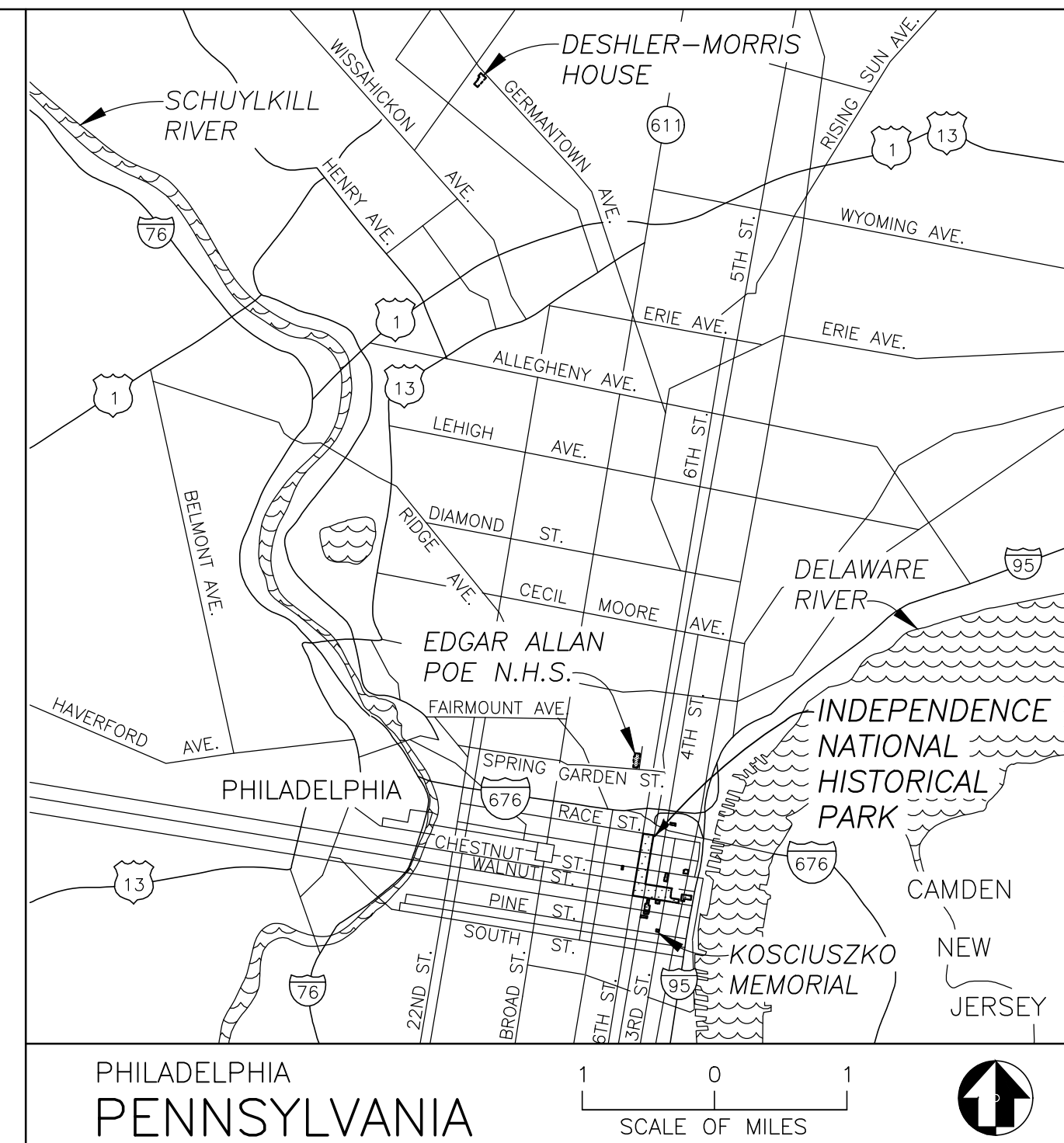
Please find attached renderings of proposed vehicle denial barriers, site plans, and photos of existing site conditions in application for a new system of vehicle denial barriers at the pedestrian entrances to Independence National Historical Park, as shown.

The Commission's Decision and all communication should come to me, Eric Madsen, at the email and phone number above.

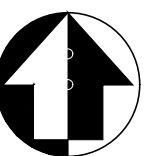
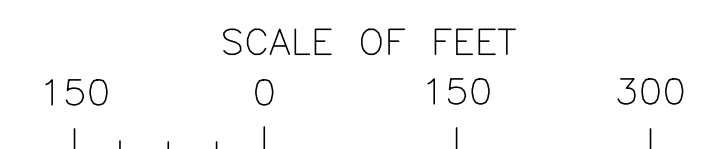
Thank you,

A handwritten signature in black ink, appearing to read "E. Madsen", with a stylized flourish at the end.

Eric Madsen
Owner, Permit Philly LLC



<u>SUB</u>		<u>TITLE OF SHEET</u>
<u>SHEET</u>	<u>SHEET</u>	
01		COVER SHEET
02	L0.1	GENERAL NOTES
03	L0.2	GENERAL NOTES AND KEY MAP
04	L1.1	AREA A – INDE SQUARE DEMOLITION AND LAYOUT PLAN
05	L1.2	AREA C – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
06	L1.3	AREA C – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
07	L1.4	AREA F – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
08	L1.5	AREA B – LIBERTY BELL DEMOLITION AND LAYOUT PLAN
09	L1.6	AREA G – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
10	L1.7	AREA H – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
11	L1.8	AREA D – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
12	L1.9	AREA E – VISITOR CENTER DEMOLITION AND LAYOUT PLAN
13	L2.1	SITE DETAILS – PAVING
14	L2.2	EXISTING SITE IMAGES
15	S3.1	BOLLARD FOUNDATION DETAILS
16	S3.2	CRASH BEAM FOUNDATION DETAILS
17	S3.3	SLIDE GATE FOUNDATION DETAILS



Mark	Sheet	REVISION	Date	Initial	QUALITY DESIGN CERTIFICATION	
					☐ Prepared in Accordance with Design Development (Title I) _____ OR _____ Drawing No. _____	
					☐ Variance from Design Development (Title I) Approved by Superintendent on _____ OR _____ Date _____	
					☐ Construction Drawing Not Preceded by Design Development (Title I)	
		BASIC DATA			Project Manager _____ Date _____	



NATIONAL PARK SERVICE
DENVER SERVICE CENTER

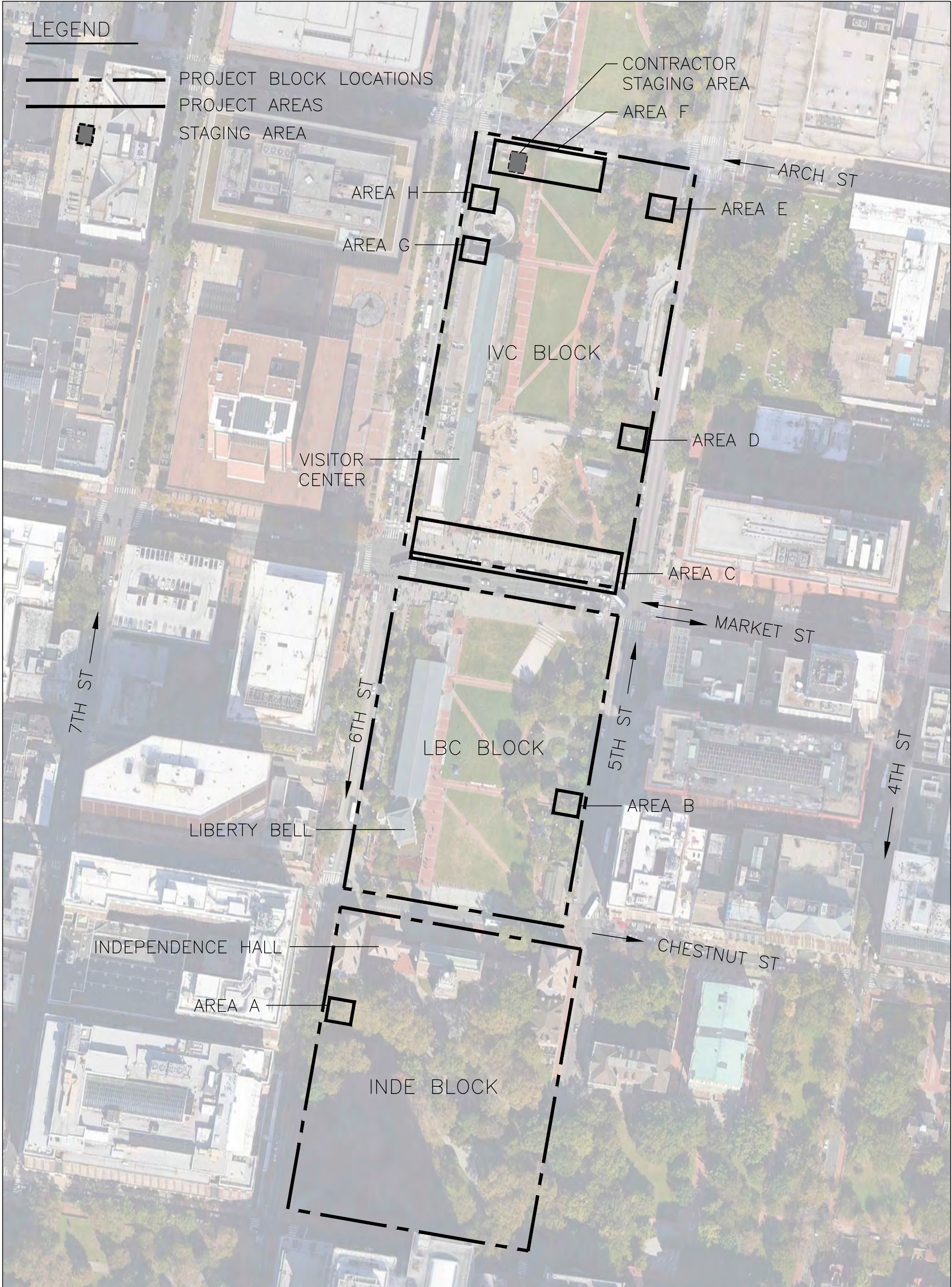
NAME OF PARK
INDEPENDENCE NATIONAL HISTORICAL PARK
REGION COUNTY STATE
NORTHEAST PHILADELPHIA COUNTY PENNSYLVANIA

PKG. NO.	SHEET
241266	1
OF	17

1/30/20 21:35 EKEMP R23 P: \\DENVER\\NPS INDE BARRIERS-14849\\7_CD\\CADD\\L\\A\\LO-1_NOTES.DWG XREFS: P: \\DENVER\\NPS INDE BARRIERS-14849\\7_CD\\CADD\\L\\A\\LO-1_NOTES.DWG XREFS: P: \\DENVER\\NPS INDE BARRIERS-14849\\7_CD\\CADD\\BASES\\INDEBASE.DWG IMAGES: ..\\IMAGES\\EK STAMP.JPG; ..\\IMAGES\\811.JPG;

STORM CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION. CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO DEMOLITION. CONTRACTOR TO PROVIDE UNDER-AN-ACRE POLLUTION PREVENTION PLAN (UPPP) IN ACCORDANCE WITH NPDES REQUIREMENTS.
2. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
3. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSION ELEMENTS.
4. AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.
5. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, GRADING OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, ROADWAYS, WETLANDS, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
6. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN INADVERTENTLY DISCHARGED TO, OR ACCUMULATED IN, THE FLOWLINES AND PUBLIC RIGHT-OF-WAY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT.
7. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC ROADWAYS.
8. APPROVED EROSION AND SEDIMENT CONTROL "BEST MANAGEMENT PRACTICES" [BMP] SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPS WEEKLY AND AFTER SIGNIFICANT PRECIPITATION EVENTS. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM A BMP WHEN THE SEDIMENT LEVEL REACHES ONE HALF THE HEIGHT OF THE BMP OR, AT ANY TIME THAT SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMP.
9. WATER USED IN THE CLEANING OF CEMENT TRUCK DELIVERY CHUTES SHALL BE DISCHARGED INTO A SELF CONTAINED, LEAK-PRROF WASH OUT SYSTEM LOCATED ON THE JOB SITE. DRIED CEMENT WASTE SHALL BE PROPERLY DISPOSED OF. THE DIRECT OR INDIRECT DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER SYSTEM IS PROHIBITED.
10. THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED.
11. PAVED SURFACES WHICH ARE ADJACENT TO CONSTRUCTION SITES SHALL BE SWEEPED IN A TIMELY MANNER WHEN SEDIMENT AND OTHER MATERIALS ARE TRACKED OR DISCHARGED ON TO THEM. EITHER SWEEPING BY HAND OR USE OF STREET SWEEPERS IS ACCEPTABLE. STREET SWEEPERS USING WATER WHILE SWEEPING IS PREFERRED IN ORDER TO MINIMIZE DUST. FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.
12. REFER TO DIVISION 1 SPECIFICATION 01 57 23 FOR TEMPORARY STORM WATER POLLUTION PREVENTION REGULATIONS.



KEY MAP

SCALE: 1"=150'-0"

ABBREVIATIONS:

IVC	INDEPENDENCE VISITOR CENTER BLOCK
LBC	LIBERTY BELL CENTER BLOCK
INDE	INDEPENDENCE SQUARE BLOCK
SOI	SECRETARY OF INTERIOR
NHL	NATIONAL HISTORIC LANDMARK
NPS	NATIONAL PARK SERVICE
EX.	EXISTING

MIN.	MINIMUM
MAX.	MAXIMUM
HT.	HEIGHT
W/O	WITHOUT
TYP.	TYPICAL
RE:	REFERENCE
NTS	NOT TO SCALE
O.C.	ON CENTER
QTY.	QUANTITY



DESIGNED:	DHM
CHIEF:	DHM
TECH. REVIEW:	DHM
DATE:	06.07.2019

SUB SHEET NO.	L0.2
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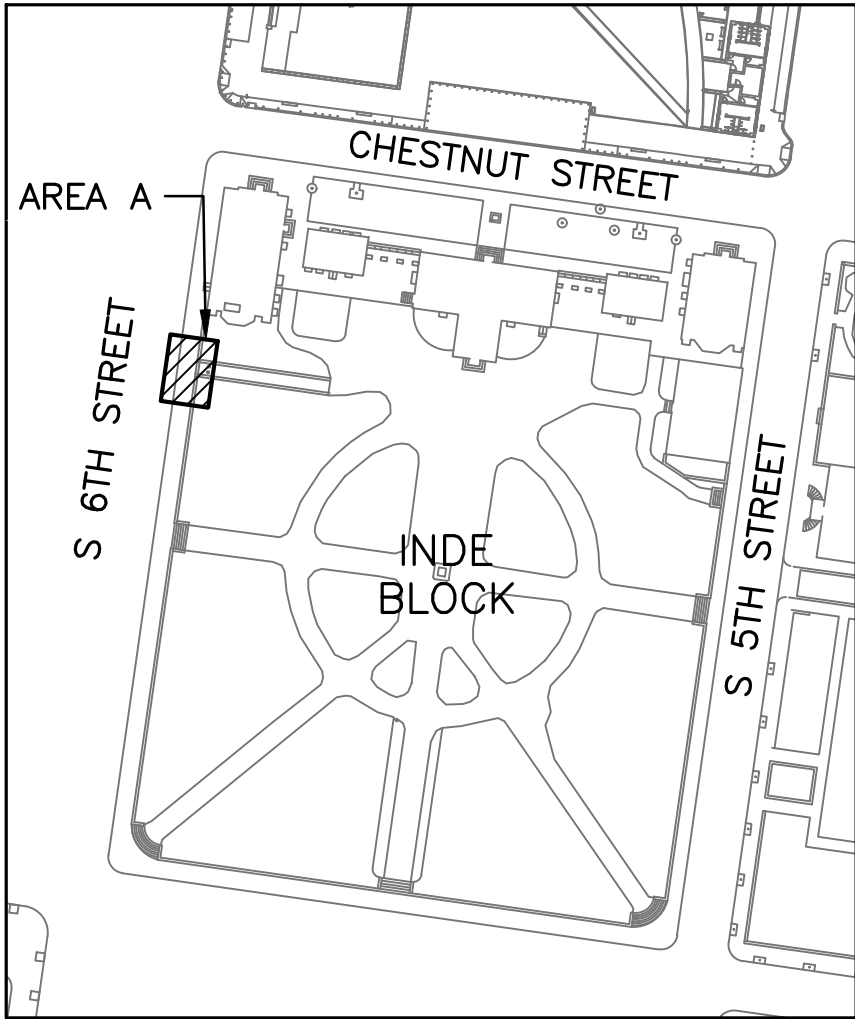
TITLE OF SHEET	GENERAL NOTES AND KEY MAP
VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	

DRAWING NO.	391
154998	
PMIS/PKG NO.	241266
SHEET	03 OF 17

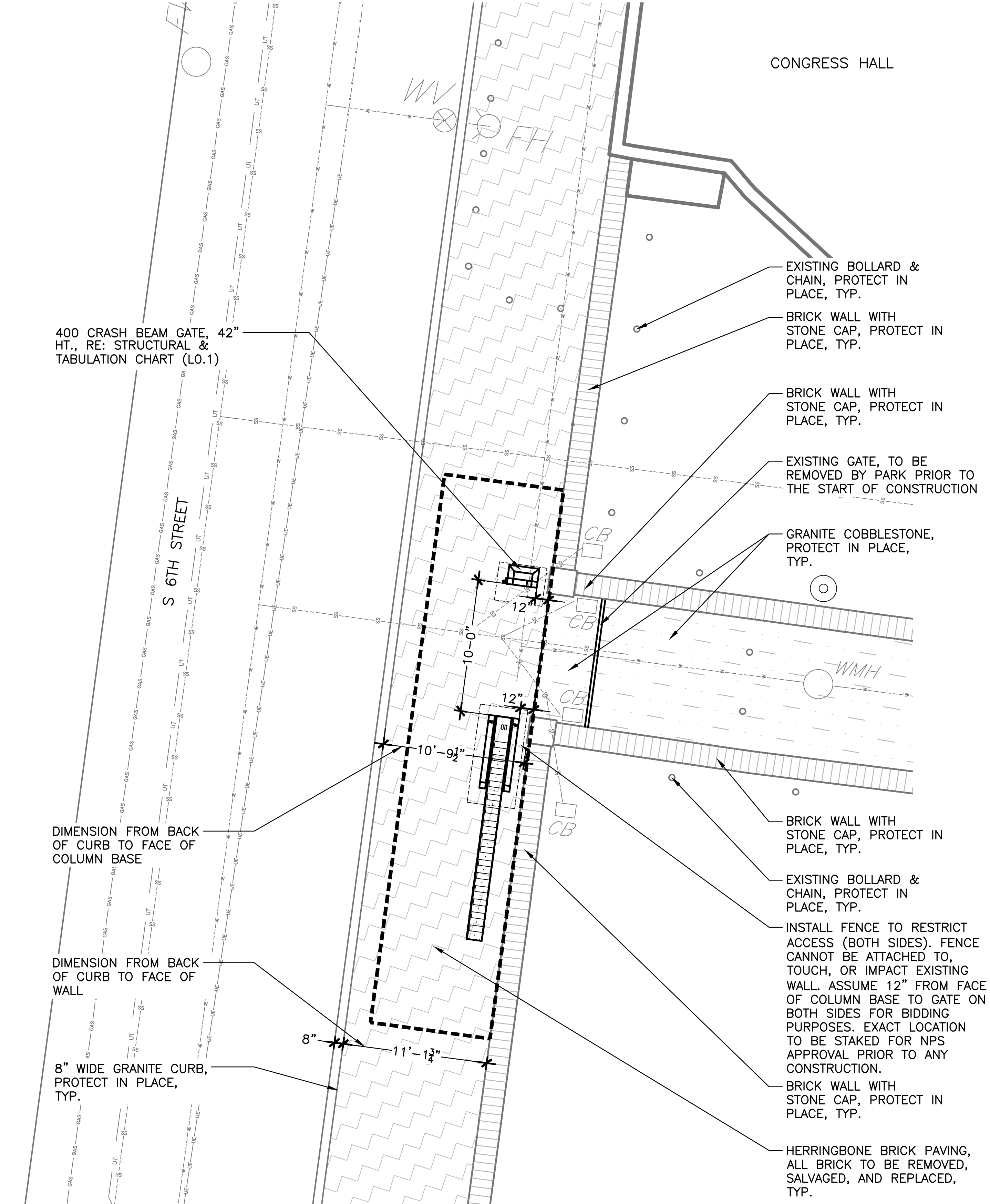
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AREA A: EXISTING CONDITIONS NTS



KEY MAP NTS



AREA A: 400 CRASH BEAM GATE AT WALL

SCALE: 1" = 5'-0"



NOTE:
1. REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
2. AREA A GATE IS M30 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
3. RE-INSTALLATION OF SURFACE MATERIALS TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
4. THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER OF ANY DISCREPANCIES WITH EXISTING OR PROPOSED CONDITIONS SHOWN IN THESE PLANS PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY AND COORDINATE PROPOSED FOOTINGS TO MINIMIZE UTILITY IMPACTS. IF A CONFLICT EXISTS, UTILITIES REQUIRE RELOCATION AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A DESIGN SOLUTION PREPARED BY AN (CIVIL/ELECTRICAL/STRUCTURAL) ENGINEER LICENSED IN THE STATE OF PENNSYLVANIA FOR CONTRACTING OFFICER APPROVAL. NOTCHING/SLEEVEING THE BOTTOM OF THE FOUNDATION FOR EXISTING UTILITIES TO BE REVIEWED BY STRUCTURAL ENGINEER ON A CASE-BY-CASE BASIS.

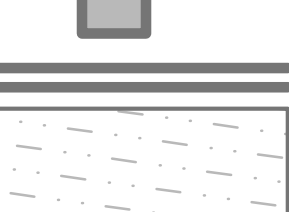
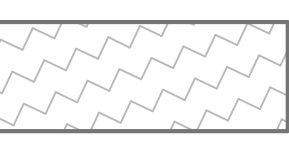
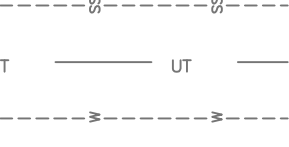
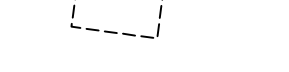
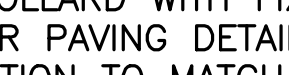
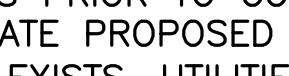
LEGEND

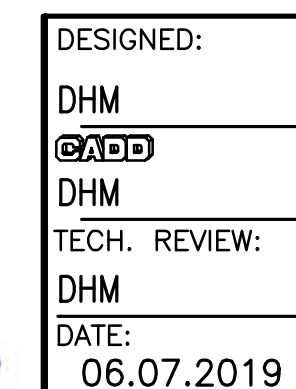
- LIMITS OF CONSTRUCTION
- EX. BUILDING
- EX. HERRINGBONE BRICK PAVING
- EX. GRANITE COBBLESTONES
- EX. BRICK WALL WITH STONE CAP W/O FENCE
- EX. UNDERGROUND TELEPHONE LINE
- EX. WATER LINE (PIPE SIZES VARY)
- EX. SANITARY SEWER LINE
- EX. UNDERGROUND ELECTRIC LINE
- EX. GAS LINE
- EX. WATER STRUCTURE
- EX. SEWER STRUCTURE CATCH BASIN
- EX. BOLLARD
- GATE, RE: STRUCTURAL (DASHED LINE IS SYMBOLIC FOR FOOTING TYPE)



DESIGNED: DHM DHM DHM TECH. REVIEW: DHM DATE: 06.07.2019	SUB SHEET NO. L1.1	TITLE OF SHEET AREA A – INDE SQUARE DEMOLITION AND LAYOUT PLAN VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. 391 154998 PMIS/PKG NO. 241266 SHEET 04 OF 17
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SCALE: 1" = 10'-0"

- | | |
|---|---|
|  | LIMITS OF CONSTRUCTION
EX. BRICK COLUMN
EX. BUILDING |
|  | EX. 4" x 8" x 5" GRANITE
BRICK PAVING |
|  | EX. BLUESTONE PAVERS |
|  | EX. HERRINGBONE BRICK PAVING |
|  | EX. BLUESTONE PAVERS
EX. GAS LINE |
|  | EX. SANITARY SEWER LINE |
|  | EX. UNDERGROUND TELEPHONE LINE |
|  | EX. UNDERGROUND ELECTRIC LINE |
|  | EX. LIGHT POLE |
|  | EXISTING PLANTER |
|  | CENTERLINE |
|  | SHALLOW BOLLARD FOOTING,
RE: STRUCTURAL
(DASHED LINE IS SYMBOLIC
FOR FOOTING TYPE) |



SUB SHEET NO.

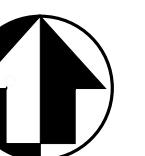
L1.2

TITLE OF SHEET		D
AREA C - VISITOR CENTER DEMOLITION AND LAYOUT PLAN		PI
VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK		C

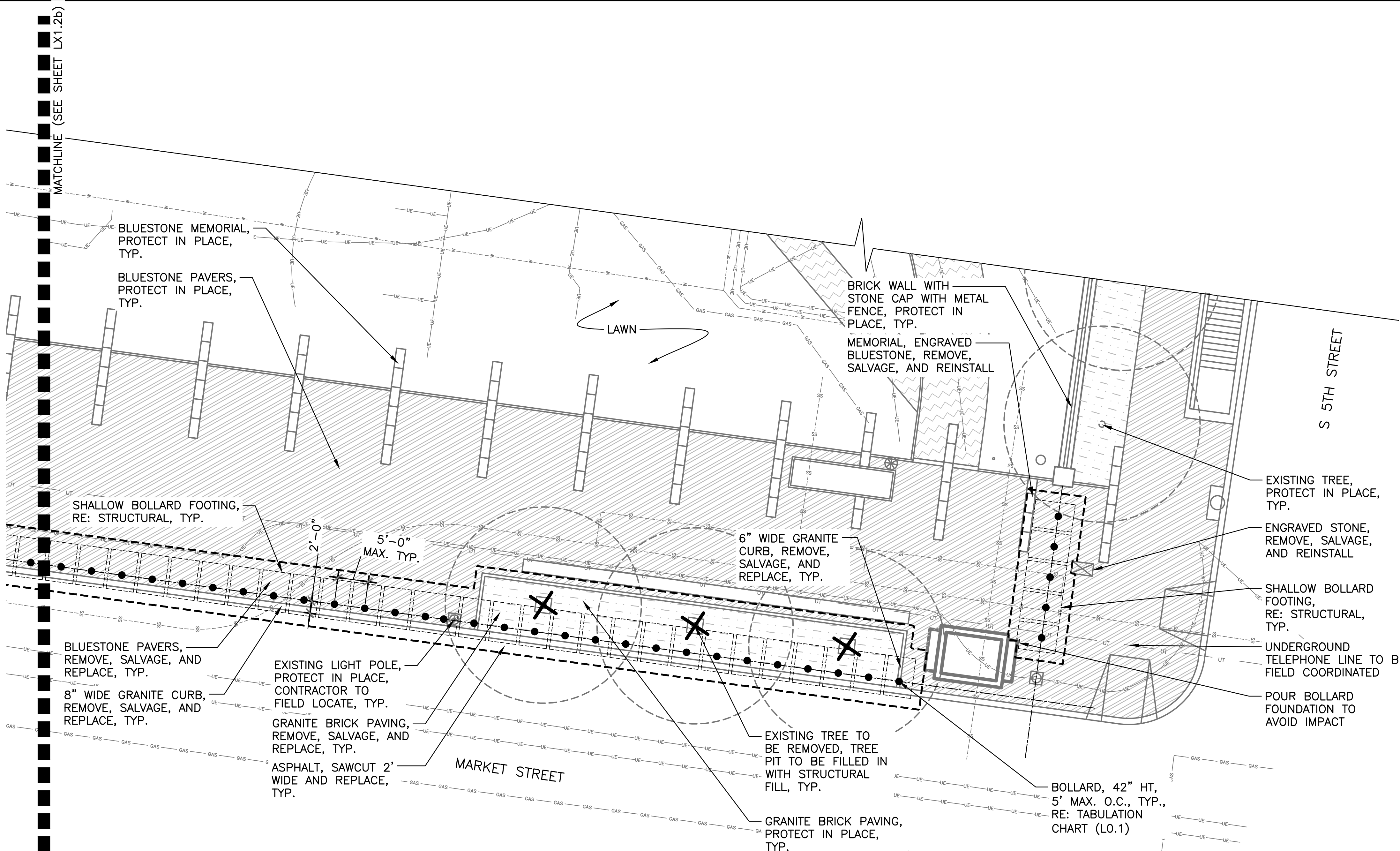
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391
154998

MIS/PKG NO.
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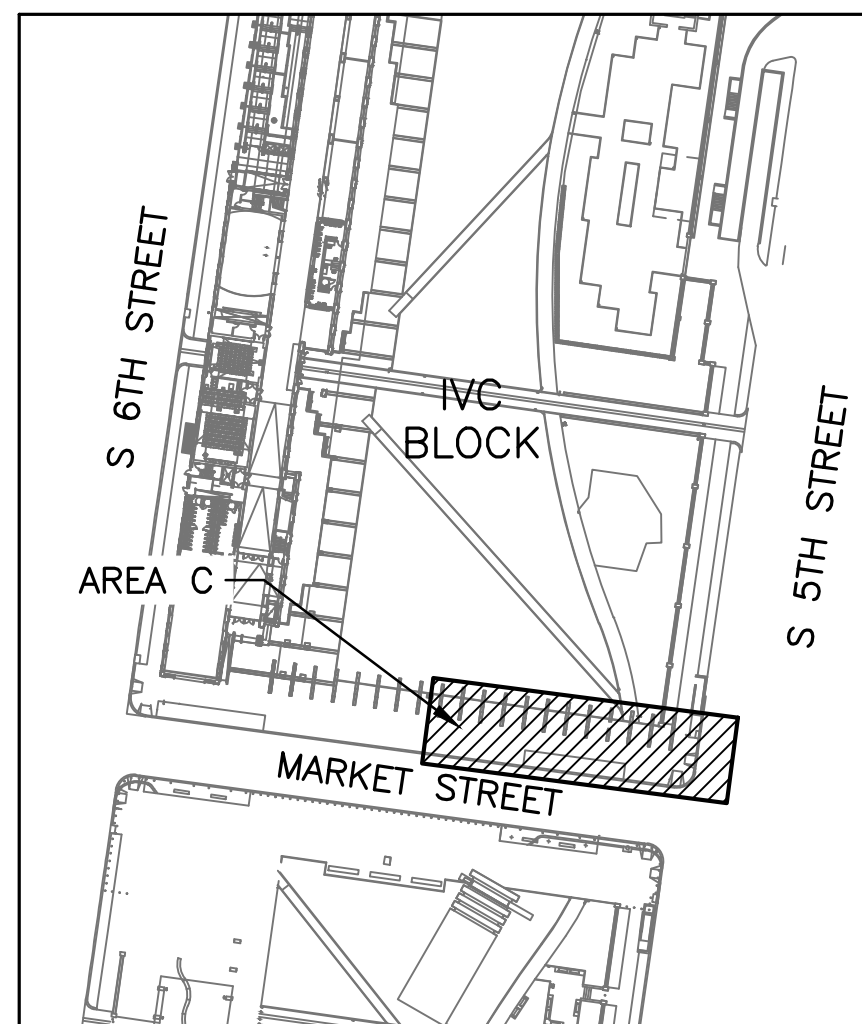
SHEET
05 OF 17



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AREA C: BOLLARDS AT STREET CURB



KEY MAP NTS



AREA C: BOLLARD PLACEMENT

NTS

FOR BIDDING PURPOSES, INCLUDE (4) LIGHT POLES, CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATIONS AND QUANTITIES OF EXISTING STREET LIGHT POLES. CONTRACTOR RESPONSIBLE FOR PROVIDING A MODIFIED FOUNDATION DESIGN SOLUTION PER FIELD CONDITIONS BASED ON REQUIREMENTS PROVIDED ON SHEETS S3.1-S3.3, FOR STRUCTURAL ENGINEERING APPROVAL. PER SECURITY REQUIREMENTS, BOLLARD SPACING TO BE 5'-0" MAX O.C.

FOR BIDDING PURPOSES, INCLUDE (+3) BOLLARDS AND (3) STORM CURB INLETS, CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATIONS AND QUANTITIES OF EXISTING STREET LIGHT POLES. CONTRACTOR RESPONSIBLE FOR BOLLARD LAYOUT TO AVOID EXISTING STRUCTURES. CONTRACTOR RESPONSIBLE FOR PROVIDING A MODIFIED FOUNDATION DESIGN SOLUTION PER FIELD CONDITIONS BASED ON REQUIREMENTS PROVIDED ON SHEETS S3.1-S3.3, FOR STRUCTURAL ENGINEERING APPROVAL. PER SECURITY REQUIREMENTS, BOLLARD SPACING TO BE 5'-0" MAX O.C.



LEGEND

--- LIMITS OF CONSTRUCTION

EX. BUILDING

EX. 4" x 8" x 5" GRANITE BRICK PAVING

EX. BLUESTONE PAVERS

EX. HERRINGBONE BRICK PAVING

EX. BRICK WALL WITH STONE CAP WITH METAL FENCE

EX. BLUESTONE PAVERS

EX, GAS LINE

EX. SANITARY SEWER LINE

EX. UNDERGROUND TELEPHONE LINE

EX. WATER LINE (PIPE SIZES VARY)

EX. UNDERGROUND ELECTRIC LINE

EX. LIGHT POLE

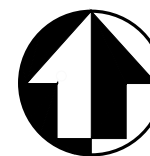
EX. TREE

EX. TREE TO BE REMOVED

CENTERLINE

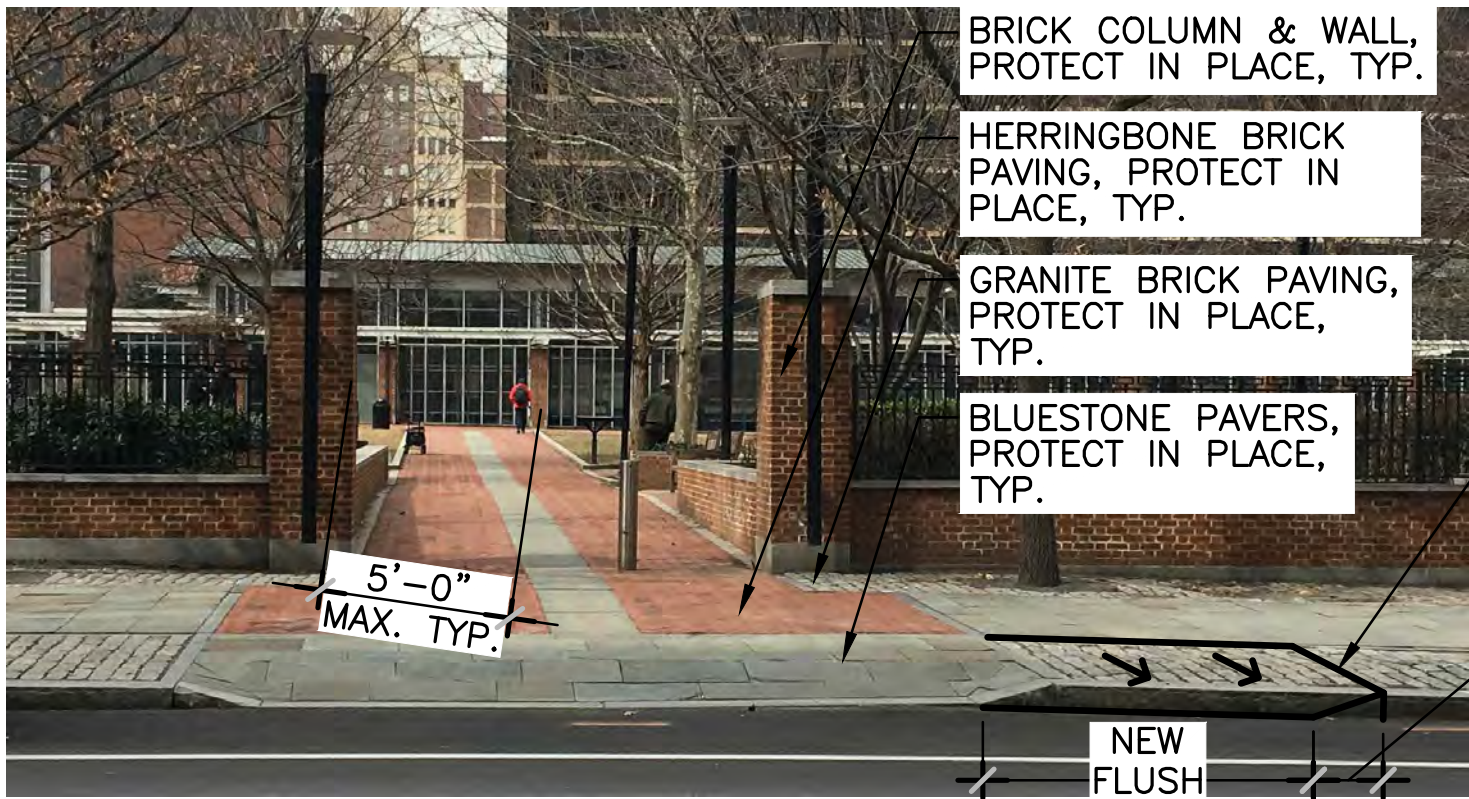
SHALLOW BOLLARD FOOTING, RE: STRUCTURAL (DASHED LINE IS SYMBOLIC FOR FOOTING TYPE)

- NOTE:
- REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
 - ADDITIONAL AREA C NOTES ON L1.2.
 - ALL AREA C BOLLARDS ARE M50 RATED
 - RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
 - THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
 - CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER OF ANY DISCREPANCIES WITH EXISTING OR PROPOSED CONDITIONS SHOWN IN THESE PLANS PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY AND COORDINATE PROPOSED FOOTINGS TO MINIMIZE UTILITY IMPACTS. IF A CONFLICT EXISTS, UTILITIES REQUIRE RELOCATION AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A DESIGN SOLUTION PREPARED BY AN (CIVIL/ELECTRICAL/STRUCTURAL) ENGINEER LICENSED IN THE STATE OF PENNSYLVANIA FOR CONTRACTING OFFICER APPROVAL. NOTCHING/SLEEVEING THE BOTTOM OF THE FOUNDATION FOR EXISTING UTILITIES TO BE REVIEWED BY STRUCTURAL ENGINEER ON A CASE-BY-CASE BASIS.
 - TREE PIT, CONTRACTOR TO PROVIDE STRUCTURAL FILL AND TOPSOIL TO MATCH EXISTING TYPES AND MIX.



DESIGNED: DHM TECH. REVIEW: DHM DATE: 06.07.2019	SUB SHEET NO. L1.3	TITLE OF SHEET AREA C – VISITOR CENTER DEMOLITION AND LAYOUT PLAN VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. 391 154998 PMIS/PKG NO. 241266 SHEET 06 OF 17
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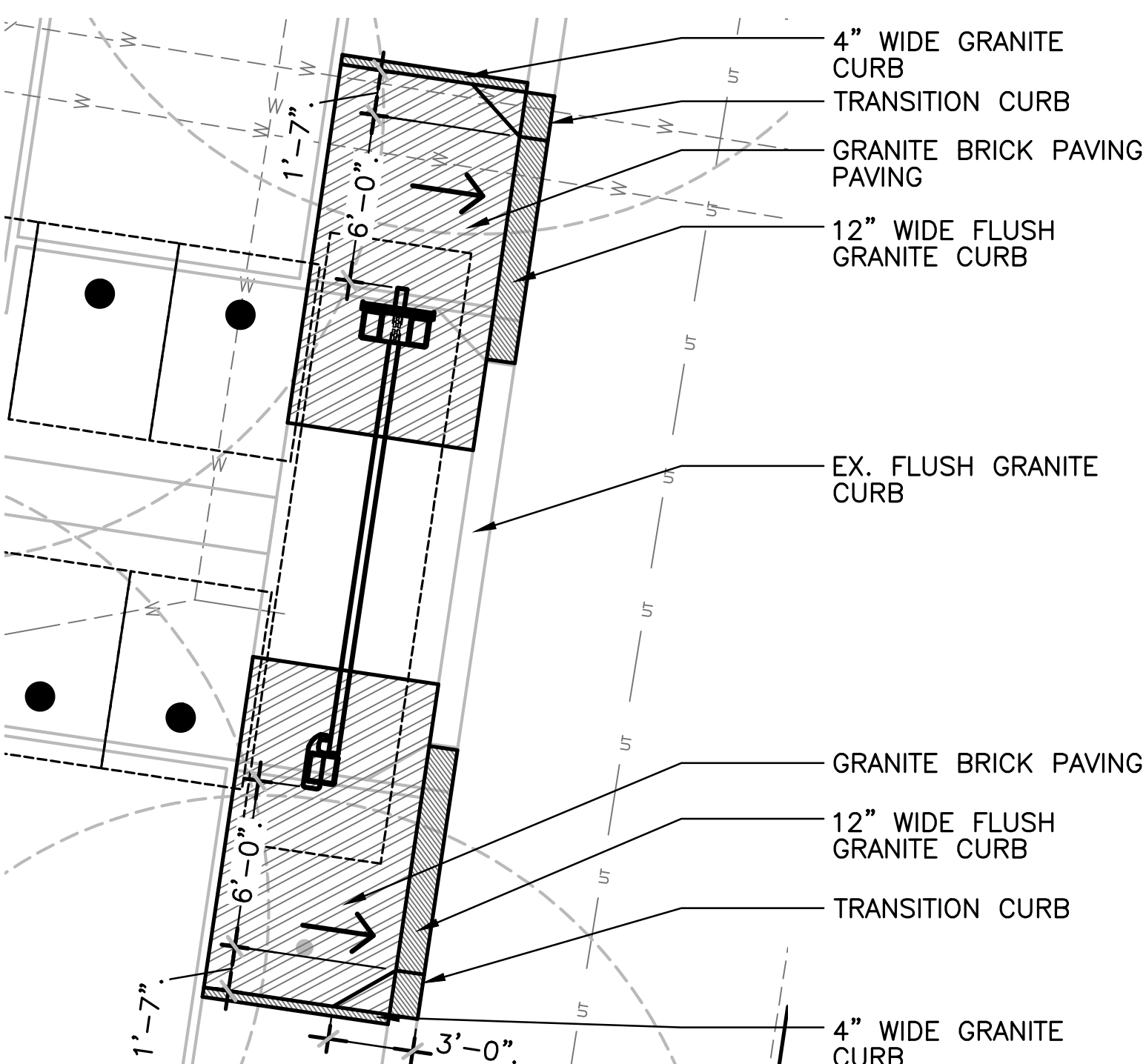


AREA B: EXISTING CONDITIONS

NTS

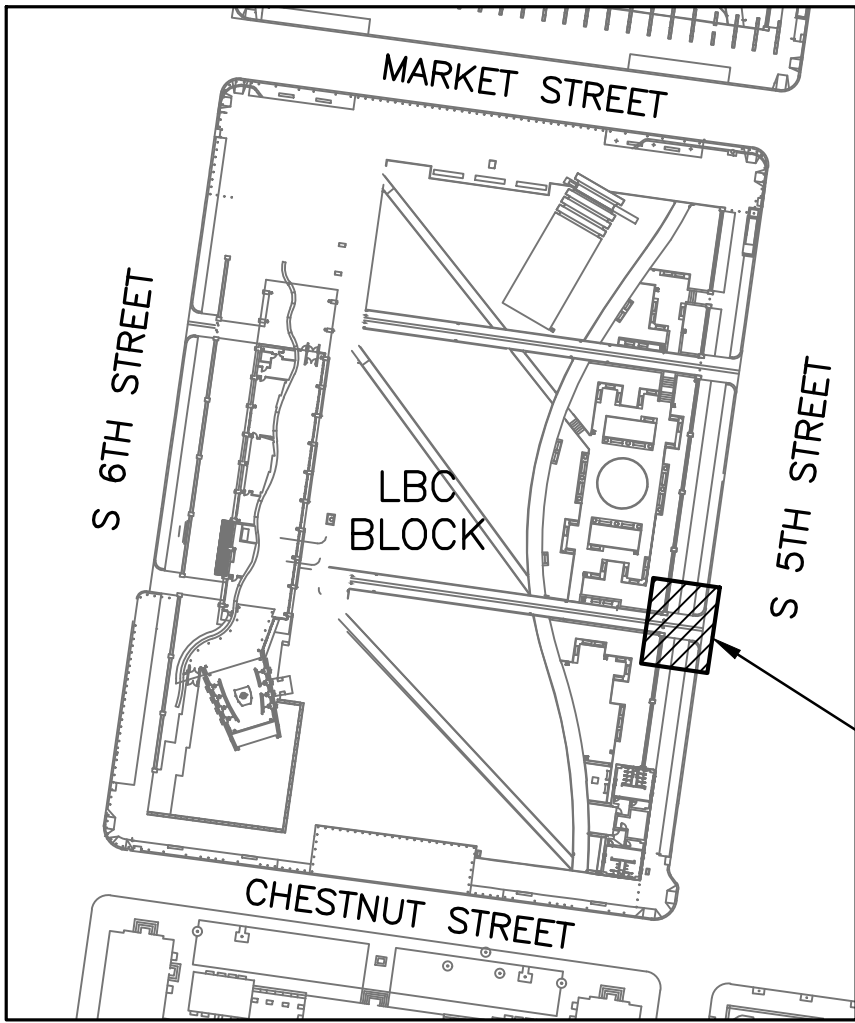
LEGEND

- GRANITE BRICK PAVING
- 12" WIDE GRANITE CURB



AREA B: CURB CUT

SCALE: 1" = 5'-0"



KEY MAP

NTS

AREA B

TRANSITION GRADE.
MATCH LINE, GRADE OF
ATTACHED PAVING.

MOVE
TRANSITION
CURB

4" WIDE GRANITE CURB,
REMOVE, SALVAGE, AND
REPLACE, TYP.

SHALLOW BOLLARD
FOOTING, RE: STRUCTURAL,
TYP.

BRICK WALL WITH
STONE CAP WITH METAL
FENCE, PROTECT IN
PLACE, TYP.

BRICK WALL WITH
STONE CAP W/O METAL
FENCE, PROTECT IN
PLACE, TYP.

EXISTING BOLLARD TO
BE REMOVED AND
FILLED BY PARK PRIOR
TO THE START OF
CONSTRUCTION

BLUESTONE PAVERS,
PROTECT IN PLACE,
TYP.

HERRINGBONE
BRICK PAVING,
PROTECT IN PLACE,
TYP.

EXISTING LIGHT POLE
ATTACHED TO COLUMN,
PROTECT IN PLACE, TYP.

HERRINGBONE
BRICK PAVING,
REMOVE, SALVAGE,
AND REPLACE, TYP.

GRANITE BRICK PAVING,
REMOVE, SALVAGE,
AND REPLACE, TYP.

BOLLARD, 42" HT.
5' MAX. O.C., TYP.,
RE: TABULATION
CHART (L0.1)

GRANITE BRICK PAVING,
PROTECT IN PLACE,
TYP.

BLUESTONE PAVING,
REMOVE, SALVAGE, AND
REPLACE, TYP.

GRANITE BRICK PAVING,
PROTECT IN PLACE,
TYP.

AREA B: CODE GATE AT STREET WITH BOLLARDS

SCALE: 1" = 5'-0"

S 5TH STREET

WATERLINE TO BE
FIELD COORDINATED,
TYP.

EX. FLUSH GRANITE
CURB

BLUESTONE PAVING,
REMOVE, SALVAGE,
AND REPLACE, TYP.

ANTI-RAM BEAM
GATE, 42" HT. MIN.,
RE: STRUCTURAL &
TABULATION CHART
(L0.1)

EXISTING SIGN,
SALVAGE AND
RE-INSTALL. FIELD
LOCATE PER PARK
PROJECT MANAGER
DIRECTION.

CURB CUT, SEE
ENLARGEMENT THIS
SHEET.

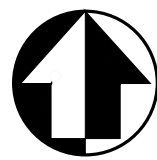
LEGEND

- LIMITS OF CONSTRUCTION
- EX. HERRINGBONE BRICK PAVING
- EX. 4" x 8" x 5" GRANITE
BRICK PAVING
- EX. BLUESTONE PAVERS
- EX. BRICK WALL WITH STONE CAP
WITH METAL FENCE
- EX. BRICK WALL WITH STONE CAP
W/O FENCE
- EX. UNDERGROUND TELEPHONE LINE
- EX. WATER LINE (PIPE SIZES VARY)
- EX. UNDERGROUND ELECTRIC LINE
- EX. SIGN
- EX. LIGHT POLE
- EX. TREE
- EX. BOLLARD
CENTERLINE
- SHALLOW BOLLARD FOOTING, RE:
STRUCTURAL
(DASHED LINE IS SYMBOLIC FOR
FOOTING TYPE)
- GATE, RE: STRUCTURAL
(DASHED LINE IS SYMBOLIC FOR
FOOTING TYPE)
- GRANITE BRICK PAVING
- 12" WIDE FLUSH GRANITE CURB

NOTE:

- REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
- ALL AREA B BOLLARDS ARE M40 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
- (4) QTY. BOLLARD WITH SHALLOW FOOTING
- (4) QTY. BOLLARD WITH FIXED FOOTING
- RE: L2.1 FOR PAVING DETAILS
- RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
- THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER OF ANY DISCREPANCIES WITH EXISTING OR PROPOSED CONDITIONS SHOWN IN THESE PLANS PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY AND COORDINATE PROPOSED FOOTINGS TO MINIMIZE UTILITY IMPACTS. IF A CONFLICT EXISTS, UTILITIES REQUIRE RELOCATION AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A DESIGN SOLUTION PREPARED BY AN (CIVIL/ELECTRICAL/STRUCTURAL) ENGINEER LICENSED IN THE STATE OF PENNSYLVANIA FOR CONTRACTING OFFICER APPROVAL. NOTCHING/SLEEVEING THE BOTTOM OF THE FOUNDATION FOR EXISTING UTILITIES TO BE REVIEWED BY STRUCTURAL ENGINEER ON A CASE-BY-CASE BASIS.

5 0 5 10
SCALE OF FEET



Know what's below.
Call before you dig.



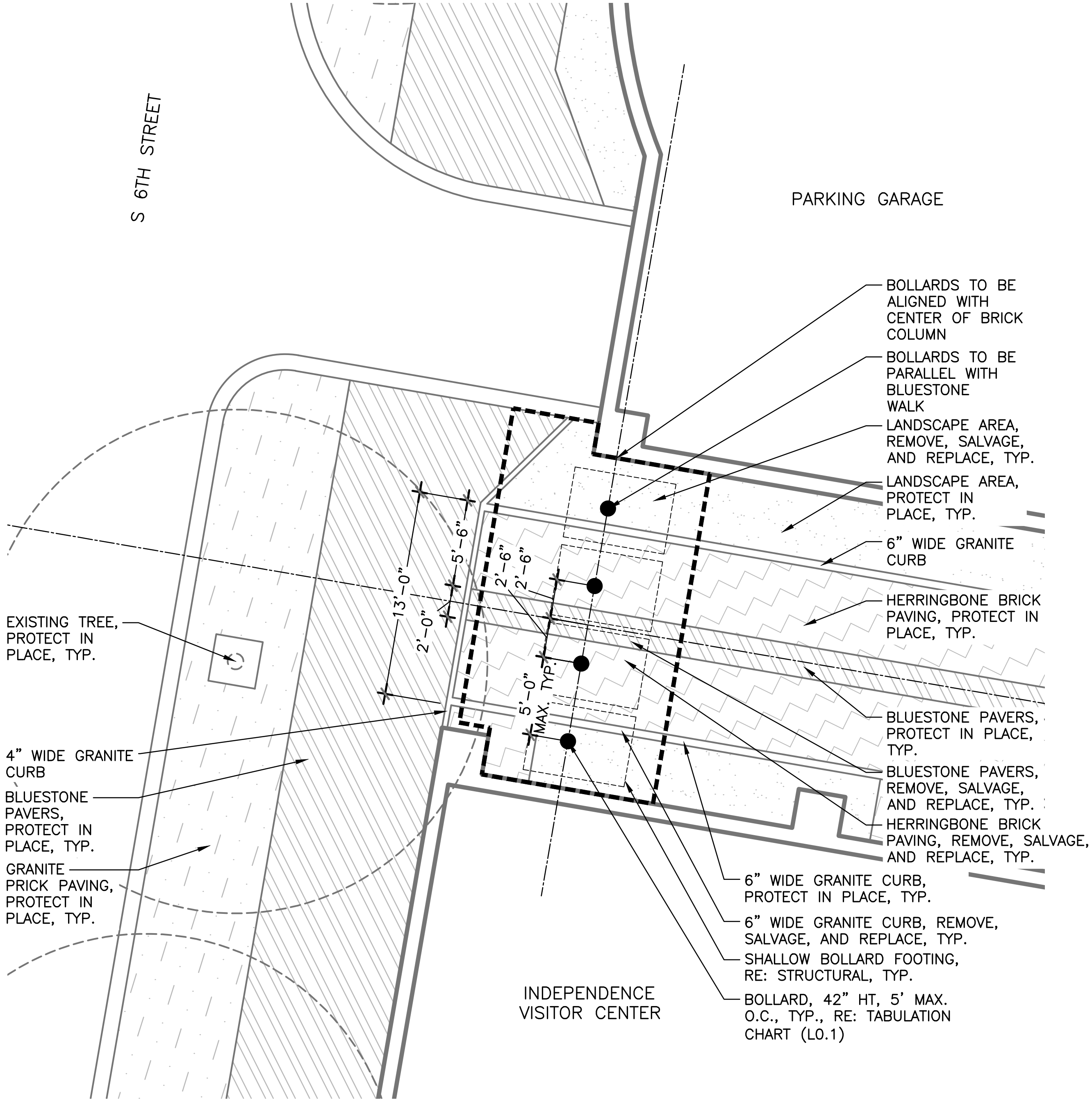
DESIGNED: DHM DHM TECH. REVIEW: DHM DATE: 06.07.2019	SUB SHEET NO. L1.5	TITLE OF SHEET AREA B – LIBERTY BELL DEMOLITION AND LAYOUT PLAN VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. 391 154998 PMIS/PKG NO. 241266 SHEET 08 OF 17
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1/20/20 11:43 AM KISTLER, R23 P:\DENVER\NPS INDE BARRIERS-14849\7_CD\CADD\BASES\KEYMAP_PARK PLAN BEN EDIT.DWG; ..\BASES\AREAG-PROPOSED.DWG;
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IMAGES: ..\IMAGES\EX STAMP.JPG; ..\IMAGES\011.JPG; P:\DENVER\NPS INDE BARRIERS-14849\7_CD\CADD\IMAGES\IMG_1391.JPG;



AREA G: EXISTING CONDITIONS

NTS



AREA G: BOLLARDS CENTERED ON BRICK WALK

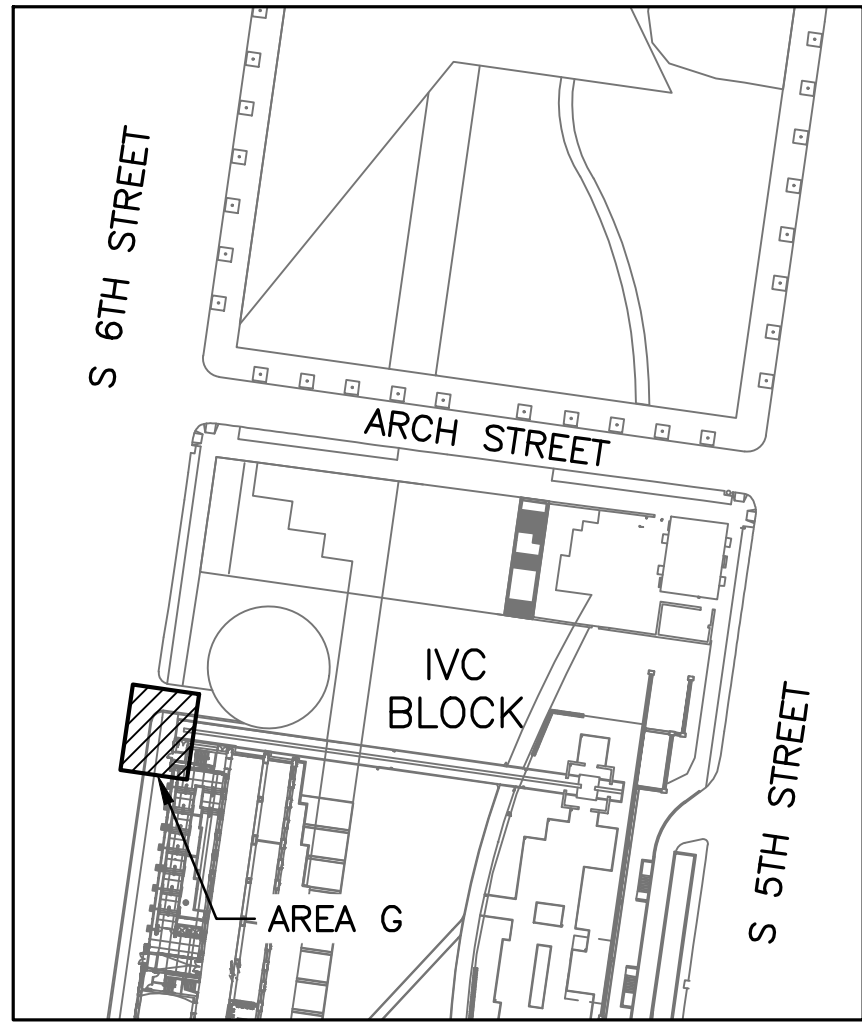
SCALE: 1" = 5'-0"

LEGEND

- LIMITS OF CONSTRUCTION
- ===== EX. BUILDING
- [Pattern] EX. HERRINGBONE BRICK PAVING
- [Pattern] EX. 4" x 8" x 5" GRANITE BRICK PAVING
- [Pattern] EX. BLUESTONE PAVERS
- [Pattern] EX. LANDSCAPE AREA
- - - - - EX. TREE
- - - - - CENTERLINE
- [Symbol] SHALLOW BOLLARD FOOTING, RE: STRUCTURAL (DASHED LINE IS SYMBOLIC FOR FOOTING TYPE)

NOTE:

1. REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
2. ALL AREA G BOLLARDS ARE M50 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
3. (4) QTY. BOLLARD WITH SHALLOW FOOTING
4. RE: L2.1 FOR PAVING DETAILS
5. RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
6. THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
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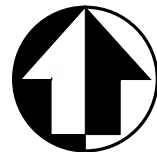
KEY MAP

NTS



Know what's below.
Call before you dig.

5 0 5 10
SCALE OF FEET

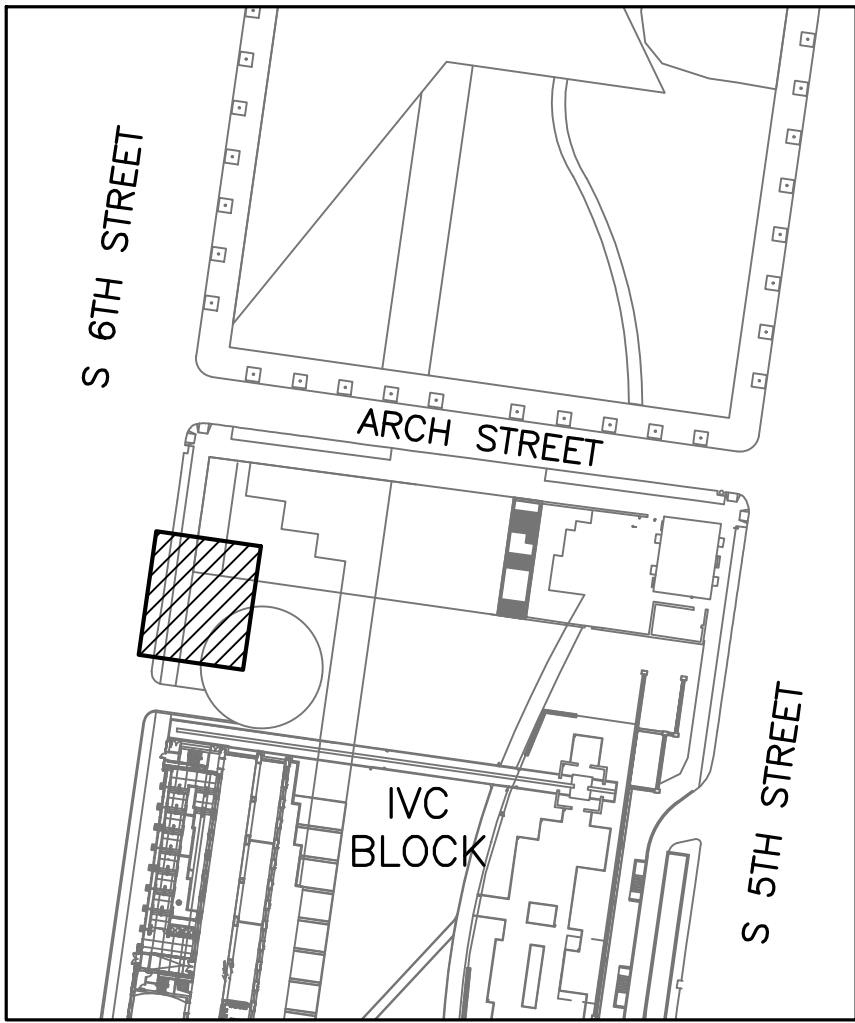


DESIGNED: DHM TECH. REVIEW: DHM DATE: 06.07.2019	SUB SHEET NO. L1.6	TITLE OF SHEET AREA G – VISITOR CENTER DEMOLITION AND LAYOUT PLAN VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. 391 154998 PMIS/PKG NO. 241266 SHEET 09 OF 17
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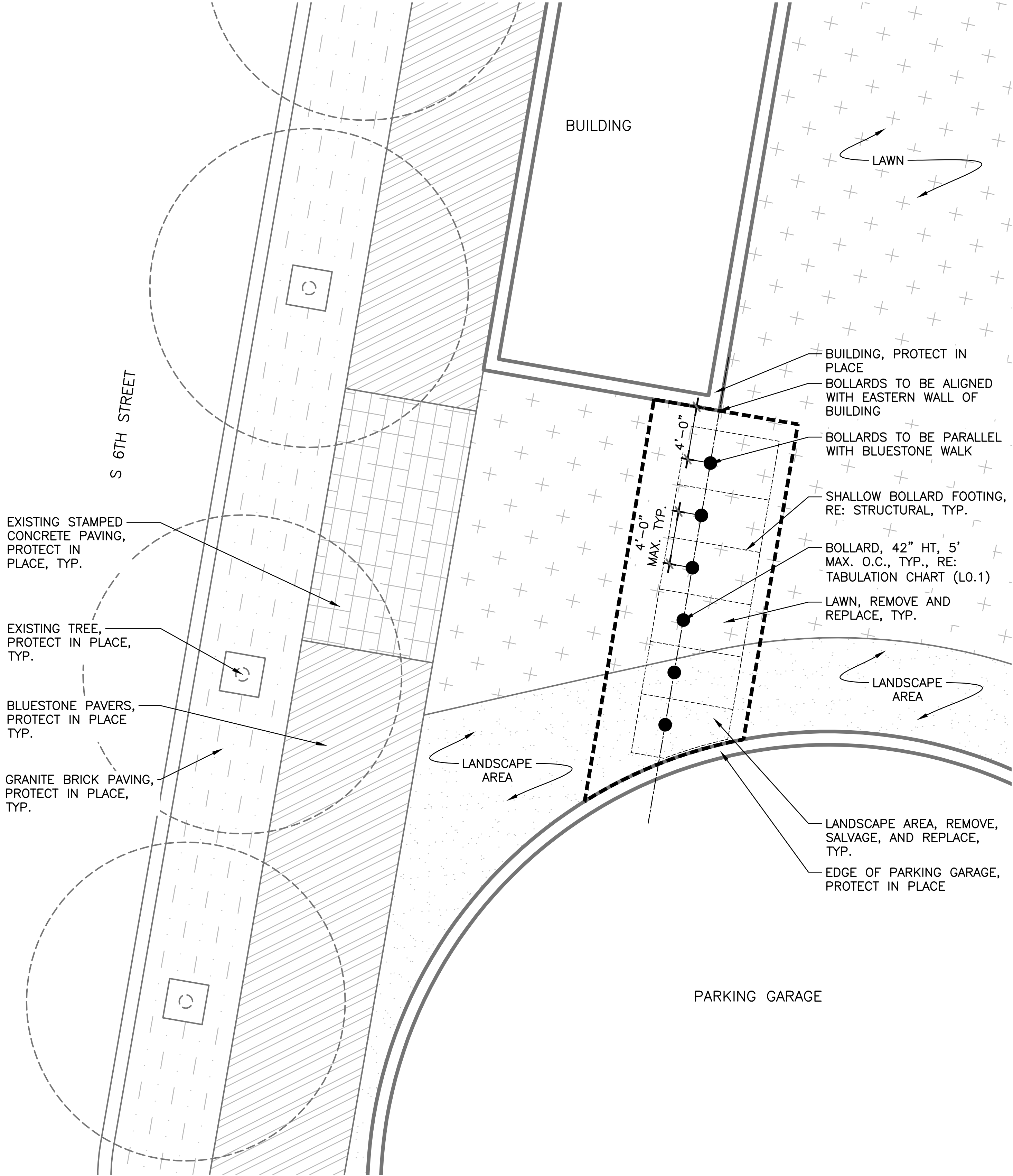
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XREFS: P:\DENVER\NPS INDE BARRIERS-14849\7_CD\CADD\BASES\VL-TITLE INFO.DWG; P:\DENVER\NPS INDE BARRIERS-14849\7_CD\CADD\IMAGES\IMG_1913.JPG;
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AREA H: EXISTING CONDITIONS NTS



KEY MAP NTS



AREA H: BOLLARDS IN LAWN SCALE: 1" = 5'-0"

LEGEND

LIMITS OF CONSTRUCTION

EX. BUILDING

EX. 4" x 8" x 5" GRANITE BRICK PAVING

EX. BLUESTONE PAVERS

EX. STAMPED CONCRETE PAVING

EX. LAWN

EX. LANDSCAPE AREA

EX. TREE

CENTERLINE

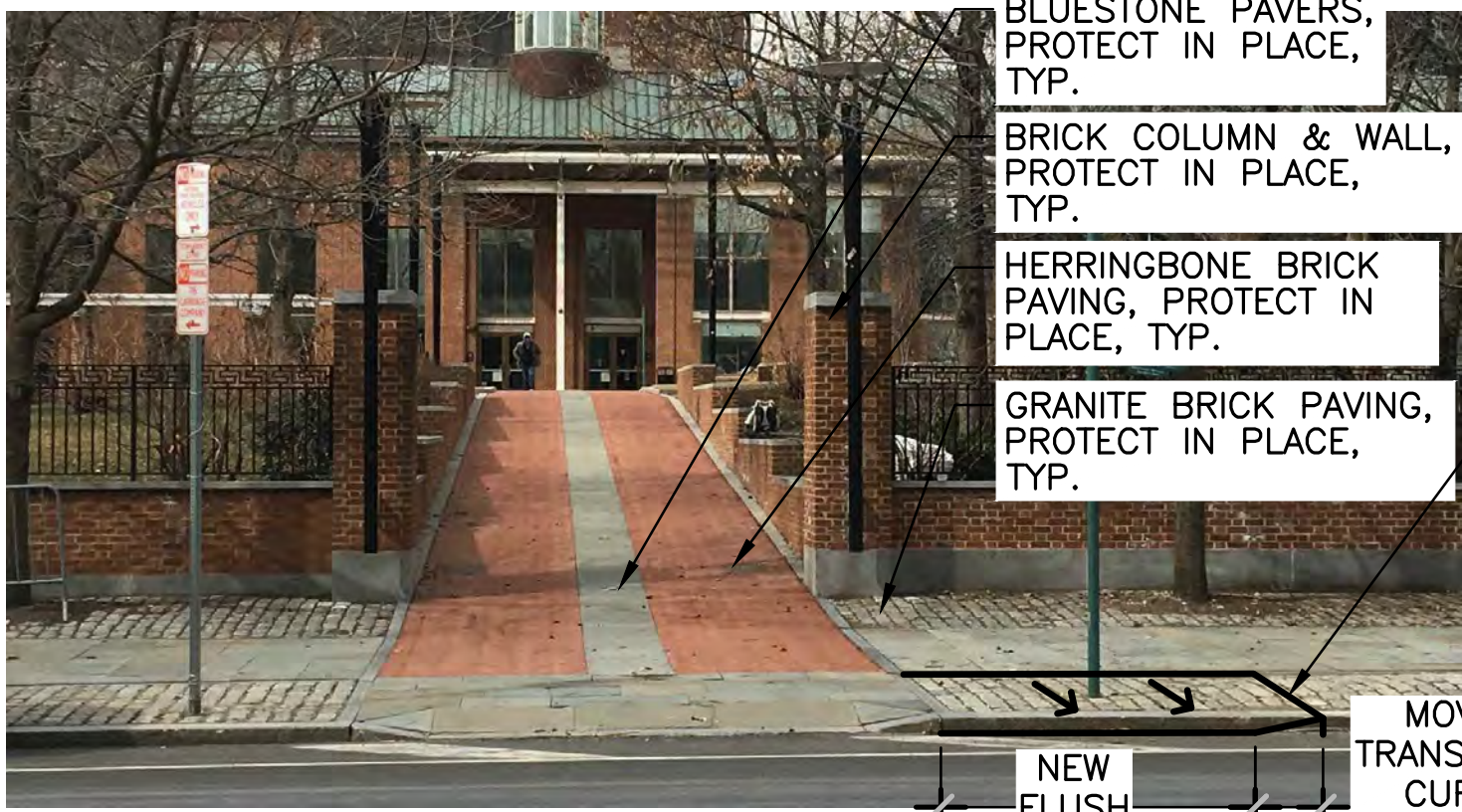
SHALLOW BOLLARD FOOTING, RE: STRUCTURAL (DASHED LINE IS SYMBOLIC FOR FOOTING TYPE)

- NOTE:
1. REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
 2. ALL AREA H BOLLARDS ARE M40 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
 3. (6) QTY. BOLLARD WITH FIXED FOOTING
 4. RE: L2.1 FOR PAVING DETAILS
 5. RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
 6. THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
 7. ONTRACTOR SHALL NOTIFY CONTRACTING OFFICER OF ANY DISCREPANCIES WITH EXISTING OR PROPOSED CONDITIONS SHOWN IN THESE PLANS PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY AND COORDINATE PROPOSED FOOTINGS TO MINIMIZE UTILITY IMPACTS. IF A CONFLICT EXISTS, UTILITIES REQUIRE RELOCATION AND/OR A DESIGN MODIFICATION IS EQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A DESIGN SOLUTION PREPARED BY AN CIVIL/ELECTRICAL/STRUCTURAL) ENGINEER LICENSED IN THE STATE OF PENNSYLVANIA FOR CONTRACTING OFFICER APPROVAL. NOTCHING/SLEEVEING THE BOTTOM OF THE FOUNDATION FOR EXISTING UTILITIES TO BE REVIEWED BY STRUCTURAL ENGINEER ON A CASE-BY-CASE BASIS.



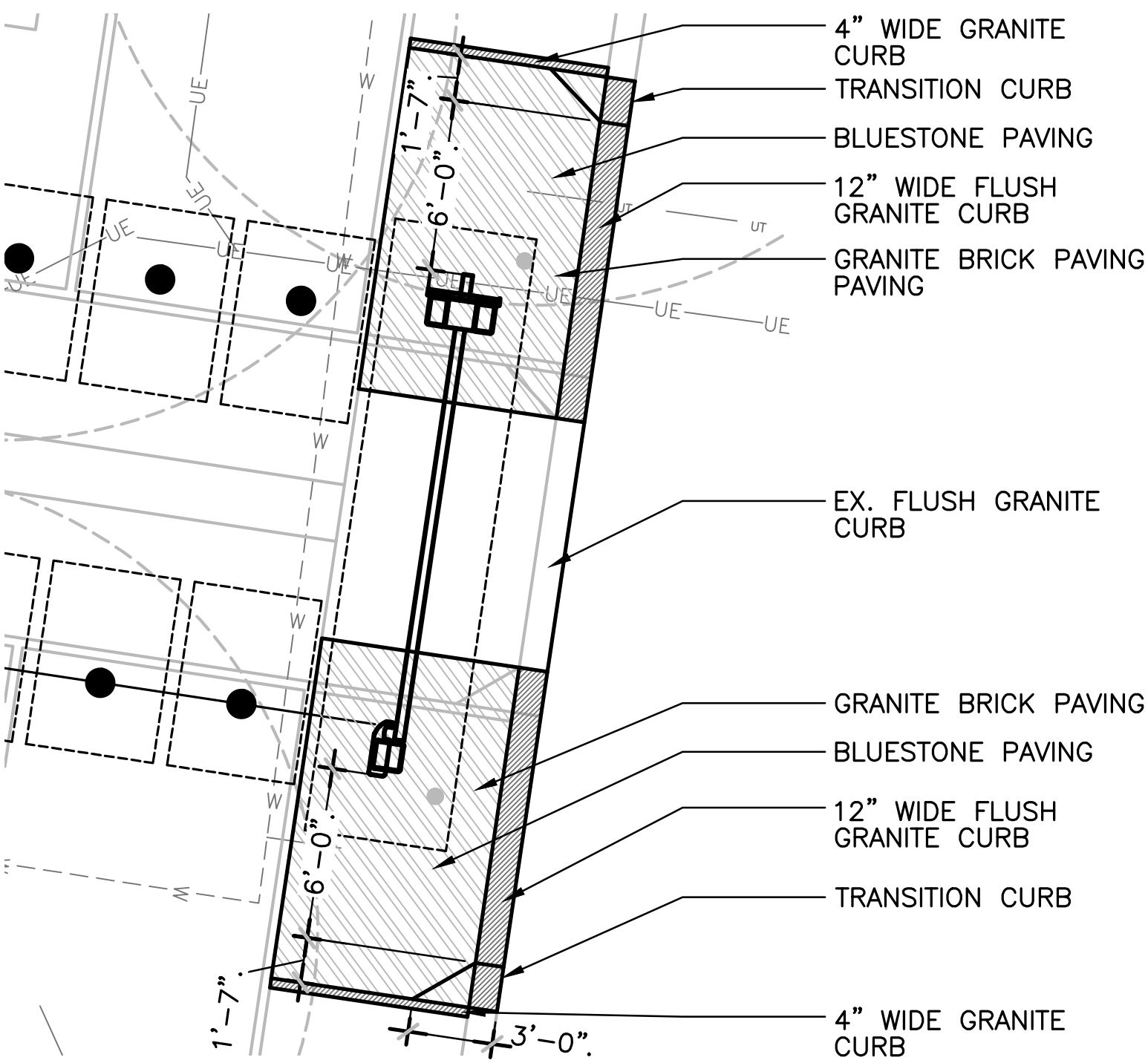
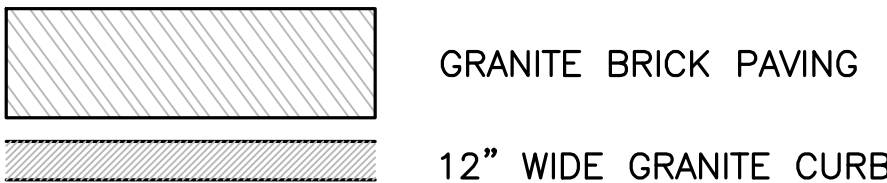
DESIGNED: DHM	SUB SHEET NO. L1.7	TITLE OF SHEET AREA H – VISITOR CENTER DEMOLITION AND LAYOUT PLAN	DRAWING NO. 391 154998
TECH. REVIEW: DHM		VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	PMIS/PKG NO. 241266
DATE: 06.07.2019			SHEET 10 OF 17

1/30/20 11:43 AKSTLER, R23 P:\DENVER\NPS INDE BARRIERS-14849\7_CD\CADD\BASES\AreaD-Proposed.dwg\KEYMAP_Park Plan Ben Edit.dwg\XL-TITLE INFO.dwg
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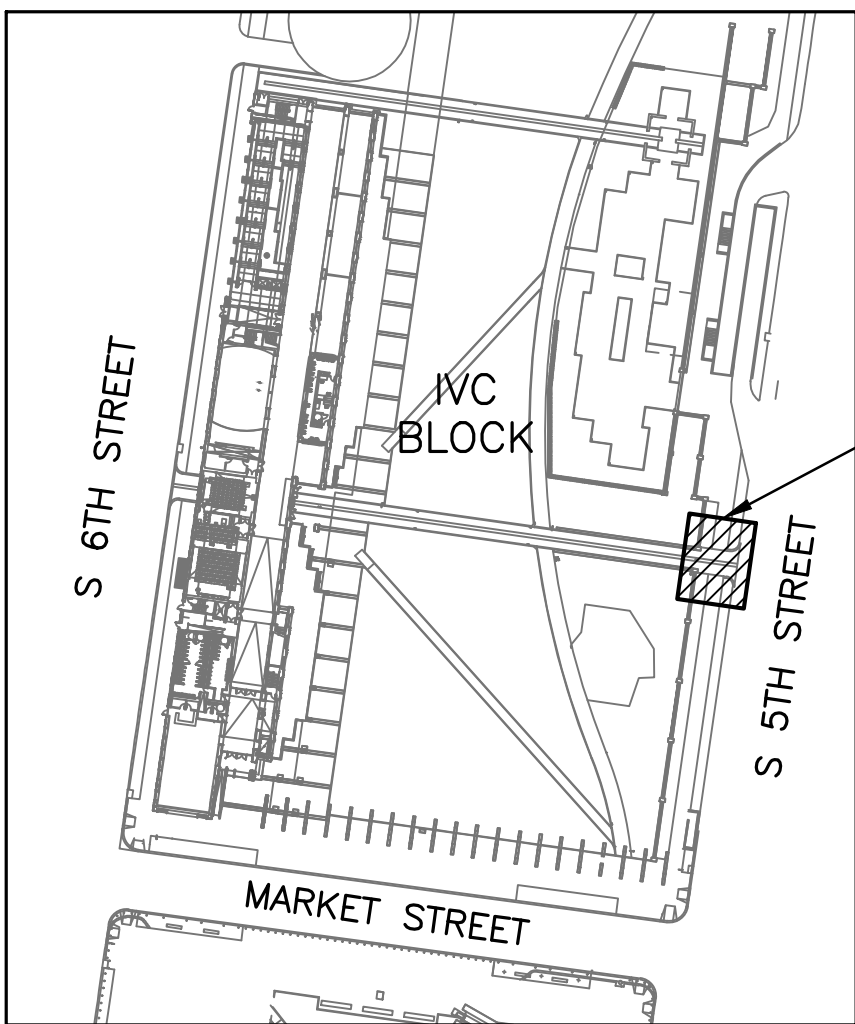
AREA D: EXISTING CONDITIONS

LEGEND



AREA B: CURB CUT

SCALE: 1" = 5'-0"



KEY MAP

NTS

BLUESTONE PAVERS,
PROTECT IN PLACE,
TYP.

BRICK COLUMN & WALL,
PROTECT IN PLACE,
TYP.

HERRINGBONE BRICK
PAVING, PROTECT IN
PLACE, TYP.

GRANITE BRICK PAVING,
PROTECT IN PLACE,
TYP.

MOVE
TRANSITION
CURB
NTS

TRANSITION GRADE.
MATCH LINE, GRADE OF
ATTACHED PAVING.

BLUESTONE PAVING,
REMOVE, SALVAGE, AND
REPLACE, TYP.

SHALLOW BOLLARD FOOTING,
RE: STRUCTURAL, TYP.

BOLLARD, 42" HT, 5' MAX.
O.C., TYP., RE: TABULATION
CHART (L0.1)

GRANITE BRICK PAVING,
REMOVE, SALVAGE,
AND REPLACE, TYP.

BRICK WALL WITH
STONE CAP WITH METAL
FENCE, PROTECT IN
PLACE, TYP.

BRICK WALL WITH
STONE CAP W/O METAL
FENCE, PROTECT IN
PLACE, TYP.

BLUESTONE PAVERS,
PROTECT IN PLACE,
TYP.

HERRINGBONE
BRICK PAVING,
PROTECT IN
PLACE, TYP.

HERRINGBONE BRICK
PAVING, REMOVE, SALVAGE,
AND REPLACE TYP.

EXISTING LIGHT POLE
ATTACHED TO COLUMN,
PROTECT IN PLACE,
TYP.

4" WIDE GRANITE CURB,
REMOVE, SALVAGE, AND
REPLACE, TYP.

EXISTING UTILITY,
PROTECT IN PLACE,
CONTRACTOR TO FIELD
LOCATE AND VERIFY,
TYP.

GRANITE BRICK PAVING,
PROTECT IN PLACE,
TYP.

BLUESTONE PAVING,
PROTECT IN PLACE,
TYP.

GRANITE BRICK PAVING,
PROTECT IN PLACE,
TYP.

EXISTING TREE,
PROTECT IN
PLACE,
TYP.

WATER LINE TO
BE FIELD
COORDINATED, TYP

FEMOVE, SALVAGE
GRANITE CURB,
TYP.

EXISTING SIGN,
SALVAGE AND
RE-INSTALL. FIELD
LOCATE PER PARK
PROJECT MANAGER
DIRECTION.

UNDERGROUND
ELECTRIC LINE TO
BE FIELD
COORDINATED, TYP

EX. FLUSH GRANITE
CURB

S 5TH STREET

ANTI-RAM BEAM
GATE, 42" HT. MIN.,
RE: STRUCTURAL &
TABULATION CHART
(L0.1)

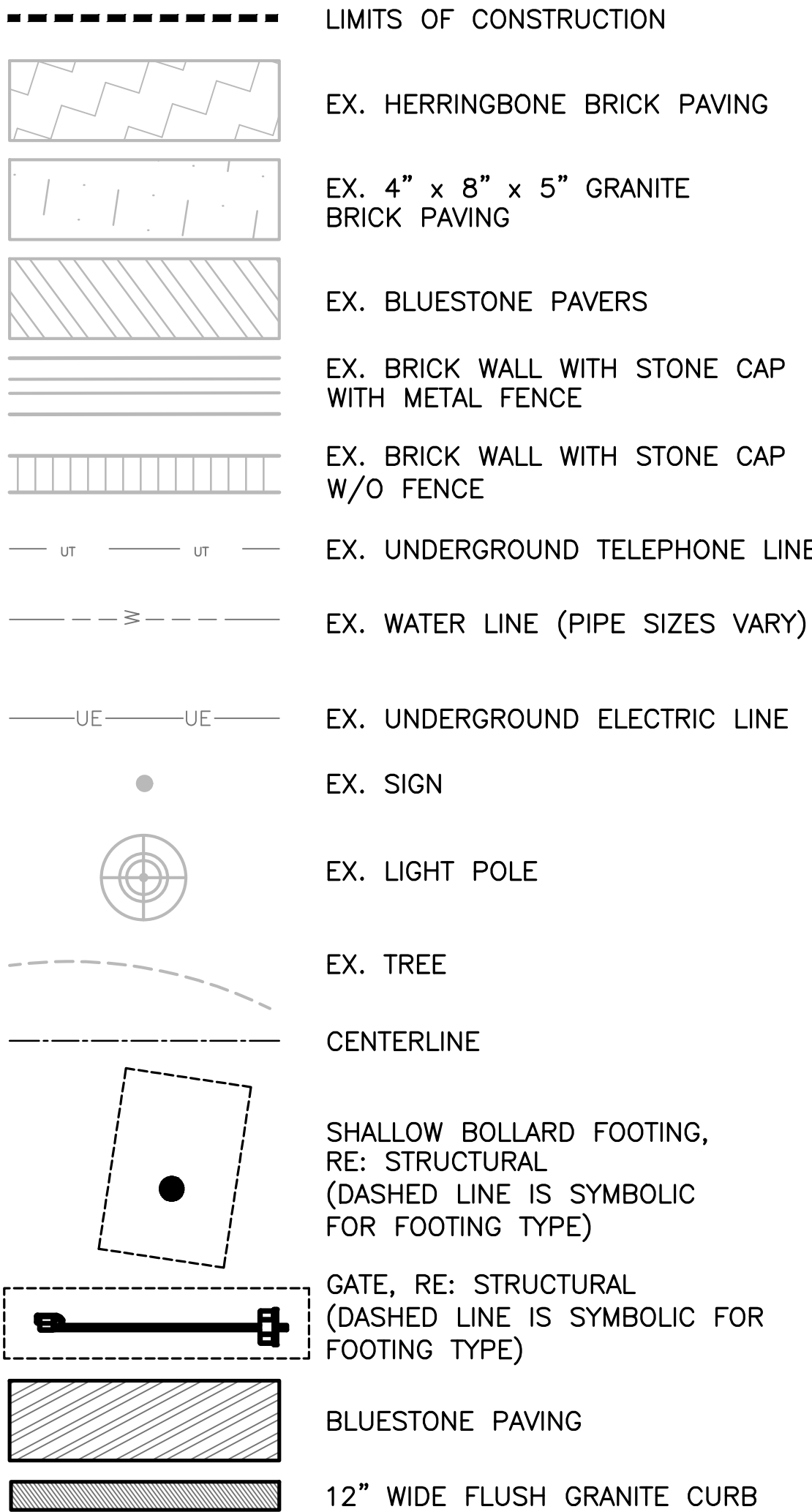
EXISTING SIGN,
SALVAGE AND
RE-INSTALL. FIELD
LOCATE PER PARK
PROJECT MANAGER
DIRECTION.

12" WIDE GRANITE
CURB, PROTECT
IN PLACE, TYP.

AREA D: CODE GATE AT STREET WITH BOLLARDS

SCALE: 1" = 5'-0"

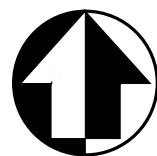
LEGEND



NOTE:

1. REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
2. ALL AREA D BOLLARDS ARE M50 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
3. (4) QTY. BOLLARD WITH SHALLOW FOOTING
4. (4) QTY. BOLLARD WITH FIXED FOOTING
5. RE: L2.1 FOR PAVING DETAILS
6. RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
7. THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
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5 0 5 10
SCALE OF FEET



Know what's below.
Call before you dig.



01.30.2020

DESIGNED:

DHM

DHM

TECH. REVIEW:

DHM

DATE:

06.07.2019

SUB SHEET NO.

L1.8

TITLE OF SHEET

AREA D - VISITOR CENTER
DEMOLITION AND
LAYOUT PLAN

VEHICLE DENIAL BARRIER DESIGN FOR
IVC, LBC AND INDE SQUARE BLOCKS
INDEPENDENCE NATIONAL HISTORICAL PARK

DRAWING NO.

391
154998

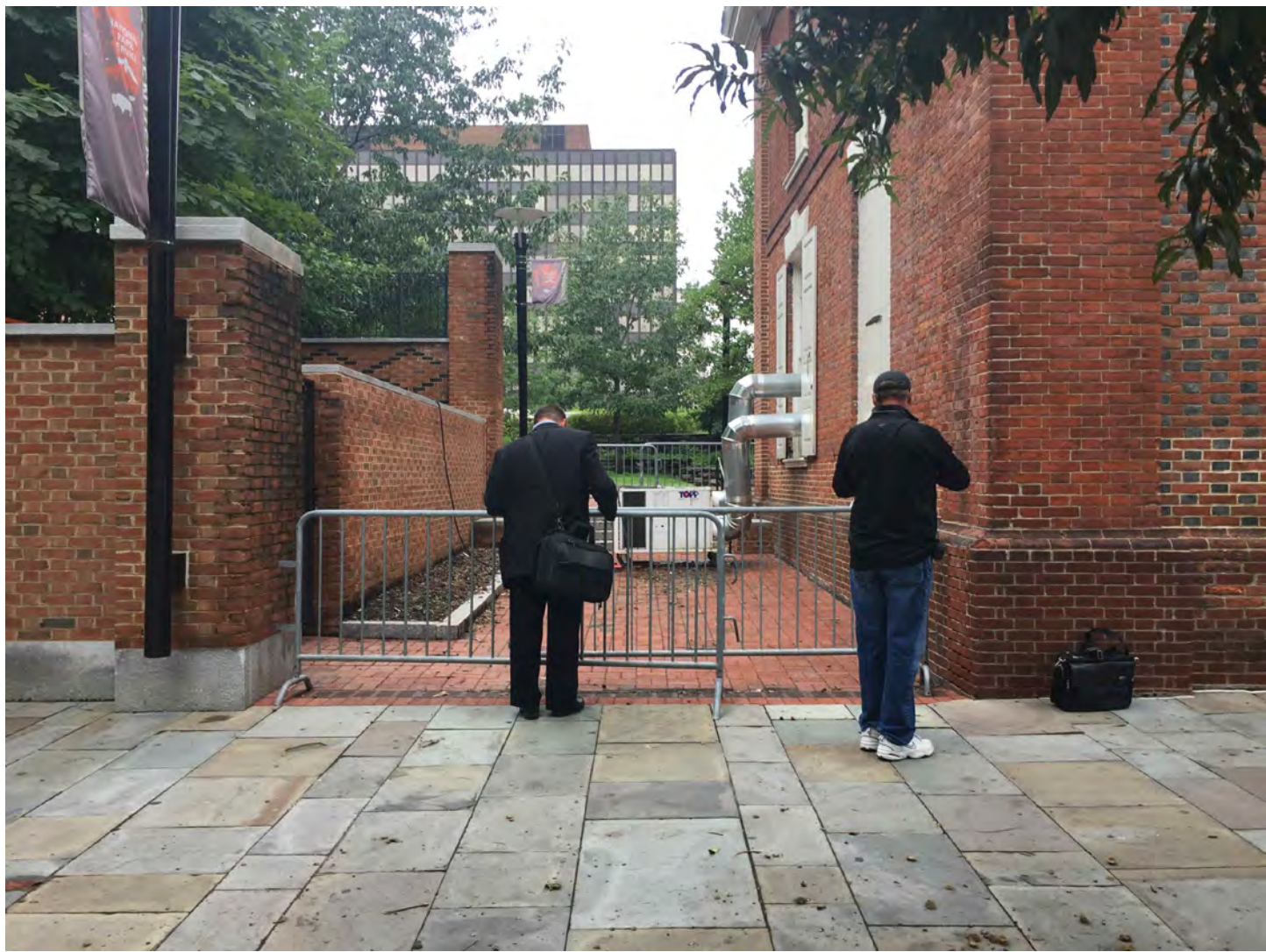
PMIS/PKG NO.

241266

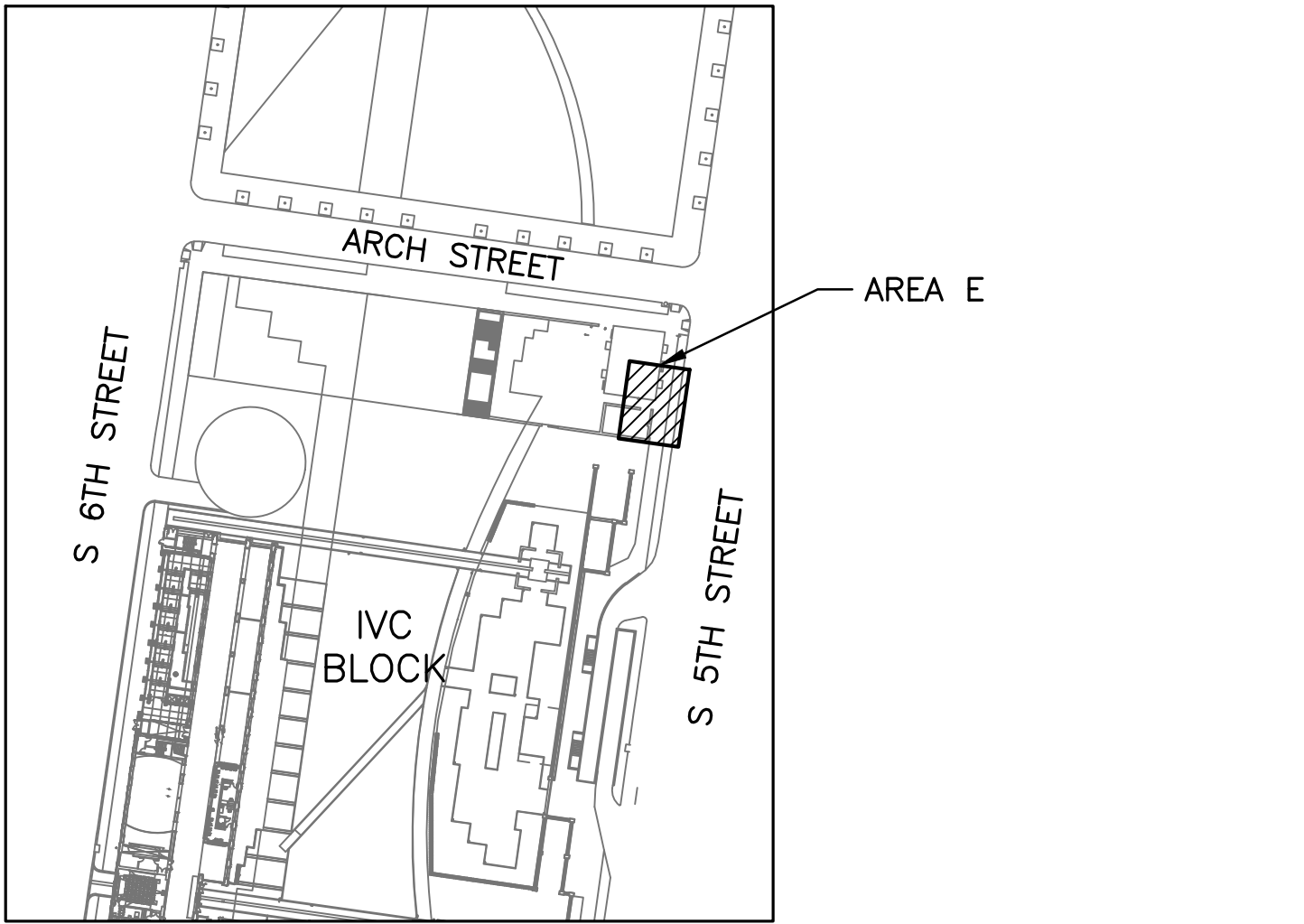
SHEET

11 OF 17

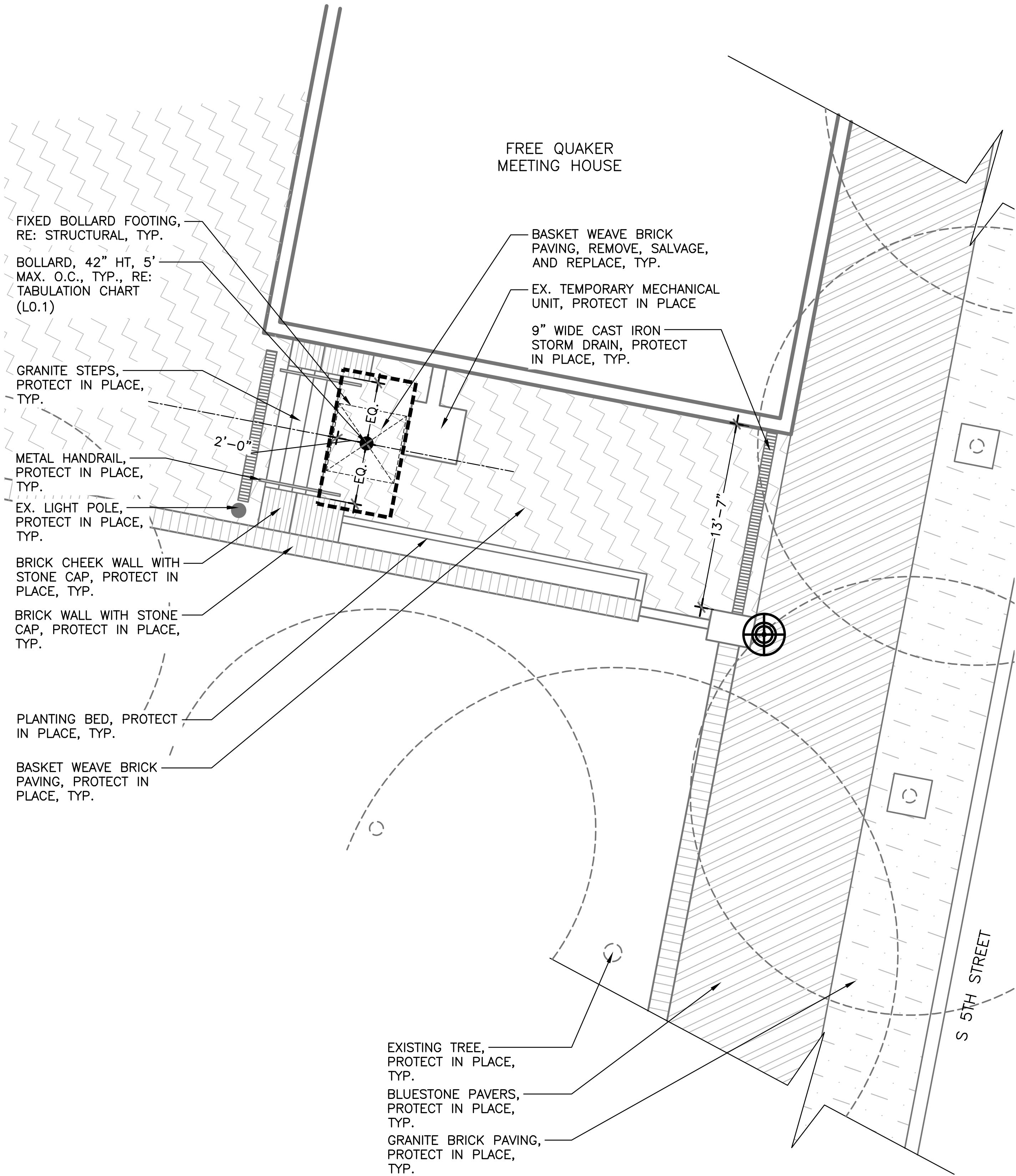
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AREA E: EXISTING CONDITIONS NTS



KEY MAP NTS



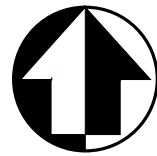
AREA E: BOLLARD AT STEPS

LEGEND

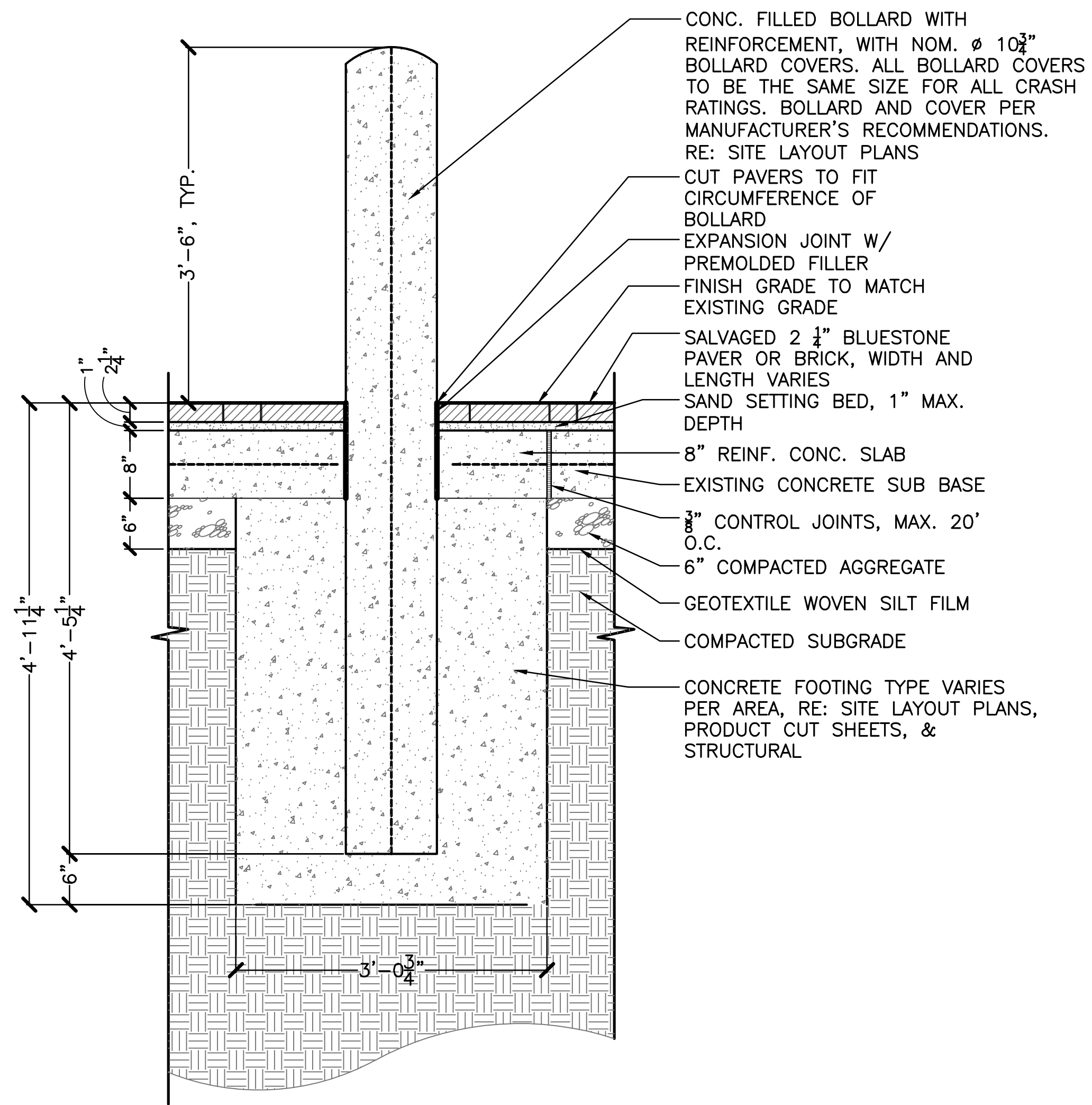
- LIMITS OF CONSTRUCTION
- ===== EX. BUILDING
- [Pattern] EX. BASKET WEAVE BRICK PAVING
- [Pattern] EX. 4" x 8" x 5" GRANITE BRICK PAVING
- [Pattern] EX. BLUESTONE PAVERS
- [Pattern] EX. BRICK WALL WITH STONE CAP W/O FENCE
- - - - - EX. TREE
- CENTERLINE
- [Symbol] FIXED BOLLARD FOOTING, RE: STRUCTURAL (DASHED LINE IS SYMBOLIC FOR FOOTING TYPE)

NOTE:

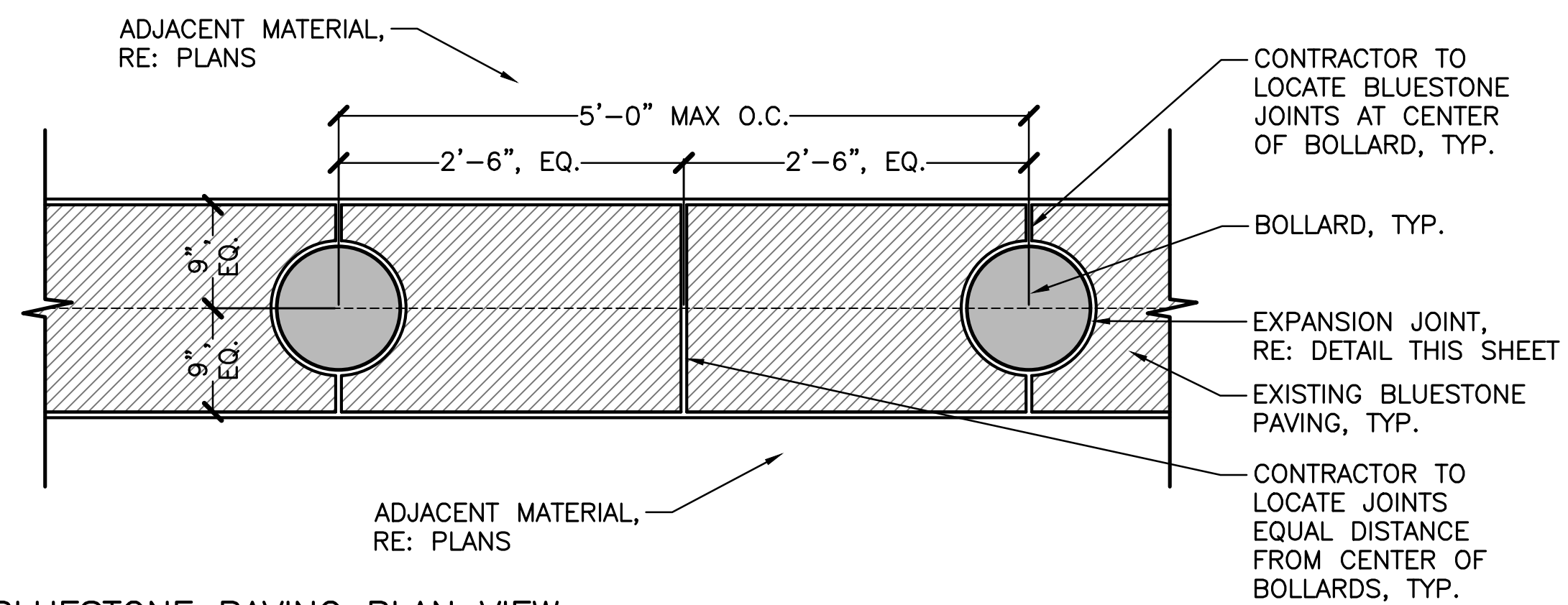
- REFER TO L0.1 FOR ALL GENERAL, STAGING & ACCESS, DEMOLITION, AND LAYOUT AND GRADING NOTES.
- ALL AREA E BOLLARDS ARE M30 RATED. REFER TO STRUCTURAL AND PRODUCT FILE FOR FOOTING AND INSTALLATION DETAILS.
- (1) QTY. BOLLARD WITH FIXED FOOTING
- RE: L2.1 FOR PAVING DETAILS
- RE-INSTALLATION TO MATCH EXISTING BEDDING & SUB-BASE DEPTHS & MATERIALS.
- THE UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES (VERTICAL & HORIZONTAL) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
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DESIGNED: DHM	SUB SHEET NO. L1.9	TITLE OF SHEET AREA E – VISITOR CENTER DEMOLITION AND LAYOUT PLAN	DRAWING NO. 391 154998
TECH. REVIEW: DHM		VEHICLE DENIAL BARRIER DESIGN FOR IVC, LBC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	PMIS/PKG NO. 241266
DATE: 06.07.2019			SHEET 12 OF 17



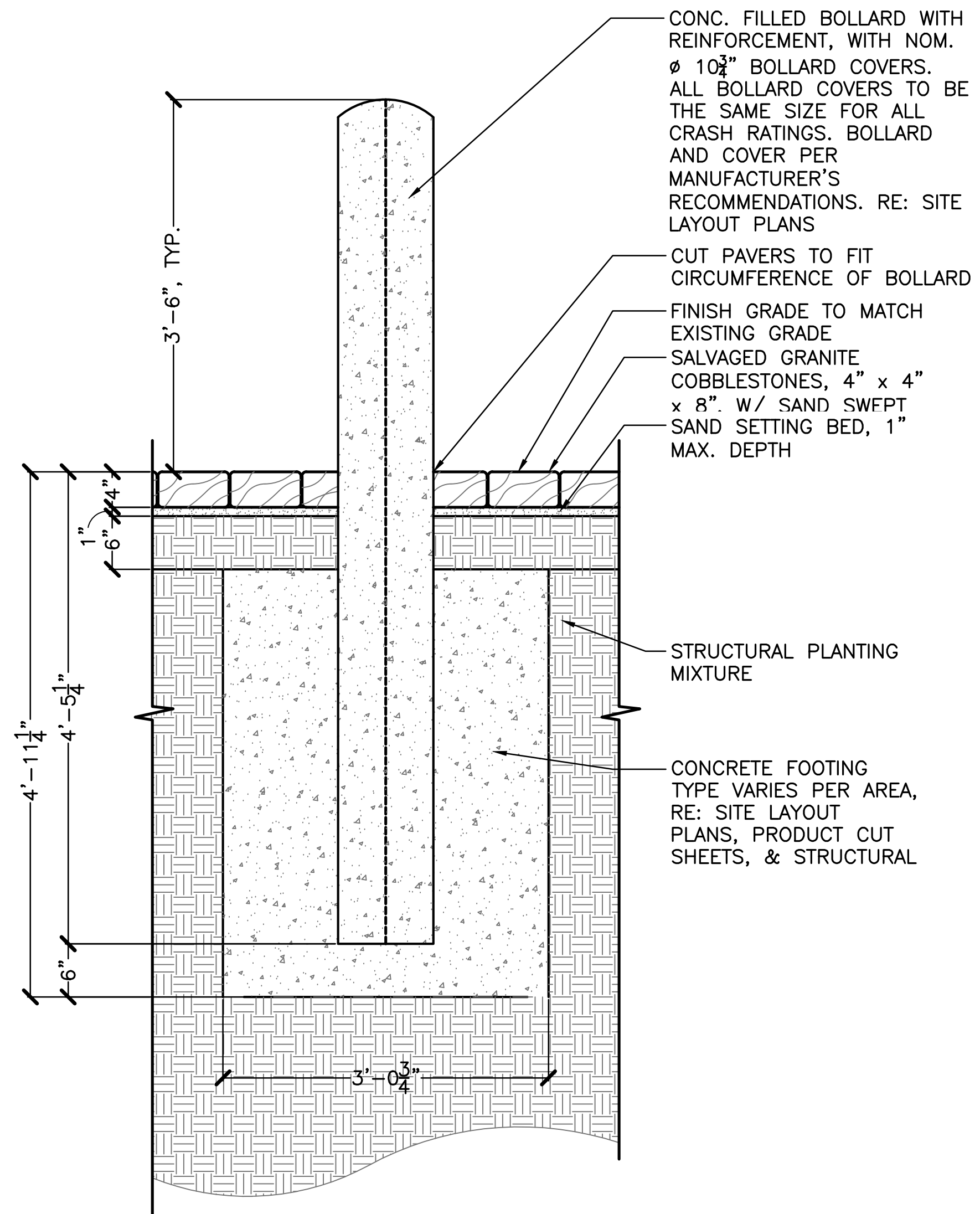
SECTION



BLUESTONE PAVING PLAN VIEW

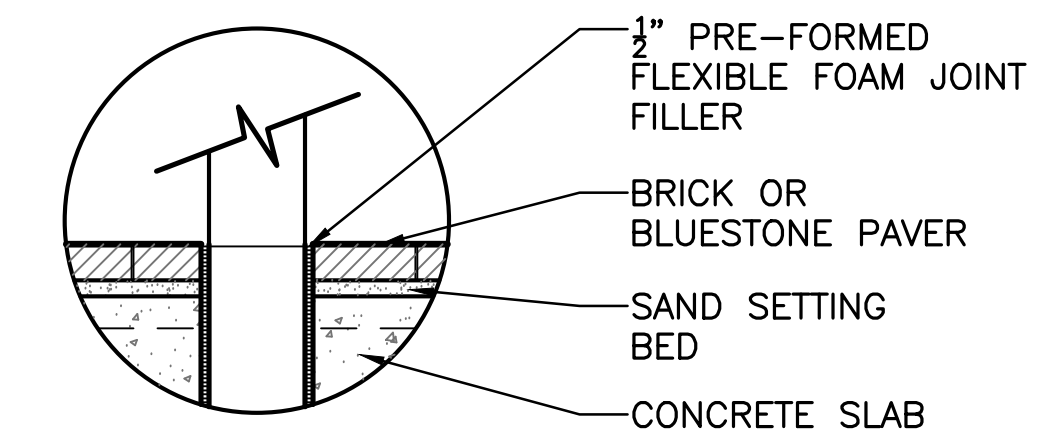


HARD SURFACE DETAILS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR TO REMOVE, SALVAGE, RE-INSTALL AND REPLACE ALL SURFACE MATERIALS, SUB-BASE, SUB-GRADE PREPARATION IN KIND AS PER PENNDOT AND AGENCY(IES) HAVING AUTHORITY REQUIREMENTS.



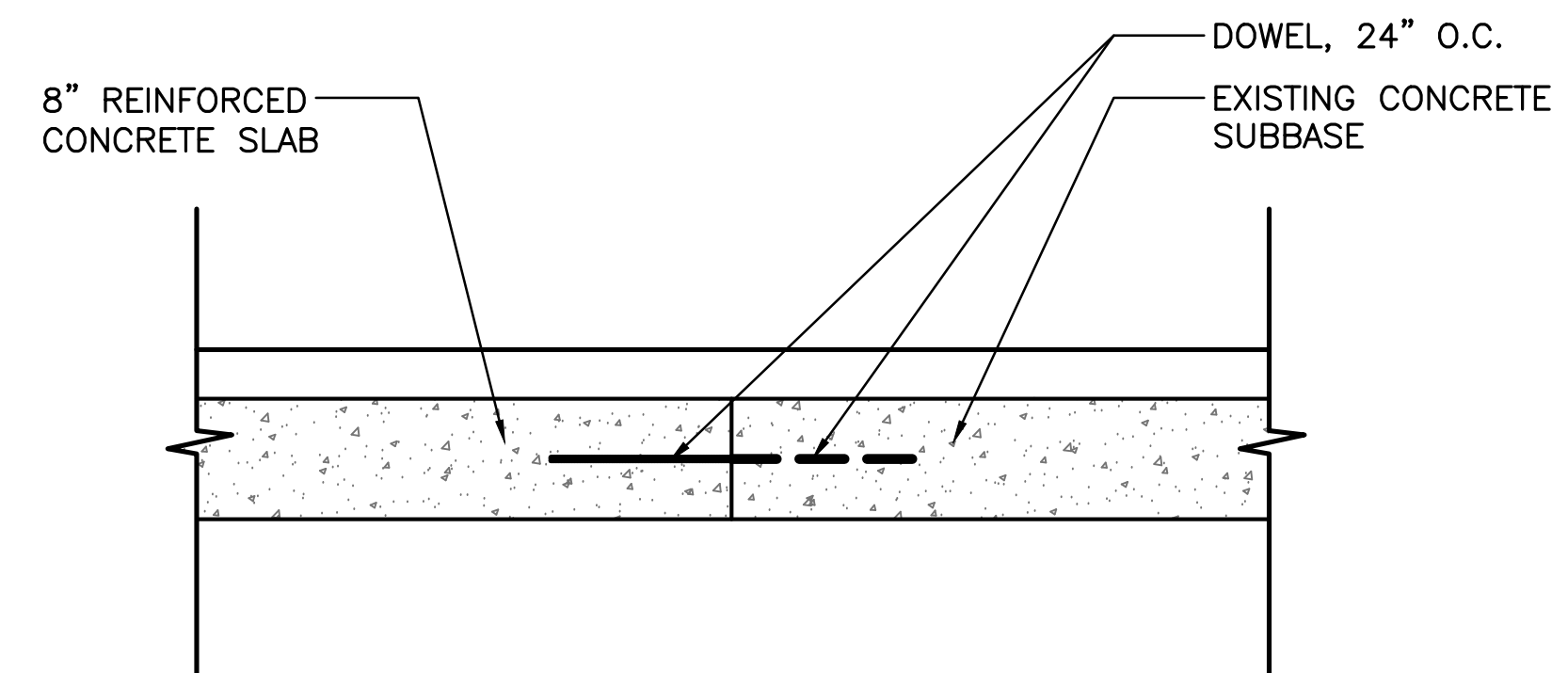
COBBLESTONE PAVING AT TREE TRENCH
IMBEDDED SECURITY BOLLARD, TYP.

SCALE: 1" = 1'-0"



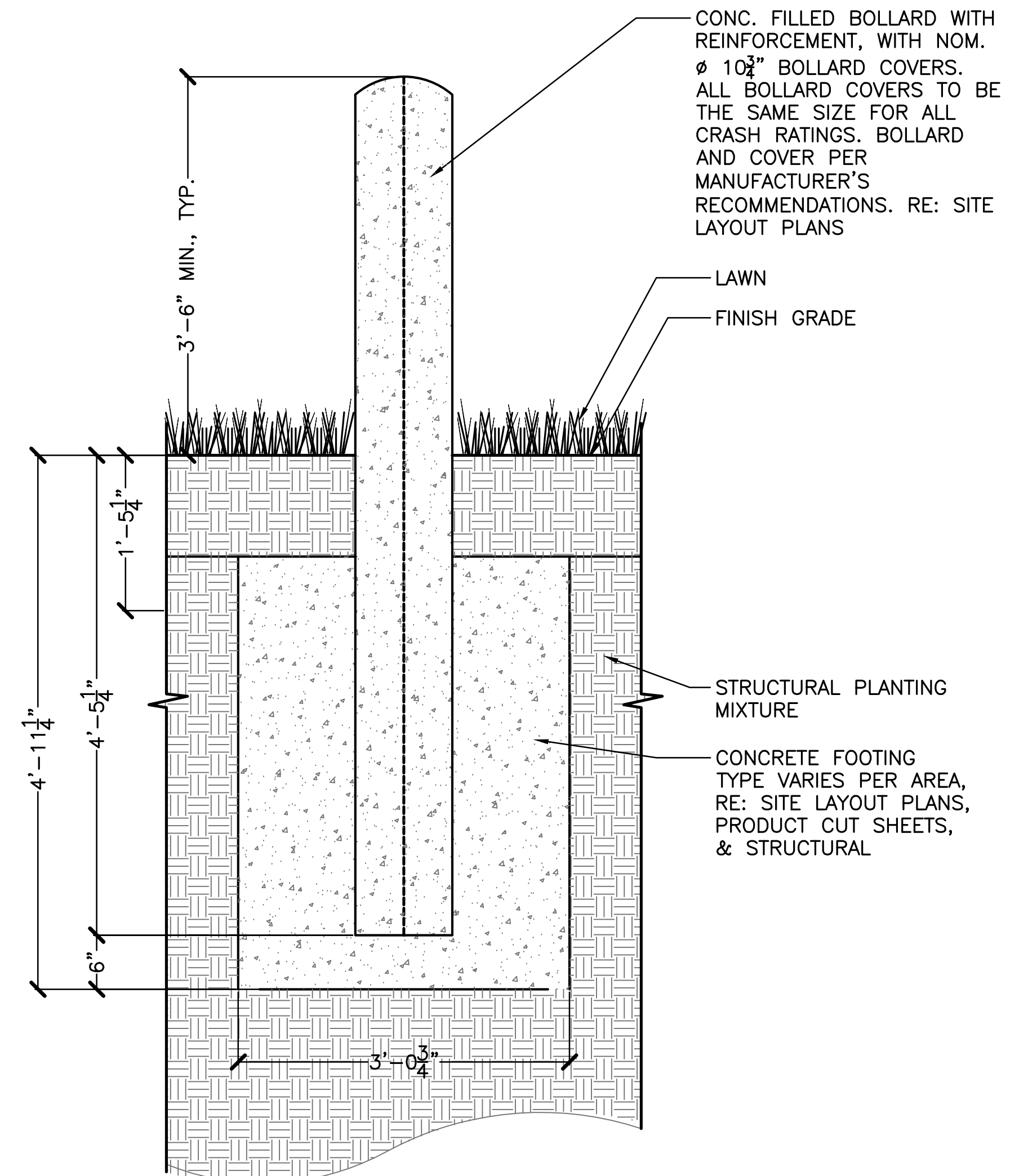
EXPANSION JOINT AT BOLLARD

SCALE: 1" = 1'-0"



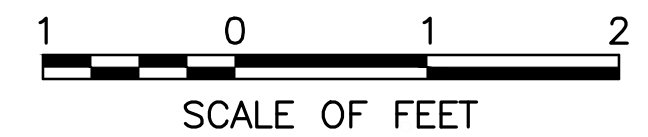
DOWEL CONNECTOR

SCALE: 1" = 1'-0"



3 LAWN AT IMBEDDED SECURITY BOLLARD, TYP.

L2.1 SCALE: 1" = 1'-0"



DESIGNED:	DHM
CADD	DHM
TECH. REVIEW:	DHM
DATE:	06.07.2019

SUB SHEET NO.
L2.1

TITLE OF SHEET

SITE DETAILS

PAVING

VEHICLE DENIAL BARRIER DESIGN FOR
IVC, LBC AND INDE SQUARE BLOCKS
INDEPENDENCE NATIONAL HISTORICAL PARK

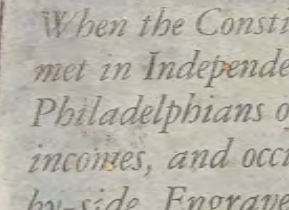
DRAWING NO.
391
154998

PMIS/PKG NO.
241266

SHEET
13 OF **17**

BLUESTONE MEMORIAL

BRICK WITH S
CAP

A close-up photograph of a rectangular stone plaque with a dark border. The plaque is mounted on a wall and contains engraved text in a serif font. The text reads: "When the Constitutional Convention met in Independence Hall in 1787, Philadelphians of diverse backgrounds, incomes, and occupations lived side-by-side. Engraved on these stones are the names of the people who lived on this block." The plaque is slightly weathered and has a small metal fastener visible at the bottom center.

When the Constitutional Convention met in Independence Hall in 1787, Philadelphians of diverse backgrounds, incomes, and occupations lived side-by-side. Engraved on these stones are the names of the people who lived on this block.

A photograph showing a white temporary mechanical unit on a brick patio. The unit has a logo that reads "TOP PORTLAND, ALA" and "2010". It is connected to a large silver duct. In the foreground, there are granite steps and a black metal railing. The text "TEMPORARY MECHANICAL UNIT" is overlaid in the top right, and "GRANITE STEPS" is overlaid in the bottom right.

A photograph of a brick building with a red brick walkway leading to a parking garage. A person is walking away on the path. A sign on the right wall reads "VISITOR CENTER" and "PARKING GARAGE".

PARKING GARAGE

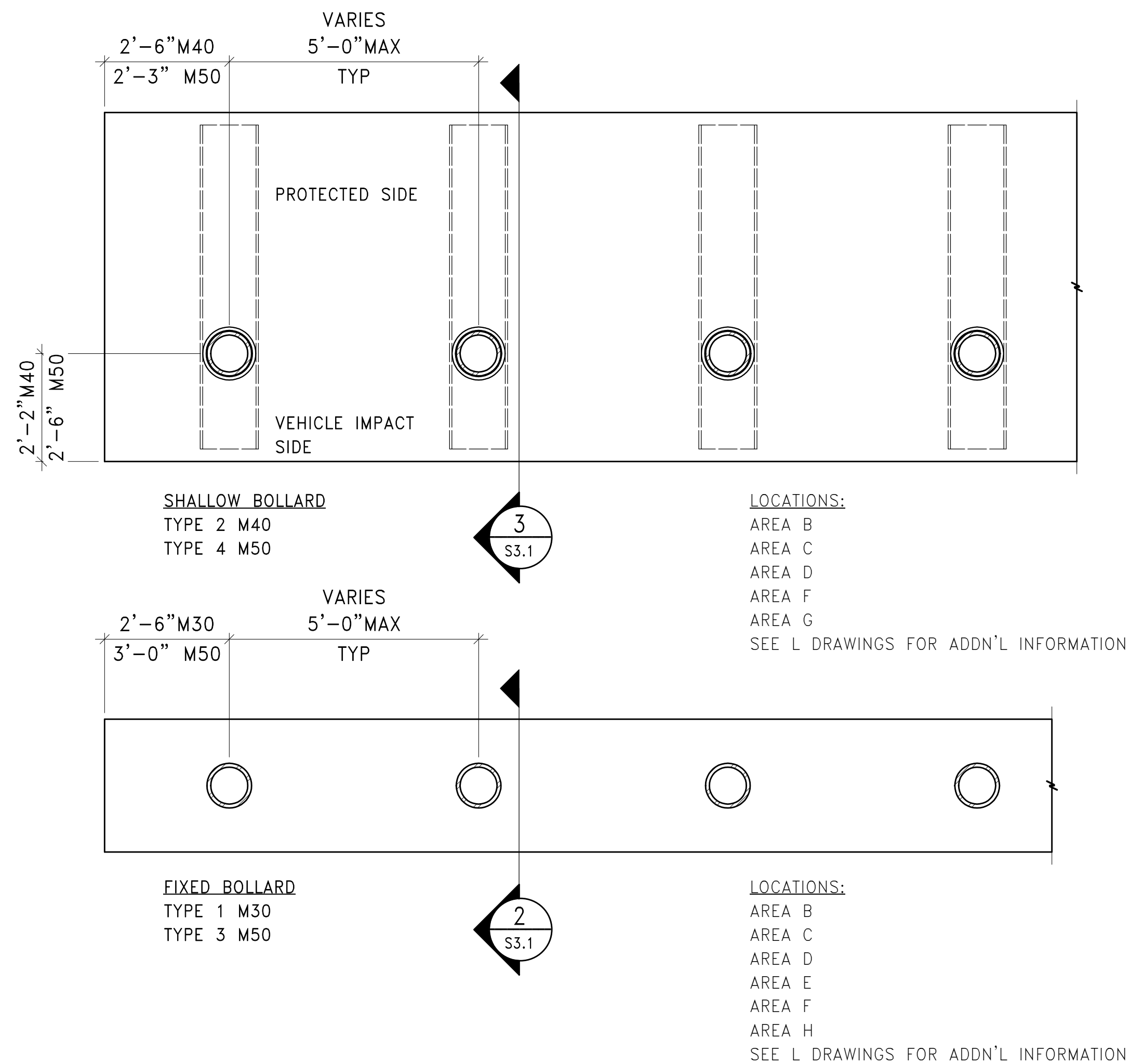
BUILDING

DRAWING NO.
391
154998

PMIS/PKG NO.
241266

SHEET
14 OF 17

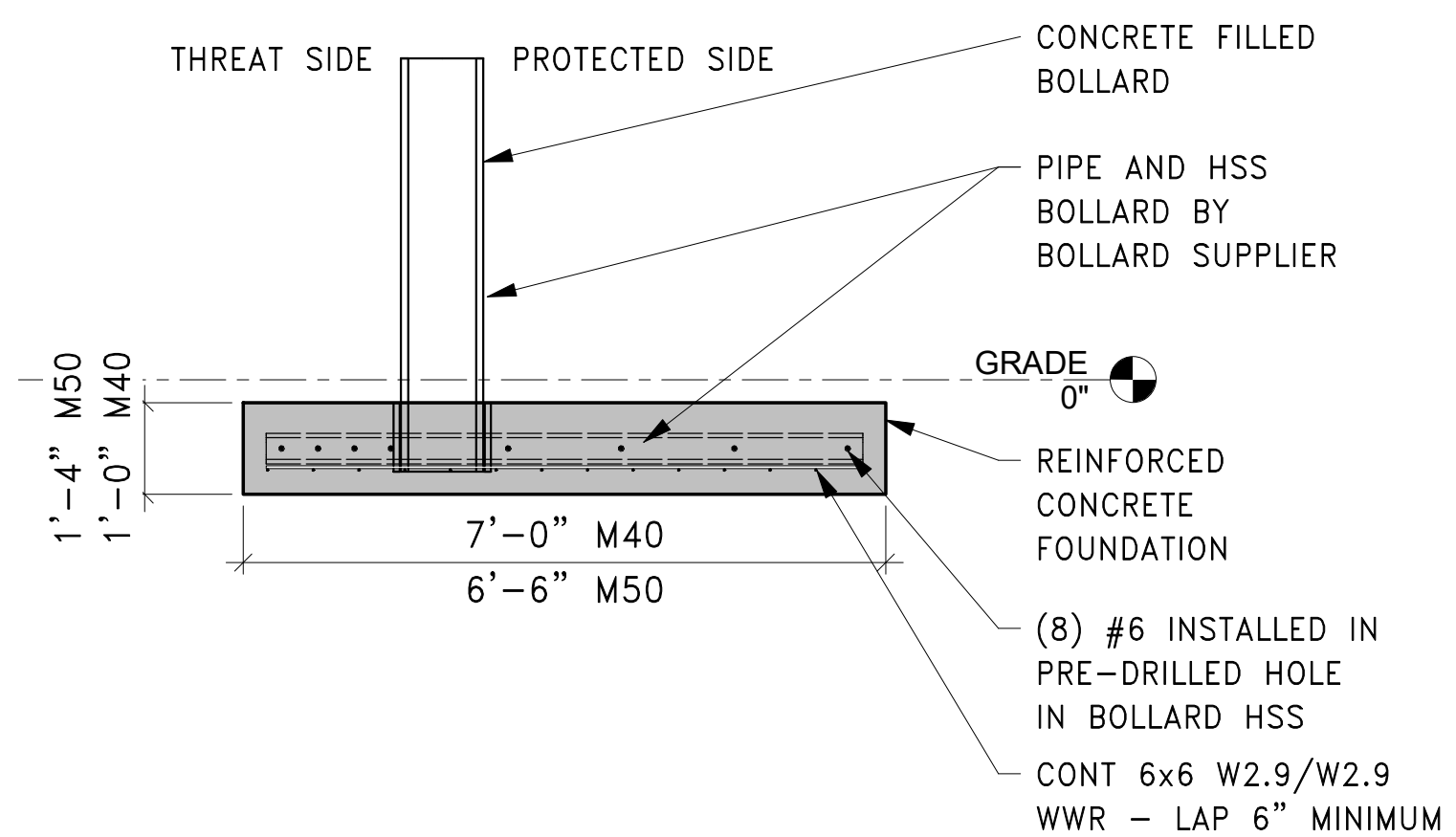
1 PLAN - TYPICAL BOLLARDS
S3.1



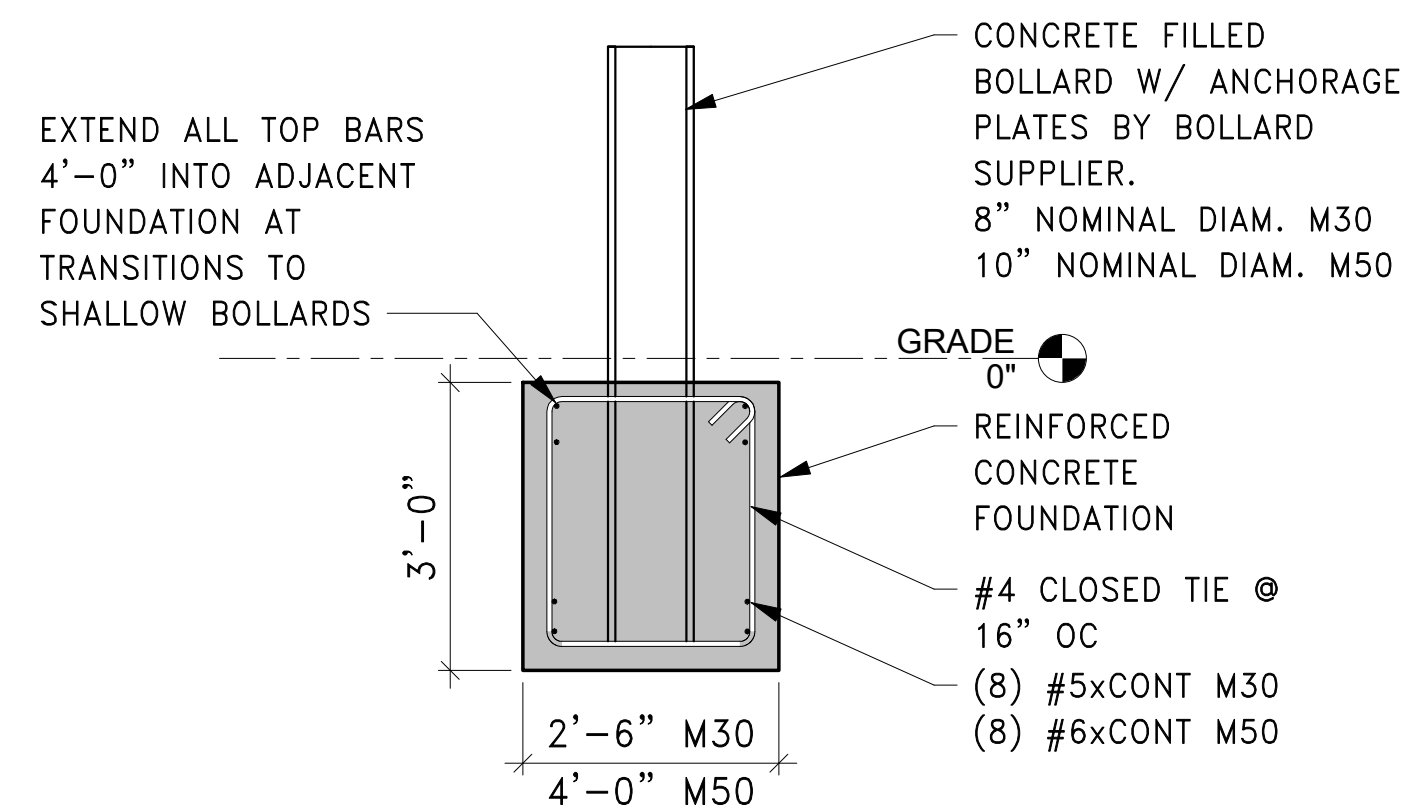
GENERAL NOTES:

1. BOLLARDS
 - A. SEE LANDSCAPE DRAWINGS FOR OPTIONS FOR VARIOUS BOLLARD TYPES
 - B. IF UNDERGROUND UTILITIES OR OTHER DISCOVERED OBSTRUCTIONS PREVENT FOUNDATIONS FROM BEING PLACED AS SHOWN ON DRAWINGS, NOTIFY CONTRACTING OFFICER FOR CLARIFICATION BEFORE PROCEEDING WITH WORK.
 - C. TESTED ASSEMBLIES TO MEET IMPACT CONDITION AND PENETRATION SPECIFIED BY SECURITY
 - D. IF SUPPLIED ASSEMBLY FOUNDATION REQUIREMENTS DIFFER FROM THOSE SHOWN ON DRAWINGS, NOTIFY CONTRACTING OFFICER FOR CLARIFICATION BEFORE PROCEEDING WITH WORK.
 - E. TEMPORARILY SUPPORT BOLLARDS WHILE PLACING CONCRETE PER BOLLARD SUPPLIER INSTRUCTIONS
2. CONCRETE
 - A. $f'c = 4,500 \text{ psi} @ 28 \text{ DAYS}$
 - B. W/C RATIO = 0.45 MAXIMUM
 - C. AGGREGATE SIZE = 1" MAXIMUM
 - D. COMPRESSION TEST ONE SET OF CYLINDERS FOR EVERY 50 CY OF CONCRETE, BUT NOT LESS THAN ONE TEST PER DAY
3. REINFORCING STEEL
 - A. ASTM A615, $F_y = 60,000 \text{ psi}$
4. SOIL
 - A. BACKFILL SHALL BE WELL-GRADED GRANULAR MATERIAL
 - B. COMPACT TO A MINIMUM DENSITY OF 95% OF MAXIMUM DRY DENSITY
 - C. SOIL TO HAVE MINIMUM BEARING CAPACITY OF 1600 PSF. GEOTECHNICAL ENGINEER TO VERIFY BEARING CAPACITY AT TIME OF EXCAVATION.

4 3D BOLLARD VIEWS
S3.1 NO SCALE



3 SHALLOW BOLLARD SECTION

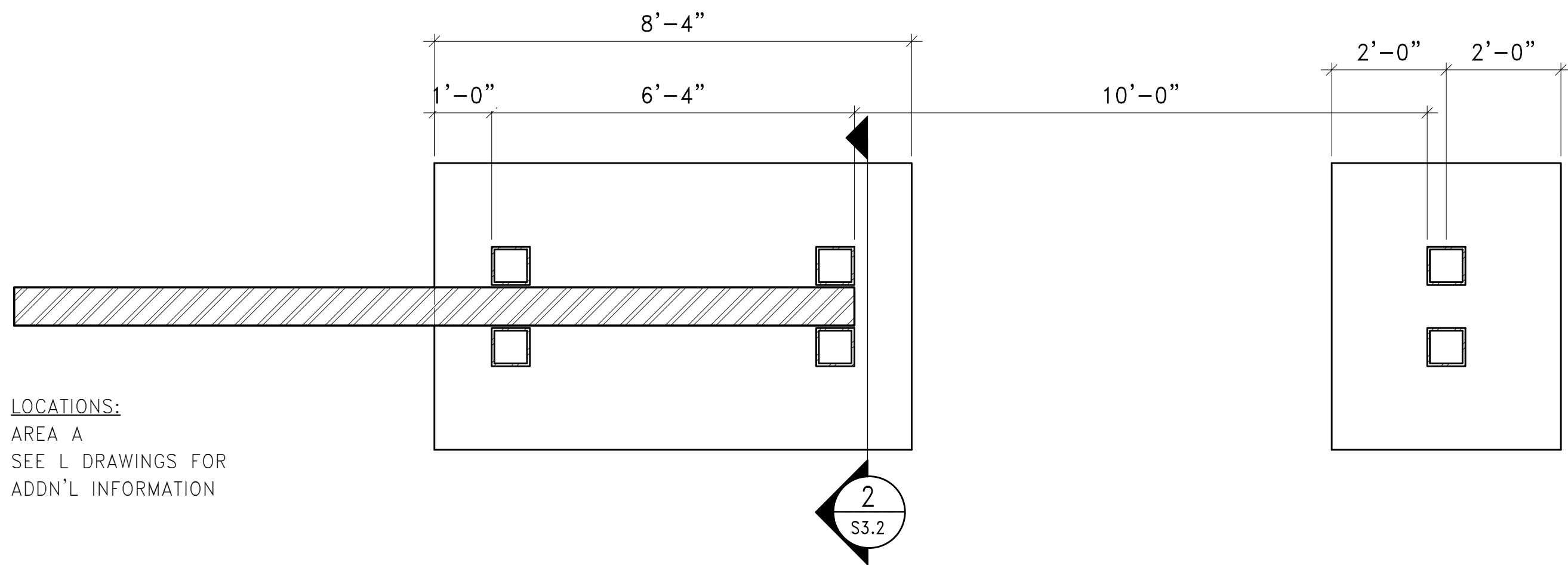
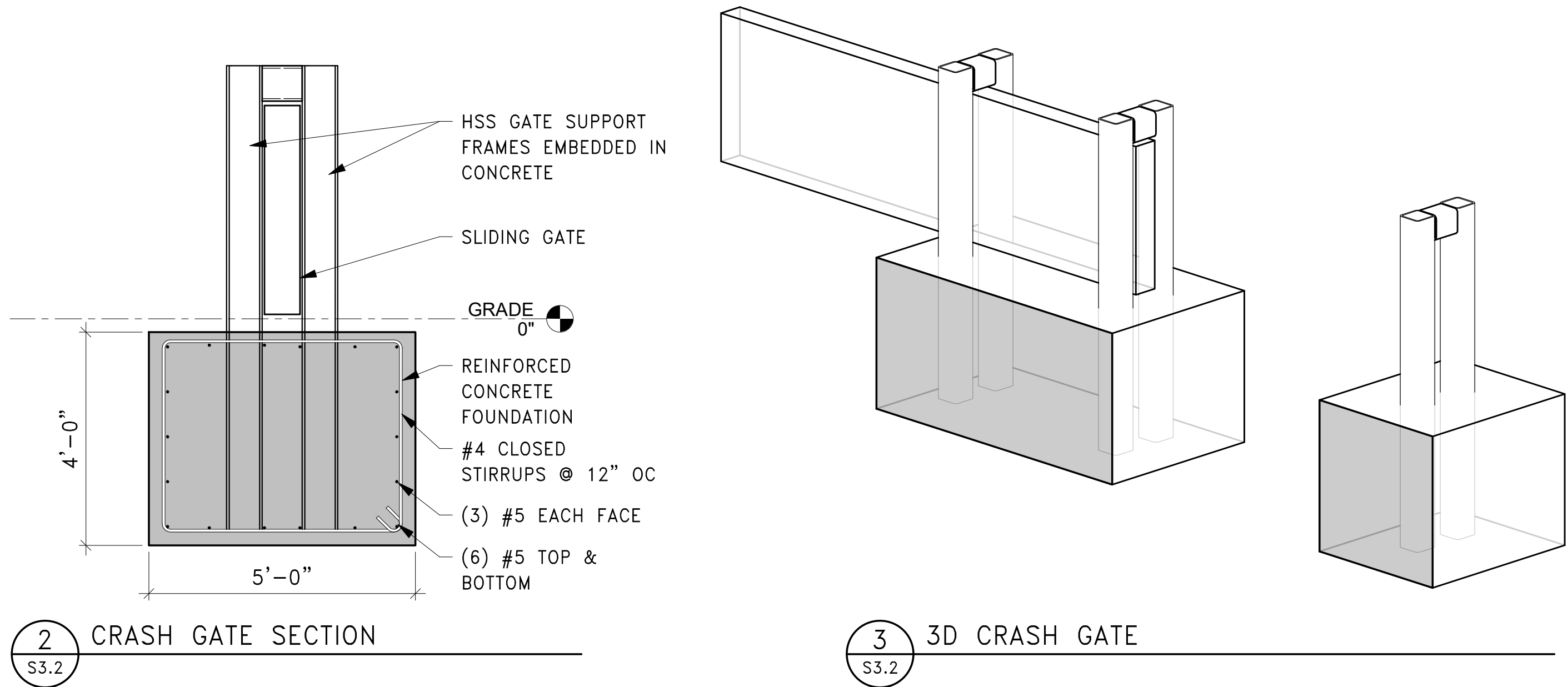


2 FIXED BOLLARD SECTION
S3.1



DESIGNED: JDB	SUB SHEET NO.: S3.1	TITLE OF SHEET BOLLARD FOUNDATION DETAILS VEHICLE DENIAL BARRIER DESIGN FOR IVC, LVC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. <u>XXX</u> XXXXX
 JVA			PMIS/PKG NO. 140P4218F0136
TECH REVIEW:			SHEET
TSS			<u>15</u> OF <u>17</u>
DATE: 01.23.2020			

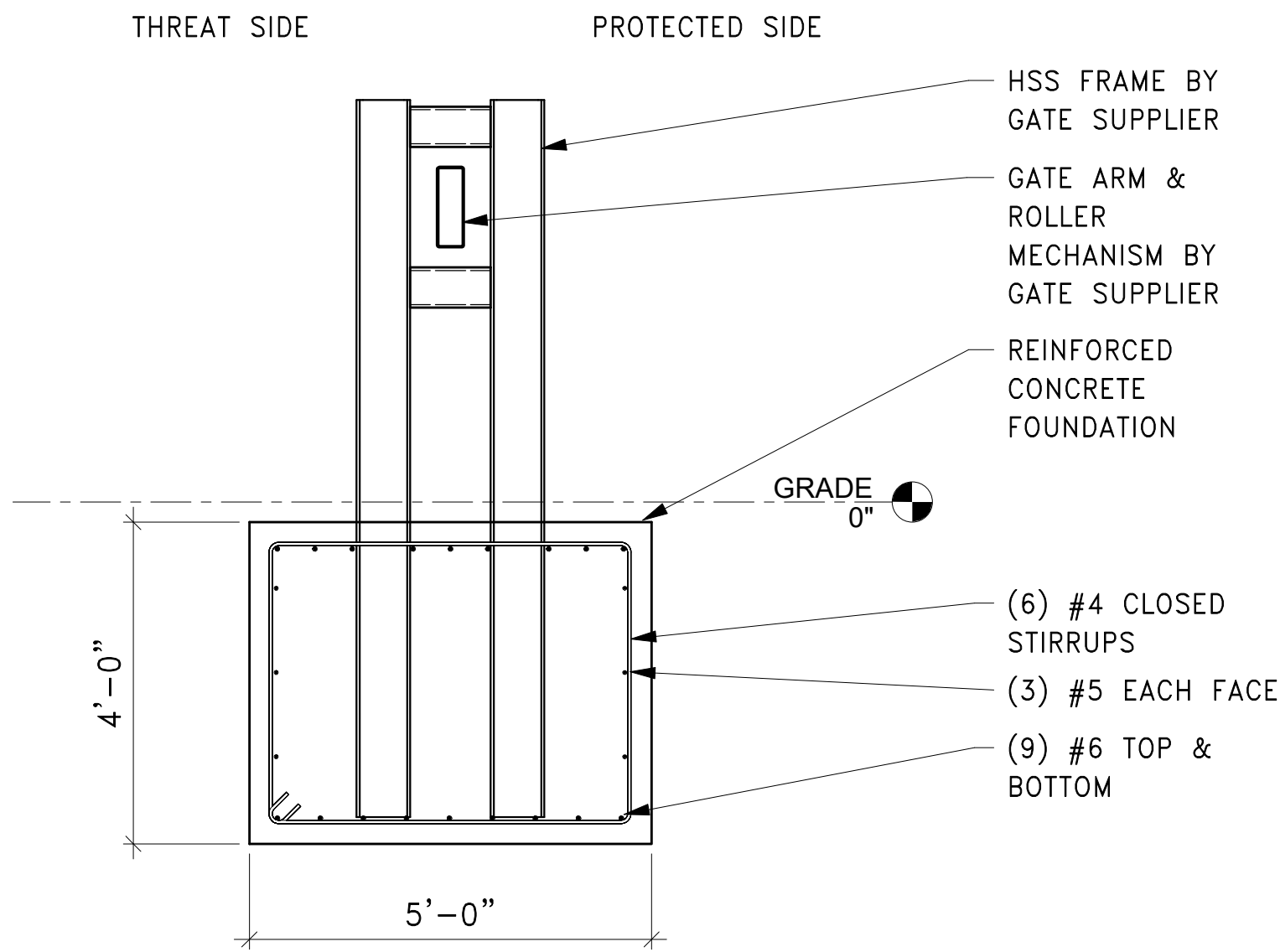




1 CRASH GATE- TYPE 7

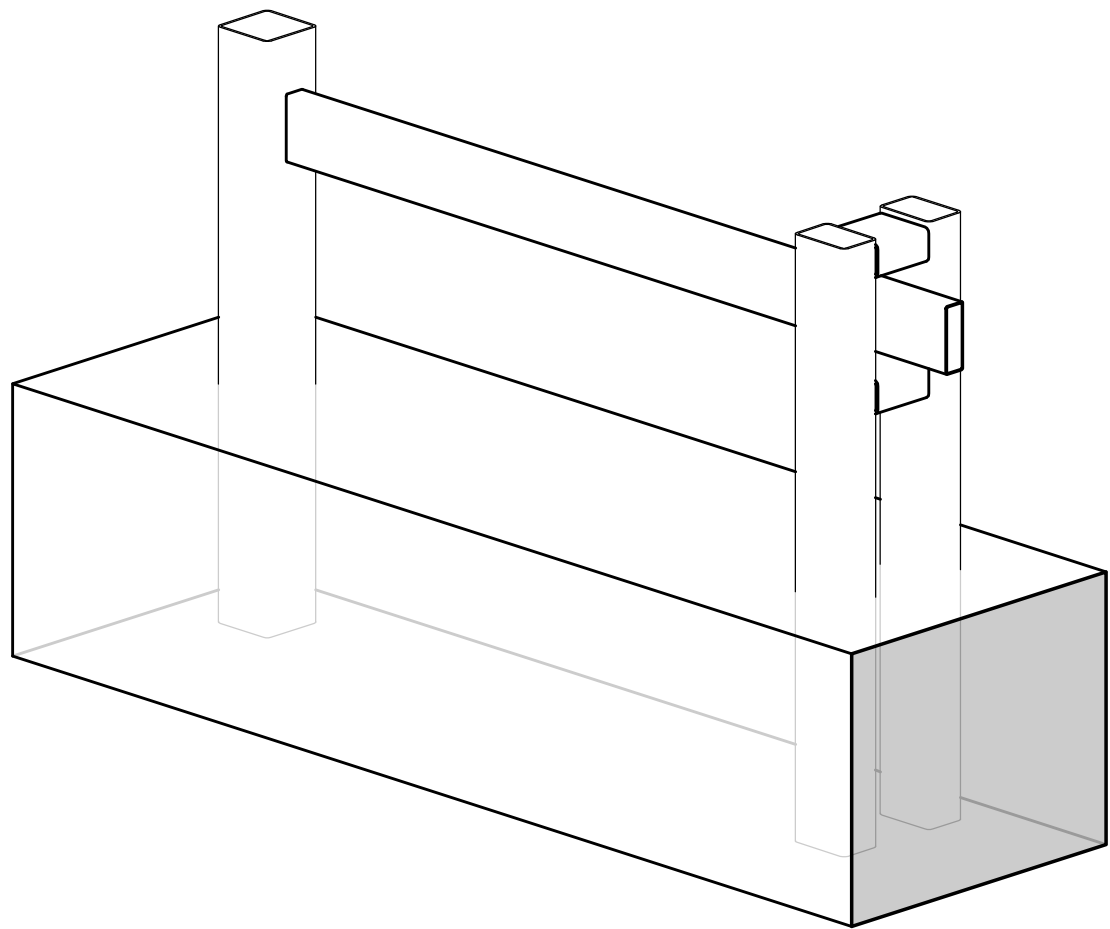


DESIGNED: JDB	SUB SHEET NO.: S3.2	TITLE OF SHEET CRASH BEAM FOUNDATION DETAILS	DRAWING NO. XXX XXXXX
QA/QC			PMIS/PKG. NO. 140P4218F0136
JVA			SHEET
TECH REVIEW: TSS			16 OF 17
DATE: 01.23.2020			VEHICLE DENIAL BARRIER DESIGN FOR IVC, LVC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK



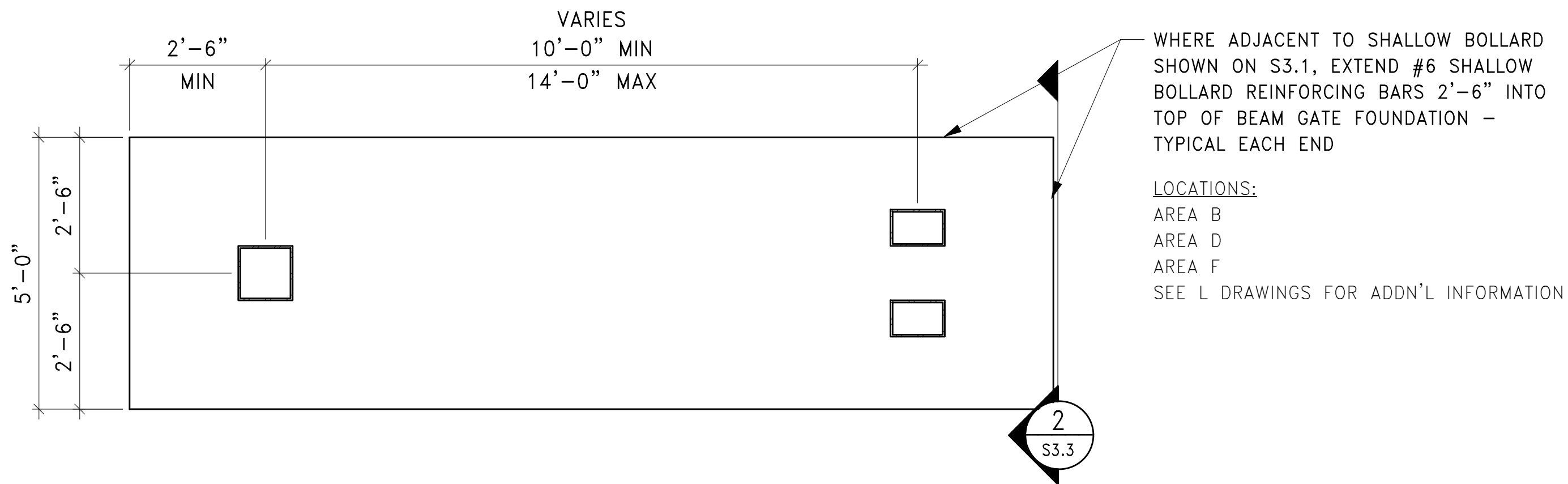
2
S3.3

BEAM GATE SECTION



3
S3.3

3D BEAM GATE



2
S3.3

1
S3.3

BEAM GATE - TYPE 8



SCALE OF FEET



DESIGNED: JDB	SUB SHEET NO.: S3.3	TITLE OF SHEET SLIDE GATE FOUNDATION DETAILS VEHICLE DENIAL BARRIER DESIGN FOR IVC, LVC AND INDE SQUARE BLOCKS INDEPENDENCE NATIONAL HISTORICAL PARK	DRAWING NO. XXX XXXXX
QA/QC			PMIS/PKG NO. 140P4218F0136
JVA			SHEET
TECH REVIEW: TSS			17 OF 17
DATE: 01.23.2020			



Perimeter Security Partners
5038 Thoroughbred Lane Brentwood, TN 37027
www.PerimeterSecurityPartners.com

Vehicle Denial Barrier

Independence Hall Historical Park
Philadelphia, PA

Long-Lead Time Material Vehicle Barriers

Prepared by:
Perimeter Security Partners, LLC
5038 Thoroughbred Lane
Brentwood, TN 37027
(615) 678-4301

Prepared For:
National Park Service
Contract No. 140P4220C0031

February 12, 2021

Perimeter Security Partners, LLC. (PSP) proposes to use a mixture of barriers to meet the intent of the project located at the Independence Hall Historical Park. These barriers include the Perimeter Security Partners Satyr Crash Beam (28'), the Nasatka Bravado bollard system, and the Nasatka Removable M40/M50 Bollard system.

Manufacture and delivery of these barrier systems can take up to 12 weeks, so feedback on the proposed material is requested as soon as possible to keep the project on schedule. Prompt approval of this long-lead material will also ensure the design effort can proceed without delay or unnecessary scope adjustments.

Area A is excluded from this submittal at the time and will be included in a follow on submittal.

Table of Contents

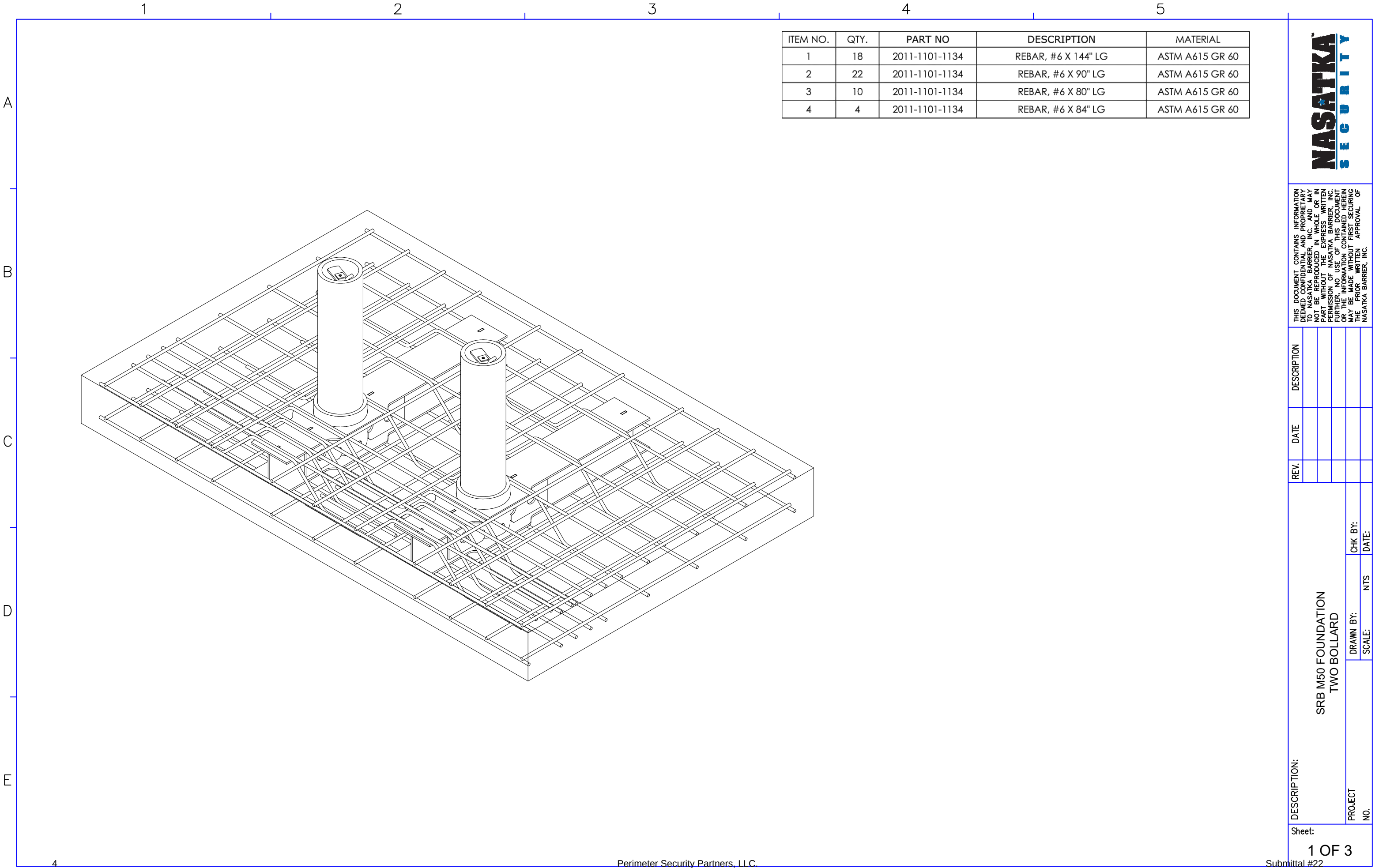
1. Nasatka M40/M50 Removable Bollard	Pg. 03
a. Shop Drawings	Pg. 04
2. Nasatka Bravado Bollard System	Pg. 08
a. Shop Drawings	Pg. 09
b. Certificates	Pg. 10
3. Barrier 1SPB-400	Pg. 11
a. Cut Sheet	Pg. 12
b. Shop Drawings	Pg. 13
c. Certificates	Pg. 14
4. Perimeter Security Partners Satyr Crash Beam	Pg. 15
a. Cut Sheet	Pg. 16
b. Shop Drawings	Pg. 19
c. Certificate	Pg. 20

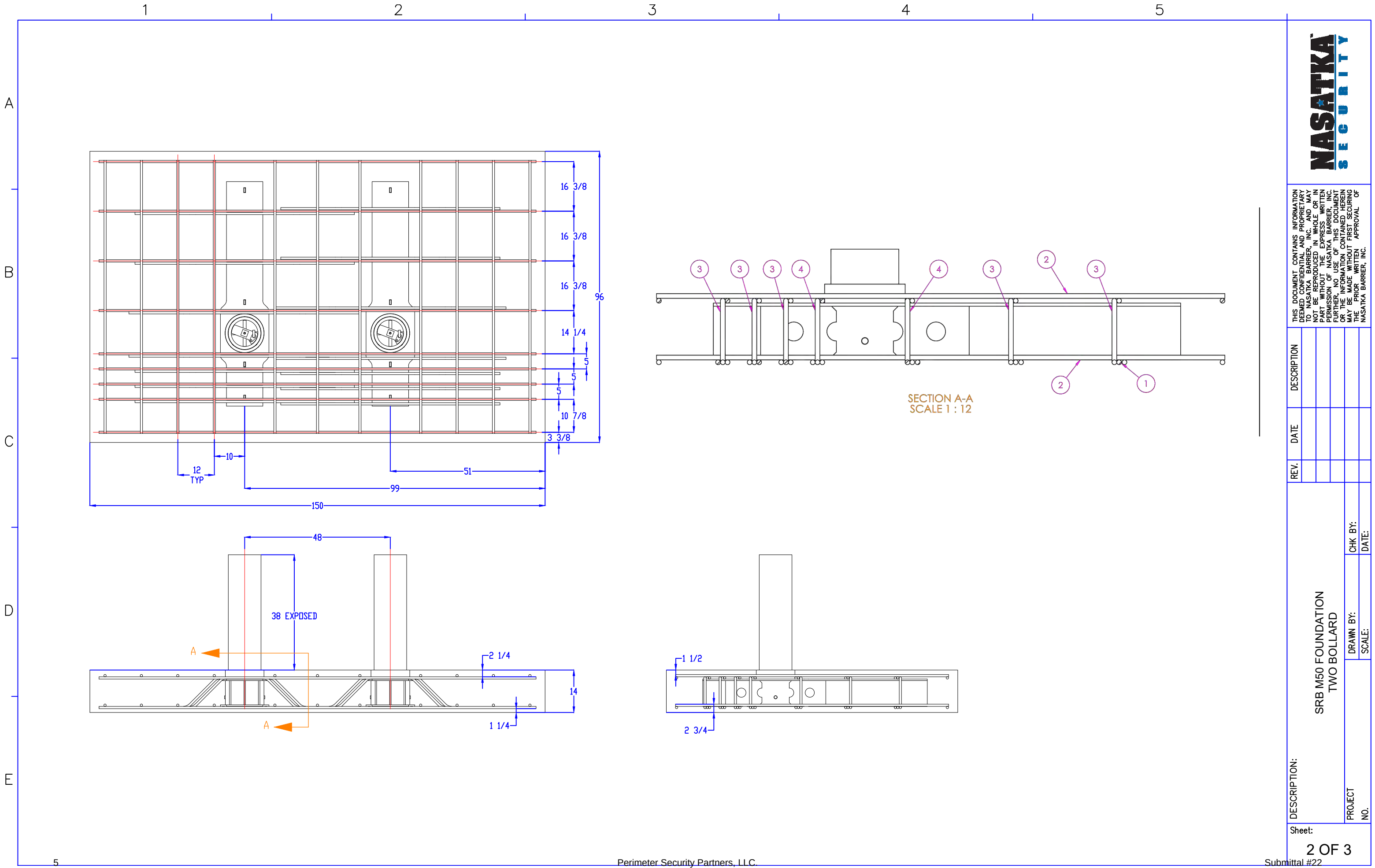
Nasatka M40M50 Removable Bollards

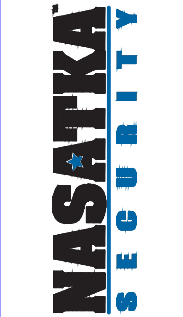
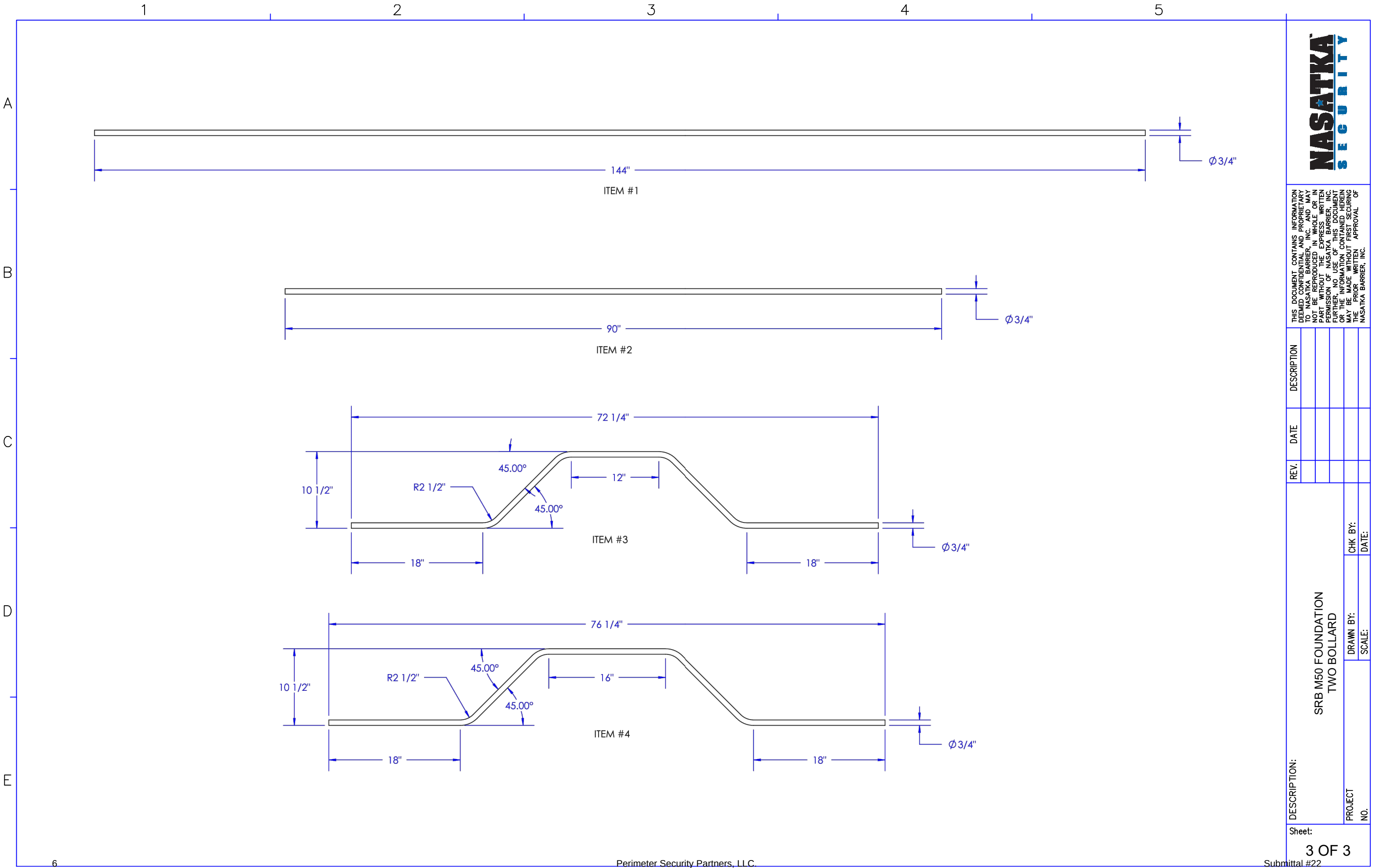
Location: Area B

Area D

Area I





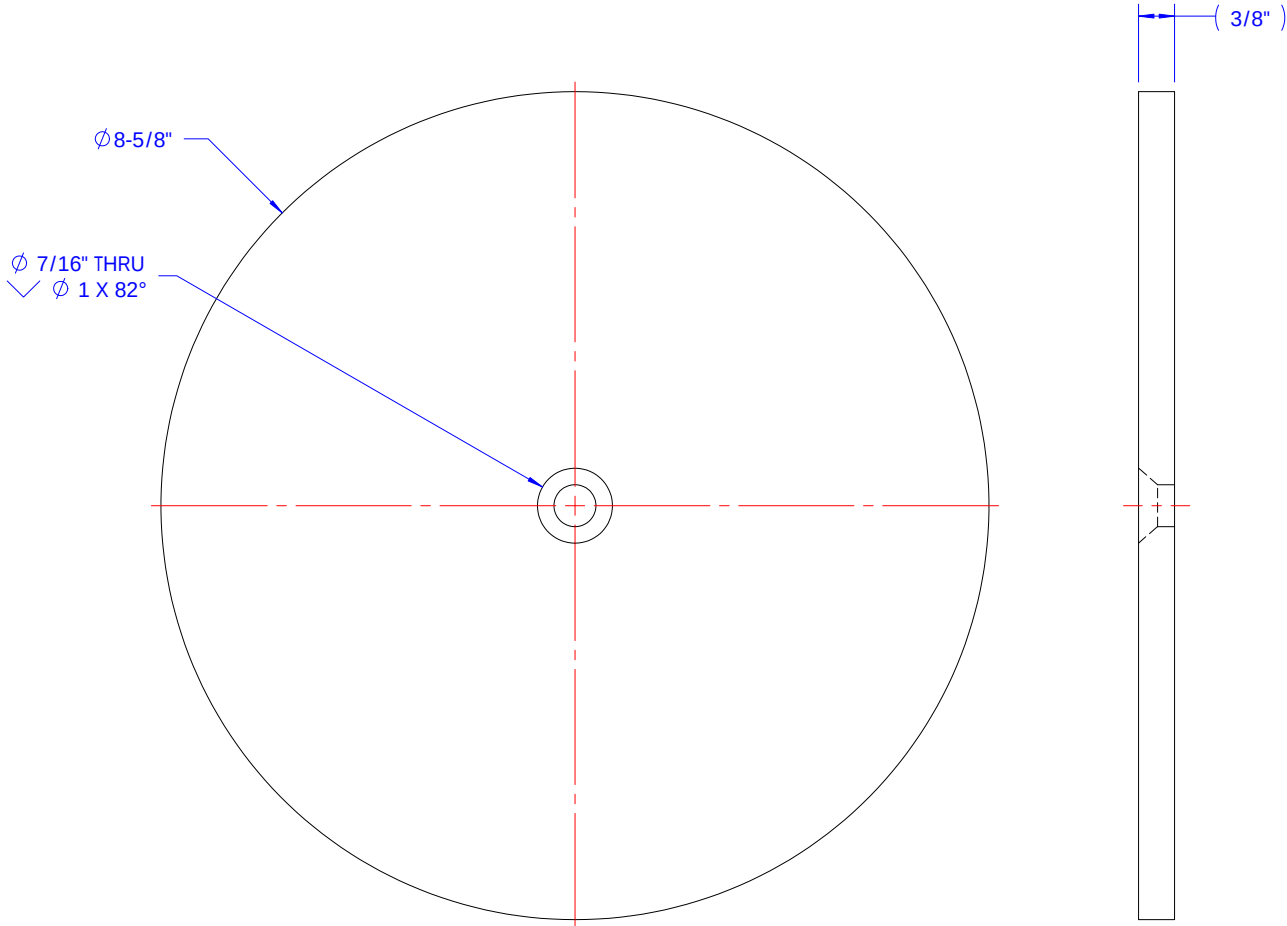


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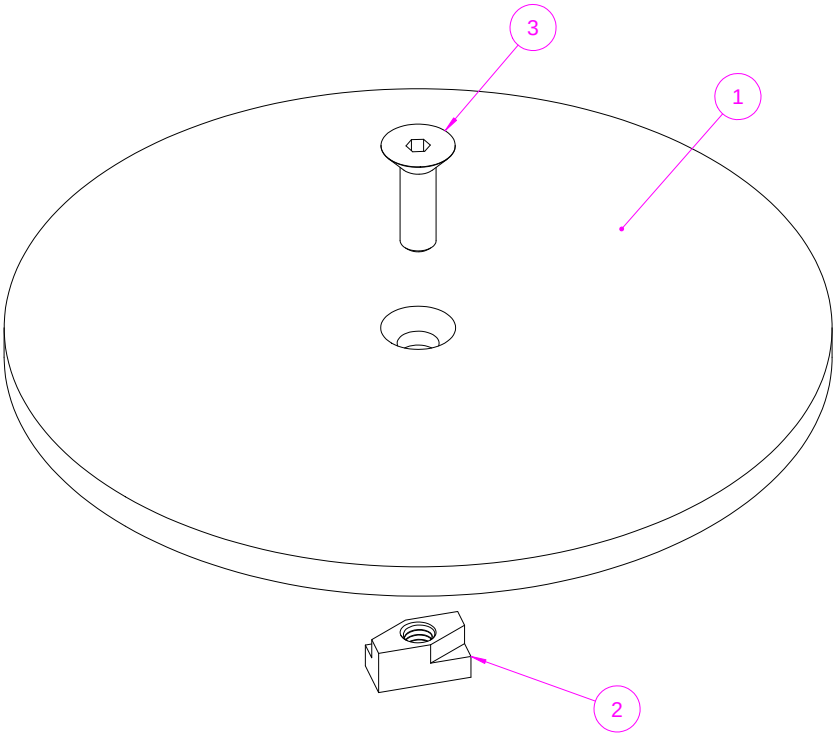
REV.	DATE	DESCRIPTION

DESCRIPTION: SRB M50 FOUNDATION TWO BOLLARD		CHK BY:	DATE:
		DRAWN BY:	SCALE:
PROJECT NO.			

ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL
1	1	2010-4100-3100	PLATE, 3/8" X 8 5/8" X 8 5/8"	ASTM A36
2	1	1016-7114-0018	DROP-IN T-SLOT NUT, 3/8"-16, 1/2" SLOT WIDTH, FULLY THREADED	BLACK-OXIDE STEEL
3	1	1010-2114-2811	FHSHCS, 3/8-16 X 1 1/4" LG	316 SS



ITEM #1



NOTES:

1. ALL UNITS ARE INCHES.
2. GRIND AND BREAK ALL SHARP EDGES.
3. ALL DIMENSIONS IN OVAL SHAPE ARE CRITICAL DIMENSIONS AND SHOULD BE MAINTAINED.

THIS DOCUMENT CONTAINS INFORMATION DEEMED CONFIDENTIAL AND PROPRIETARY TO APEX FABRICATION & DESIGN, INC., AND MAY NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF APEX FABRICATION & DESIGN, INC. FURTHER, NO USE OF THIS DOCUMENT OR THE INFORMATION CONTAINED HEREIN MAY BE MADE WITHOUT FIRST SECURING THE PRIOR WRITTEN APPROVAL OF APEX FABRICATION & DESIGN, INC.

Perimeter Security Partners, LLC

00	INITIAL RELEASE	05/01/2017	WAS	
REV.	DESCRIPTION	DATE	BY	ECR#

MACHINE TOLERANCES UNLESS OTHERWISE SPECIFIED	
X.	±1/32
X.X	±.020
X.XX	±.010
X.XXX	±.005

FABRICATION TOLERANCES UNLESS OTHERWISE SPECIFIED	
0" TO 36"	±1/16"
36" TO 120"	±1/8"
> 120"	±3/16"
ANGLES	±30 MIN

BREAK ALL SHARP EDGES	
✓ = 125/	Rough Weight: lbs
⊕	Finish Weight: .

DESCRIPTION: 8 5/8" REMOVABLE CAP W/ TEE NUT	
M30 BOLLARD	
CUSTOMER:	
CUST. ORD. NO. -	ITEM NO. -
CUST. REF. DWG. -	
APEX FABRICATION & DESIGN, INC.	
7938 BOYERTOWN PIKE	
BOYERTOWN, PA 19512	
P: (610) 689-5880 WWW.APEXFAB.COM F: (610) 689-8066	
DRAWN BY: CAG	
CHK BY: ...	DWG NO.
SCALE: 1:2	DATE: 7/28/2017
Submittal #22	
9090-6035-0302	

REV.	00
Sheet	1/1

Nasatka Bravado Bollards

Location: Area C
Area F
Area G
Area H



TEST No.: CAL3872
Test Standard: ASTM F2656-07
Manufacturer: Nasatka Barrier Incorporated
Model: Bravado M50
Product Rating: M50 – P1

December 5, 2019

To whom it may concern:

This letter is to certify that the subject barrier, the model Bravado M50 provided by Nasatka Barrier Incorporated, was tested to the requirements of the ASTM standard F-2656-07. This is a standardized Test Method for Vehicle Crash Testing of Perimeter Barriers, at the time the barrier test was performed.

The test was performed at Calspan Corporation, on December 5, 2019. The model Bravado M50 was impacted by a truck weighing 6795 kg [14,980 lbs] travelling at 81.1 kph [50.4 mph]. Post-test measurements of the dynamic movement of the test vehicle's payload (cargo bed) show that the left and right, leading edge of the cargo bed, were stopped at 0.193 meters and 0.372 meters respectively, before the trailing edge (reference line) of the impacted barrier. As such, based on the truck mass, impact velocity and penetration into the protected zone, the barrier rating per the ASTM standard F2656-07, is M50 – P1.

Calspan is accredited to ISO 17025 to perform ASTM F2656-07 testing by Perry Johnson Laboratories Accreditation, Inc. (PJLA) under Certificate Number L13-137 and Accreditation Number 76654.

Respectfully,

A handwritten signature in blue ink that reads "Zachary Reisdorf".

Zachary Reisdorf
Test Director
Calspan Barrier Test
716.631.6819
zachary.reisdorf@calspan.com

Safer Highways...Safer Skies



Perimeter Security Partners
5038 Thoroughbred Lane Brentwood, TN 37027
www.PerimeterSecurityPartners.com

Barrier 1 SPB-400

Location: Area E

SET & POUR BOLLARD

MODEL SPB-400

ASTM M30 (K4) CERTIFIED
PREFABRICATED FIXED BOLLARD
NO REBAR IN FOUNDATION



- ◆ Crash tested and certified with ASTM F2656-07 M30 P1 rating (K4).
- ◆ Department of Defense (DoD) approved and listed on Anti-Ram Vehicle Barrier List.
- ◆ One single standalone bollard stops 15,000 lb. vehicle at 30 mph within 1 meter penetration.
- ◆ Unrestricted bollard spacing (any distance), while maintaining ASTM M30 P1 certification. (fewer bollards results in less costs)
- ◆ Simply set single prefabricated bollard in excavation and pour concrete (no rebar in foundation).
- ◆ No tying, bolting, welding, assembly, or specialty subgrade required.
- ◆ Excavation 30" wide by 36" deep with 3000 psi concrete.
- ◆ Easy to install with turns and across grade elevation changes using standard bollard.
- ◆ Allows for field adjustment.
- ◆ Reduce installation time and cost by about 50%.
- ◆ Bi-directional stopping capability.
- ◆ Removeable bollard configuration is available.
- ◆ Variety of bollard covers are available including stainless steel, plastic, decorative shapes, concrete, lighted covers, and others
- ◆ Drawings, submittals, engineering support, and installation instructions with photos are included.

BARRIER 1
SYSTEMS, INC.

www.barrier1.us
(336) 617-8478 phone (336) 617-8471 fax

Barrier1 Systems, Inc.
Greensboro, NC USA

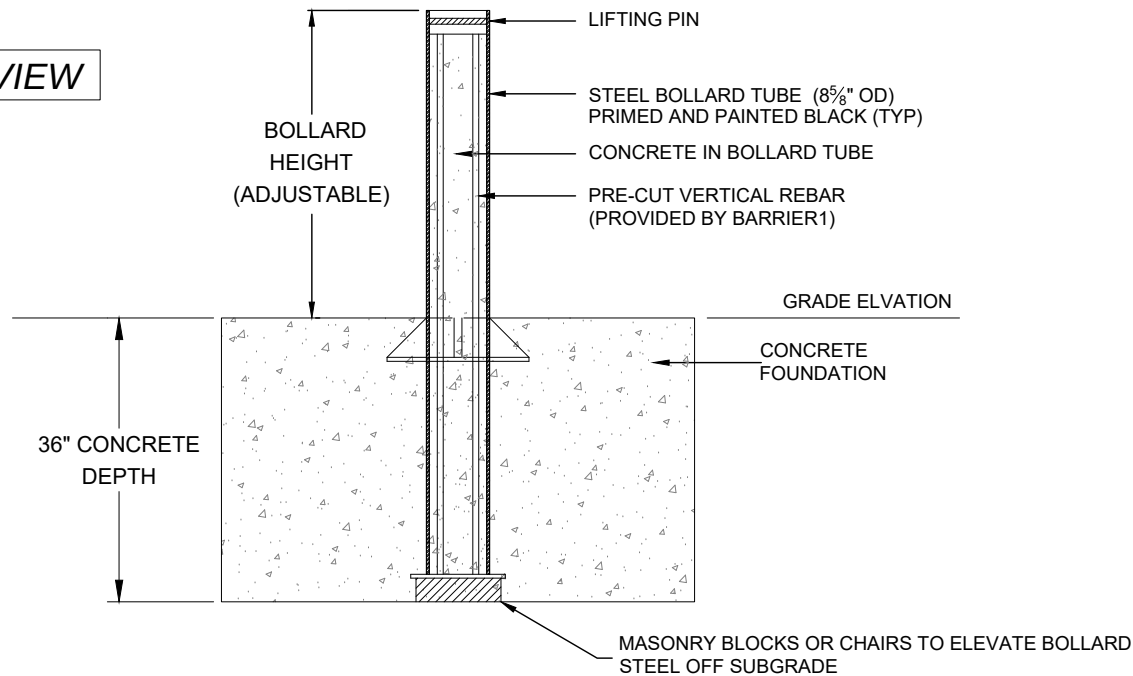
09132017

SET & POUR BOLLARD - MODEL SPB-400 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

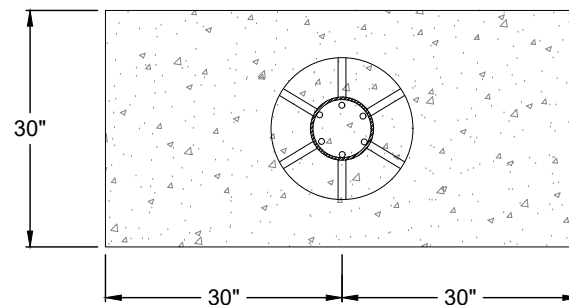
STOPS 15,000 LB. VEHICLE AT 30 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)

ASTM F2656-07 M30(K4) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

FRONT VIEW



TOP VIEW



KEY CAPABILITIES

1. NO PLACING & TYING REBAR IN CONCRETE FOUNDATION. NO FIELD WELDING.
2. ONE (1) SINGLE PREFABRICATED BOLLARD UNIT, TO SET
3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
4. AVOIDS EXCAVATIONS BEING OPEN OVERNIGHT (SET & POUR BOLLARD ARRAY IN 1 DAY).
5. UNRESTRICTED BOLLARD SPACING (ONE BOLLARD STOPS VEHICLE IMPACT).



BARRIER1 SYSTEMS, INC.

8015 THORNDIKE ROAD
GREENSBORO, NC 27409
(336) 617-8478 (336) 617-8471 FAX
mlamore@barrier1.us www.barrier1.us

THE DRAWINGS AND INFORMATION CONTAINED HEREIN ARE
PROPRIETARY AND CONFIDENTIAL AND FOR USE BY ONLY
PERSONS WORKING ON PROJECT WITH BARRIER1 SYSTEMS,
INC. DO NOT COPY OR REPRODUCE. ALL RIGHTS RESERVED.

Perimeter Security Partners, LLC.

DETAILS
ASTM M30 (K4)
SET & POUR BOLLARD

SAMPLE DRAWINGS

SHEET: 1 OF 9

20180302-01-PD

Submit #22 N.T.S.



4455 Genesee Street
Buffalo, New York 14225
February 25, 2013

To whom it may concern:

This letter is to certify that the subject barrier, the Barrier1 Set And Pour Bollard system, was tested to the requirements of the ASTM standard F-2656-07, Standard Test Method for Vehicle Crash Testing of Perimeter Barriers, in place at the date of the test.

The test was performed at Calspan Corporation on February 13, 2013. The barrier was impacted by a truck weighing 6760.9 kg (14905 lbs.) travelling at 51.3 kph (31.9 mph). Based on the truck mass, impact velocity and penetration into the protected zone, the barrier rating per the ASTM standard F-2656-07 is M30 – P1.

Calspan is accredited to ISO 17025 to perform ASTM F2656-07 testing by the Laboratory Accreditation Bureau under Certificate Number L-2332.

Respectfully,

A handwritten signature in blue ink that reads "Edward Dutton". The signature is fluid and cursive, with the first name "Edward" and last name "Dutton" clearly legible.

Edward Dutton
Senior Test Engineer



Perimeter Security Partners
5038 Thoroughbred Lane Brentwood, TN 37027
www.PerimeterSecurityPartners.com

Satyr-12 Crash Beam

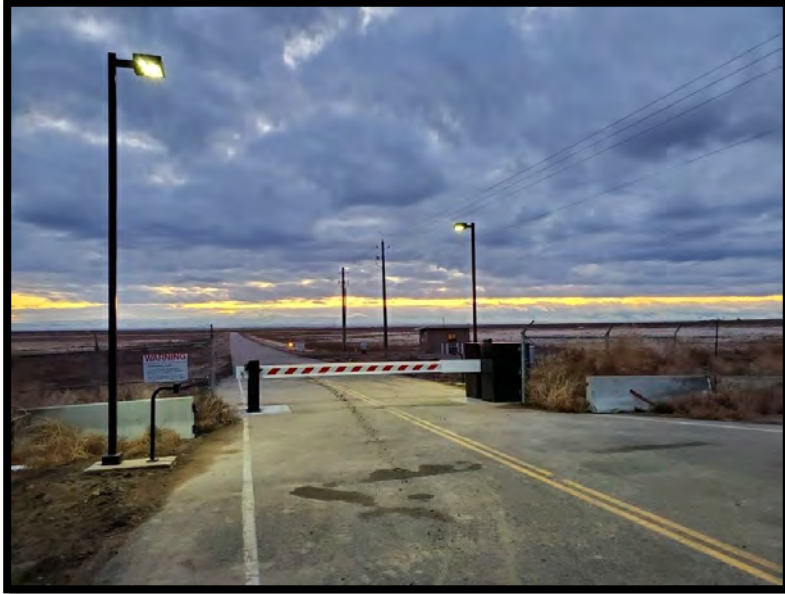
Location: Area F



Model SATYR-12
MANUAL (CW)
HYDRAULIC (H)
ELECTRIC (E)

SATYR-12 Crash Rated Beam

The model SATYR-12 crash rated beam is ASTM F2656-07 **M50-P1** certified (equivalent to US Department of State K12; 15,000lbs, 50mph, less than 1m penetration). The SATYR-12 standard assembly consists of a receiver stanchion, hinge stanchion, aluminum arm, stanchion covers, and operator. The system is designed for smooth operation, low maintenance, and long life. The SATYR-12 is available with clear opening widths from **10 to 30 feet** and can be operated **manually** with a counter-weight mechanism (SATYR-12CW) or powered using a hydraulic pumping unit (SATYR-12H), or via electrical motor (SATYR-12E).



Description

Control of the SATYR-12CW pivot arm/beam is accomplished through **manual operation with the assistance of a counter-weight (CW)** mechanism. Designed for easy set-up and operation, the CW system is provided to the customer pre-balanced from the factory with easily adjustable on-site calibration options to ensure the system works smoothly and is easily operable at any site.

~~Automated operation for the SATYR-12H is driven from a Hydraulic Pumping Unit (HPU). Designed for ease of access and maintenance, the HPU contains a 2.5-gallon tank for heat dispersion, internal electrical box, and a PLC for long life and reliability. The standard dimensions are 42" H X 12" W X 30" L with a weight of 200 lbs.~~

~~Controlling the SATYR-12E is a robust and reliable electrical power unit designed to operate crash beams and other single point operations.~~

**For more
information:**

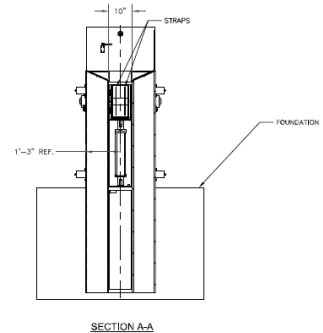
Perimeter Security Partners, LLC.

Main: (615) 953-8872
Submittal #22
Fax: (615) 468-6311

sales@perimetersecuritypartners.com
<http://www.perimetersecuritypartners.com>

Product Information

- ASTM F2656-07 M50-P1 Certified (equivalent to US Department of State K12)
15,000lbs; 50mph; less than 1m penetration; tested at 12.9' opening;
- ASTM F2656-07 **M50-P2** Certified (equivalent to US Department of State K12)
15,000lbs; 50mph; less than 2m penetration; tested at **28' opening**;
- Operation: **Manual (SATYR-12CW)**, Hydraulic (SATYR-12H), or Electric (SATYR-12E)
- UL Compliant (SATYR-12E)
- ~~PLC Controlled (SATYR-12H/E)~~
- ~~208VAC/240VAC/480VAC, single or three phase power~~
- Standard industrial grade protective coatings
- Optional zinc-arc galvanization
- Customer specific painting and markings optional
- Hydraulic/Electric drawing shown



Features & Options

Below list is for electronic and hydraulic units only



NEMA 4 All-Weather Enclosure

Manual Hand Pump

Prewired for Loop Detectors

Traffic Lights

Main Operator Panel

Remote Operator Panel

Hydraulic Oil Heater

PLC Logic Controller

Barrier Lights

Warning Beacons, Alarms

Power 208-240V, 3PH, 60Hz

Other Power Available

Custom Paint

Safety Detectors

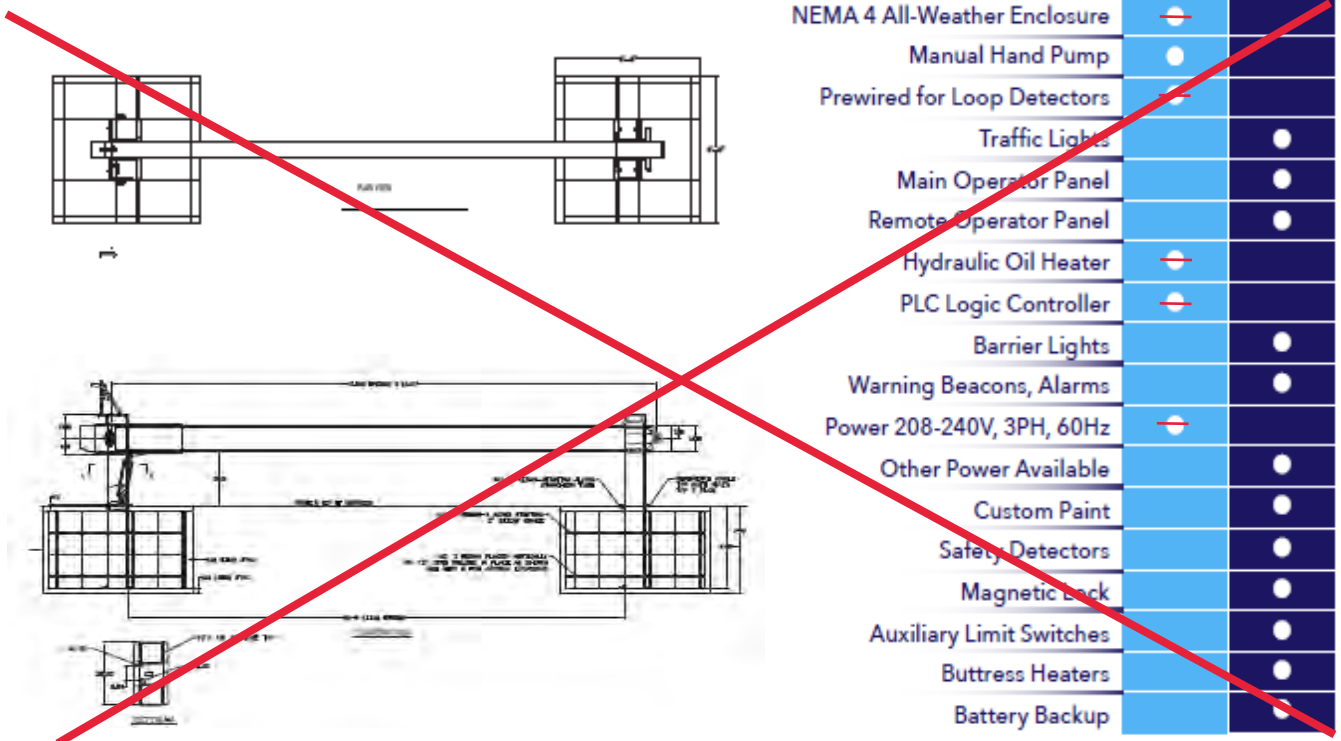
Magnetic Lock

Auxiliary Limit Switches

Buttress Heaters

Battery Backup

STANDARD OPTIONAL

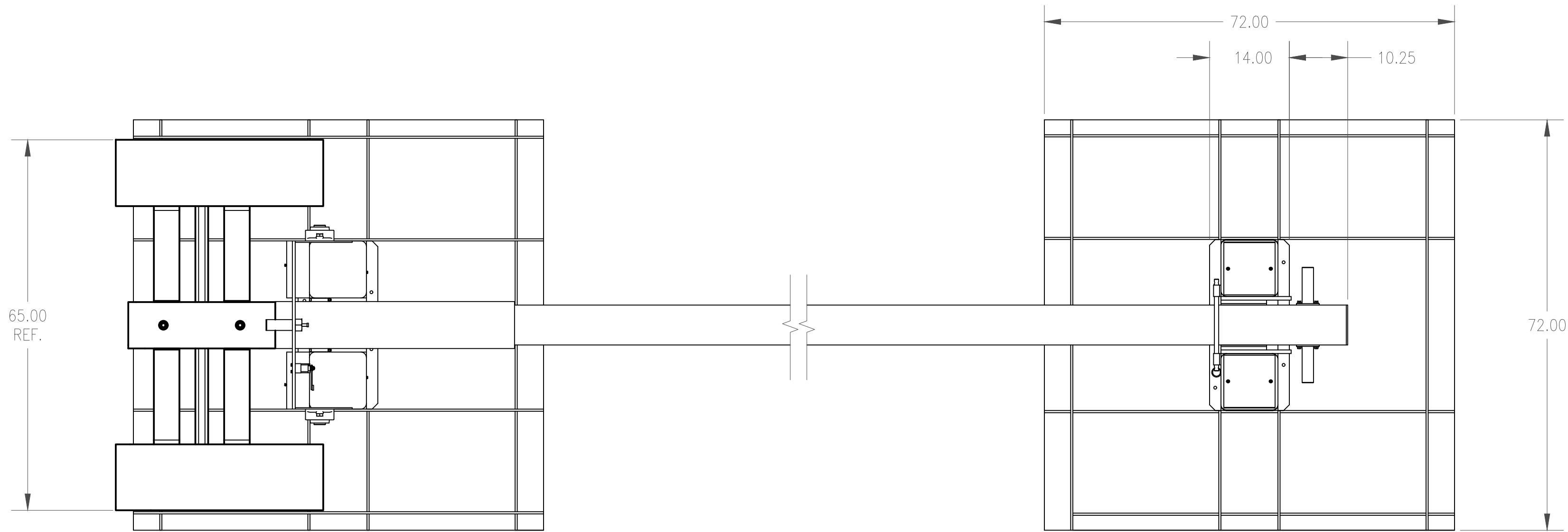


**For more
information:**

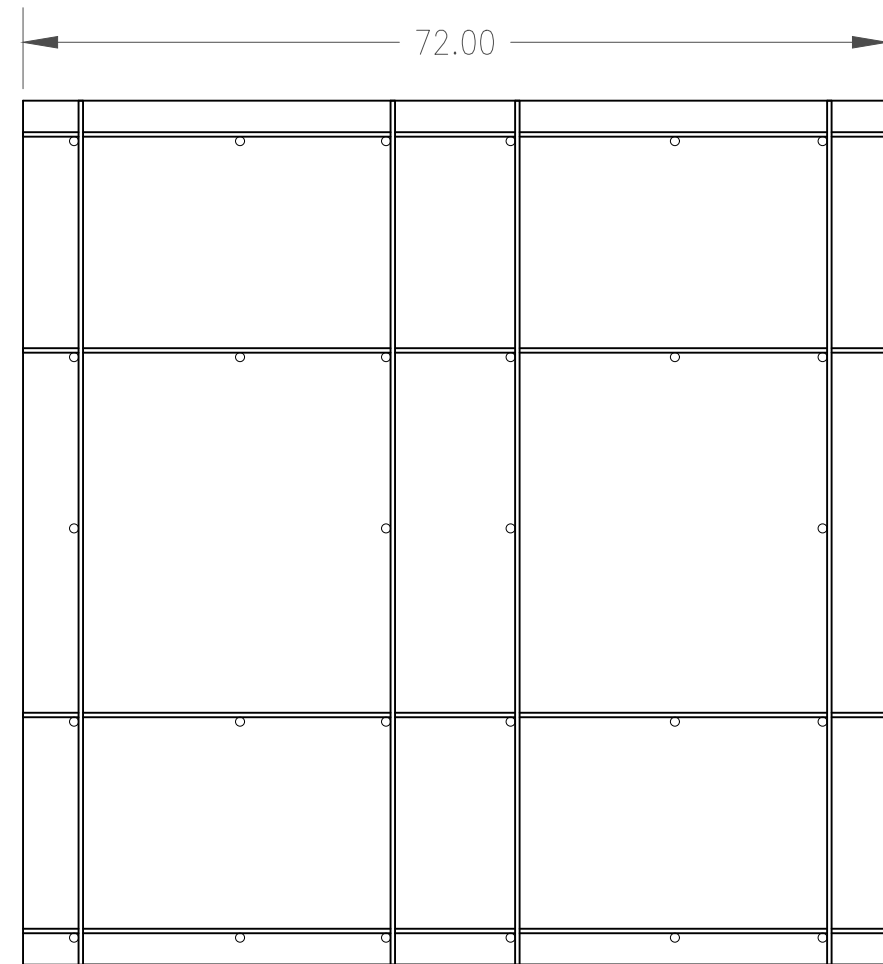
Perimeter Security Partners, LLC.

Main: (615) 953-8872
Fax: (615) 468-6311

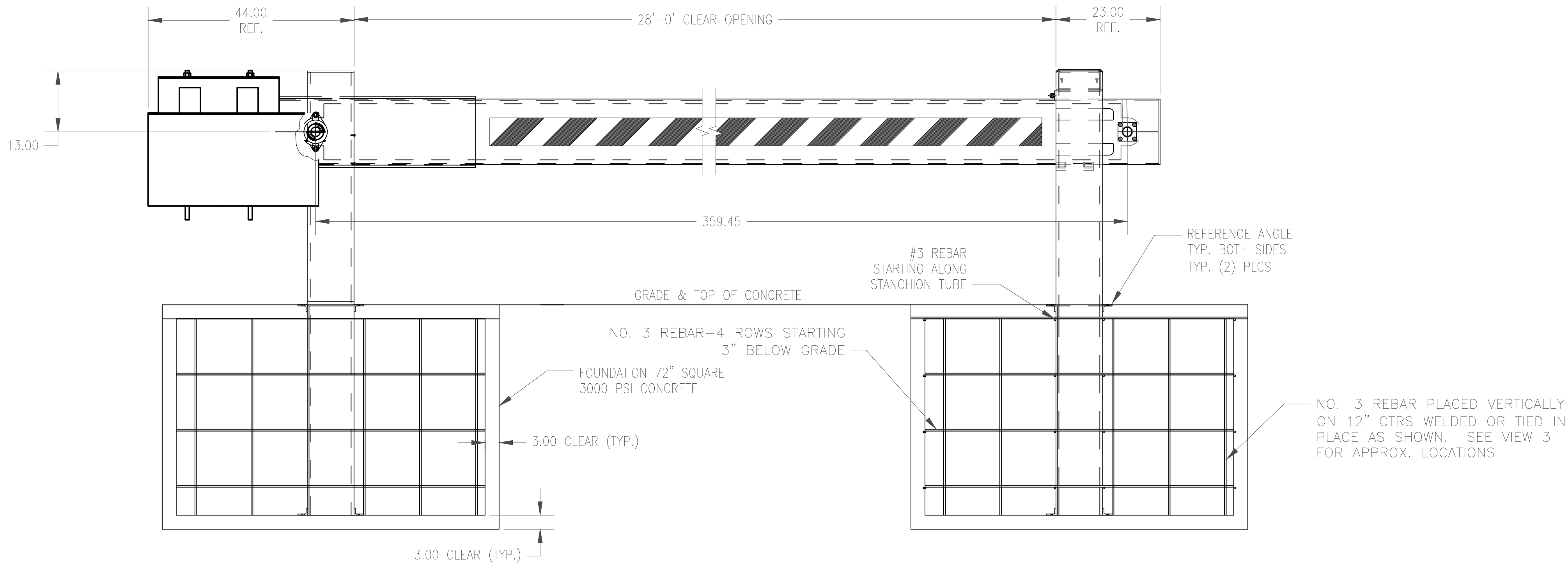
sales@perimetersecuritypartners.com
<http://www.perimetersecuritypartners.com>



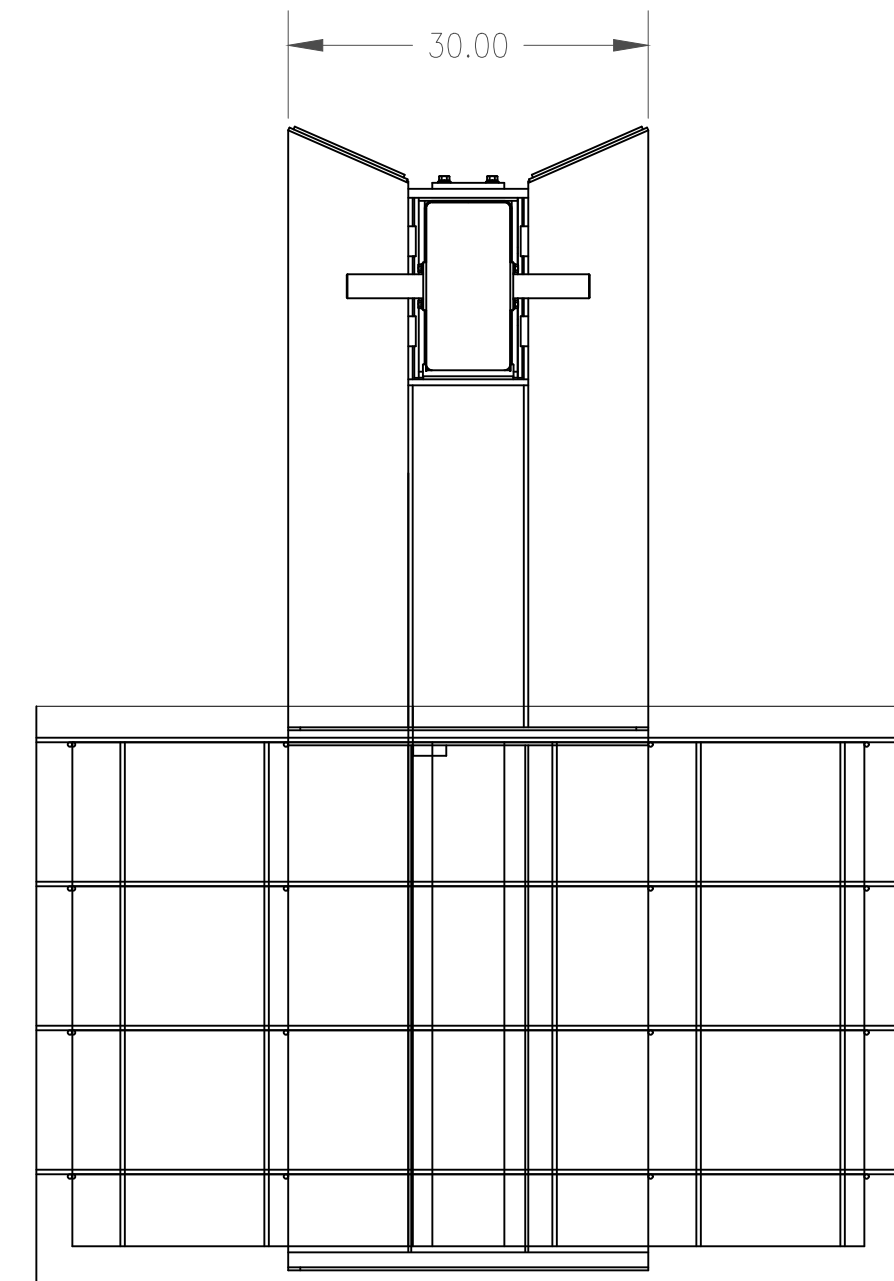
2 PLAN VIEW
1:16



3 VERTICAL REBAR LOCATION
NTS



1 ELEVATION VIEW
1:16



4 ELEVATION VIEW - RECEIVER SDIE
1:16

--

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY:	KBC	DATE:	10/7/20
DWN BY:	ENG BY:	SOLICITATION NO.:	—
SUBMITTED BY:	—	CONTRACT NO.:	—
PLOT SCALE:	NOTE	FILE NUMBER:	—
SIZE:	FILE NAME:	—	—
ANSI.D	—	—	—

PERIMETER
SECURITY
PARTNERS



(615) 953-8872
5096 Highway 100
Brentwood, TN 37027

SATYR-12
MANUALLY OPERATED

28' CLEAR OPENING
GENERAL ARRANGEMENT

SHEET
IDENTIFICATION

9000-28CW

SHEET OF 1



TEST No.: TR4020
Test Standard: ASTM F2656-15
Client: Perimeter Security Partners LLC
Model: Satyr-12 Crash Beam, 28ft clear opening,
Product Rating: M50 – P2

March 20, 2020

To whom it may concern:

This letter is to certify that the subject barrier, the model Satyr-12 Crash Beam, 28ft clear opening, provided by Perimeter Security Partners LLC, was tested to the requirements of the ASTM standard, F2656-15. This was the standardized Test Method for Vehicle Crash Testing of Perimeter Barriers, at the time the barrier test was performed.

The test was performed at Calspan Corporation, on March 2, 2020, for Perimeter Security Partners LLC. The Perimeter Security Partners LLC, model Satyr-12 Crash Beam, 28ft clear opening, was impacted by a truck weighing 6,768 kg (14,920 lbs.) travelling at 80.8 kph (50.2 mph). Post-test measurements of the dynamic movement of the test vehicle's payload (truck bed) show that the left and right, leading edge of the truck bed, were stopped at 2.037 meters and 2.120 meters respectively, after the trailing edge (reference line) of the impacted bollard. As such, based on the truck mass, impact velocity and penetration into the protected zone, the barrier rating per the ASTM standard F2656-15, is M50 – P2.

Calspan is accredited to ISO 17025 to perform ASTM F2656-15 testing by Perry Johnson Laboratories Accreditation, Inc. (PJLA) under Certificate Number L13-137 and Accreditation Number 76654.

Respectfully,

A handwritten signature in blue ink that reads "Zachary Reisdorf".

Zachary Reisdorf

Test Director

Safer Highways...Safer Skies