

Appendix D  
Striping Floor Plans

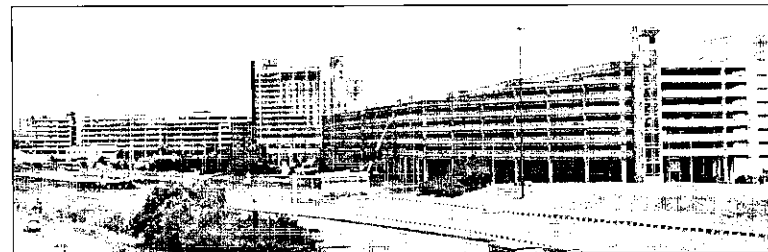
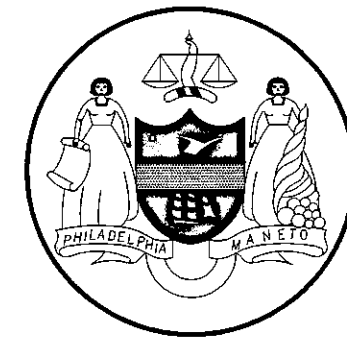
# PHILADELPHIA PARKING AUTHORITY



Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR



## PHILADELPHIA INTERNATIONAL AIRPORT



ODONNELL & NACCARATO, INC.  
CONSULTING ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE (215) 925-3788  
FAX (215) 627-1051  
Project No. 0901.0098.00

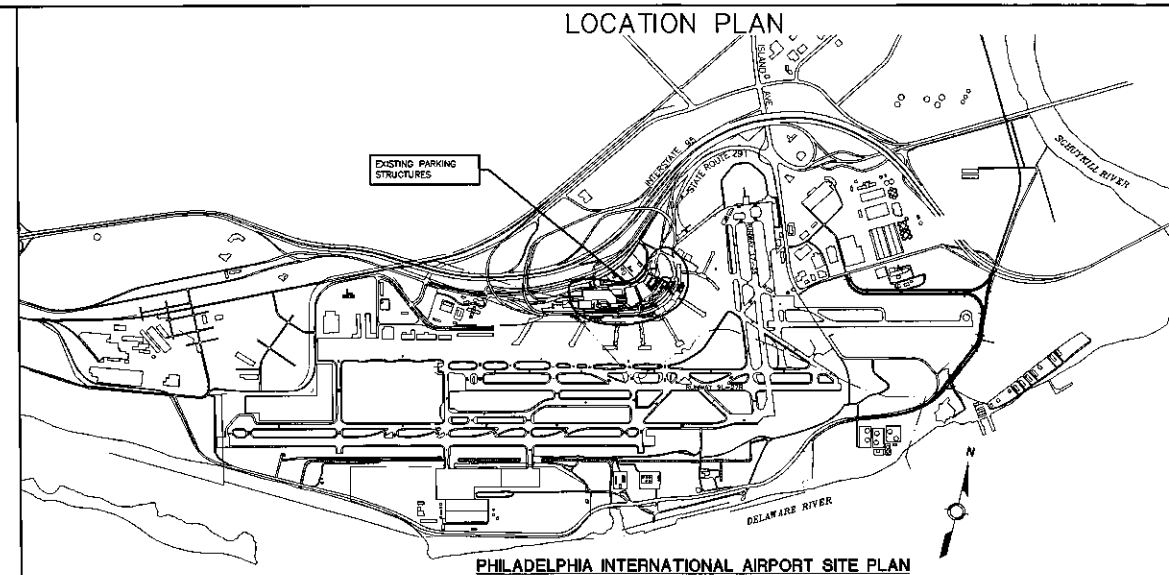
# CONCRETE RESTORATION & REPAIR PROGRAM AT PHL GARAGES

BID NO. NPHL.CR.09.001

### INDEX OF DRAWINGS

File Name	Dwg #	Drawing Title	Scale
T-1	T-1	COVER SHEET	N/A
AS-1	AS-1	SITE/VICINITY PLAN	1/128"=1'-0"
SO.0	SO.0	GENERAL NOTES, ABBREVIATIONS & SYMBOLS	N/A
S1.0	S1.0	A WEST GROUND LEVEL PLAN	1/32"=1'-0"
S1.1	S1.1	A WEST TIER 1 PLAN	1/32"=1'-0"
S1.2	S1.2	A WEST TIER 2 PLAN	1/32"=1'-0"
S1.3	S1.3	A WEST TIER 3 PLAN	1/32"=1'-0"
S1.4	S1.4	A WEST TIER 4 PLAN	1/32"=1'-0"
S1.5	S1.5	A WEST TIER 5 PLAN	1/32"=1'-0"
S1.6	S1.6	A WEST TIER 6 PLAN	1/32"=1'-0"
S1.7	S1.7	A WEST TIER 7 PLAN	1/32"=1'-0"
S2.0	S2.0	A EAST # B GROUND LEVEL PLAN	1/32"=1'-0"
S2.1	S2.1	A EAST # B TIER 1 PLAN	1/32"=1'-0"
S2.2	S2.2	A EAST # B TIER 2 PLAN	1/32"=1'-0"
S2.3	S2.3	A EAST # B TIER 3 PLAN	1/32"=1'-0"
S2.4	S2.4	A EAST # B TIER 4 PLAN	1/32"=1'-0"
S2.5	S2.5	A EAST # B TIER 5 PLAN	1/32"=1'-0"

S3.0	S3.0	C GROUND LEVEL PLAN	1/32"=1'-0"
S3.1	S3.1	C TIER 1 PLAN	1/32"=1'-0"
S3.2	S3.2	C TIER 2 PLAN	1/32"=1'-0"
S3.3	S3.3	C TIER 3 PLAN	1/32"=1'-0"
S3.4	S3.4	C TIER 4 PLAN	1/32"=1'-0"
S3.5	S3.5	C TIER 5 PLAN	1/32"=1'-0"
S4.0	S4.0	D GROUND LEVEL PLAN	1/32"=1'-0"
S4.1	S4.1	D TIER 1 PLAN	1/32"=1'-0"
S4.2	S4.2	D TIER 2 PLAN	1/32"=1'-0"
S4.3	S4.3	D TIER 3 PLAN	1/32"=1'-0"
S4.4	S4.4	D TIER 4 PLAN	1/32"=1'-0"
S4.5	S4.5	D TIER 5 PLAN	1/32"=1'-0"
S5.0	S5.0	E # F GROUND LEVEL PLAN	1/32"=1'-0"
S5.1	S5.1	E # F TIER 1 PLAN	1/32"=1'-0"
S5.2	S5.2	E # F TIER 2 PLAN	1/32"=1'-0"
S5.3	S5.3	E # F TIER 3 PLAN	1/32"=1'-0"
S5.4	S5.4	E # F TIER 4 PLAN	1/32"=1'-0"
S5.5	S5.5	E # F TIER 5 PLAN	1/32"=1'-0"
S5.6	S5.6	E # F TIER 6 PLAN	1/32"=1'-0"
S5.7	S5.7	E # F TIER 7 PLAN	1/32"=1'-0"
S6.0	S6.0	REPAIR DETAILS	3/4"=1'-0"
S6.1	S6.1	REPAIR DETAILS	3/4"=1'-0"
S6.2	S6.2	REPAIR DETAILS	3/4"=1'-0"



REVISION	DESCRIPTION	DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

COVER SHEET

JOB. NO: 0901.0098.00 CHECKED: RW

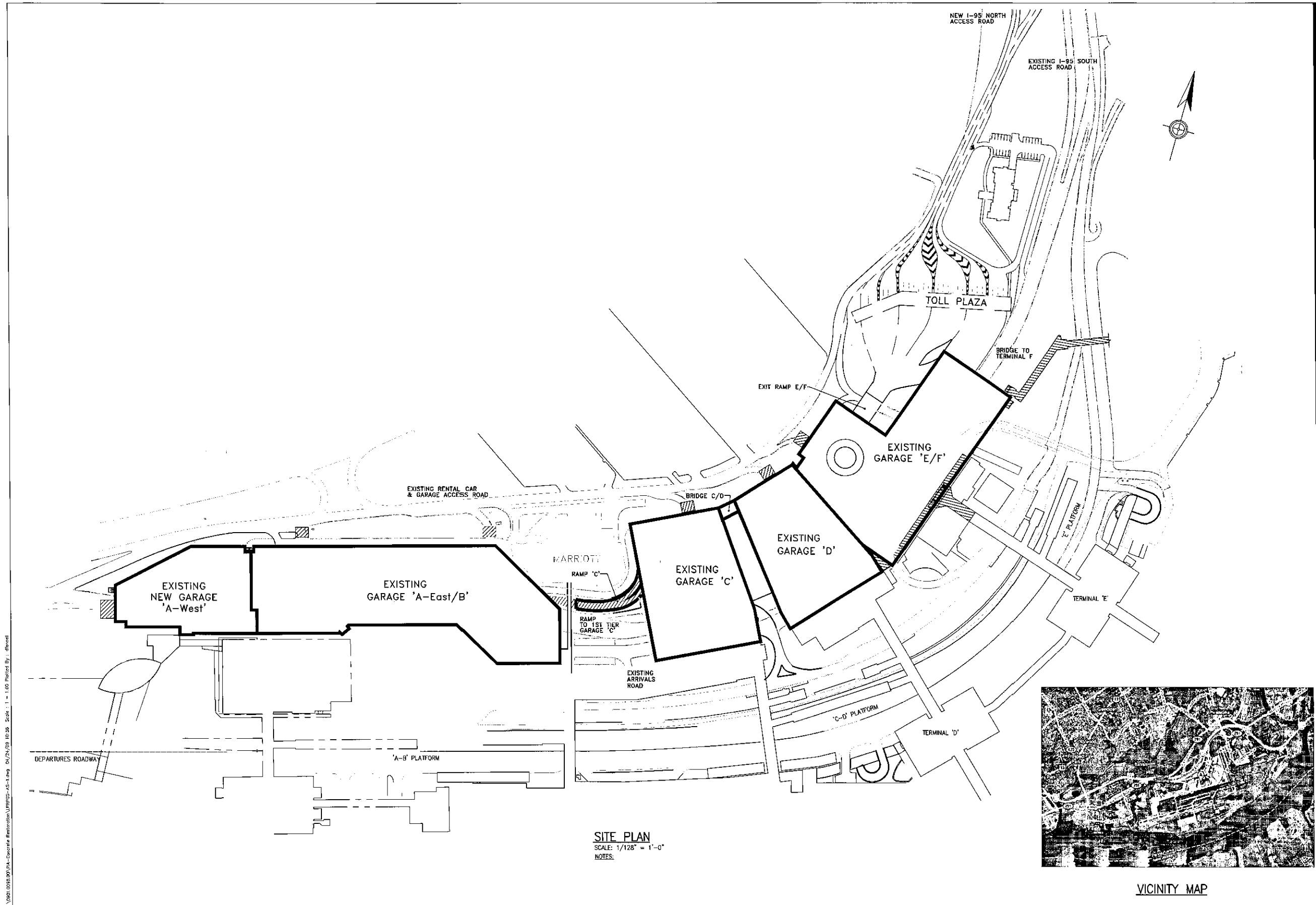
DRAWN: MAV DATE: 2009/05/19

BID NO. NPHL.CR.09.001

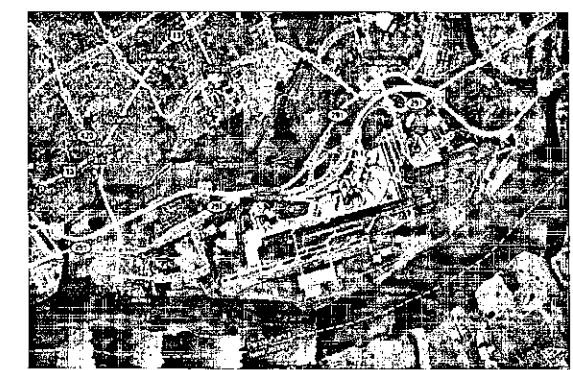
DRAWING NO.

T-1

SHEET NO. 1 of 40



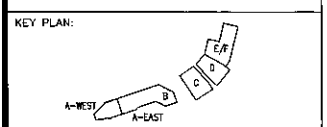
**SITE PLAN**  
SCALE: 1/128" = 1'-0"  
NOTES:



VICINITY MAP

**PPA**  
Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**ODONNELL & NACCARATO, INC.**  
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Project No. 09010098.00



REVISION	DESCRIPTION	DATE

ISSUED FOR BID 5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES  
LOCATION KEY  
PLAN**

JOB NO: 0901.0098.00 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/19

BID NO. N.PHL.CR.09.001  
DRAWING NO.  
**AS-1**

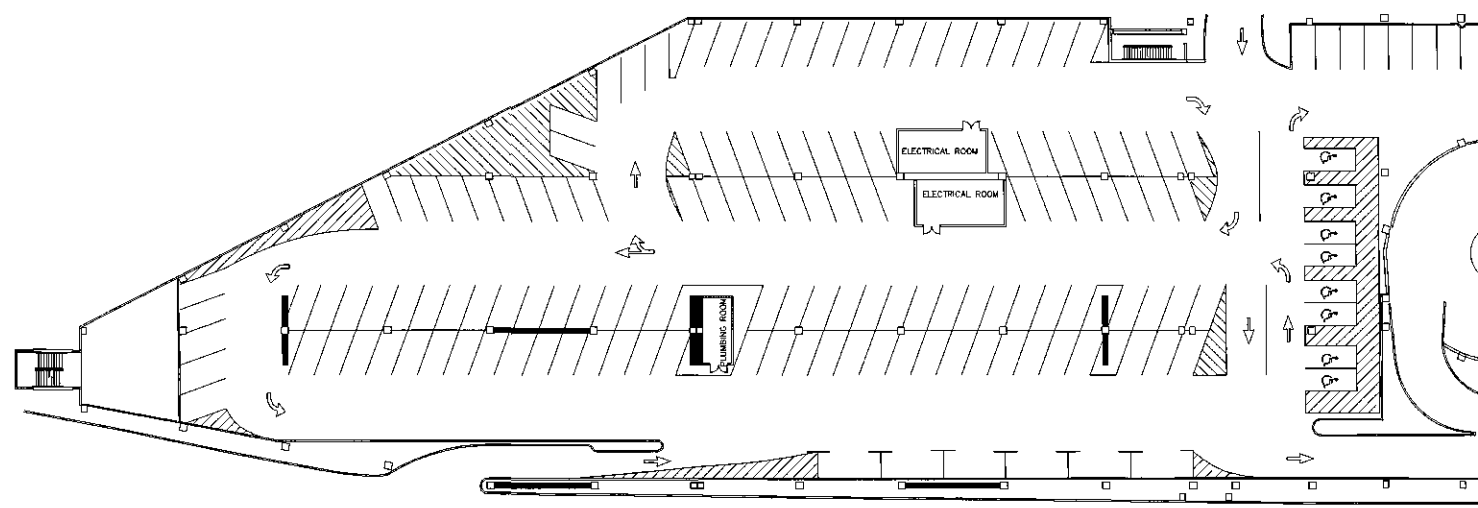
SHEET NO. 2 of 40

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 09010078.D0

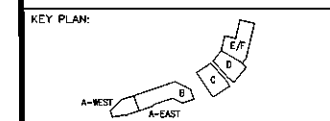
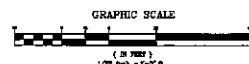


**1**  
**S1.0**  
**GARAGE A WEST**  
**GROUND LEVEL PLAN**

SCALE : 1/32"=1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.



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**CONCRETE RESTORATION  
 REPAIR PROGRAM  
 AT PHL GARAGES**

**GARAGE A WEST  
 GROUND LEVEL PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
 S1.0

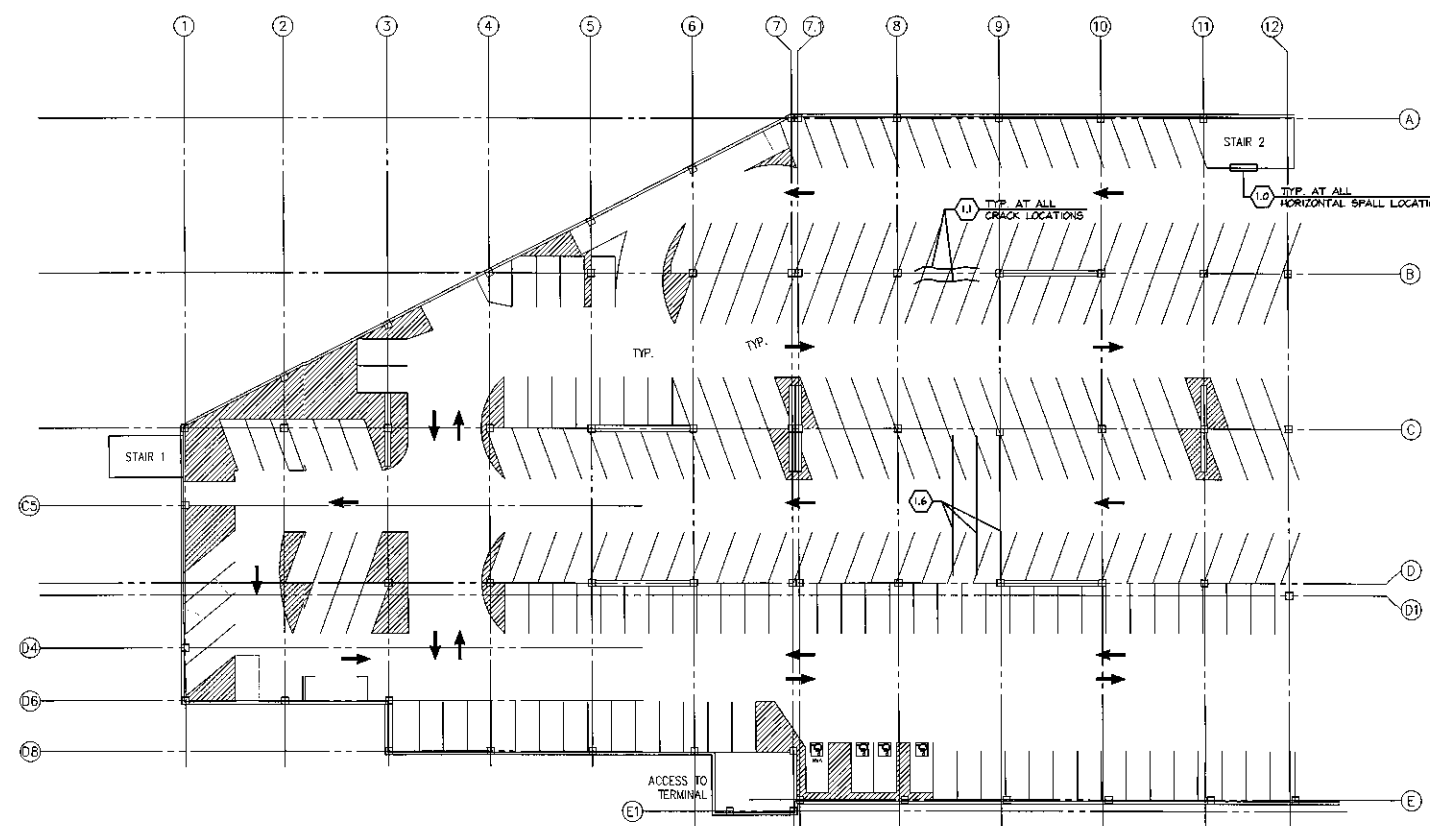
SHEET NO. 4 of 40





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09010098.00



**GARAGE A WEST  
TIER 1 PLAN**

SCALE : 1/32"=1'-0"

NOTES:  
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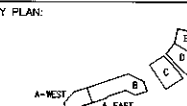
2) INDICATES REPAIR TYPE.

3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	30 SF
1.1	HORIZONTAL CRACK REPAIR	150 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTRD. JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



ISSUED FOR BD 5/19/09

REVISION DESCRIPTION DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE A WEST  
TIER 1 PLAN

JOB. NO: 0901.0098 CHECKED: RW

DRAWN: CAD DATE: 2009/05/09

BID No. H.PHL.CR.09.001

DRAWING NO.

S1.1

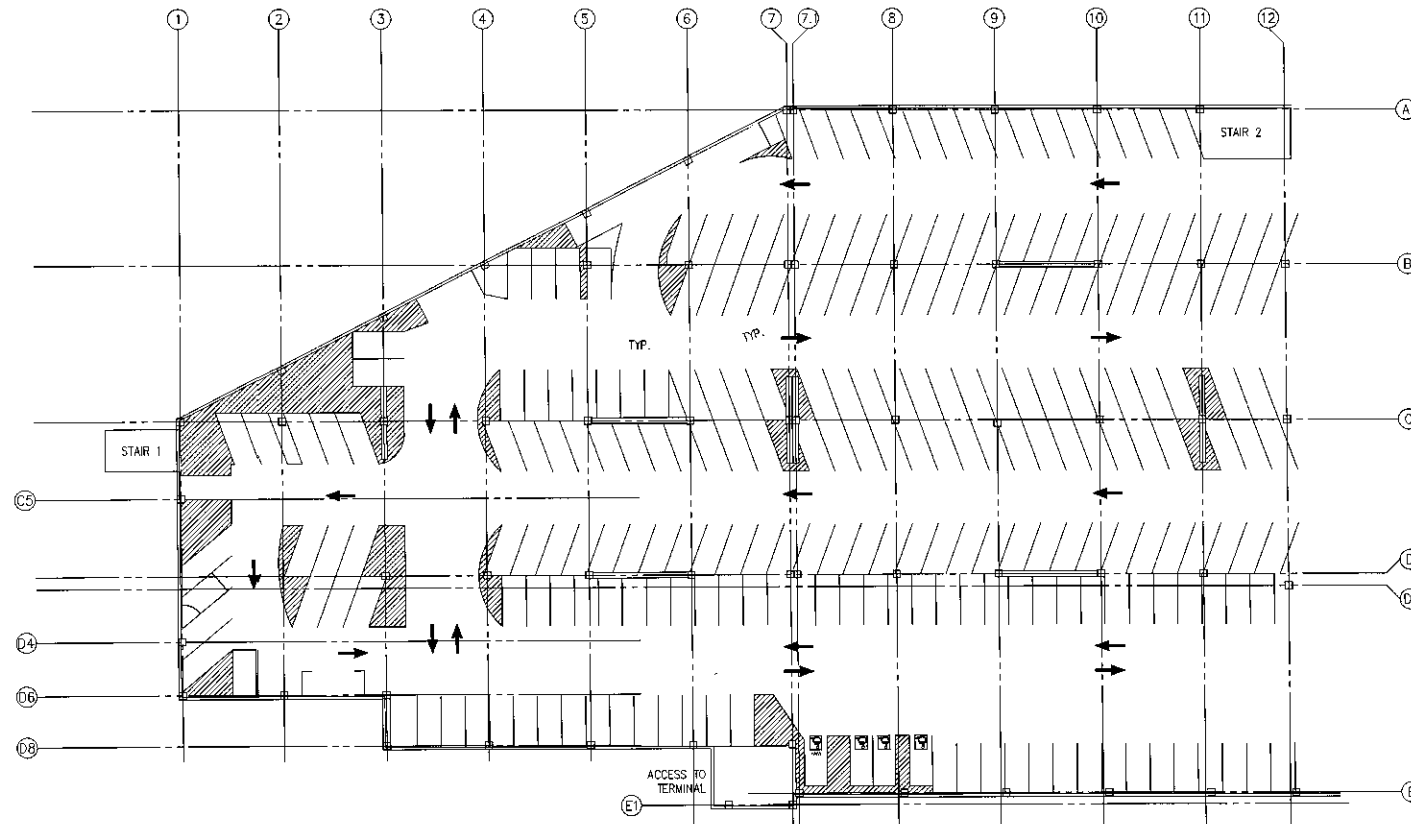
SHEET NO. 5 of 40





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2ND FLOOR

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09010098.00



**GARAGE A WEST  
TIER 2 PLAN**

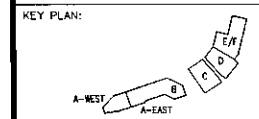
SCALE : 1/32" = 1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	90 SF
1.1	HORIZONTAL CRACK REPAIR	120 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTRL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE A WEST  
TIER 2 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S1.2

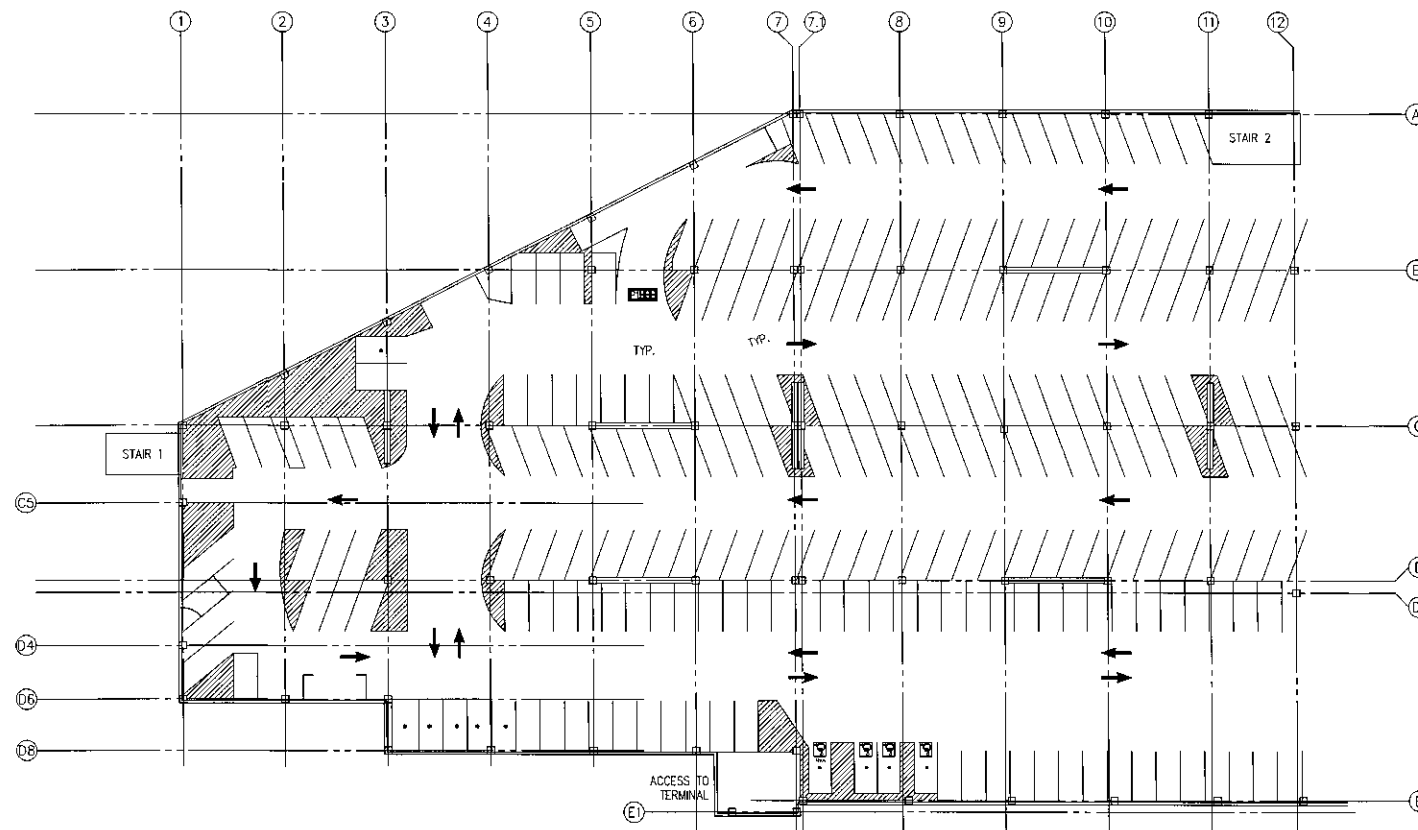
SHEET NO. 6 of 40





Philadelphia Parking Authority  
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PHILADELPHIA, PA 19104  
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ODONNELL & NACCARATO, INC.  
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FAX (215) 627-1951  
09010098.00



**1** GARAGE A WEST  
**S1.3** TIER 3 PLAN

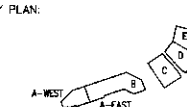
SCALE : 1/32" = 1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
2) (Hatched symbol) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	80 SF
1.1	HORIZONTAL CRACK REPAIR	200 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.8	CONNECTOR CLIP REPAIR	1 EA

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



-	ISSUED FOR BD	5/19/09
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REVISION	DESCRIPTION	DATE
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CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE A WEST  
TIER 3 PLAN

JOB NO: 0901.0098 CHECKED: RW

DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S1.3

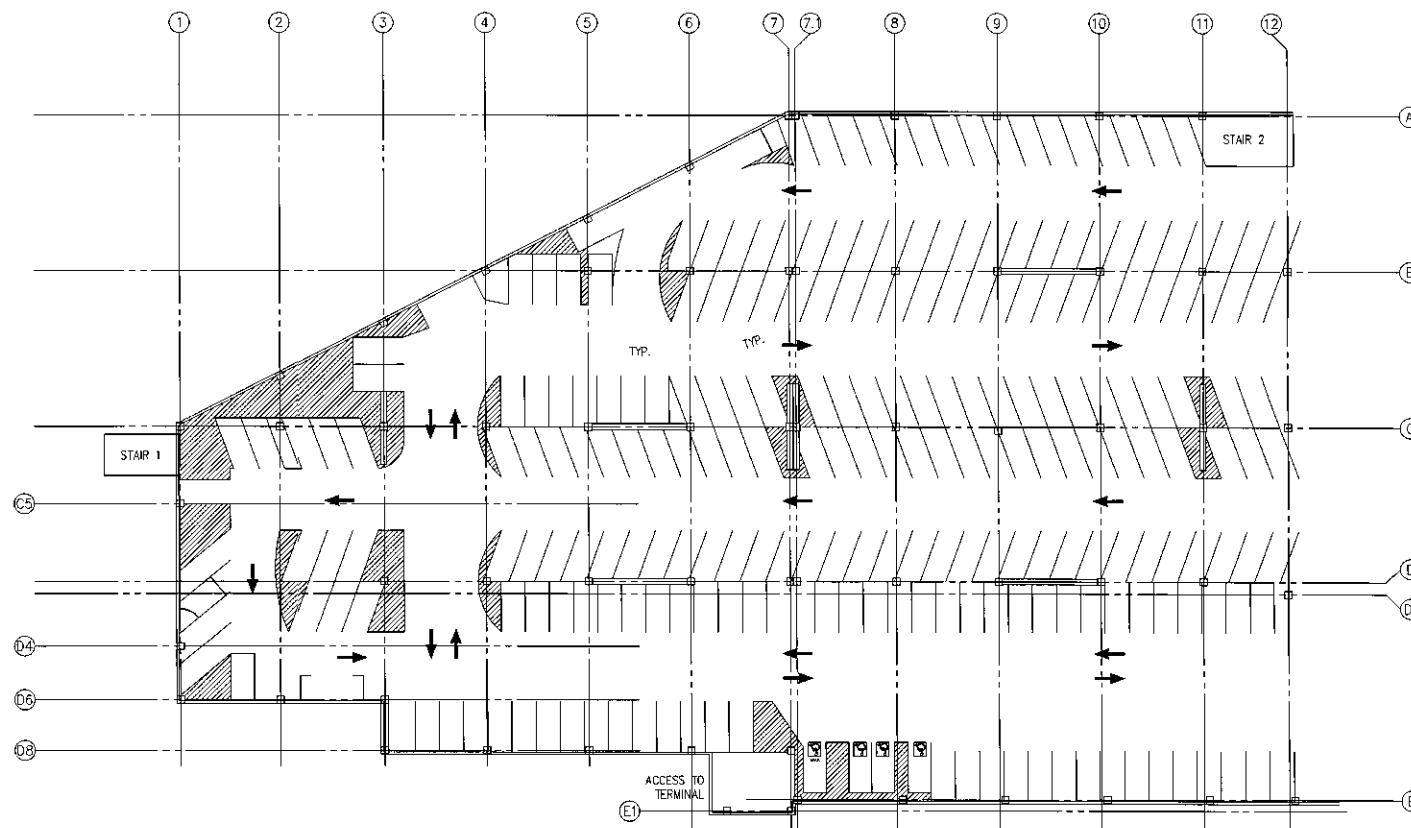
SHEET NO. 7 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**ODONNELL & NACCARATO, INC.**  
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TELEPHONE: (215) 925-3788  
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09010098.00



**GARAGE A WEST  
TIER 4 PLAN**

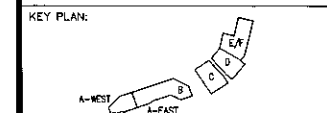
SCALE : 1/32"=1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY, THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR REMOVAL BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	50 SF
1.1	HORIZONTAL CRACK REPAIR	200 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



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**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE A WEST  
TIER 4 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.P.H.L.CR.09.001

DRAWING NO.  
S1.4  
SHEET NO. 8 of 40

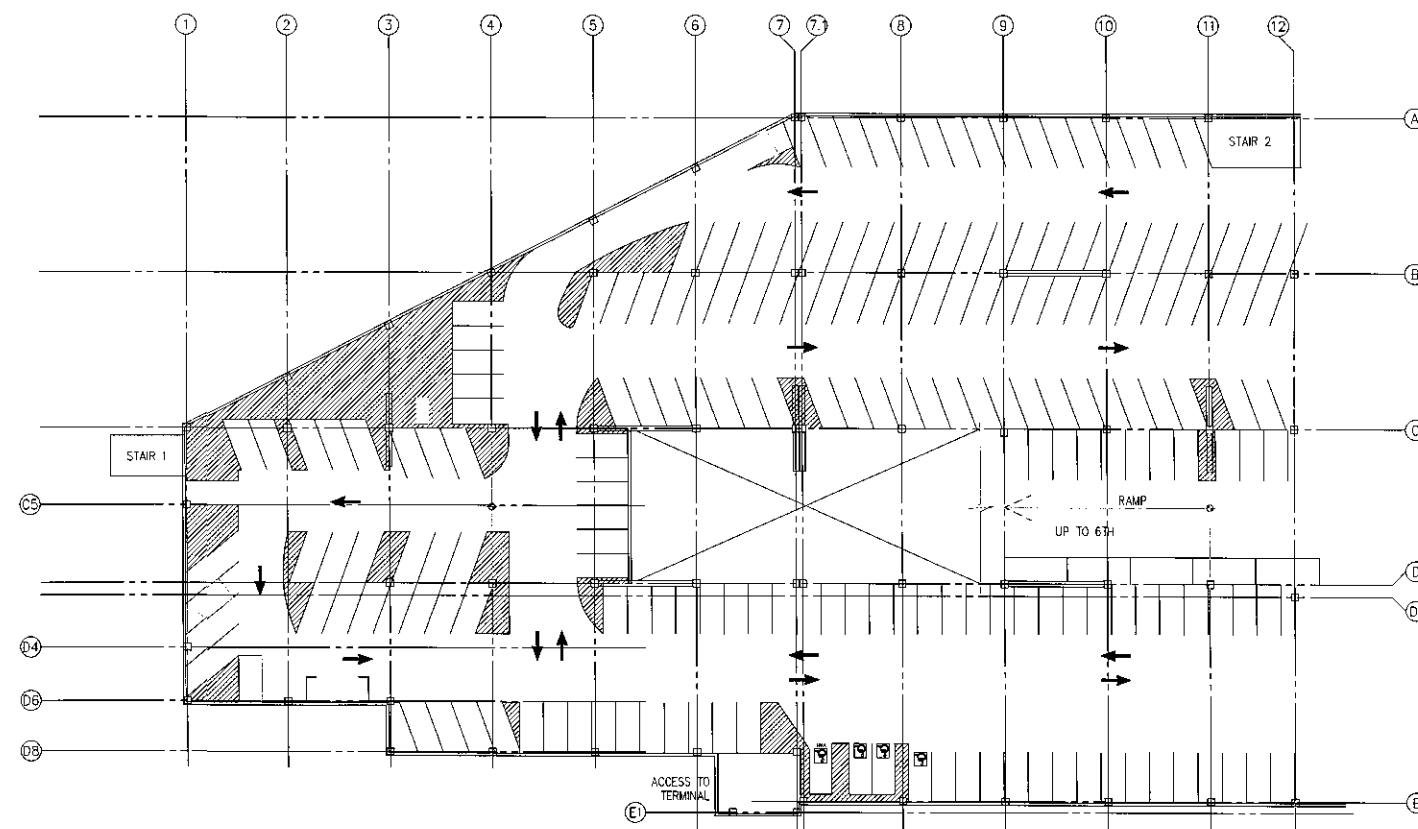






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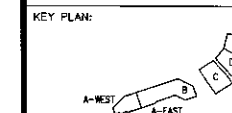
**1**  
**S1.5**  
**GARAGE A WEST**  
**TIER 5 PLAN**

SCALE : 1/32"=1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	60 SF
1.1	HORIZONTAL CRACK REPAIR	140 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



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CONCRETE RESTORATION  
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GARAGE A WEST  
TIER 5 PLAN

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DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S1.5

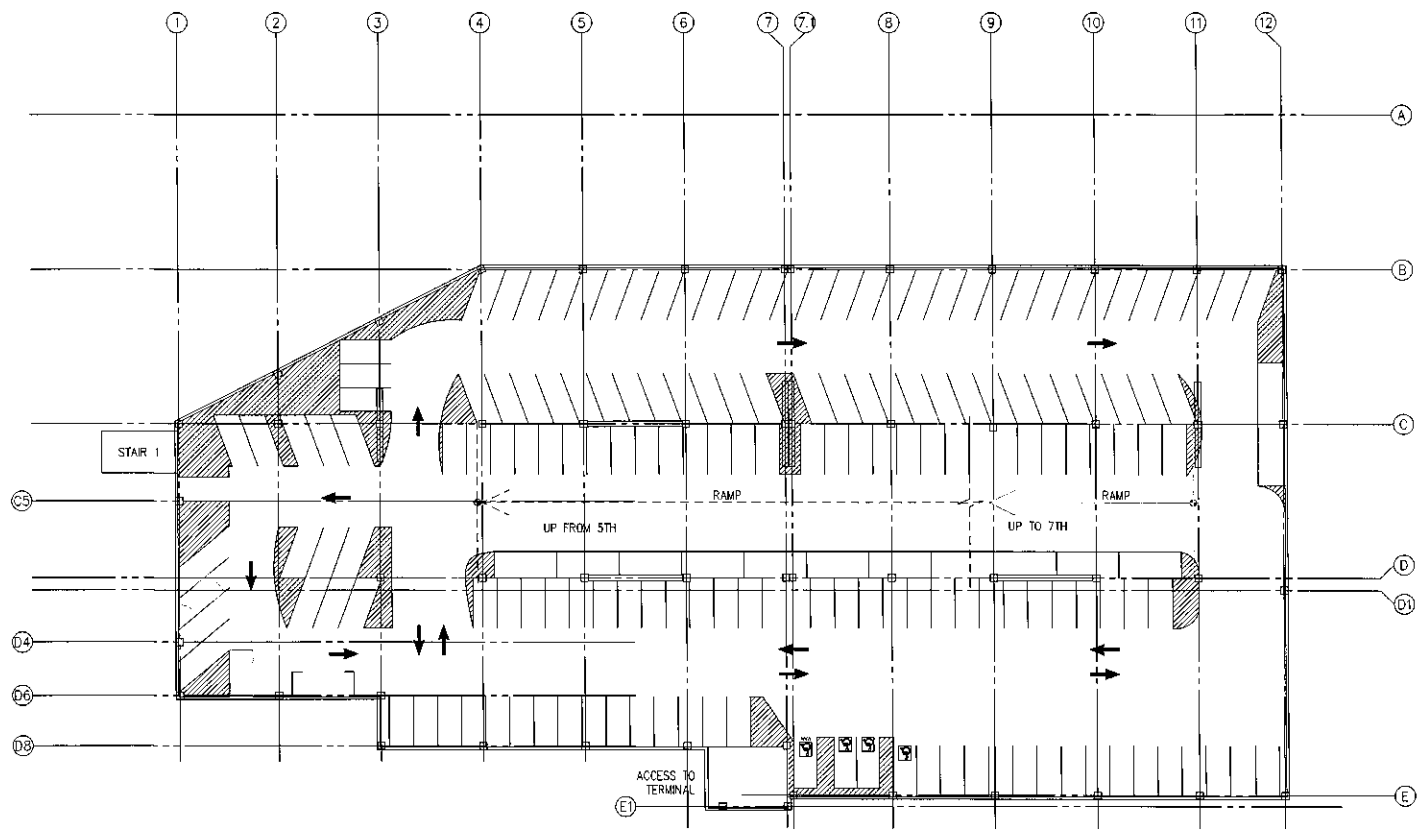
SHEET NO. 9 of 40





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 FAX: (215) 627-1051  
 09010098.00



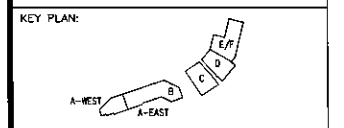
**GARAGE A WEST  
 TIER 6 PLAN**

SCALE : 1/32" = 1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
 2) INDICATES REPAIR TYPE.  
 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	60 SF
1.1	HORIZONTAL CRACK REPAIR	140 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	CONVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



-	ISSUED FOR BD	5/19/09
REVISION	DESCRIPTION	DATE

**CONCRETE RESTORATION  
 REPAIR PROGRAM  
 AT PHL GARAGES**

**GARAGE A WEST  
 TIER 6 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
 DRAWING NO.

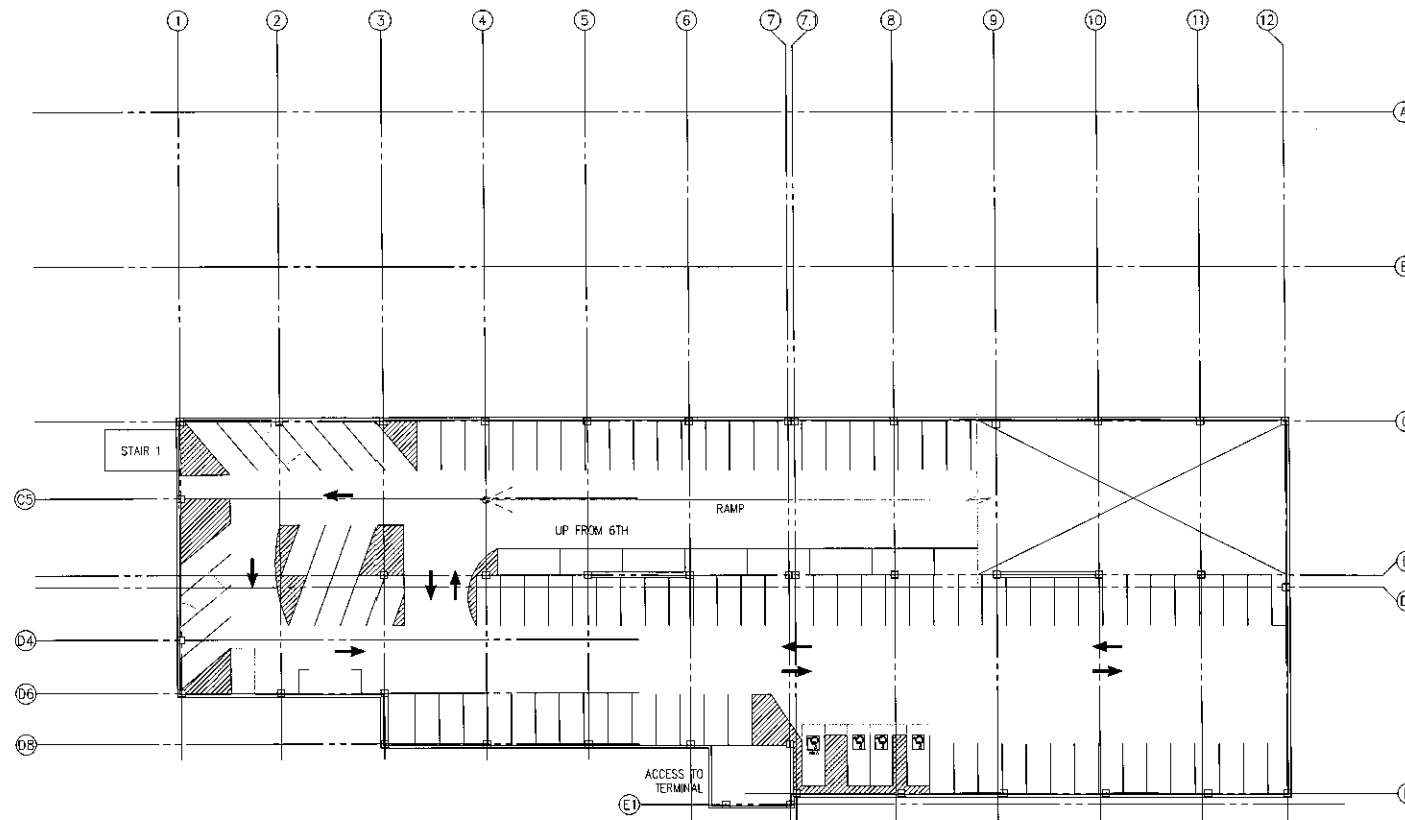
S1.6  
 SHEET NO. 10 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3789  
FAX: (215) 627-1051  
09010098.00



**GARAGE A WEST  
TIER 7 PLAN**

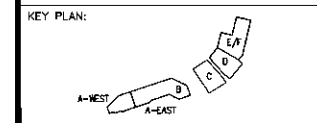
SCALE : 1/32" = 1'-0"

UNLESS SHOWN OTHERWISE, REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

② ⊕ INDICATES REPAIR TYPE.  
③) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	80 SF
1.1	HORIZONTAL CRACK REPAIR	140 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE A WEST  
TIER 7 PLAN**

JOB NO: 0901.0098	CHECKED: RW
DRAWN: CAD	DATE: 2009/05/09

BID No. A.PHL.CR.09.001

DRAWING NO.  
**S1.7**

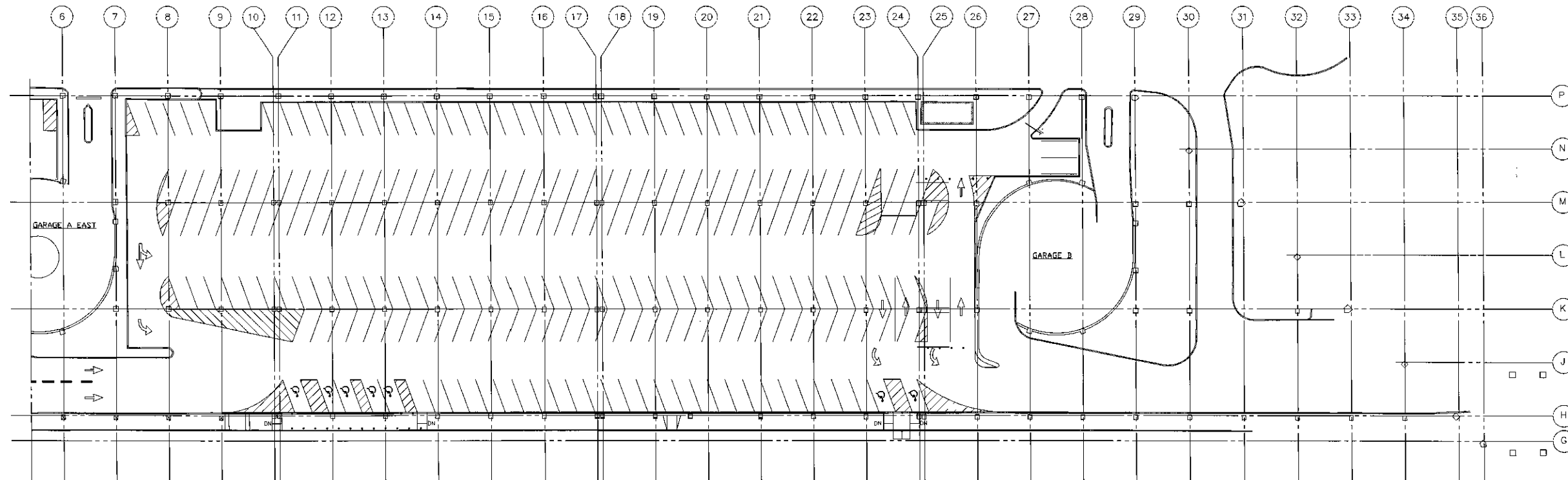
SHEET NO. 11 of 40





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3101 MARKET STREET  
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STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
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0910098.00



**GARAGE A EAST & B  
GROUND LEVEL PLAN**

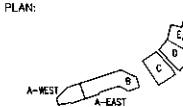
SCALE : 1/32"=1'-0"

- NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD - CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.4	VERTICAL CONCRETE SPALL REPAIR	59 SF
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.10*	NEW WATERPROOFING MEMBRANE @ HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



ISSUED FOR BID 5/19/09

REVISION DESCRIPTION DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE A EAST & B  
GROUND LEVEL PLAN

JOB. NO: 0901.0098 CHECKED: RW

DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S2.0

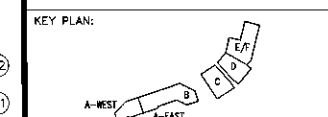
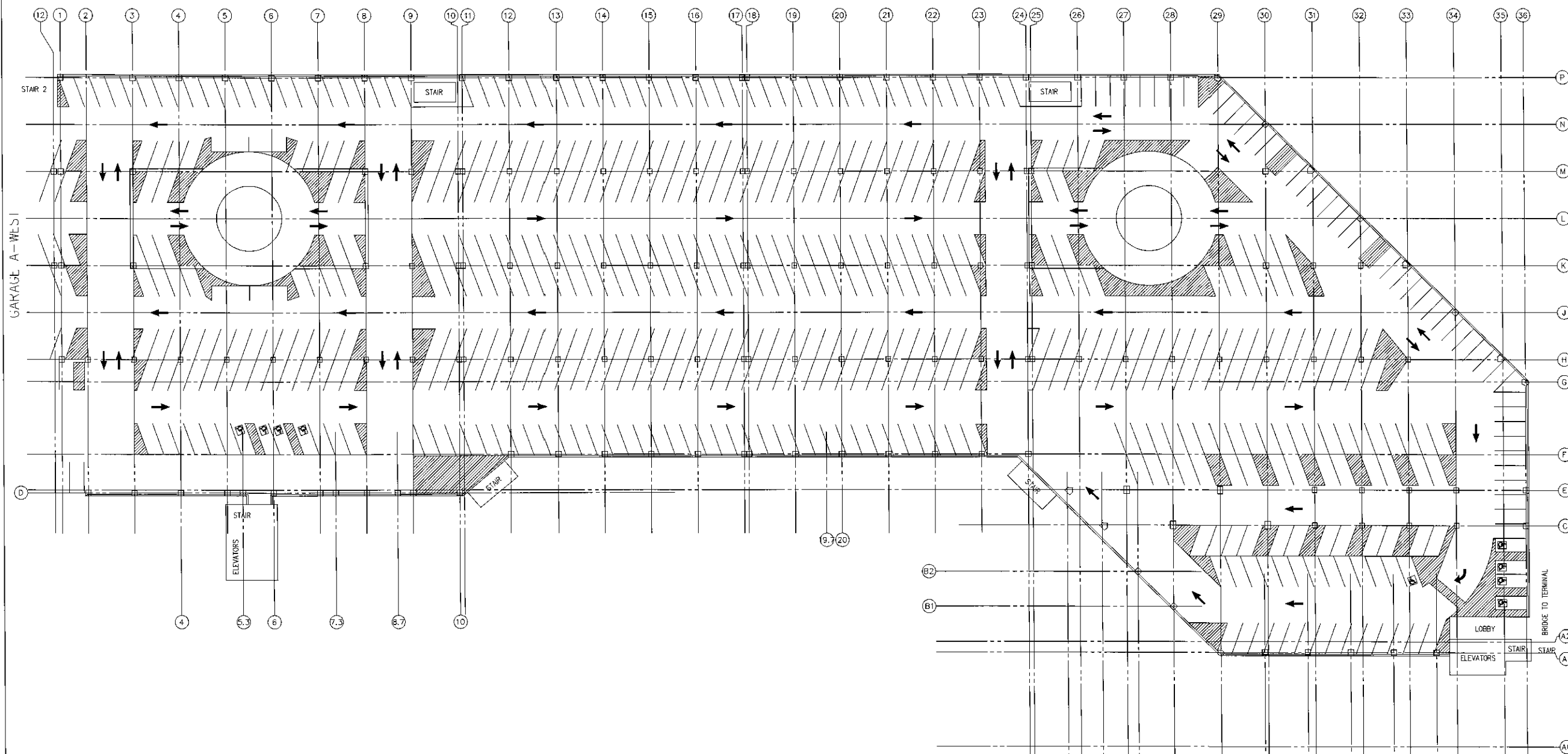
SHEET NO. 12 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
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ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 928-0788  
FAX: (215) 627-1051  
09010098.DD



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BD	5/19/09

### 1 S2.1 GARAGE A EAST & B TIER 1 PLAN

SCALE : 1/32"=1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	100 SF
1.1	HORIZONTAL CRACK REPAIR	600 LF
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	150 SF
1.10*	NEW WATERPROOFING MEMBRANE @ HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	1,200 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

### CONCRETE RESTORATION REPAIR PROGRAM AT PHL GARAGES

#### GARAGE A EAST & B TIER 1 PLAN

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

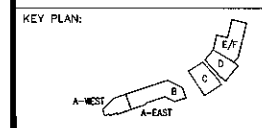
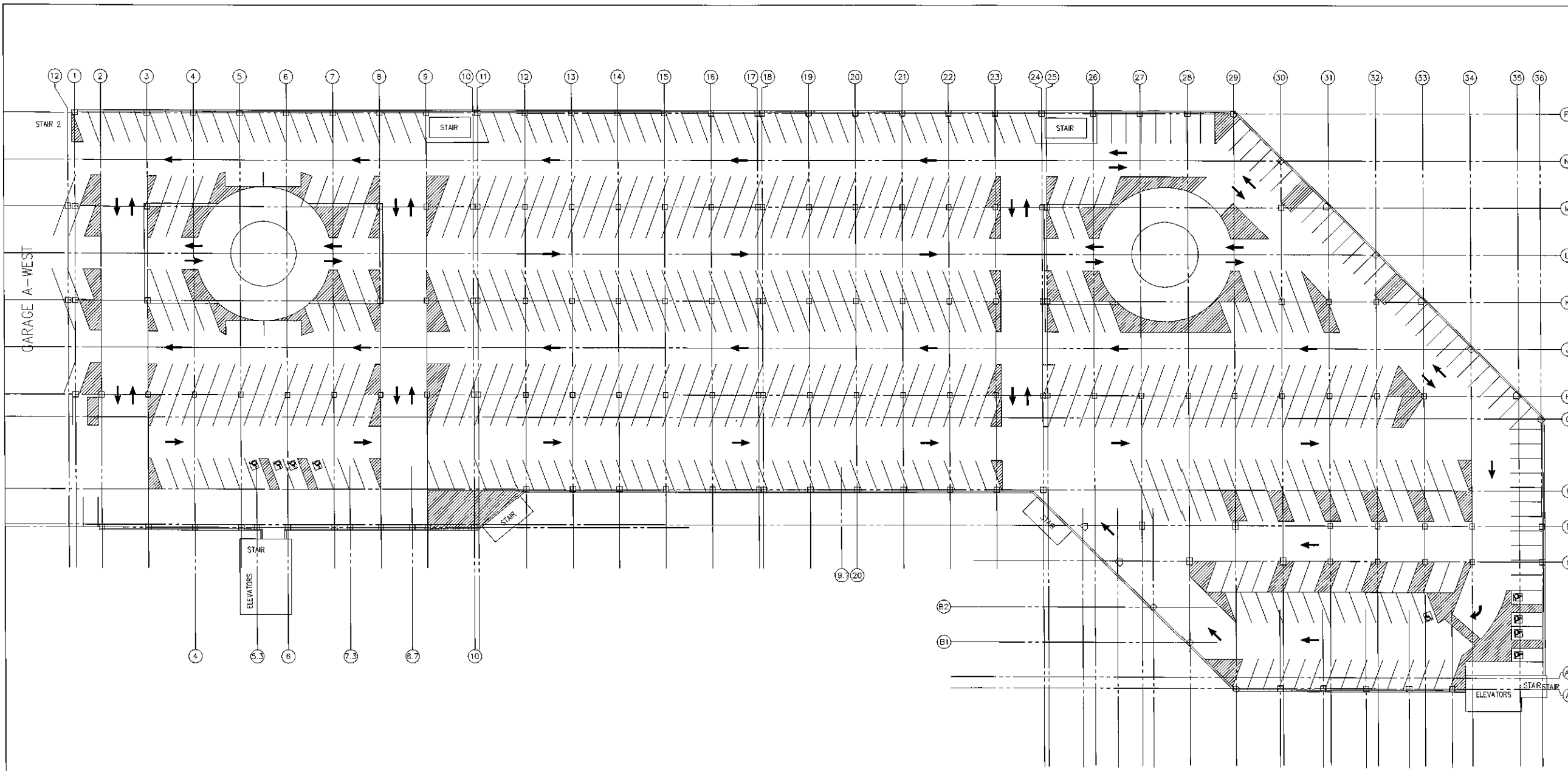
DRAWING NO. S2.1  
SHEET NO. 13 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-4051  
09010078.00



**1**  
**S2.2**  
**GARAGE A EAST & B**  
**TIER 2 PLAN**

SCALE : 1/32" = 1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	100 SF
1.1	HORIZONTAL CRACK REPAIR	500 LF
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.10*	NEW WATERPROOFING MEMBRANE @ HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	1,200 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

REVISION	DESCRIPTION	DATE
-	ISSUED FOR BD	5/19/09

**CONCRETE RESTORATION**  
**REPAIR PROGRAM**  
**AT PHL GARAGES**

**GARAGE A EAST & B**  
**TIER 2 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S2.2

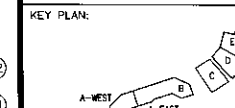
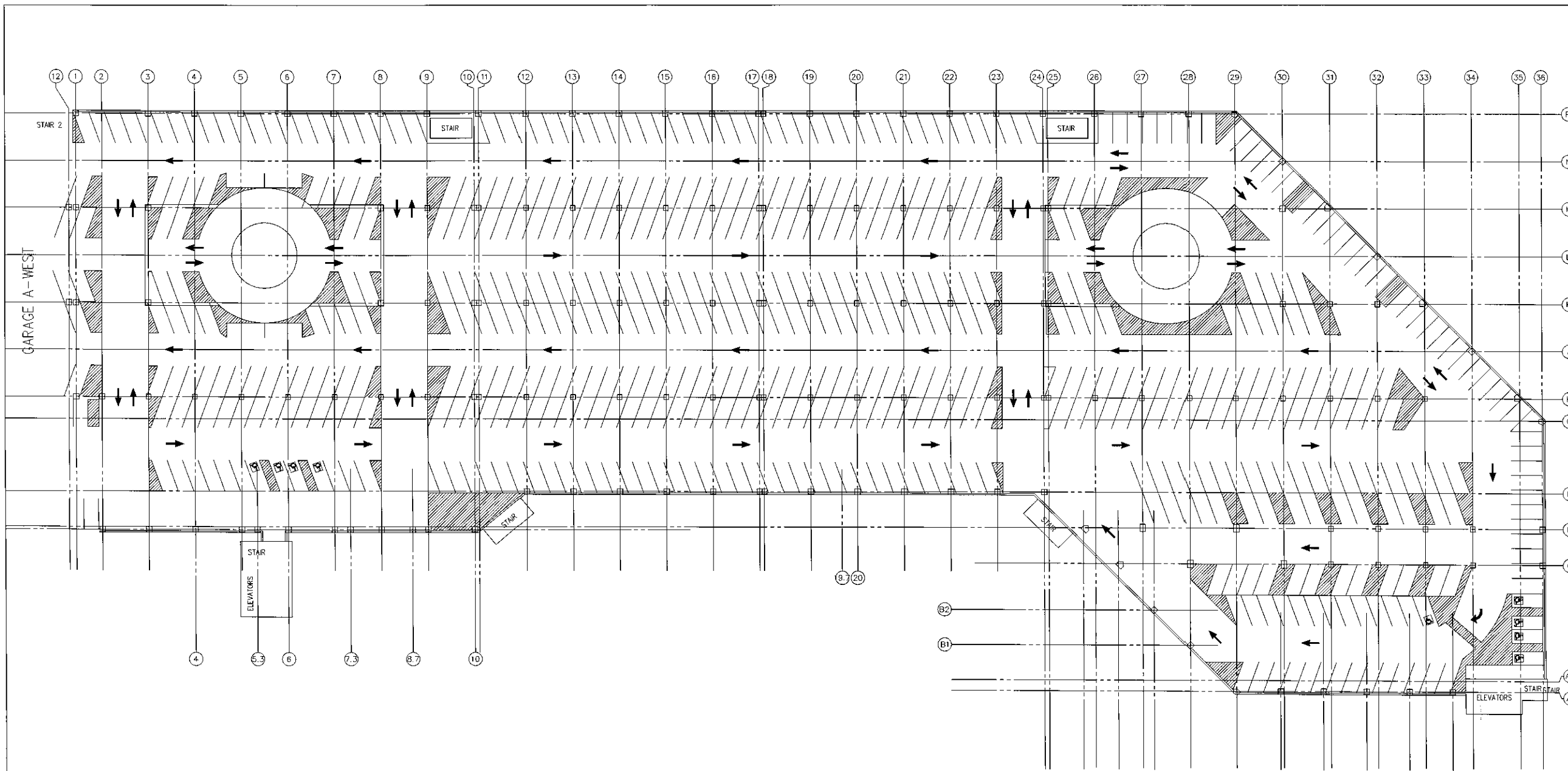
SHEET NO. 14 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
SUITE 950  
111 SOUTH INDEPENDENCE MALL EAST  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE (215) 925-3788  
FAX (215) 627-1051  
090109A.00



ISSUED FOR BID 5/19/09

REVISION DESCRIPTION DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE A EAST & B  
TIER 3 PLAN

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S2.3  
SHEET NO. 15 of 40

**GARAGE A EAST & B  
TIER 3 PLAN**

SCALE : 1/32"=1'-0"  
NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
2) INDICATES REPAIR TYPE.  
3) SEE DRAWING #S6.0, S6.1 & S6.2 FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	225 SF
1.1	HORIZONTAL CRACK REPAIR	600 LF
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	EDGE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	150 SF
1.8	OVERHEAD CLIP REPAIR	20 EA
1.10*	NEW WATERPROOFING MEMBRANE # HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	1,200 LF

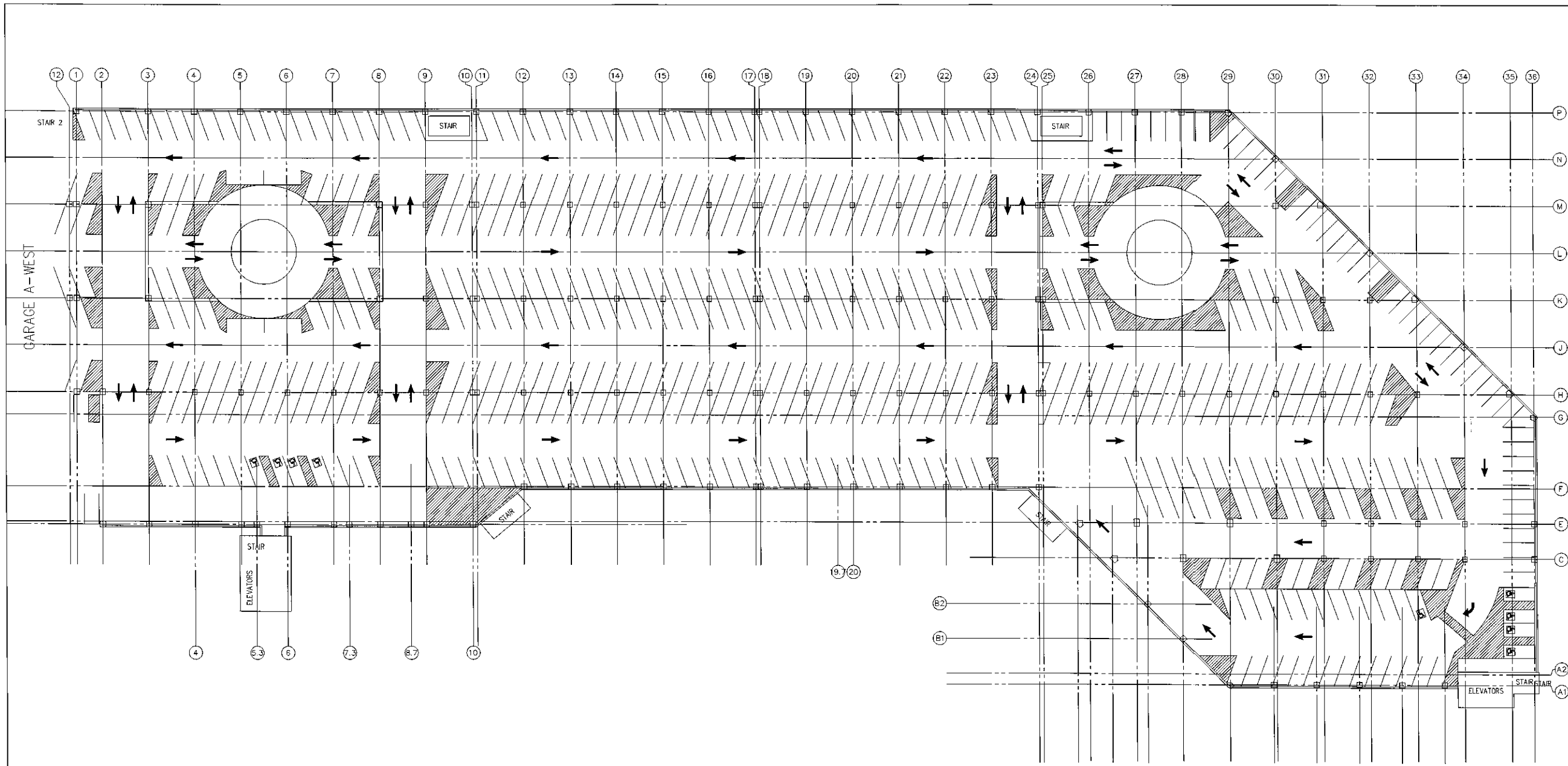
\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.





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 3101 MARKET STREET  
 PHILADELPHIA, PA 19104  
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ODONNELL & NACCARATO, INC.  
 STRUCTURAL ENGINEERS  
 111 SOUTH INDEPENDENCE MALL EAST  
 SUITE 950  
 PHILADELPHIA, PENNSYLVANIA 19106-2624  
 TELEPHONE: (215) 925-3788  
 FAX: (215) 827-0251  
 09/01/09



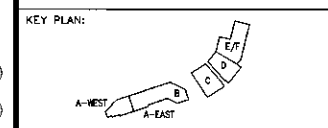
**GARAGE A EAST & B  
 TIER 4 PLAN**

SCALE : 1/32"=1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
 2) (C) INDICATES REPAIR TYPE.  
 3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	300 SF
1.1	HORIZONTAL CRACK REPAIR	600 LF
1.2	COLUMN SPALL REPAIR	450 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	200 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTRL. JOINT REPAIR	LUMP SUM
1.6.2*	EDGE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	150 SF
1.8	OVERHEAD CLIP REPAIR	50 EA
1.9	BEAM SPALL REPAIR	120 SF
1.10*	NEW WATERPROOFING MEMBRANE @ HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	1,200 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
 REPAIR PROGRAM  
 AT PHL GARAGES**

**GARAGE A EAST & B  
 TIER 4 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
 S2.4

SHEET NO. 16 of 40

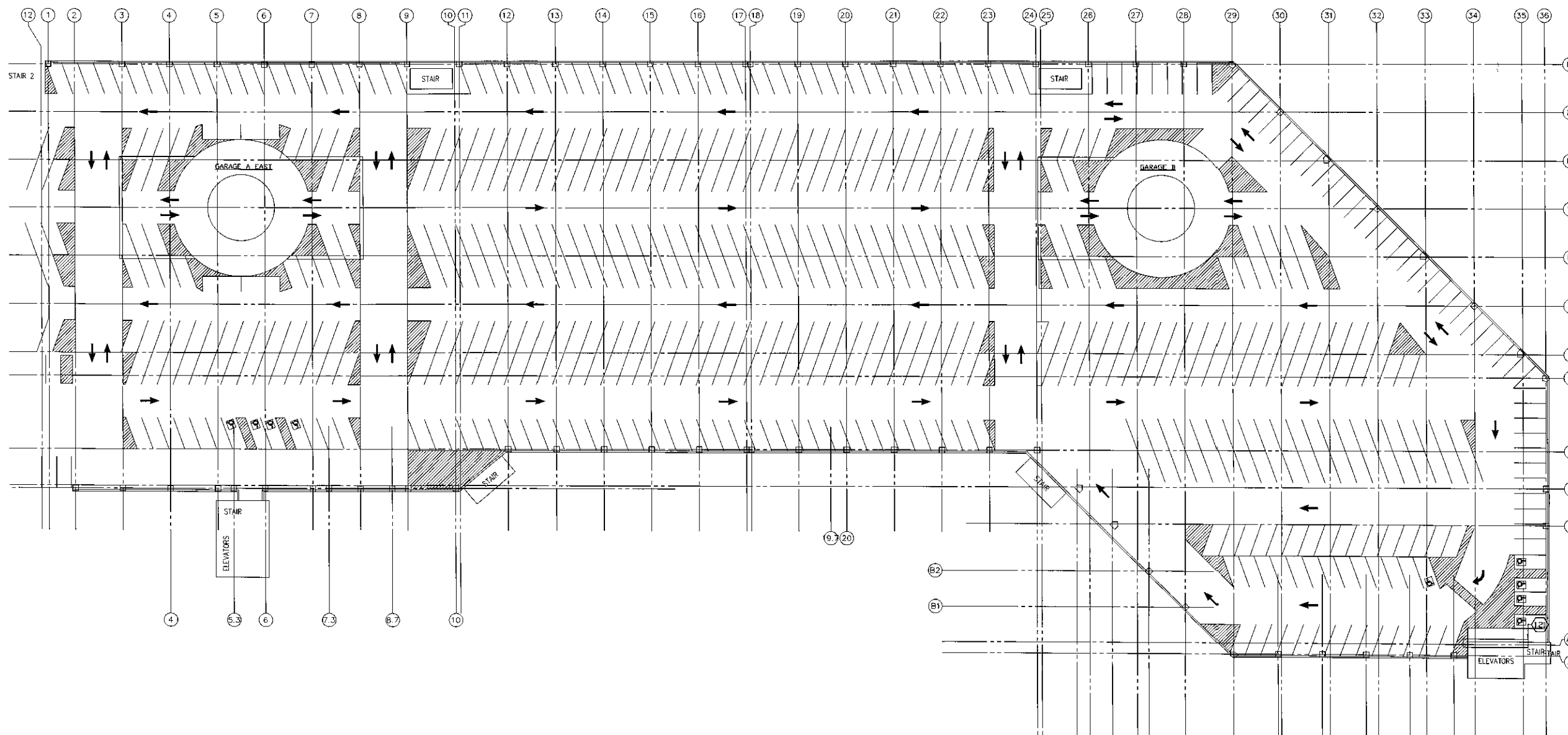






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PHILADELPHIA, PA 19104  
2ND FLOOR

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STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
09010098.00



**1** GARAGE A EAST & B  
**S2.5** TIER 5 PLAN

SCALE : 1/32"=1'-0"

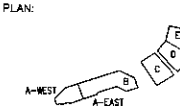
**NOTES:**  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY, THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	900 SF
1.1	HORIZONTAL CRACK REPAIR	1375 LF
1.2	COLUMN SPALL REPAIR	700 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	350 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.10*	NEW WATERPROOFING MEMBRANE @ HELIX A-EAST AND B, RAMP UP/DOWN	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	1,200 LF
1.17	FULL DEPTH REPAIR	200 SF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



ISSUED FOR BID	5/19/09
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REVISION	DESCRIPTION	DATE
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**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE A EAST & B  
TIER 5 PLAN**

JOB. NO: 0901.0098	CHECKED: RW
DRAWN: CAD	DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
**S2.5**

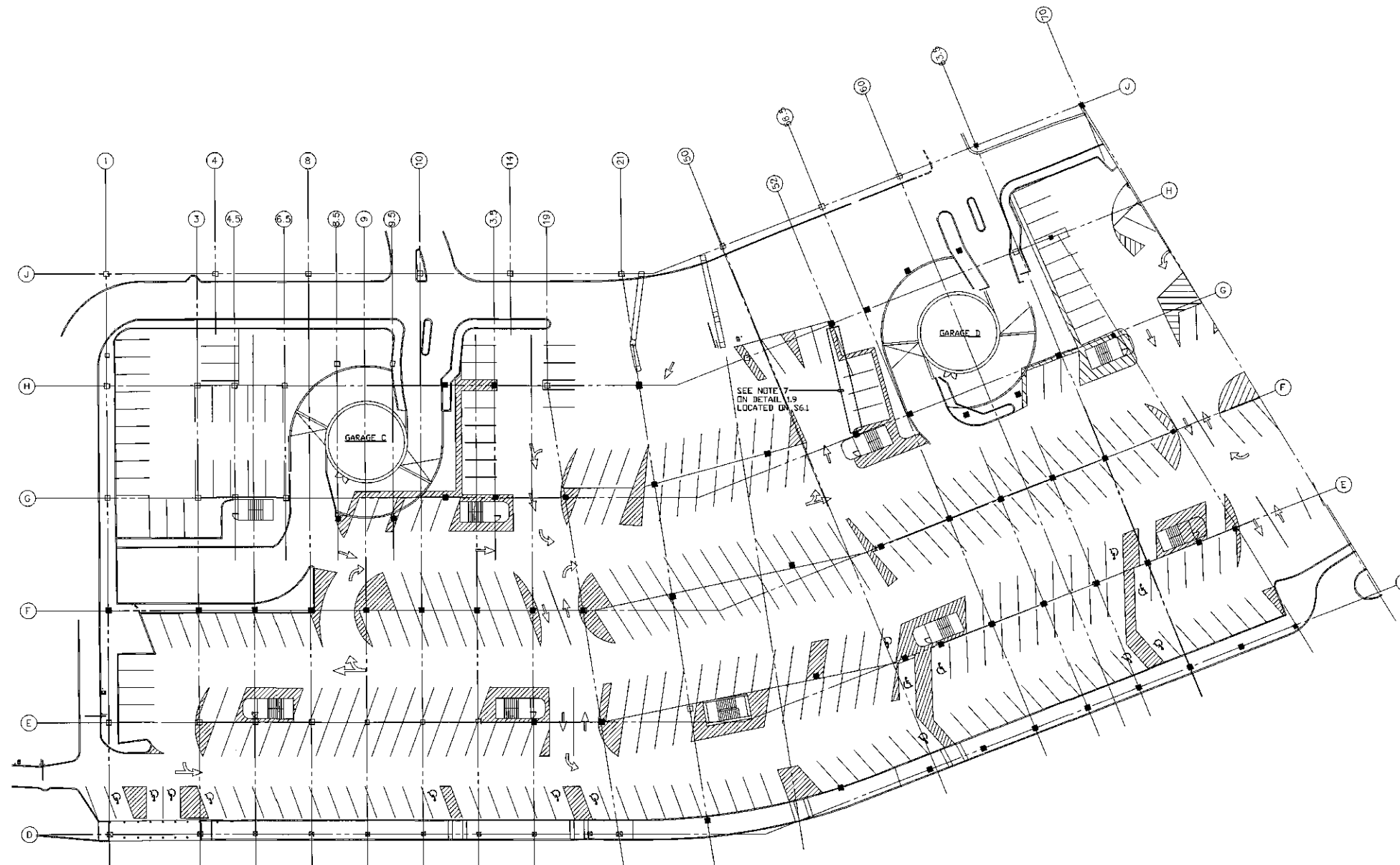
SHEET NO. 17 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**ODONNELL & NACCARATO, INC.**  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3755  
FAX: (215) 627-1051  
0901.0098.00



**1**  
**S3.0**  
**GARAGE C**  
**GROUND LEVEL PLAN**

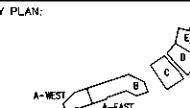
SCALE : 1/32"=1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.2	COLUMN SPALL REPAIR	500 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.7	OVERHEAD CONCRETE SPALL REPAIR	500 SF
1.8	OVERHEAD CLIP REPAIR	30 EACH
1.9	BEAM SPALL REPAIR	600 SF
1.19	STEEL ANGLE RESTORATION	400 SF

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE C  
GROUND LEVEL PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S3.0

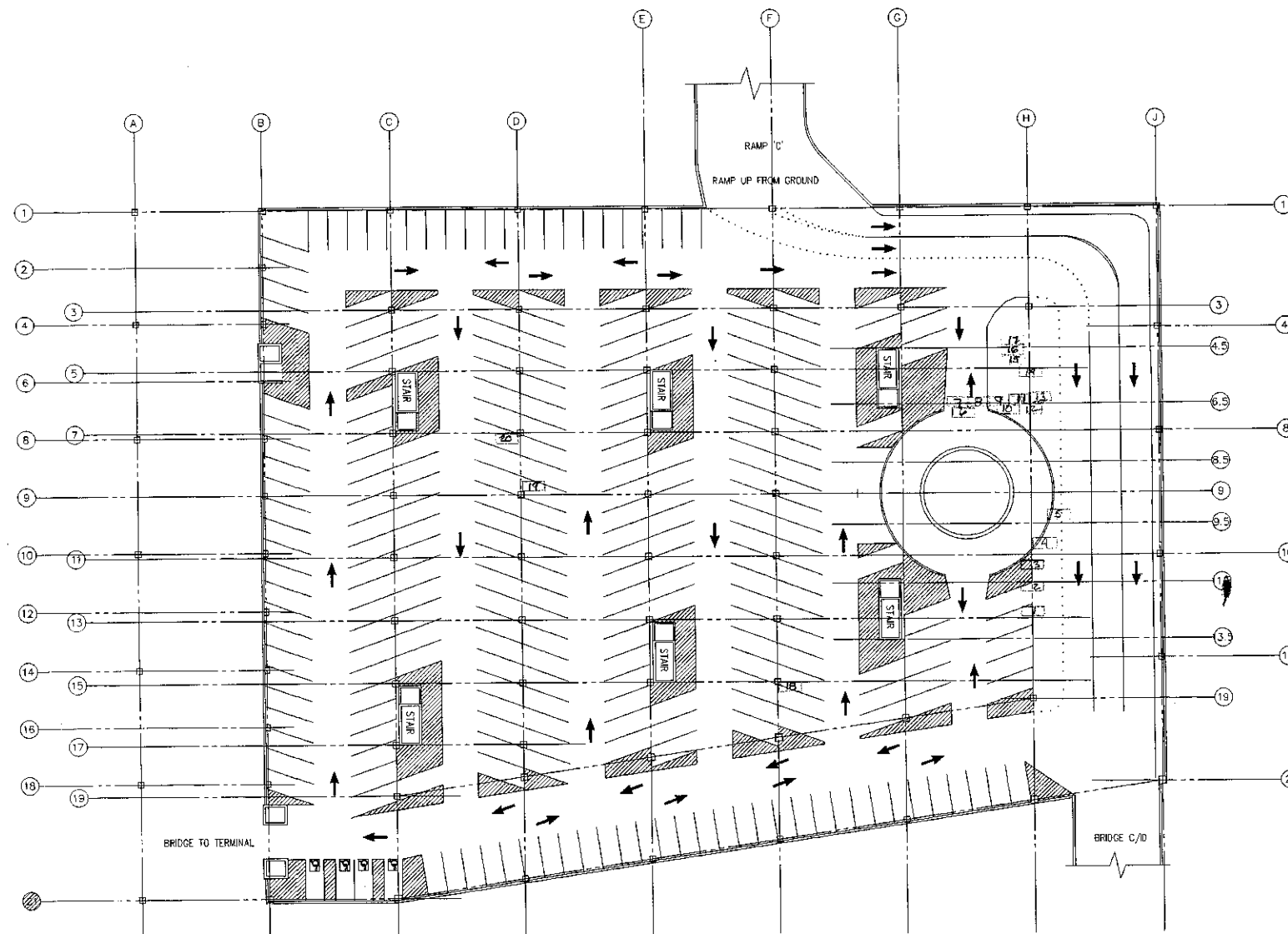
SHEET NO. 18 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**O'DONNELL & NACCARATO, INC.**  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19104-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
09/10/09.00

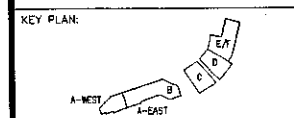


LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	360 SF
1.2	VERTICAL CRACK REPAIR	360 SF
1.3	VERTICAL CONCRETE SPALL REPAIR	360 SF
1.4	CLEAR PENETRATING SPALL	100 SF
1.5	CRACK REPAIR	360 SF
1.6	CRACK REPAIR	360 SF
1.7	CRACK REPAIR	360 SF
1.8	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.9	BEAM SPALL REPAIR	100 SF
1.10	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.11	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.12	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.13	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.14	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.15	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.16	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.17	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.18	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.19	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.20	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.21	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.22	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.23	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.24	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.25	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.26	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.27	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.28	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.29	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.30	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.31	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.32	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.33	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.34	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.35	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.36	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.37	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.38	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.39	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.40	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.41	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.42	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.43	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.44	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.45	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.46	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.47	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.48	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.49	OVERHEAD CONCRETE SPALL REPAIR	360 SF
1.50	OVERHEAD CONCRETE SPALL REPAIR	360 SF

### GARAGE C TIER 1 PLAN

SCALE: 1/32"=1'-0"  
NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOLS TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY OF THE DELAMINATION ARE TO BE MARKED FOR REMOVAL BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09
A	BEAM SPALL QUANTITY REVIEW	8/12/09
B	AS-BUILT	12/31/09

### CONCRETE RESTORATION REPAIR PROGRAM AT PHL GARAGES

### GARAGE C TIER 1 PLAN

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO. **C1.2**  
304

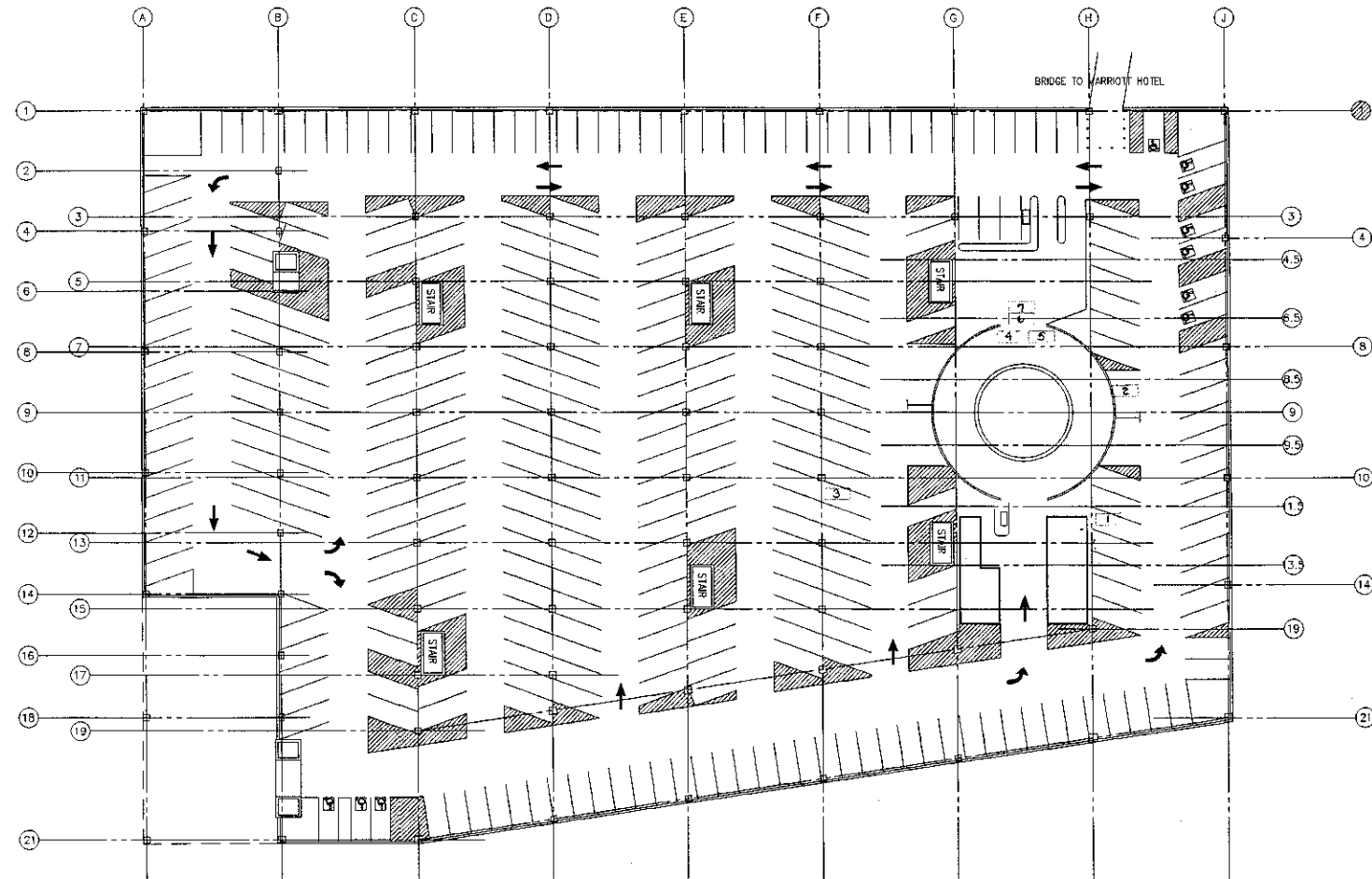
SHEET NO. 19





Philadelphia Parking Authority  
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PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
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SUITE 950  
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FAX: 215-927-1251  
091002600



**GARAGE C  
TIER 2 PLAN**

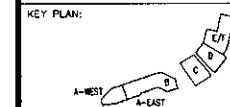
SCALE: 1/32" = 1'-0"

NOTES:  
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- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1	VERTICAL CRACK REPAIR	700-SF
2	CRACK REPAIR	250-SF
3	COLUMN CRACK REPAIR	100-SF
4	VERTICAL CRACKS REPAIR	100-SF
5	CRACK REPAIR	100-SF
6	CRACK REPAIR	100-SF
7	CRACK REPAIR	100-SF
8	CRACK REPAIR	100-SF
9	CRACK REPAIR	100-SF
10	CRACK REPAIR	100-SF
11	CRACK REPAIR	100-SF
12	CRACK REPAIR	100-SF
13	CRACK REPAIR	100-SF
14	CRACK REPAIR	100-SF
15	BEAM SPALL REPAIR	70 SF
16	CRACK REPAIR	100-SF
17	CRACK REPAIR	100-SF
18	CRACK REPAIR	100-SF
19	CRACK REPAIR	100-SF
20	CRACK REPAIR	100-SF
21	CRACK REPAIR	100-SF

CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09
1	ADDENDUM #1	
A	QUANTITY REVIEW	8-28-09
B	AS-BUILT	12/31/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE C  
TIER 2 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO. **C2.1**

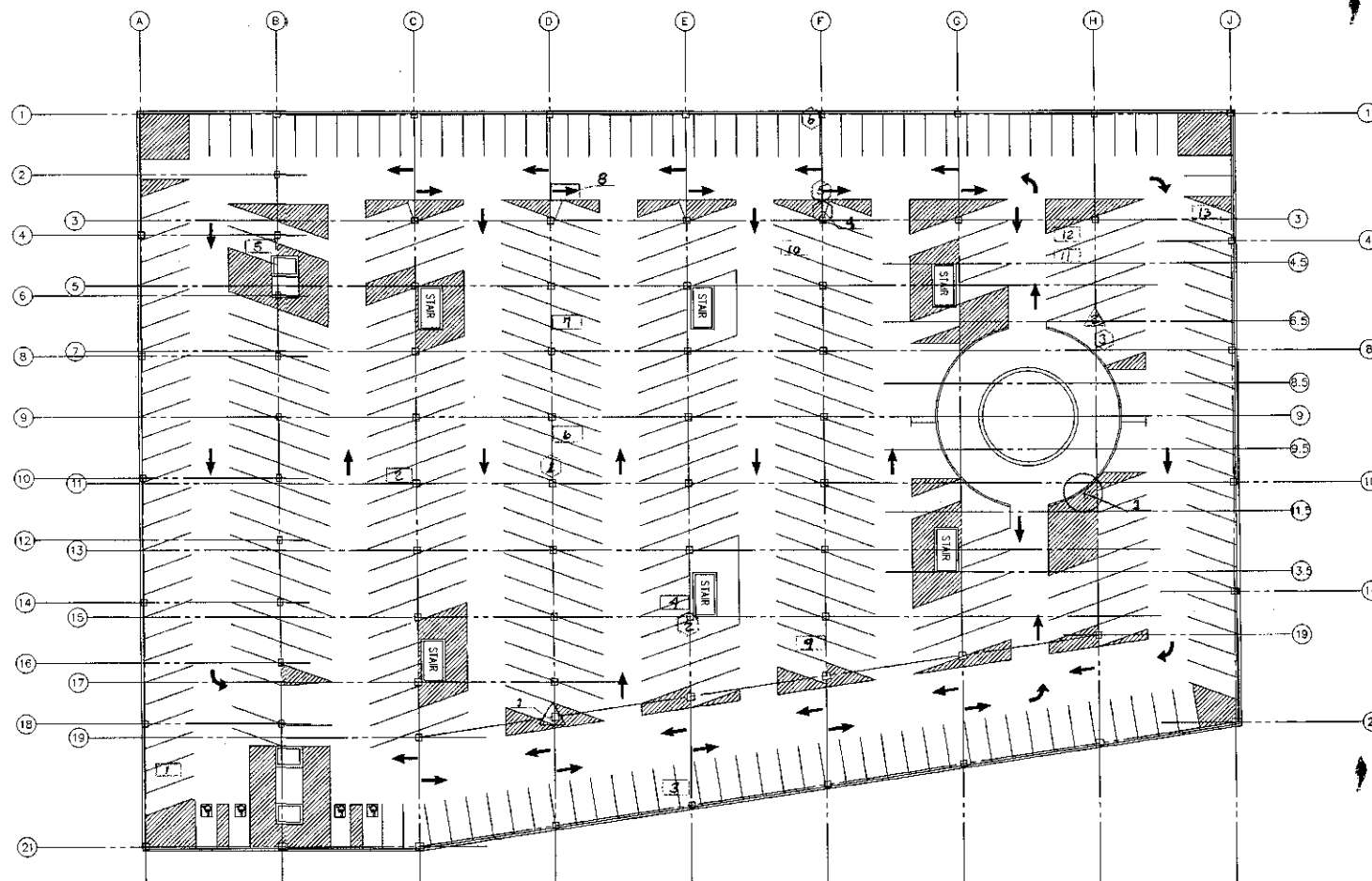
SHEET NO. 20 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
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SUITE 900  
PHILADELPHIA, PENNSYLVANIA 19106-2824  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-9051  
0910098.00



**GARAGE C  
TIER 3 PLAN**

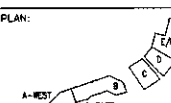
SCALE : 1/32"=1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S60, S61 & S62' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.2	COLUMN SPALL REPAIR	50 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	50 SF
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.9	BEAM SPALL REPAIR	70 SF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



-	ISSUED FOR BID	5/19/09
△	ADDENDUM #1	
B	AS-BUILT	12/31/09
REVISION	DESCRIPTION	DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE C  
TIER 3 PLAN

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

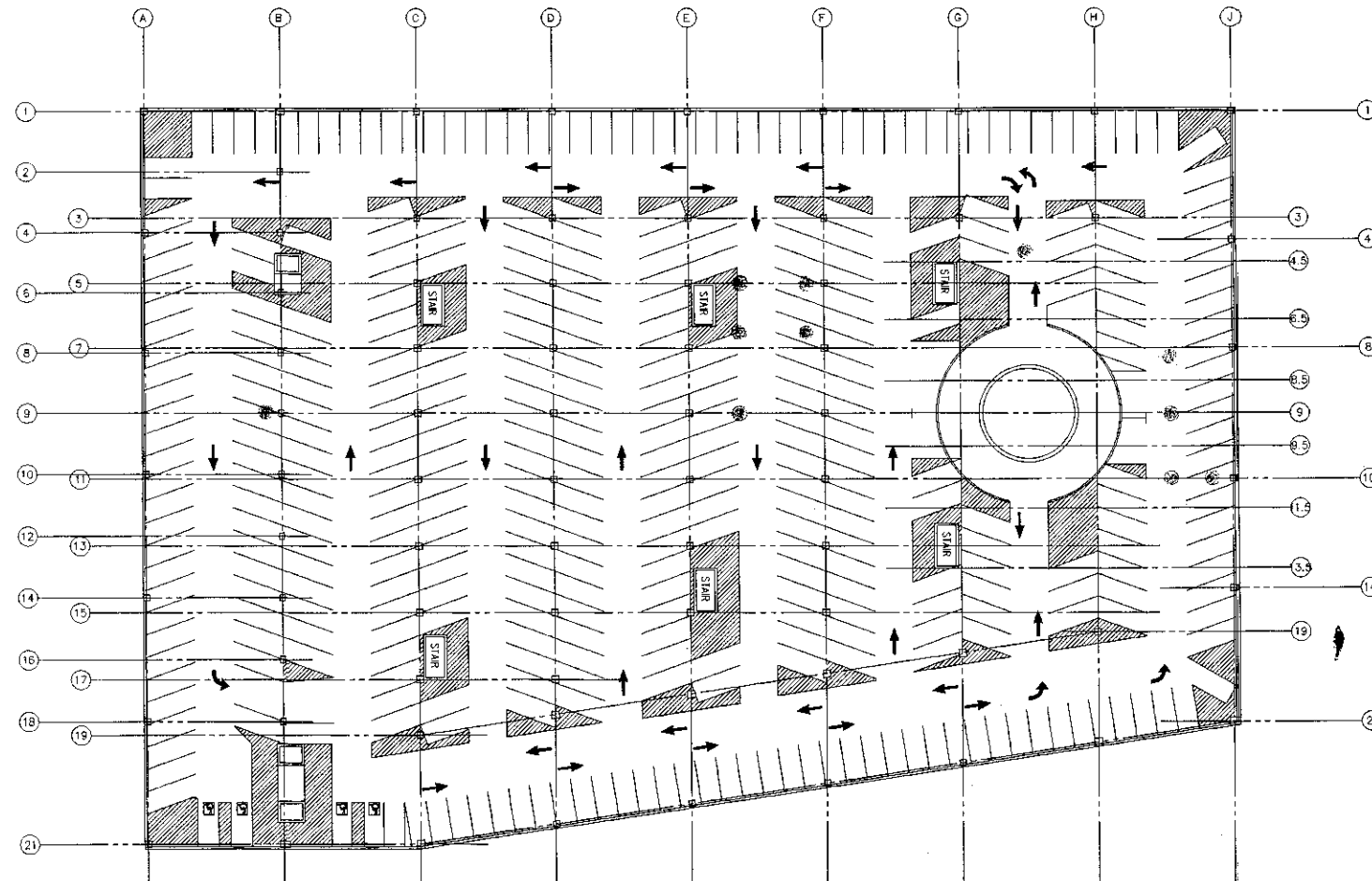
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SHEET NO. 21 of 40



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2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19104-2824  
TELEPHONE: (215) 925-3758  
FAX: (215) 627-1051  
07010098.00



**GARAGE C  
TIER 4 PLAN**

SCALE : 1/32"=1'-0"

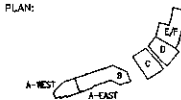
NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
100	REINFORCING BAR	100.00
101	CONCRETE	100.00
102	FORMWORK	100.00
103	REINFORCING CHAIRS	100.00
104	REINFORCING TIES	100.00
105	REINFORCING WELDS	100.00
106	REINFORCING LAPS	100.00
107	REINFORCING BENDS	100.00
108	REINFORCING CUTS	100.00
109	REINFORCING JOINTS	100.00
110	REINFORCING TIES	100.00
111	REINFORCING WELDS	100.00
112	REINFORCING LAPS	100.00
113	REINFORCING BENDS	100.00
114	REINFORCING CUTS	100.00
115	REINFORCING JOINTS	100.00
116	CONDUIT REPAIR	26 EACH
117	CONCRETE REPAIR	100.00

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09
B	AS-BUILT	12/31/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE C  
TIER 4 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

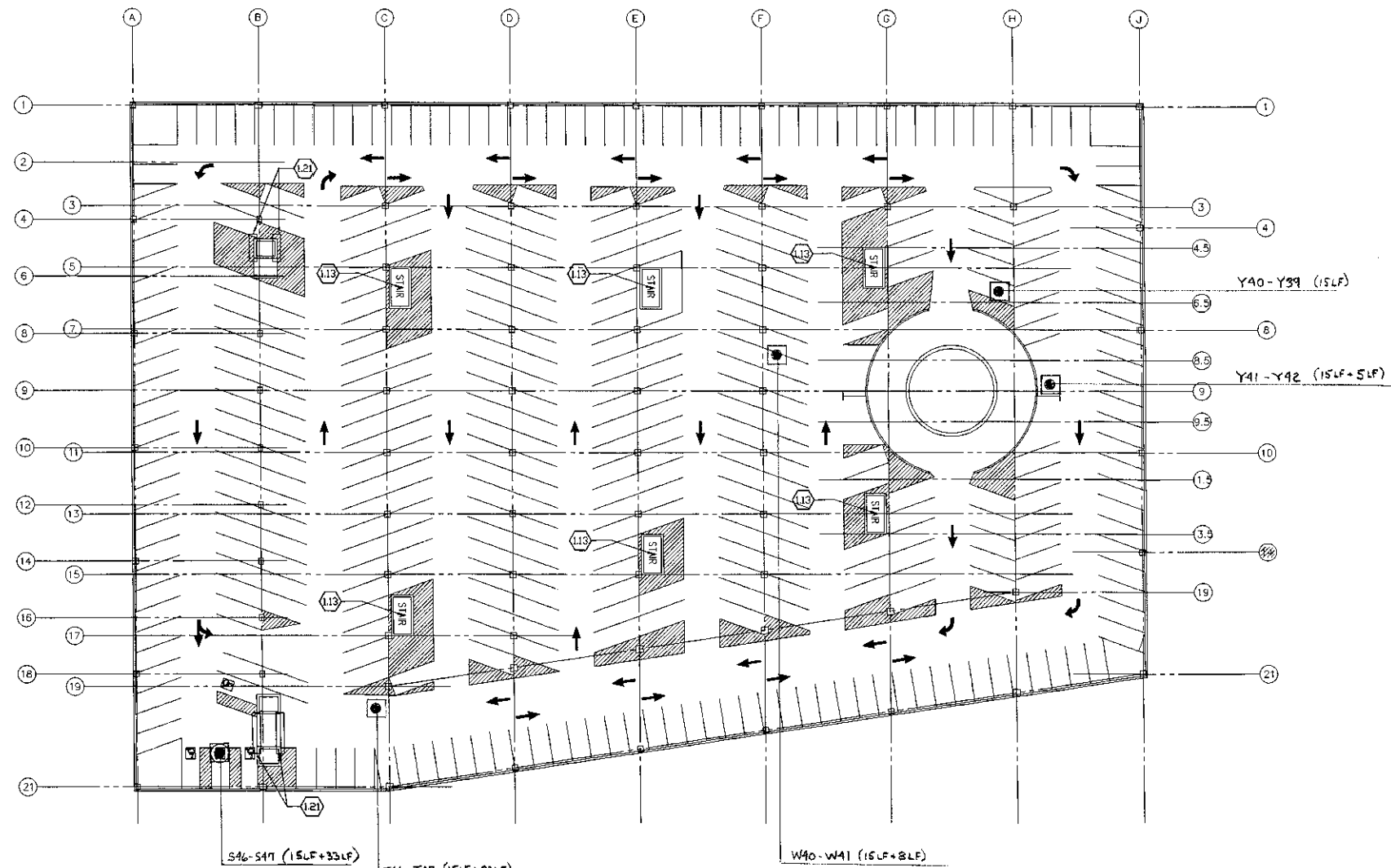
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**03.4**

SHEET NO. 22 of 40



Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
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ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 526-3756  
FAX: (215) 627-1051  
0901.0098.00



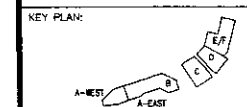
**GARAGE C  
TIER 5 PLAN**

SCALE : 1/32" = 1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
2) (C) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

FLOOR DRAINS		
ADDITIONAL 1" CAST IRON PIPE		
LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
10	HORIZONTAL SPALL REPAIR	560-SF
11	CONCRETE BRACK REPAIR	600-SF
12	100 TO 1000 CONCR. REPAIR	2300-SF
13	CONCRETE BRACK REPAIR	2300-SF
14	CRACK SEALING REPAIR	1000-LIN
15	CRACK REPAIRING IN READING	1000-LIN
16	EXPANSION JOINT REPAIR	750-LIN
17	EXPANSION JOINT REPAIR	750-LIN
18	REPAIR REINFORCEMENT	1000-LIN
19	REPAIR REINFORCEMENT	600-LIN
20	REPAIR REPAIR	50-SQYD

CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09
B	AS-BUILT	12/31/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE C  
TIER 5 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
**C5.3**

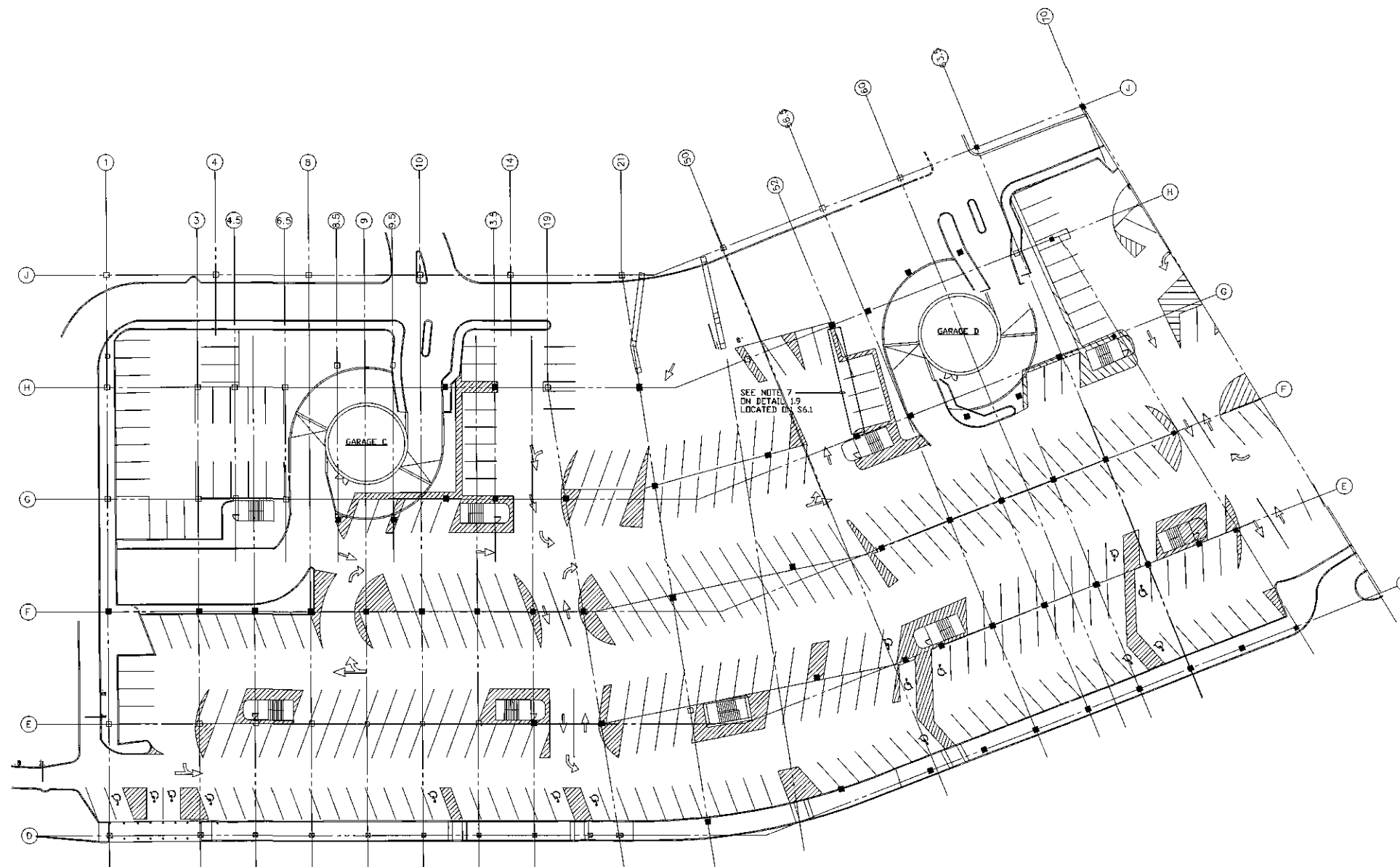
SHEET NO. 25 of 48





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**ODONNELL & NACCARATO, INC.**  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
09010098.00



**1**  
**S4.0**  
**GARAGE D**  
**GROUND LEVEL PLAN**

SCALE : 1/32"=1'-0"

**NOTES:**  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

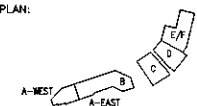
2) INDICATES REPAIR TYPE.

3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

**LEGEND**

ITEM NO.	DESCRIPTION	QUANTITIES
1.2	COLUMN SPALL REPAIR	400 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	75 SF
1.7	OVERHEAD CONCRETE SPALL REPAIR	700 SF
1.8	OVERHEAD CLIP REPAIR	20 EA
1.9	BEAM SPALL REPAIR	500 SF
1.19	STEEL ANGLE RESTORATION	600 LF

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BD	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE D  
GROUND LEVEL PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S4.0

SHEET NO. 24 of 40

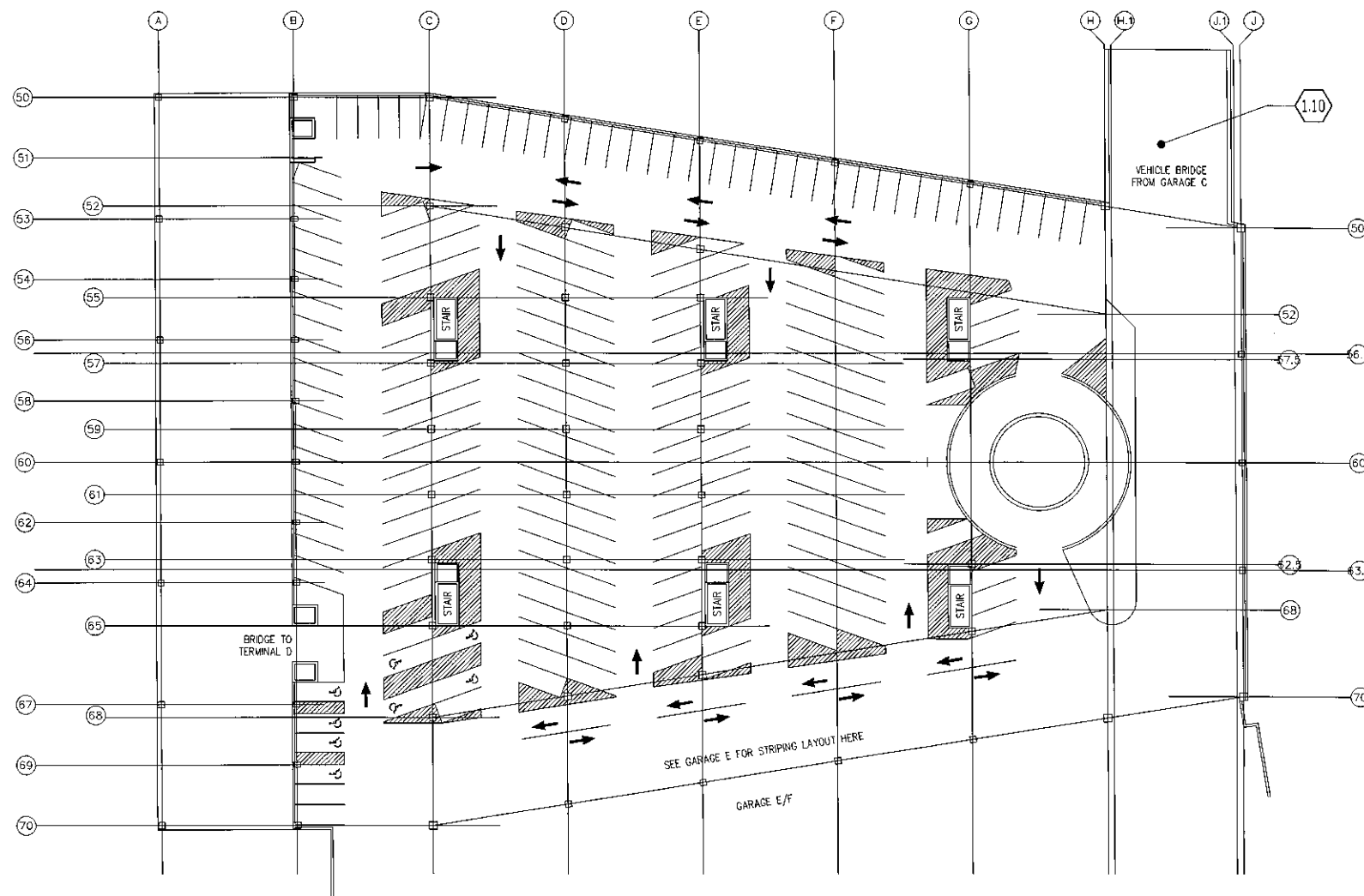






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3101 MARKET STREET  
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2ND FLOOR

O'DONNELL & NACCARATO, INC.  
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SUITE 950  
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TELEPHONE (215) 925-3788  
FAX (215) 527-0251  
09010098.00



**GARAGE D  
TIER 1 PLAN**

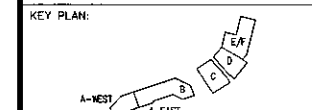
SCALE: 1/32"=1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	1000 SF
1.1	HORIZONTAL CRACK REPAIR	500 LF
1.14	POST POCKET REPAIR	24 EA
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.9	BEAM SPALL REPAIR	150 SF
1.10*	NEW WATERPROOFING MEMBRANE BRIDGE C/D	LUMP SUM
1.11	EXPANSION JOINT HEADER REPAIR	300 LF
1.12	EXPANSION JOINT FOAM REPAIR	300 LF
1.17	FULL DEPTH REPAIR	250 SF
1.18	CONDUIT REPAIR	20 EACH
1.19	STEEL ANGLE RESTORATION	600 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE D  
TIER 1 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S4.1

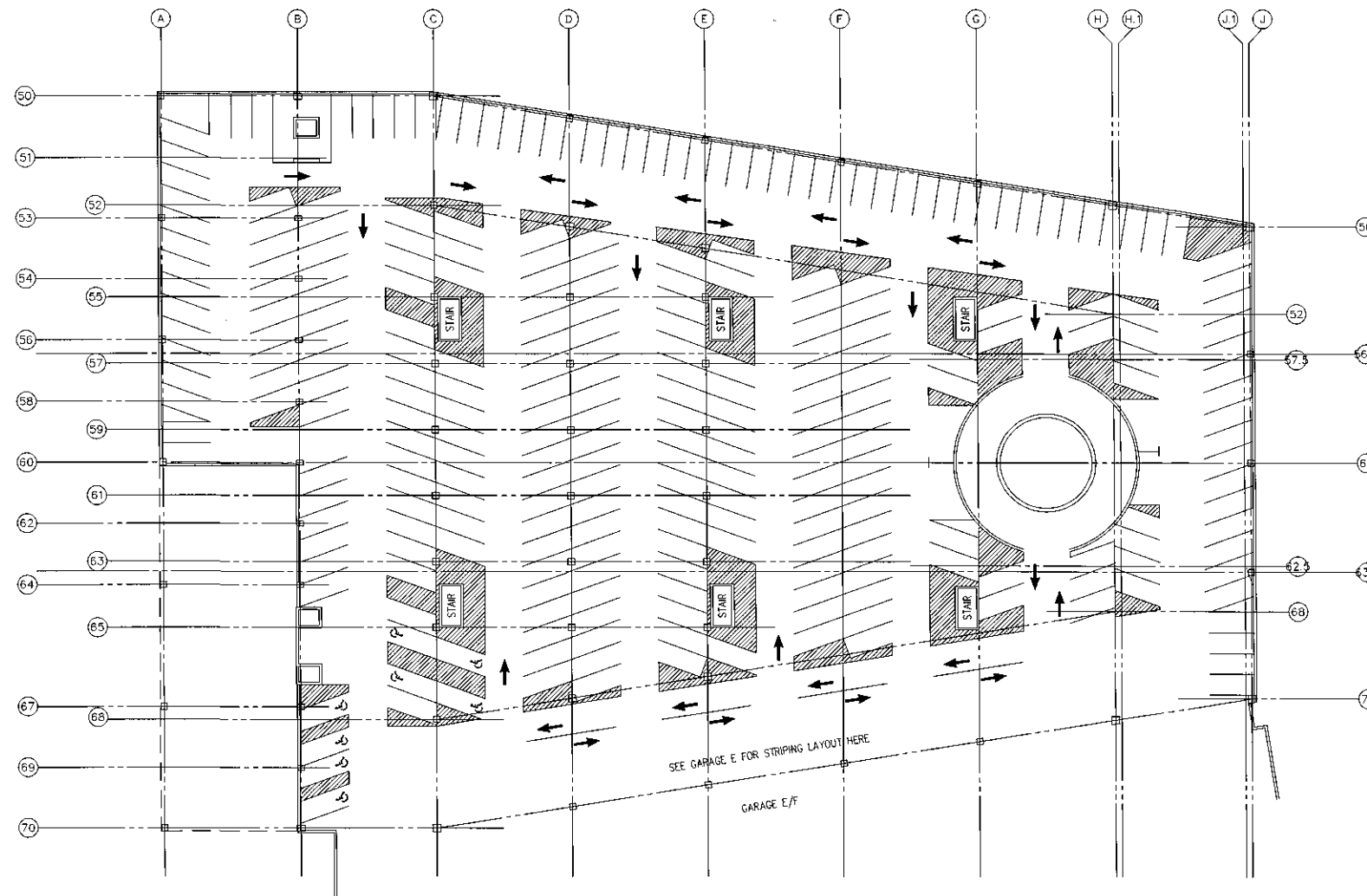
SHEET NO. 25 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2624  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
09010098.00



1  
S4.2  
**GARAGE D  
TIER 2 PLAN**

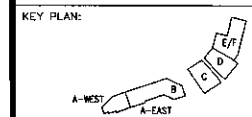
SCALE : 1/32"=1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD & CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	1800 SF
1.1	HORIZONTAL CRACK REPAIR	500 LF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.8	OVERHEAD CLIP REPAIR	10 EA
1.9	BEAM SPALL REPAIR	100 SF
1.11	EXPANSION JOINT HEADER REPAIR	300 LF
1.12	EXPANSION JOINT FOAM REPAIR	300 LF
1.14	POST POCKET REPAIR	24 EA
1.18	CONDUIT REPAIR	20 EA
1.19	STEEL ANGLE RESTORATION	500 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



-	ISSUED FOR BID	5/19/09
REVISION	DESCRIPTION	DATE

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE D  
TIER 2 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

Bid No. N.PHL.CR.09.001

DRAWING NO.

S4.2

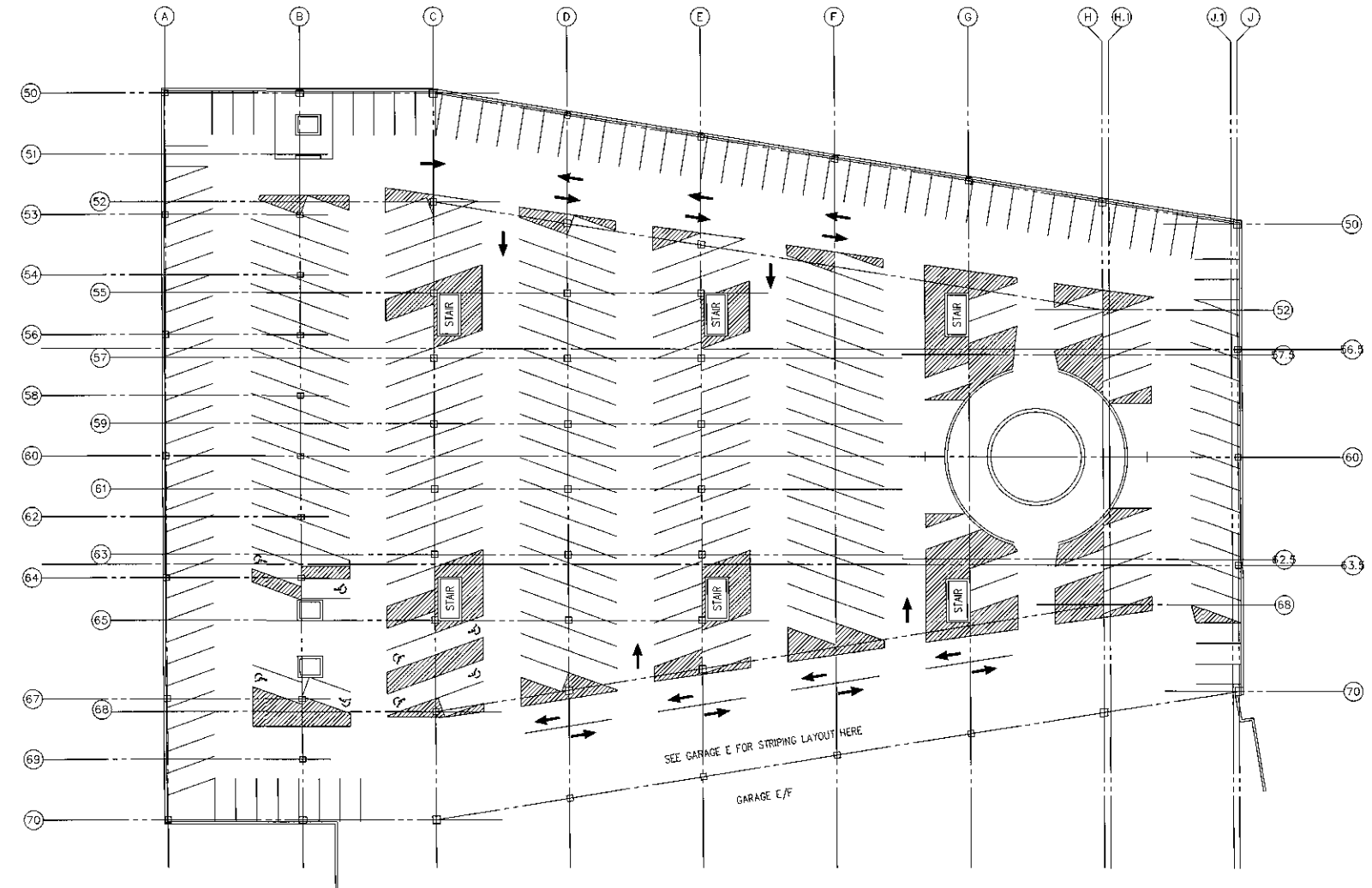
SHEET NO. 26 of 40





Philadelphia Parking Authority  
 3101 MARKET STREET  
 PHILADELPHIA, PA 19104  
 2ND FLOOR

**O'DONNELL & NACCARATO, INC.**  
 STRUCTURAL ENGINEERS  
 111 SOUTH INDEPENDENCE MALL, EAST  
 SUITE 950  
 PHILADELPHIA, PENNSYLVANIA 19106-2524  
 TELEPHONE: (215) 925-3788  
 FAX: (215) 627-1051  
 09010098.00



**GARAGE D  
 TIER 3 PLAN**

SCALE : 1/32" = 1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.  
 2) INDICATES REPAIR TYPE.  
 3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	1500 SF
1.1	HORIZONTAL CRACK REPAIR	550 LF
1.2	COLUMN SPALL REPAIR	100 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	80 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	80 SF
1.8	OVERHEAD CLIP REPAIR	12 EACH
1.9	BEAM SPALL REPAIR	50 SF
1.11	EXPANSION JOINT HEADER REPAIR	300 LF
1.12	EXPANSION JOINT FOAM REPAIR	500 LF
1.14	POST POCKET REPAIR	24 EA
1.18	CONDUIT REPAIR	20 EACH
1.19	STEEL ANGLE RESTORATION	300 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:

-	ISSUED FOR BID	5/19/09
REVISION	DESCRIPTION	DATE

**CONCRETE RESTORATION  
 REPAIR PROGRAM  
 AT PHL GARAGES**

**GARAGE D  
 TIER 3 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
 S4.3

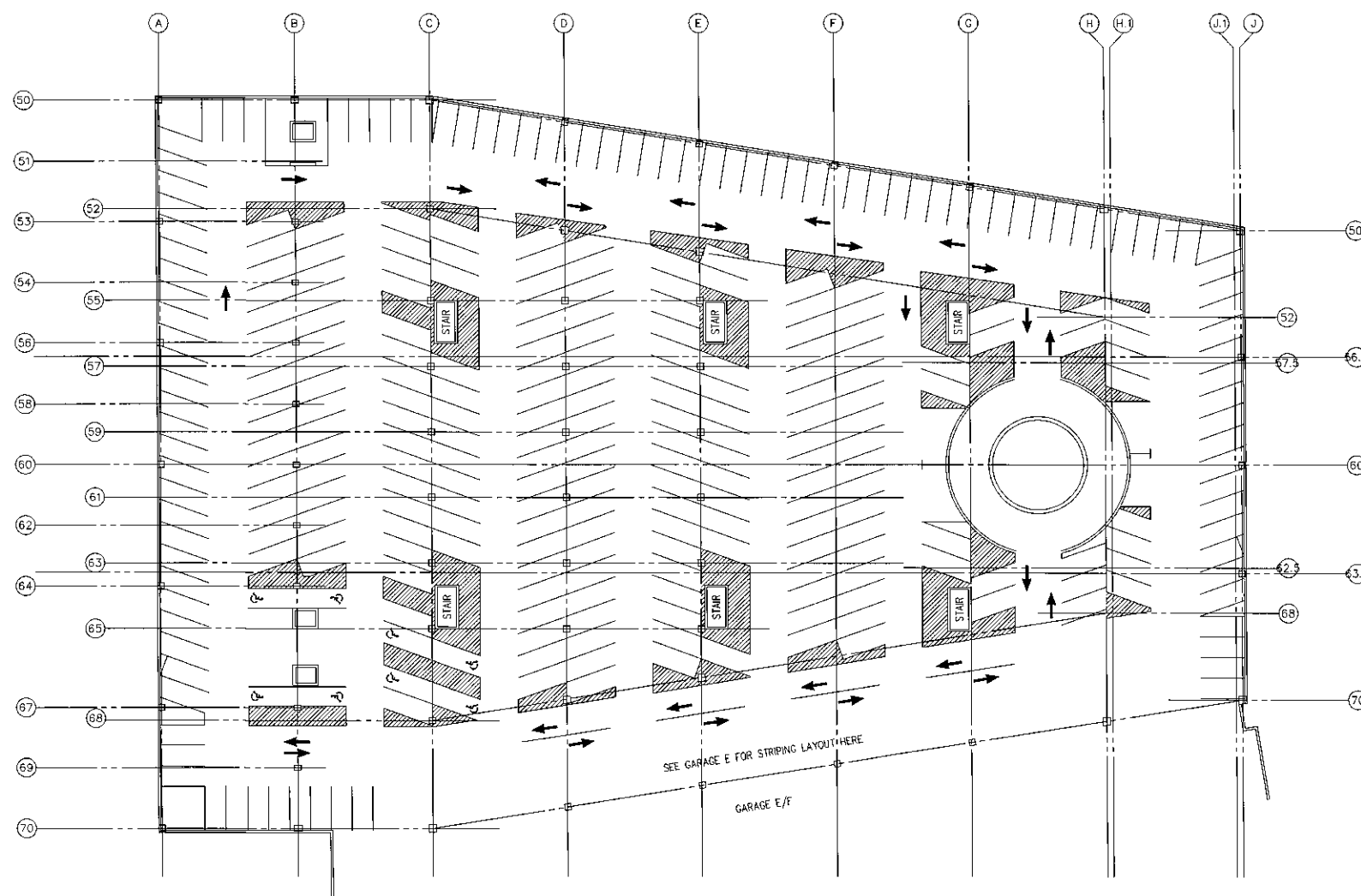
SHEET NO. 27 of 40





Philadelphia Parking Authority  
 3101 MARKET STREET  
 PHILADELPHIA, PA 19104  
 2ND FLOOR

ODONNELL & NACCARATO, INC.  
 STRUCTURAL ENGINEERS  
 SUITE 900  
 111 SOUTH INDEPENDENCE MALL EAST  
 PHILADELPHIA, PENNSYLVANIA 19106-2524  
 TELEPHONE: (215) 925-3788  
 FAX: (215) 427-1051  
 09010098.00



**1**  
**S4.4**  
**GARAGE D**  
**TIER 4 PLAN**

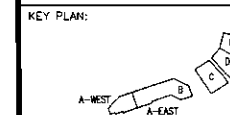
SCALE : 1/32"=1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS, DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL. IN THE VICINITY, THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) (◻) INDICATES REPAIR TYPE.
- 3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	1300 SF
1.1	HORIZONTAL CRACK REPAIR	700 LF
1.2	COLUMN SPALL REPAIR	100 SF
1.4	VERTICAL CONCRETE SPALL REPAIR	100 SF
1.5*	CLEAR PENETRATING SEALER	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.7	OVERHEAD CONCRETE SPALL REPAIR	100 SF
1.8	OVERHEAD CLIP REPAIR	10 EACH
1.9	BEAM SPALL REPAIR	150 SF
1.11	EXPANSION JOINT HEADER REPAIR	500 SF
1.12	EXPANSION JOINT FOAM REPAIR	500 LF
1.14	POST POCKET REPAIR	24 EACH
1.18	CONDUIT REPAIR	20 EACH
1.19	STEEL ANGLE RESTORATION	600 LF

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION**  
**REPAIR PROGRAM**  
**AT PHL GARAGES**

**GARAGE D**  
**TIER 4 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
 DRAWING NO.

S4.4

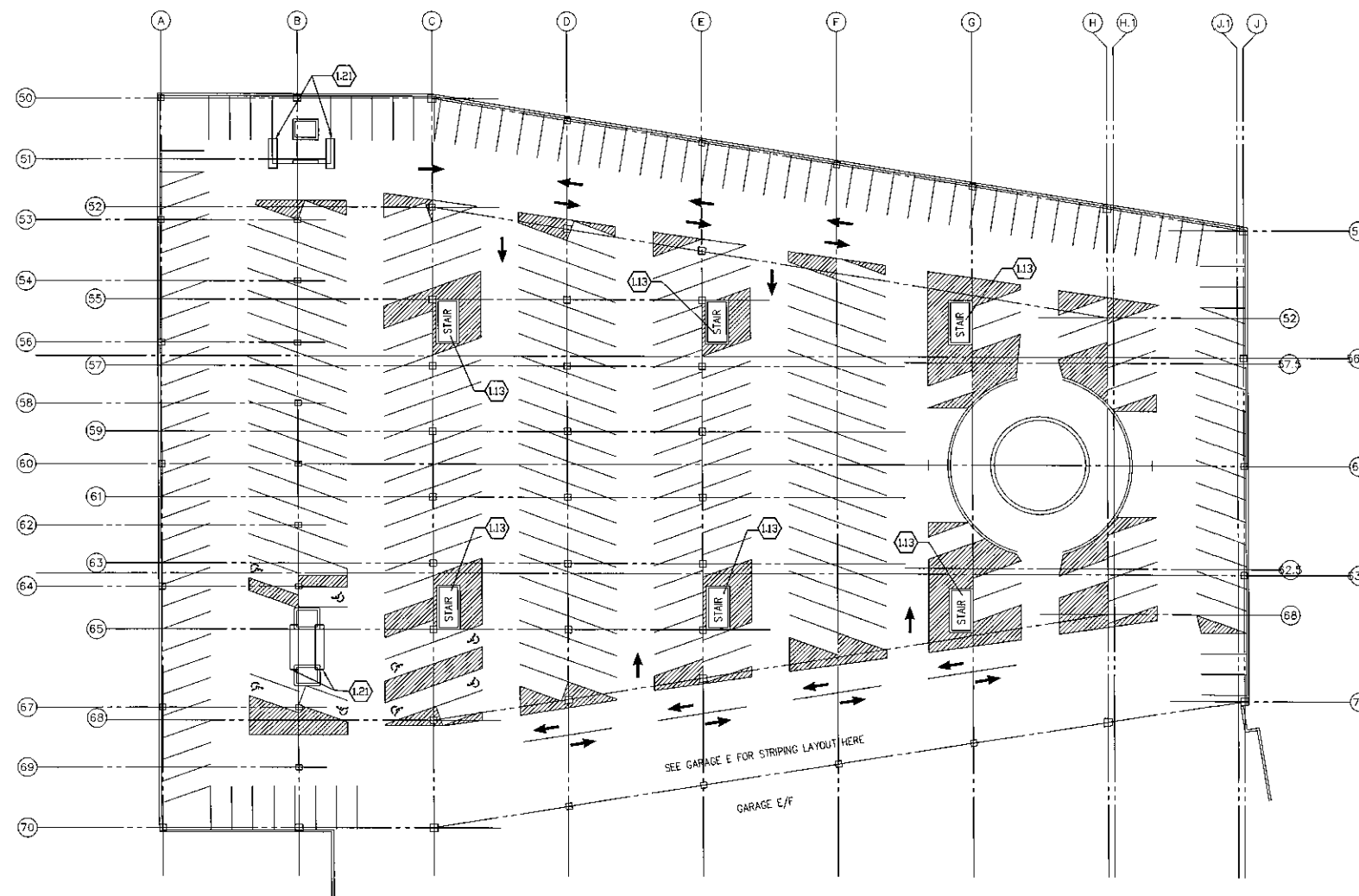
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Philadelphia Parking Authority  
 3101 MARKET STREET  
 PHILADELPHIA, PA 19104  
 2ND FLOOR

ODONNELL & NACCARATO, INC.  
 STRUCTURAL ENGINEERS  
 111 SOUTH INDEPENDENCE MALL EAST  
 SUITE 900  
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 TELEPHONE: (215) 925-3788  
 FAX: (215) 627-4261  
 09010098.00



**GARAGE D  
 TIER 5 PLAN**

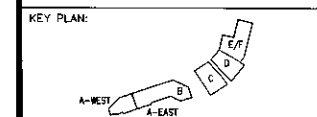
SCALE : 1/32" = 1'-0"

NOTES:  
 1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.0	HORIZONTAL SPALL REPAIR	600 SF
1.14	POST POCKET REPAIR	24 EACH
1.1	HORIZONTAL CRACK REPAIR	700 LF
1.2	COLUMN SPALL REPAIR	100 SF
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.10*	NEW WATERPROOFING MEMBRANE	LUMP SUM
1.11	EXPANSION JOINT HEADER REPAIR	760 LF
1.12	EXPANSION JOINT FOAM REPAIR	760 LF
1.13*	ROOF REPLACEMENT	LUMP SUM
1.18	CONDUIT REPAIR	20 EACH

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
 REPAIR PROGRAM  
 AT PHL GARAGES**

**GARAGE D  
 TIER 5 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
 DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

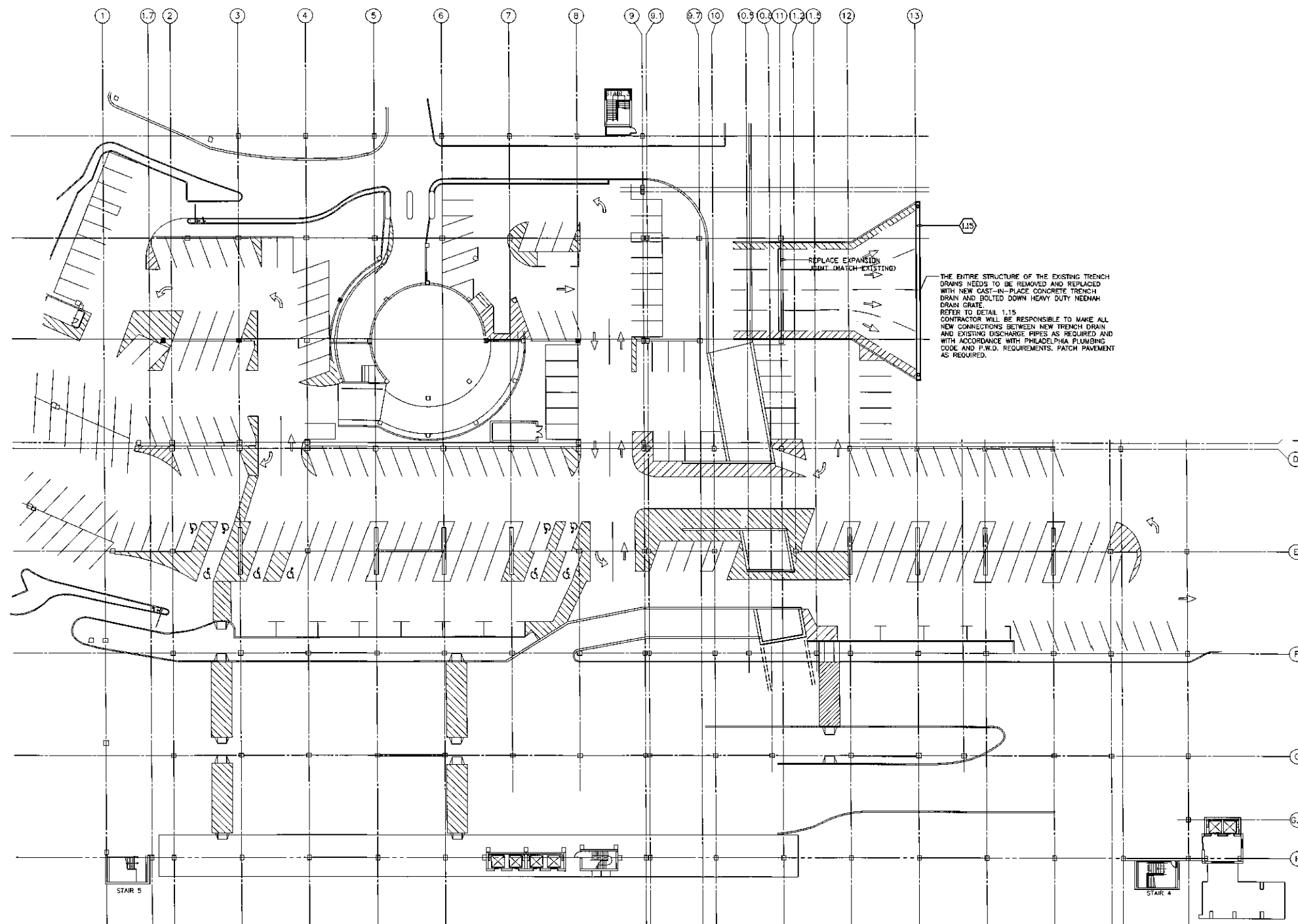
DRAWING NO.  
 S4.5  
 SHEET NO. 29 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
0910078.DWG



**GARAGE E & F  
GROUND LEVEL PLAN**

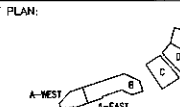
SCALE : 1/32" = 1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.5	CLEAR PENETRATING SEALER AT HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.11	REPLACE EXPANSION JOINT	150 LF
1.15	REPLACE EXISTING TRENCH DRAIN	LUMP SUM

KEY PLAN:



ISSUED FOR BID	5/19/09
REVISION	DESCRIPTION DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE E & F  
GROUND LEVEL PLAN

JOB NO: 0901.0098 CHECKED: RW

DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S5.0

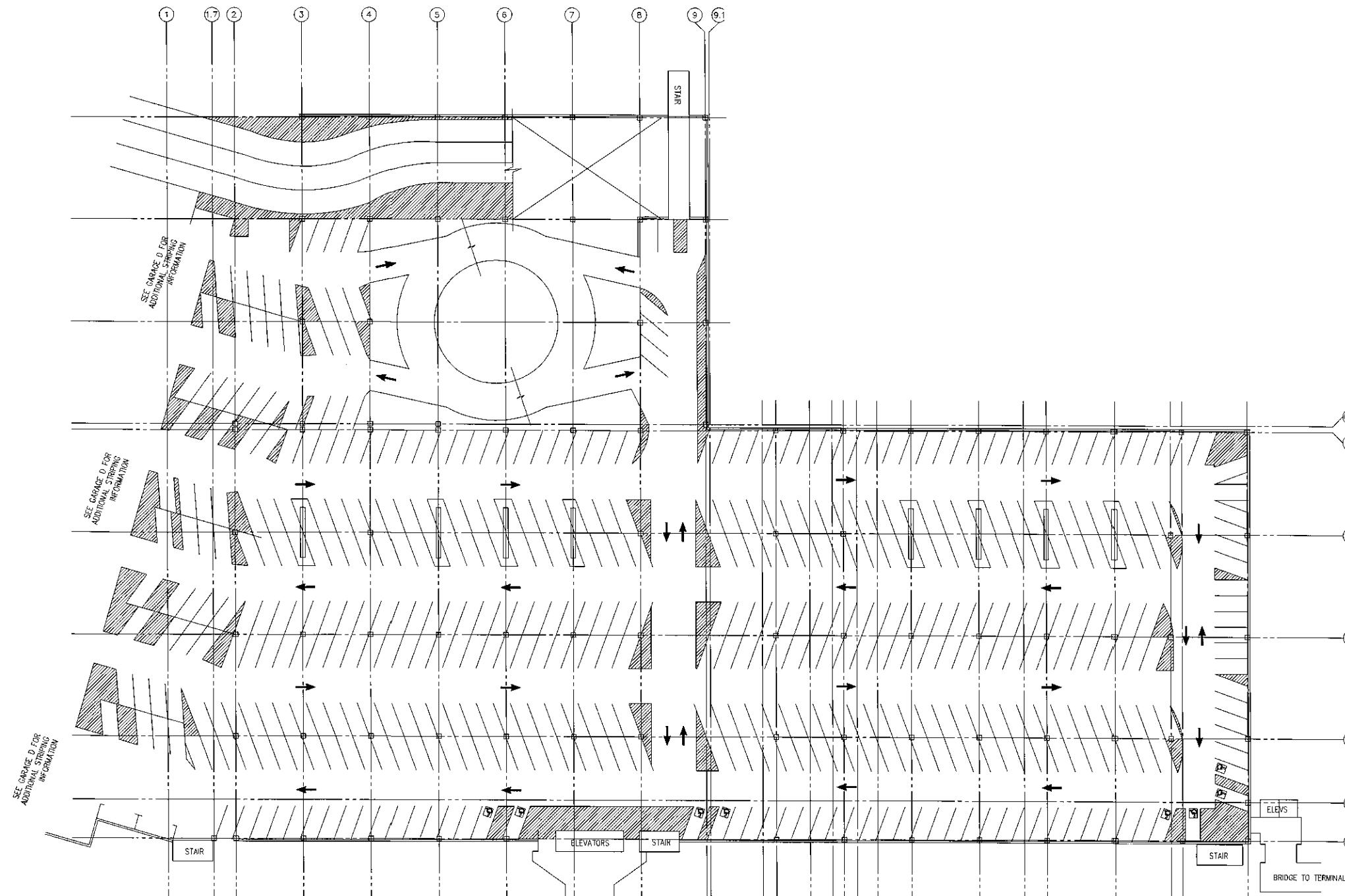
SHEET NO. 30 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1251  
09010098.00



LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.14	POST POCKET REPAIR	20 EA

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

### 1 GARAGE E & F S&1 TIER 1 PLAN

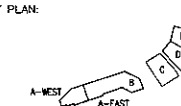
SCALE: 1/32"=1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.

3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

KEY PLAN:



ISSUED FOR BID 5/19/09

REVISION	DESCRIPTION	DATE

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE E & F  
TIER 1 PLAN

JOB NO: 0901.0098 CHECKED: RW

DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S5.1

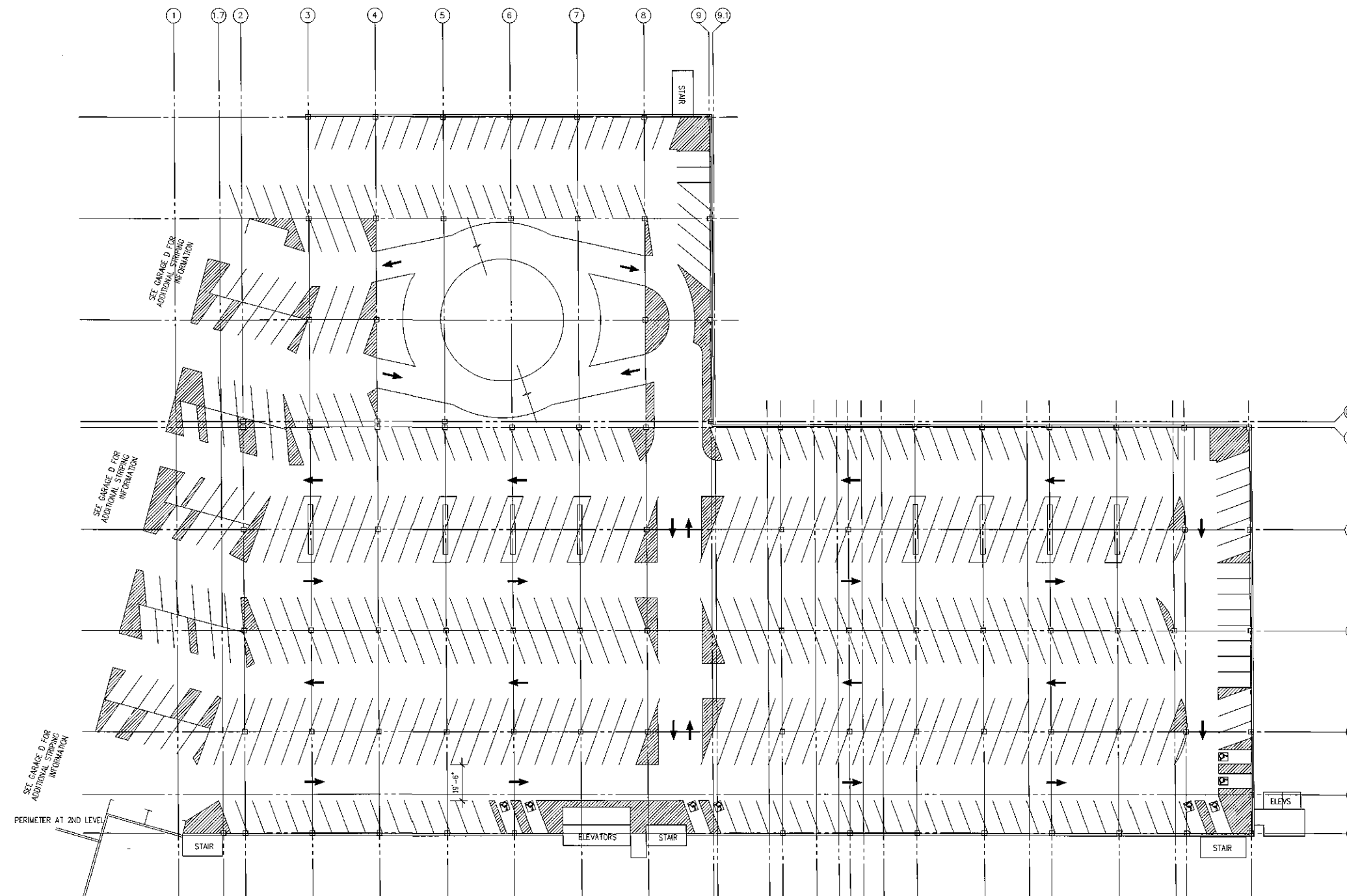
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Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

O'DONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2624  
TELEPHONE: (215) 925-0188  
FAX: (215) 627-1051  
09010098.00



**GARAGE E & F  
TIER 2 PLAN**

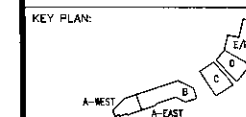
SCALE : 1/32"=1'-0"

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2) ◊ INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE E & F  
TIER 2 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PH.L.CR.09.001  
DRAWING NO.

S5.2

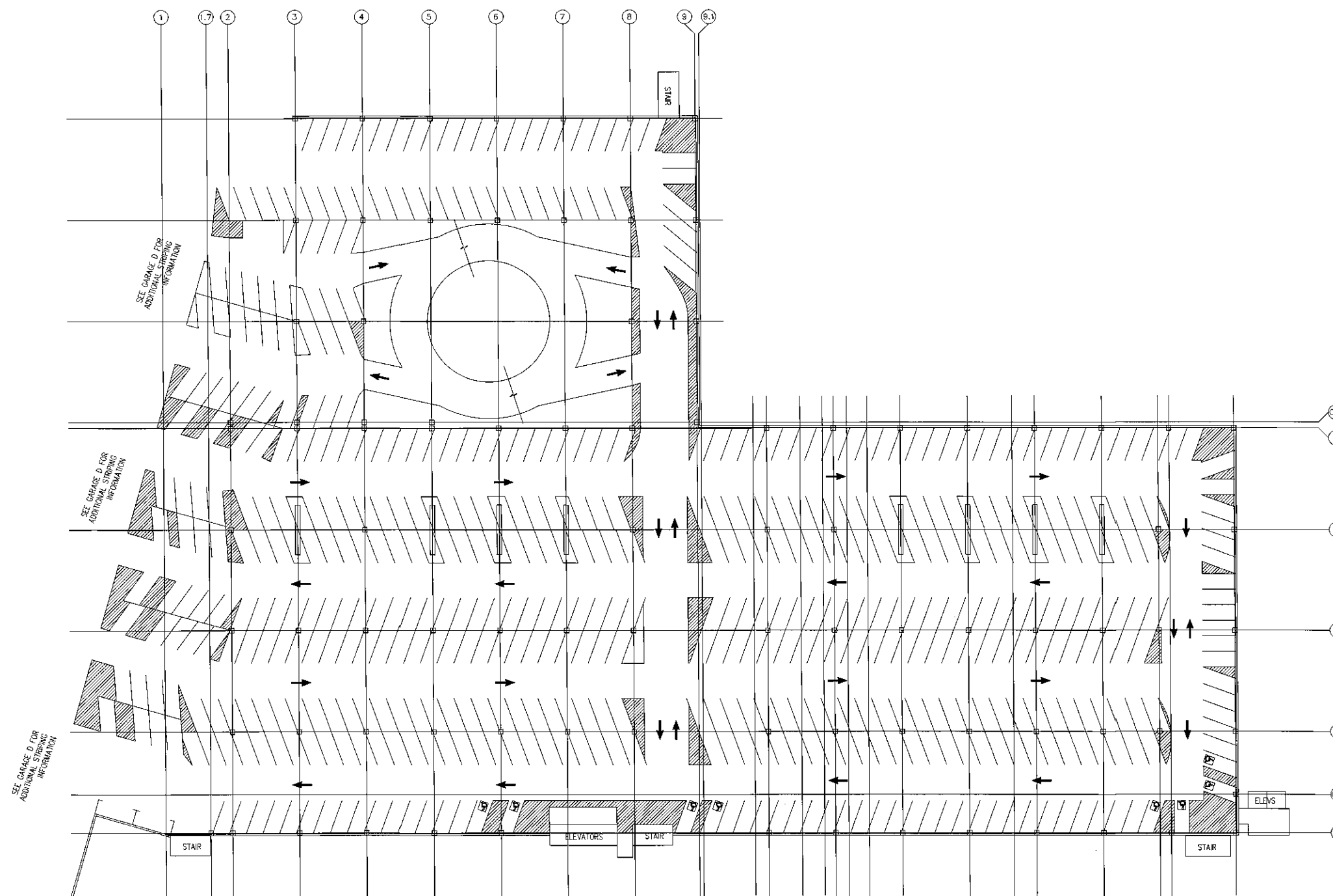
SHEET NO. 32 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

O'DONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
09010098.00



**GARAGE E & F  
TIER 3 PLAN**

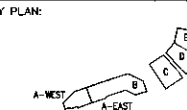
SCALE : 1/32" = 1'-0"

NOTES:  
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2) INDICATES REPAIR TYPE.  
3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CENTRAL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES

GARAGE E & F  
TIER 3 PLAN

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S5.3

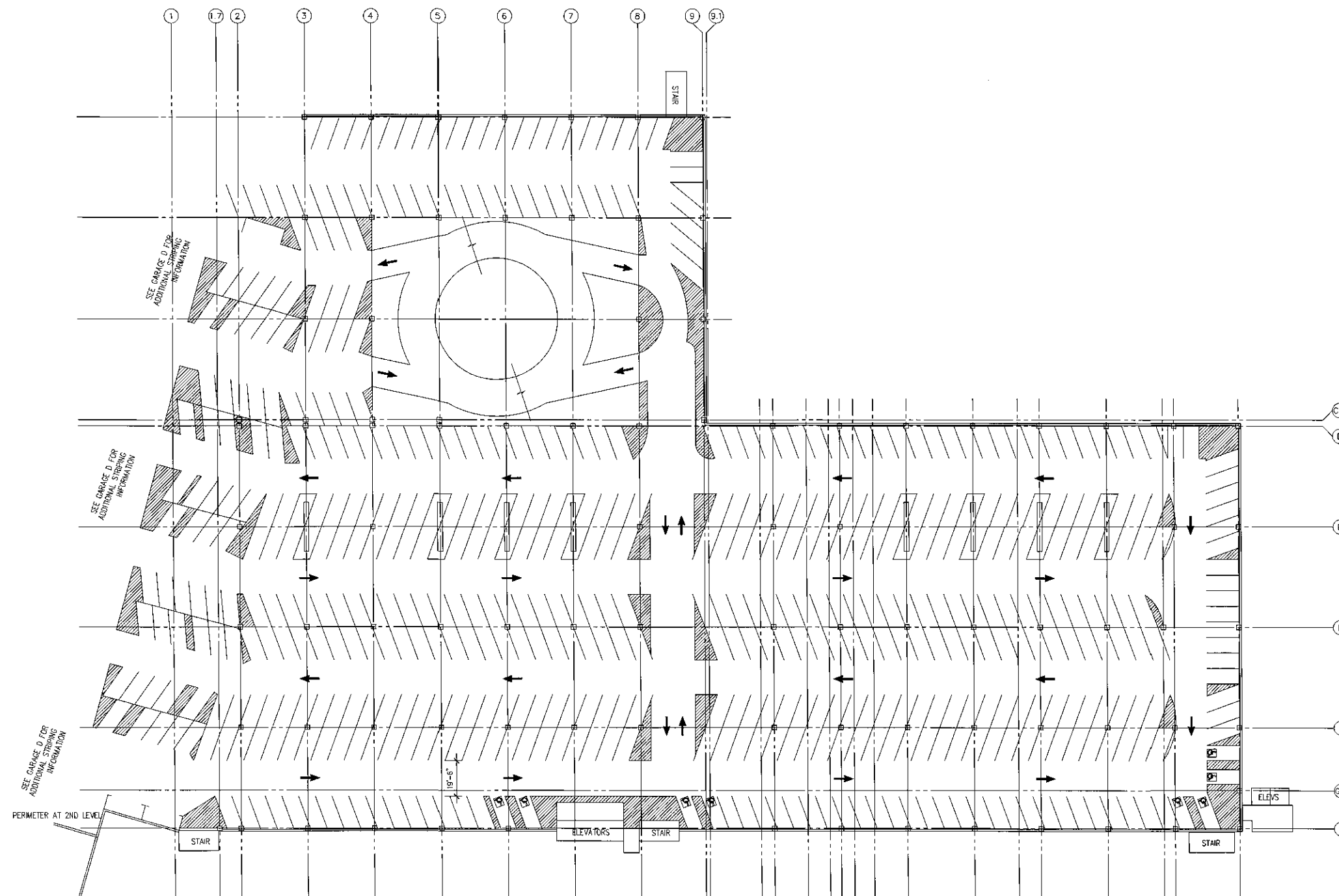
SHEET NO. 33 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL, EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE (215) 925-3788  
FAX: (215) 627-1351  
0910098.00



**GARAGE E & F  
TIER 4 PLAN**

SCALE : 1/32" = 1'-0"

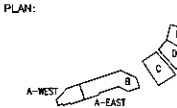
NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR REMOVAL BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

- 2) INDICATES REPAIR TYPE.
- 3) SEE DRAWING "S6.0, S6.1 & S6.2" FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE E & F  
TIER 4 PLAN**

JOB. NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.

S5.4

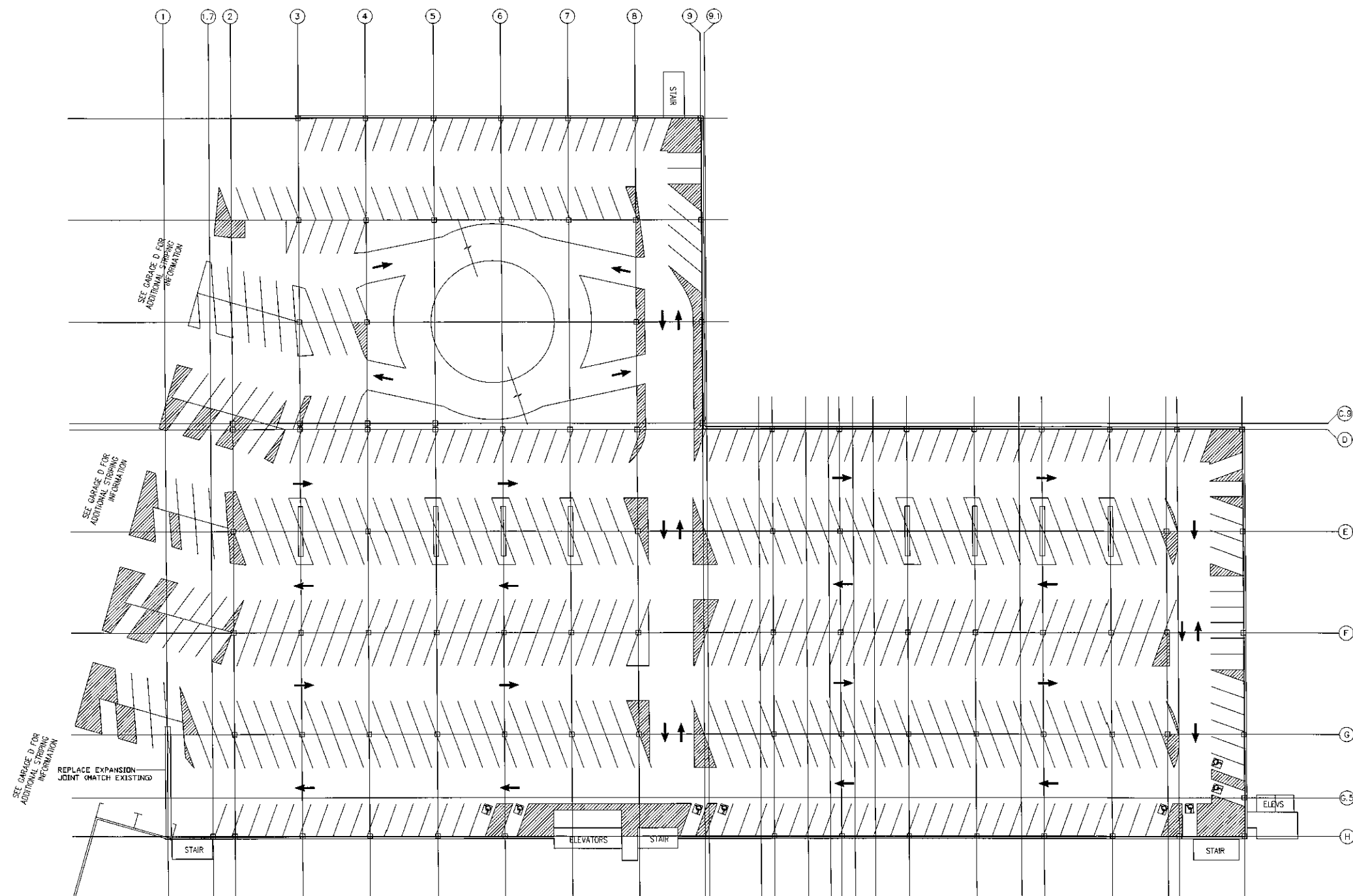
SHEET NO. 34 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

ODONNELL & NACCARATO, INC.  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-4551  
0910098.00



LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	CONVE SEALANT REPAIR	LUMP SUM
1.12	REPLACEMENT EXPANSION JOINT	80 LF

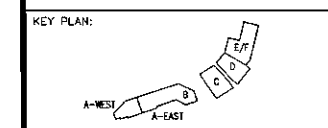
\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

### GARAGE E & F TIER 5 PLAN

SCALE : 1/32" = 1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

### CONCRETE RESTORATION REPAIR PROGRAM AT PHL GARAGES

#### GARAGE E & F TIER 5 PLAN

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

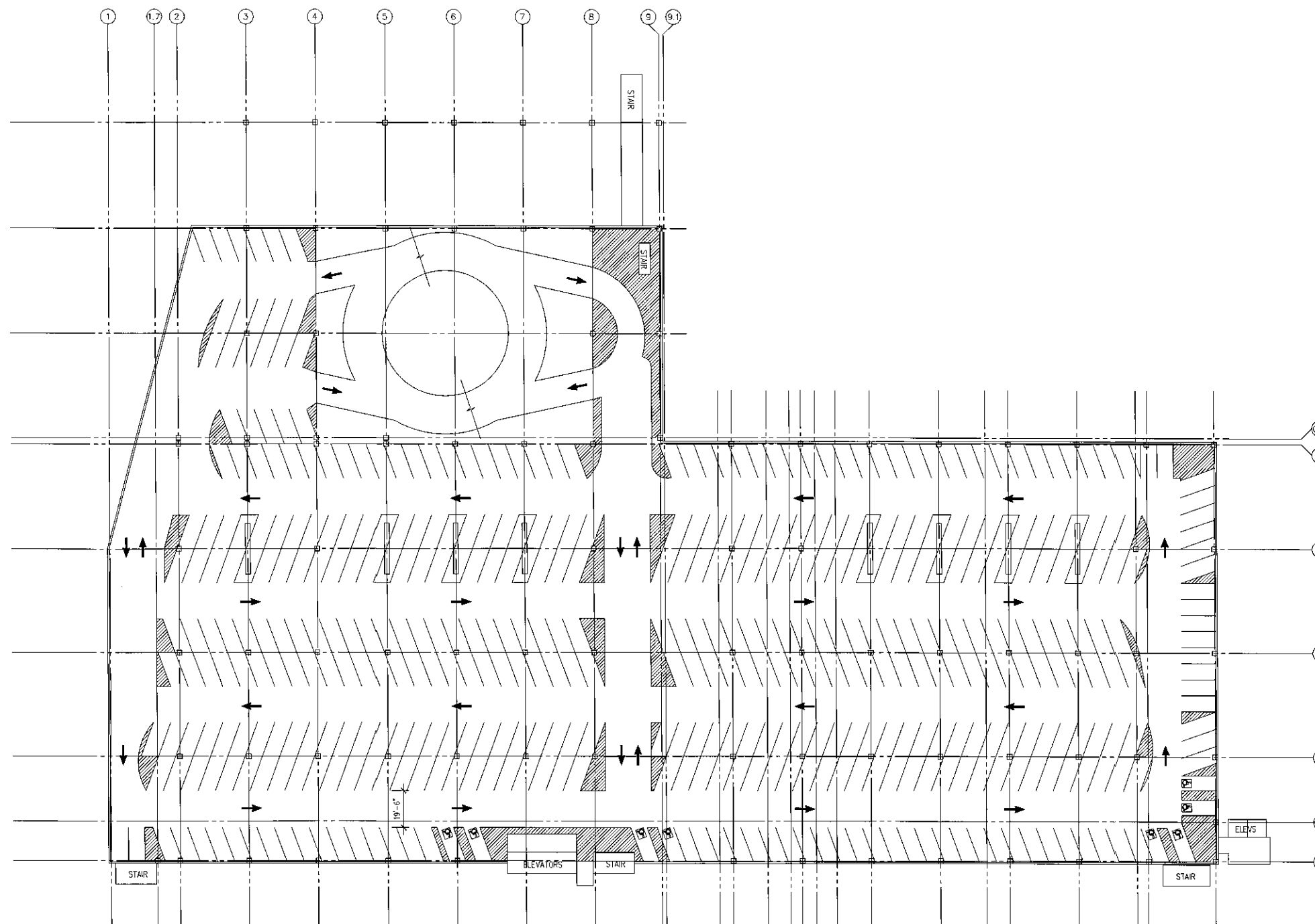
S5.5  
SHEET NO. 35 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**O'DONNELL & NACCARATO, INC.**  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 427-4051  
0901.0098.00



**GARAGE E & F  
TIER 6 PLAN**

SCALE : 1/32" = 1'-0"

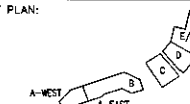
NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S6.0, S6.1 & S6.2' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	260 LF
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.

KEY PLAN:



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BID	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE E & F  
TIER 6 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001  
DRAWING NO.

S5.6

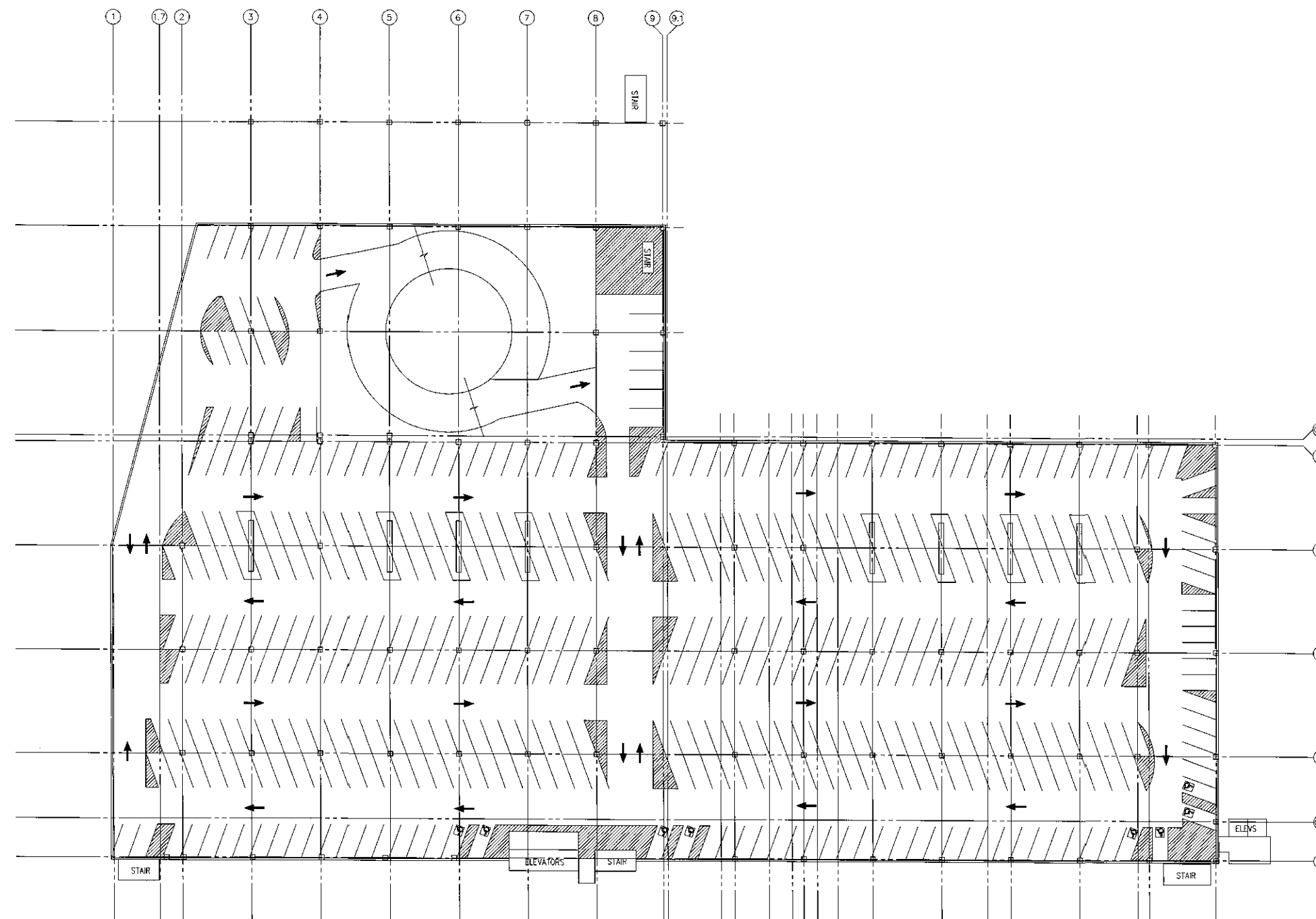
SHEET NO. 36 of 40





Philadelphia Parking Authority  
3101 MARKET STREET  
PHILADELPHIA, PA 19104  
2ND FLOOR

**O'DONNELL & NACCARATO, INC.**  
STRUCTURAL ENGINEERS  
111 SOUTH INDEPENDENCE MALL EAST  
SUITE 950  
PHILADELPHIA, PENNSYLVANIA 19106-2524  
TELEPHONE: (215) 925-3788  
FAX: (215) 627-1051  
070100798.00



**GARAGE E & F  
TIER 7 PLAN**

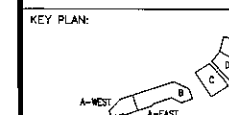
SCALE : 1/32"=1'-0"

NOTES:  
1) REPAIR LOCATIONS & DIMENSIONS ARE FOR GENERAL REFERENCE ONLY. EXTENT AND LOCATION OF REPAIRS MAY VARY FROM WHAT IS SHOWN ON THE DRAWINGS DEPENDING UPON FIELD CONDITIONS. CONTRACTOR IS TO SOUND SURFACES WITH HAMMER, ROD, CHAIN OR APPROPRIATE TOOL TO DETECT DELAMINATIONS AND DEFECTS. ALL SUPPORTED FLOOR SURFACES ARE TO BE SOUNDED AND CEILINGS VISUALLY SURVEYED, REGARDLESS OF WHETHER THE DRAWINGS SHOW OR DO NOT SHOW A FLOOR OR CEILING SPALL IN THE VICINITY. THE LIMITS OF THE DELAMINATION ARE TO BE MARKED FOR DEMOLITION BY CONTRACTOR PRIOR TO REMOVAL. LIMITS OF REPAIR AREA SHALL BE VERIFIED BY ENGINEER AND OWNER.

2) INDICATES REPAIR TYPE.  
3) SEE DRAWING 'S60, S61 & S62' FOR REPAIR DETAILS.

LEGEND		
ITEM NO.	DESCRIPTION	QUANTITIES
1.1	HORIZONTAL CRACK REPAIR	300 LF
1.5*	CLEAR PENETRATING SEALER, ENTIRE FLOOR INCLUDING HELIX E/F, RAMP UP/DOWN	LUMP SUM
1.3	VERTICAL CONCRETE CRACK REPAIR	1000 LF
1.6*	TEE TO TEE JOINT REPAIR	LUMP SUM
1.6.1*	CONTROL JOINT REPAIR	LUMP SUM
1.6.2*	COVE SEALANT REPAIR	LUMP SUM
1.14	POST POCKET REPAIR	20 EA

\*CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF EACH REPAIR TO PROVIDE LUMP SUM COST AT EACH LEVEL.



REVISION	DESCRIPTION	DATE
-	ISSUED FOR BD	5/19/09

**CONCRETE RESTORATION  
REPAIR PROGRAM  
AT PHL GARAGES**

**GARAGE E & F  
TIER 7 PLAN**

JOB NO: 0901.0098 CHECKED: RW  
DRAWN: CAD DATE: 2009/05/09

BID No. N.PHL.CR.09.001

DRAWING NO.  
S5.7

SHEET NO. 37 of 40







NOTES & LEGEND:  
 1. ALL LINE STRIPING TO BE PERFORMED AFTER COMPLETING OF TRAFFIC MEMBRANE.  
 2. SEE LS-300 FOR TYPICAL STRIPING DIMENSIONS.

6  
G-63 LOCATION IDENTIFICATION TO BE APPLIED TO COLUMN. SEE 7/LS-300 FOR ADDITIONAL INFORMATION.

GARAGE E NOT IN SCOPE

SEAL:

**PHILADELPHIA PARKING AUTHORITY  
 GARAGE D RENEWAL  
 PHILADELPHIA INTERNATIONAL AIRPORT  
 PHILADELPHIA, PA**

NO.	DATE	REVISIONS	BY

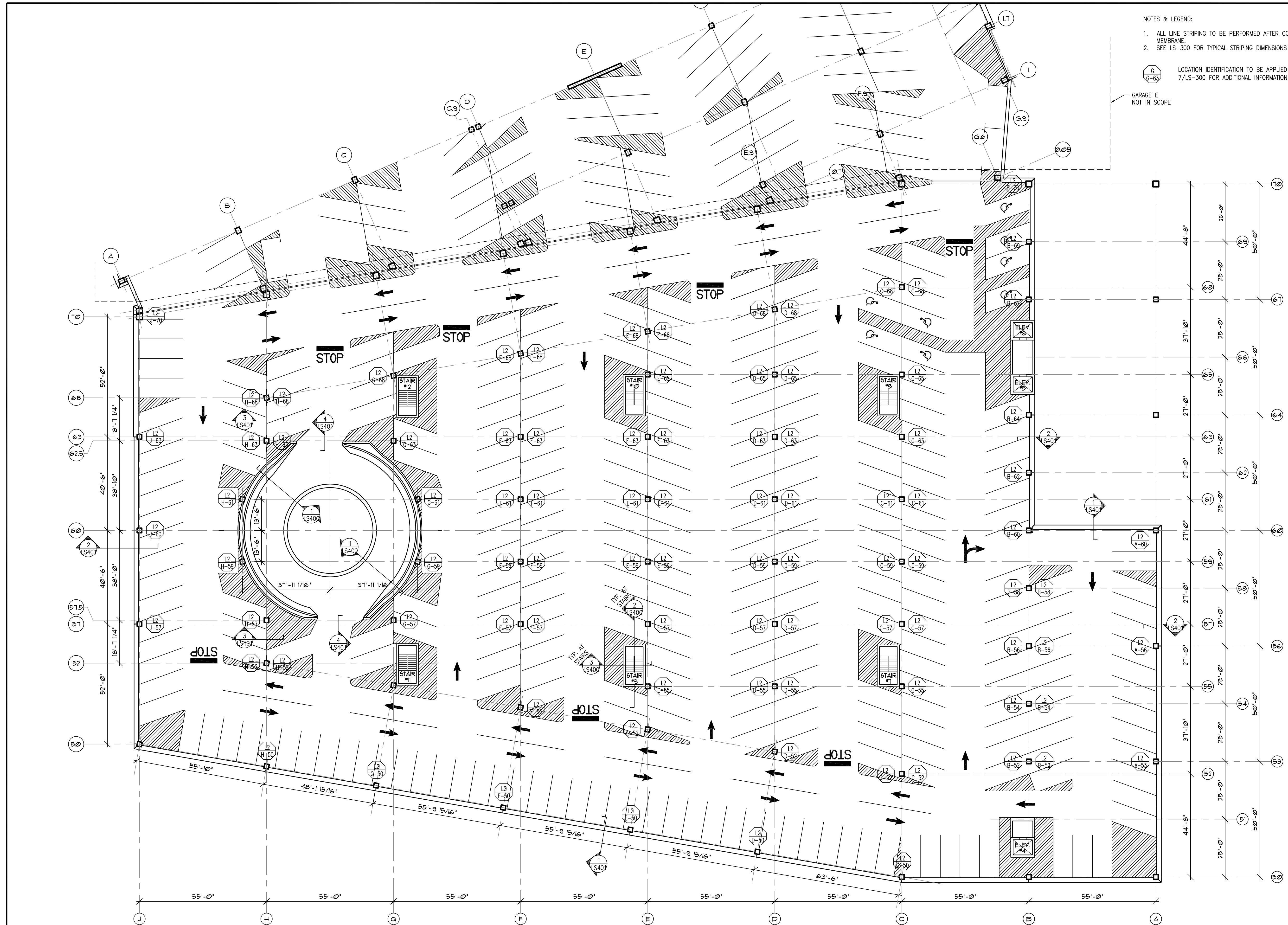
PPA PROJECT ID No.	BID 15-19
DESIGN:	JB
DRAWN:	VB
CHECKED:	AFW
SCALE:	AS SHOWN
DATE:	OCTOBER, 2015
PROJECT No.:	
DRAWING TITLE:	

**LEVEL 2 STRIPING AND PAINTING PLAN**

DRAWING No.

**LS-102**

ISSUED FOR PERMIT - JUNE 1, 2016



**LEVEL 2 STRIPING & PAINTING PLAN**  
 SCALE: 1" = 20'-0"



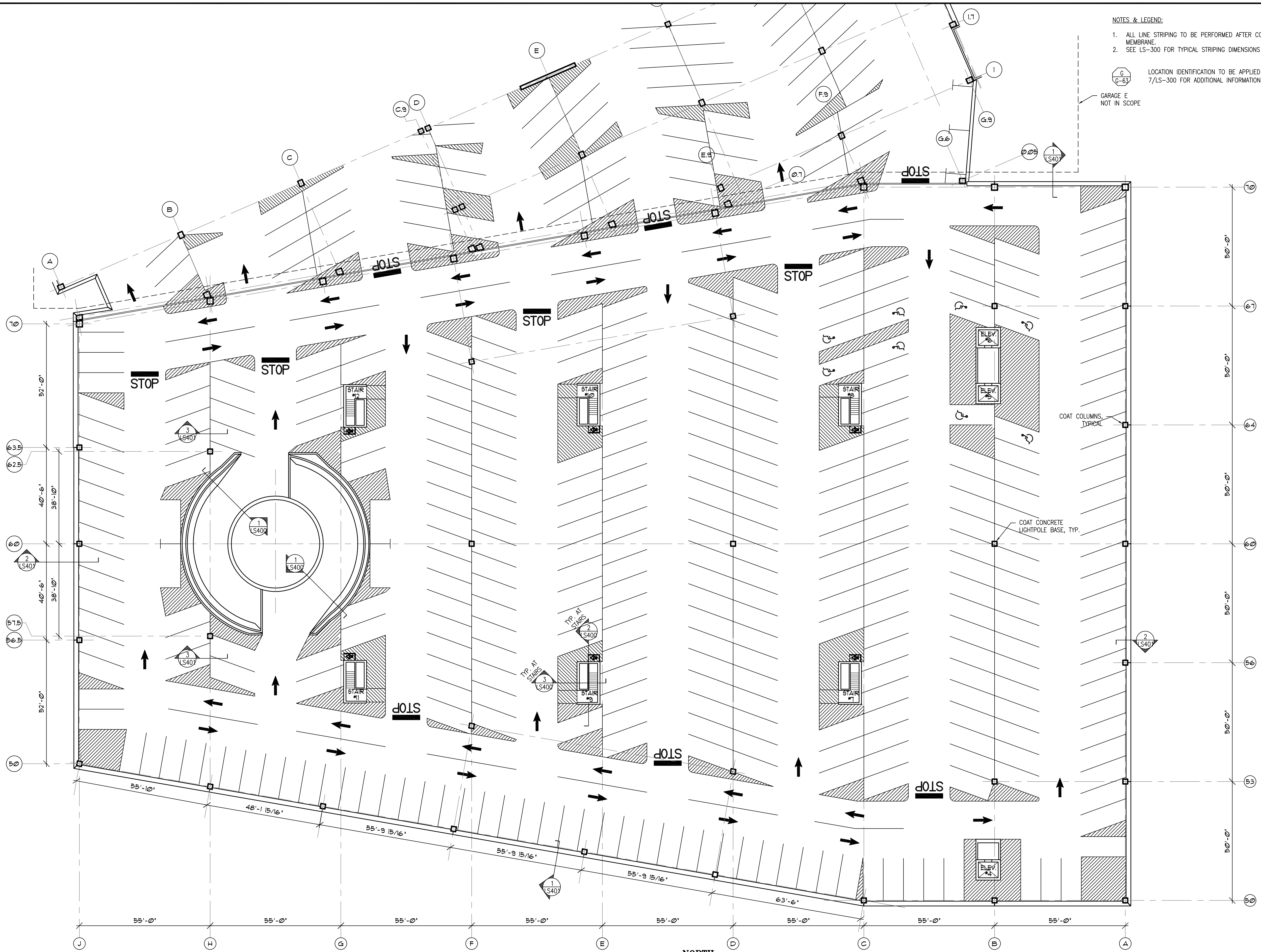




NOTES & LEGEND:  
 1. ALL LINE STRIPING TO BE PERFORMED AFTER COMPLETING OF TRAFFIC MEMBRANE.  
 2. SEE LS-300 FOR TYPICAL STRIPING DIMENSIONS

6  
 C-63 LOCATION IDENTIFICATION TO BE APPLIED TO COLUMN. SEE 7/LS-300 FOR ADDITIONAL INFORMATION.

GARAGE E NOT IN SCOPE



**ROOF LEVEL STRIPING & PAINTING PLAN**  
 SCALE: 1" = 20'-0"

**O&S ASSOCIATES**  
 CONSULTING ENGINEERS  
 1710 WALTON ROAD  
 BLUE BELL, PA 19422  
 610.628.9400  
 WWW.OANDSASSOCIATES.COM

**PHILADELPHIA**  
 Parking Authority

SEAL:

**PHILADELPHIA PARKING AUTHORITY**  
**GARAGE D RENEWAL**  
**PHILADELPHIA INTERNATIONAL AIRPORT**  
 PHILADELPHIA, PA

NO.	DATE	REVISIONS	BY

ISSUED FOR PERMIT - JUNE 1, 2016

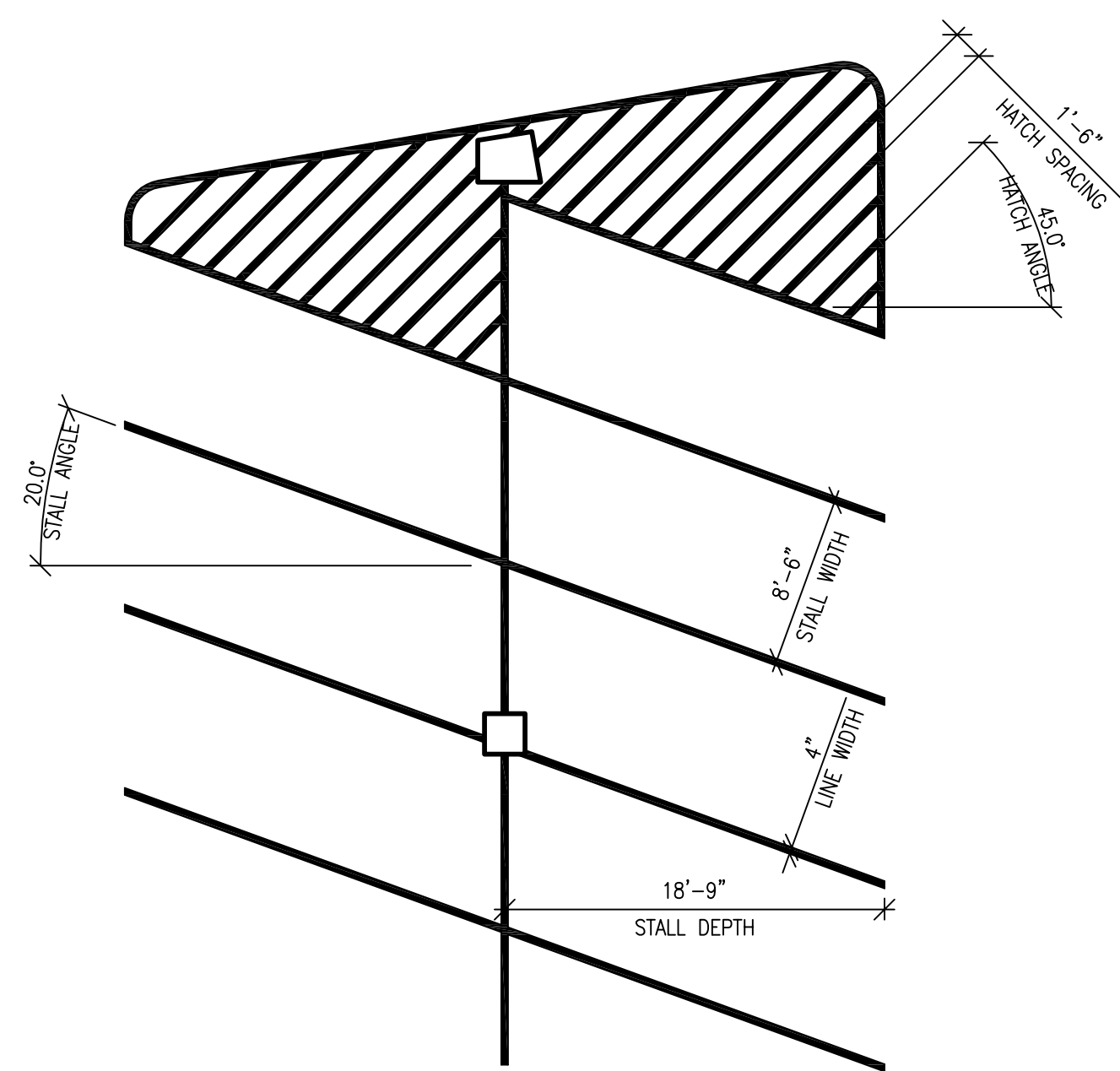
PPA PROJECT ID No. BID 15-19  
 DESIGN: JIB  
 DRAWN: VB  
 CHECKED: AFW  
 SCALE: AS SHOWN  
 DATE: OCTOBER, 2015

PROJECT No.:  
 DRAWING TITLE:  
**ROOF LEVEL STRIPING AND PAINTING PLAN**  
 DRAWING No.

**LS-105**

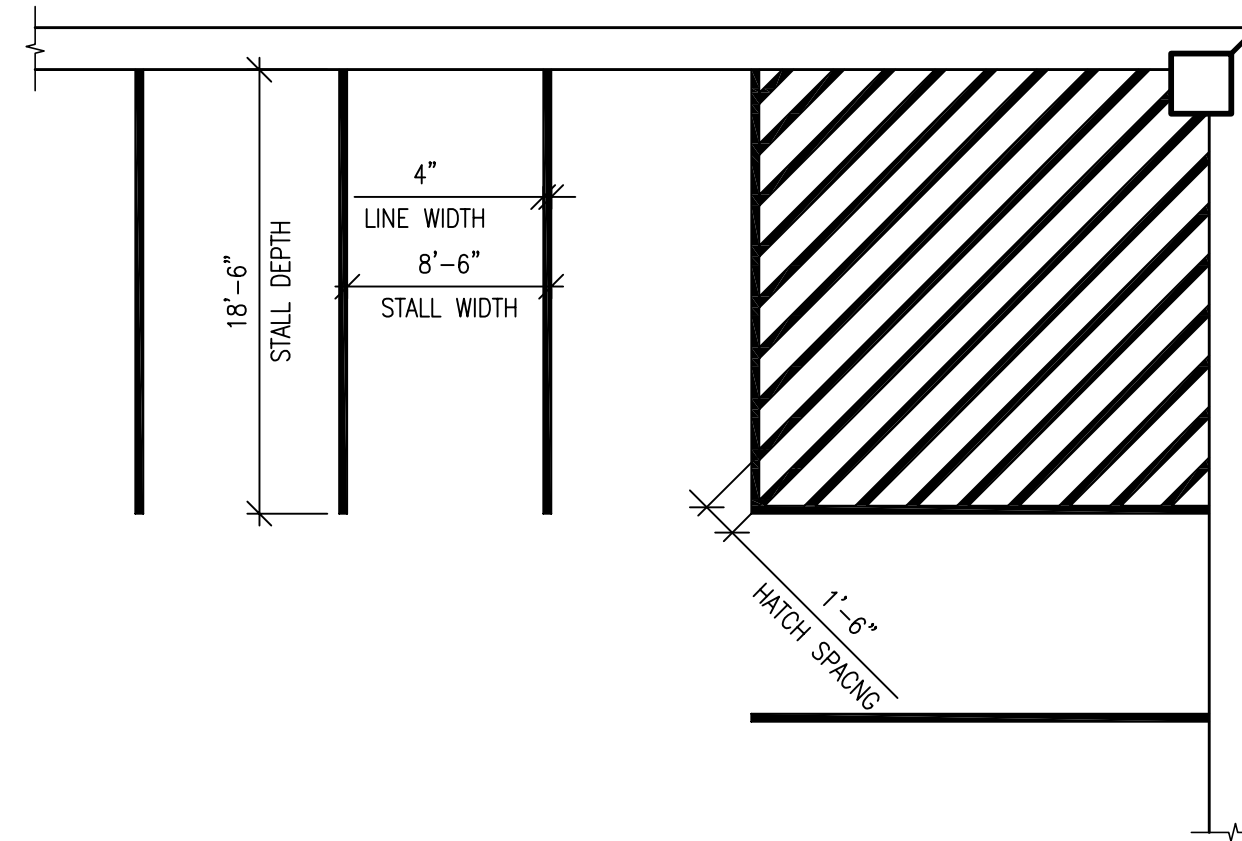
SEAL:

**PHILADELPHIA PARKING AUTHORITY  
 GARAGE D RENEWAL  
 PHILADELPHIA INTERNATIONAL AIRPORT  
 PHILADELPHIA, PA**



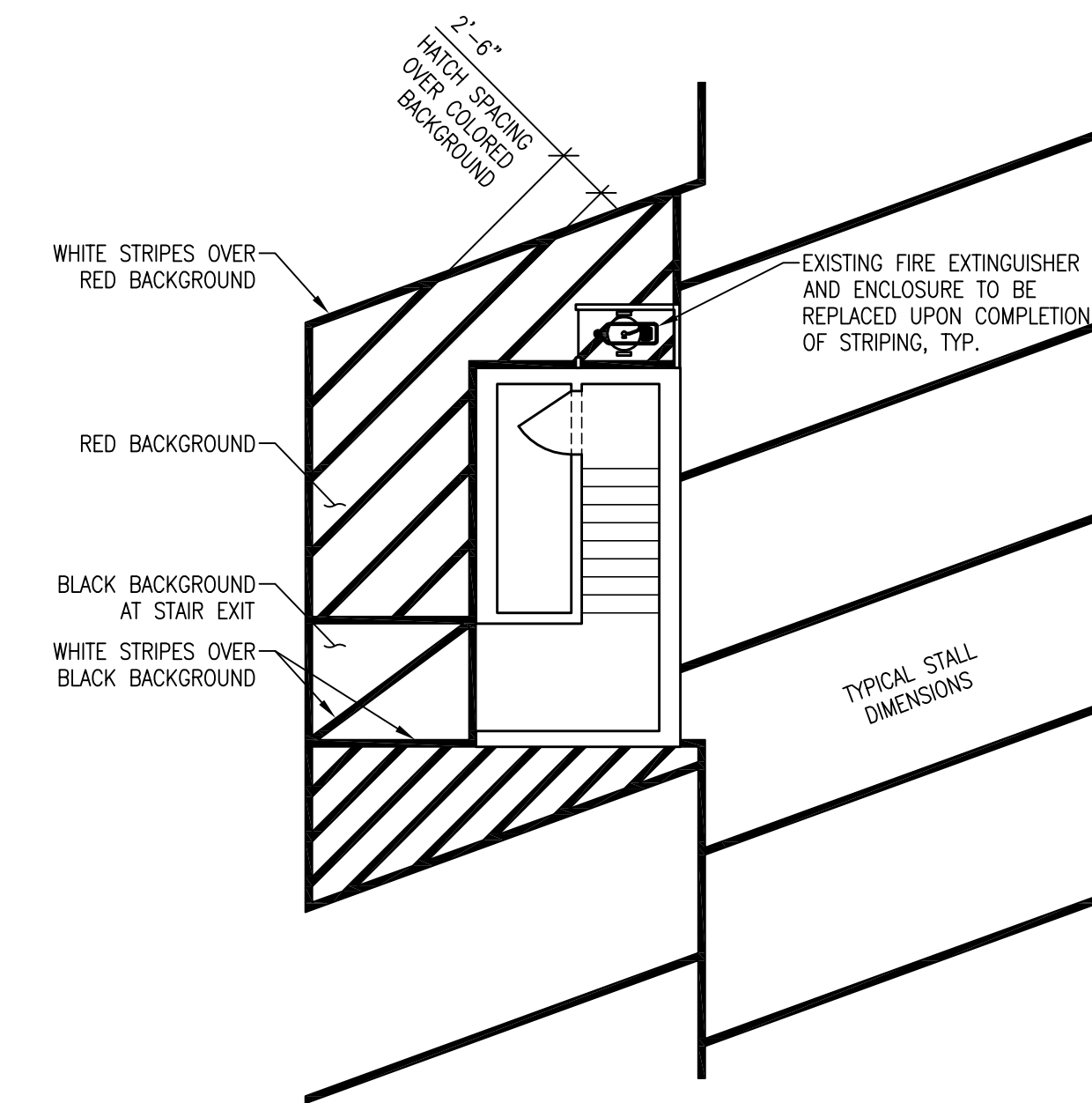
ALL TYPICAL LINE STRIPING TO BE COLOR YELLOW, U.N.O.

**1 TYPICAL ANGLED PARKING STRIPING LAYOUT**  
 LS300 SCALE: N.T.S.



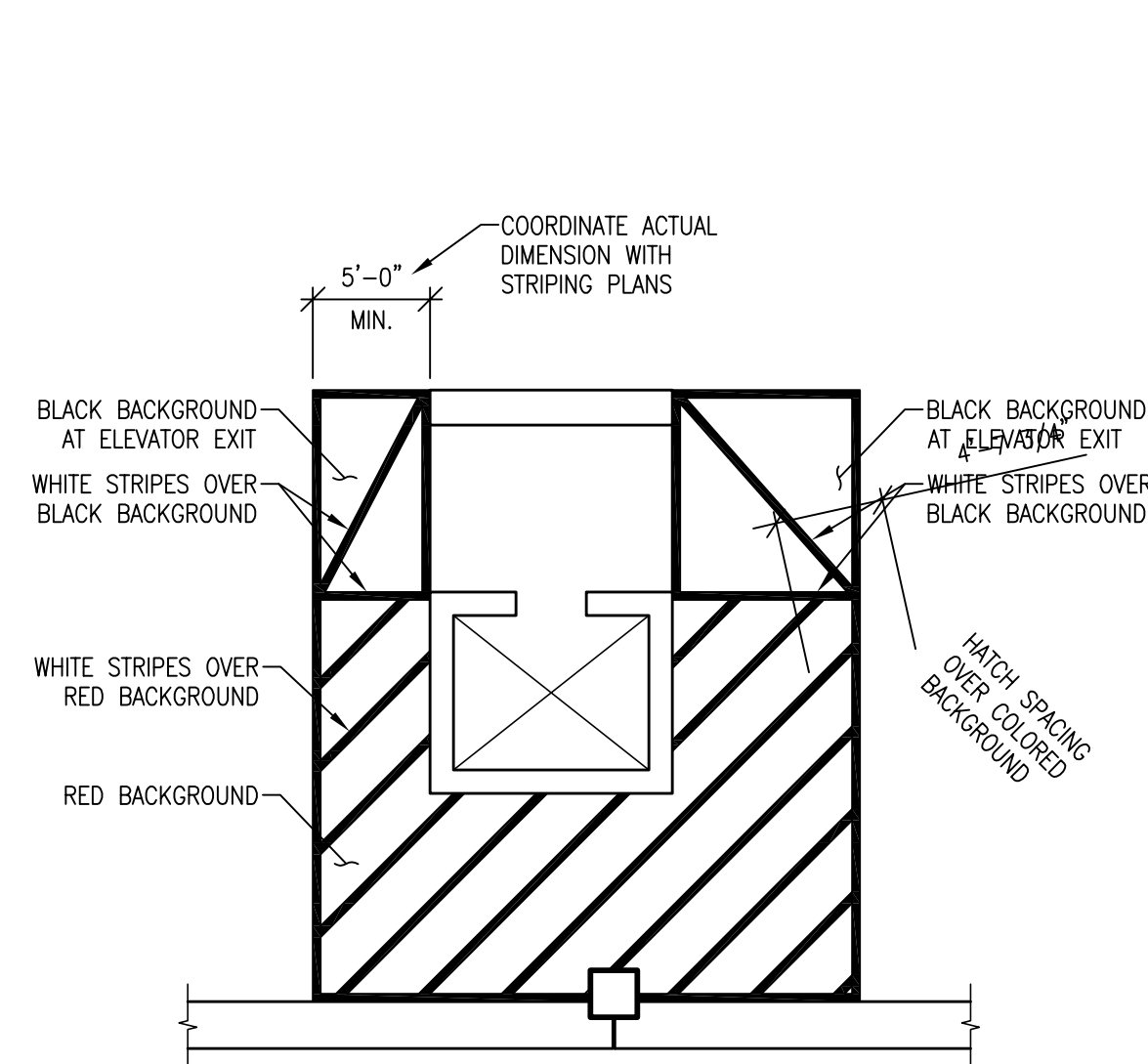
ALL TYPICAL LINE STRIPING TO BE COLOR YELLOW, U.N.O.

**2 TYPICAL 90° PARKING STRIPING LAYOUT**  
 LS300 SCALE: N.T.S.

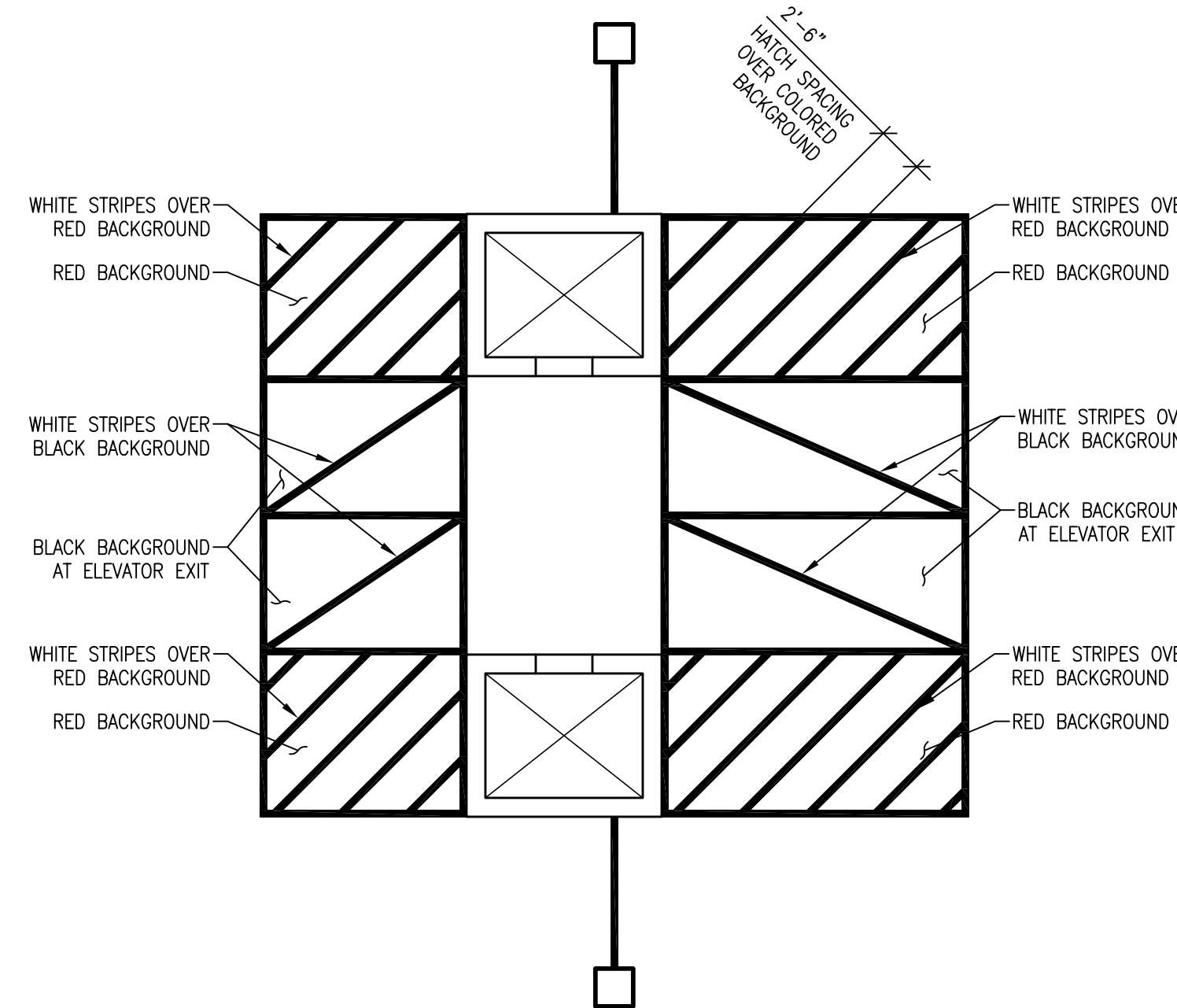


ALL TYPICAL LINE STRIPING TO BE COLOR YELLOW, U.N.O.

**3 TYPICAL STRIPING AT STAIRS**  
 LS300 SCALE: N.T.S.

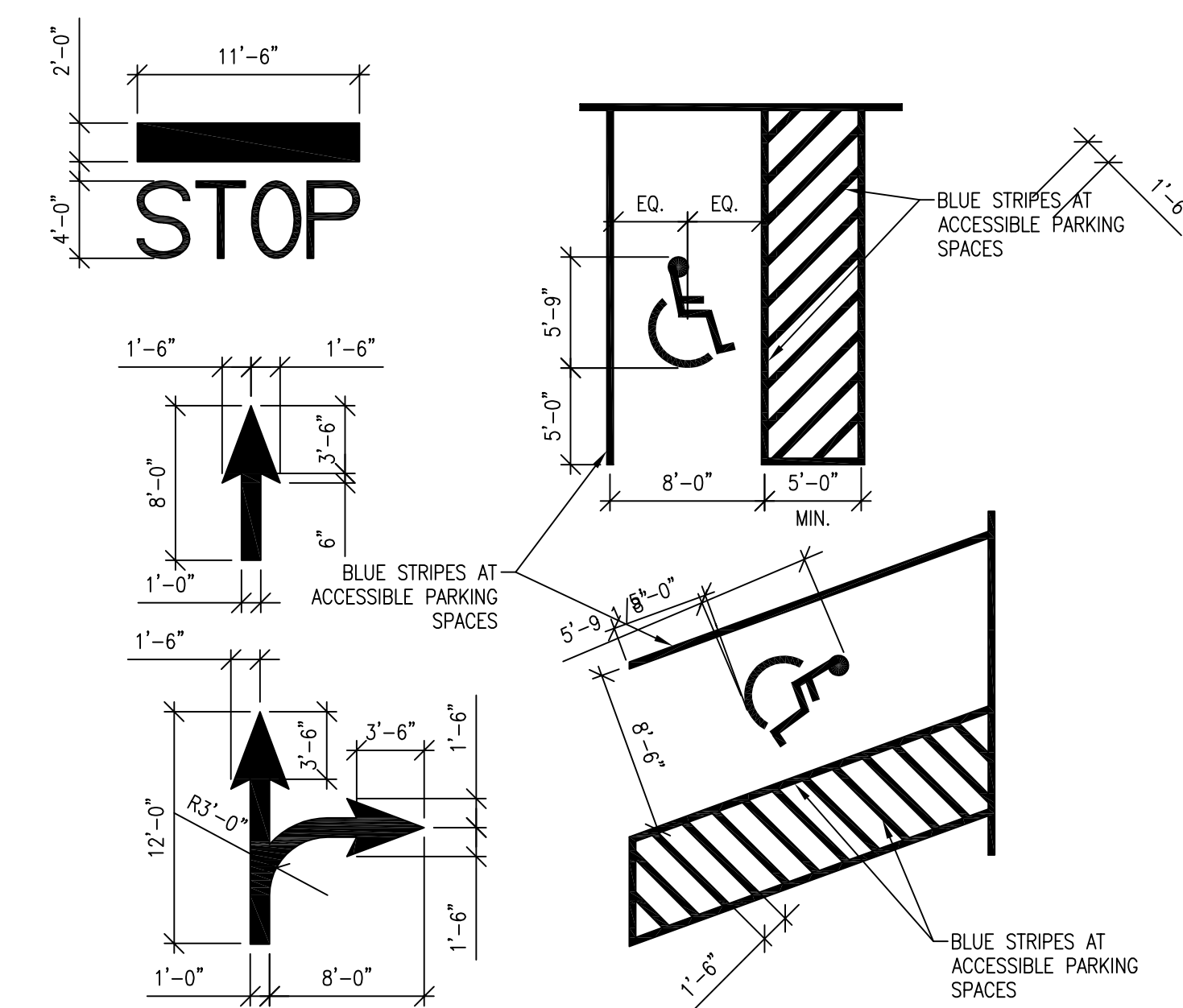


**4 TYPICAL STRIPING AT SINGLE ELEVATOR**  
 LS300 SCALE: N.T.S.

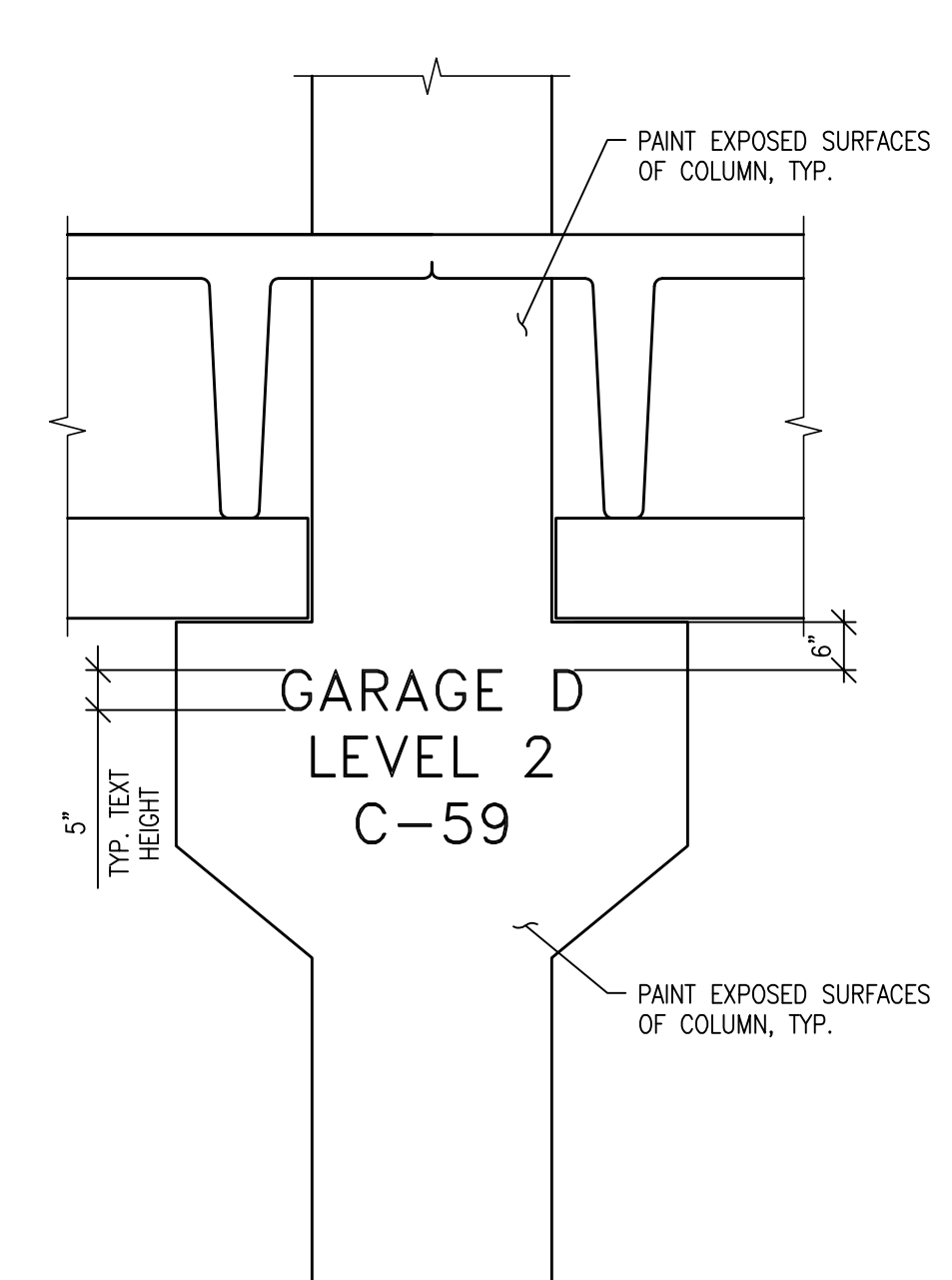


ALL TYPICAL LINE STRIPING TO BE COLOR YELLOW, U.N.O.

**5 TYPICAL STRIPING AT DOUBLE ELEVATOR**  
 LS300 SCALE: N.T.S.



**6 TYPICAL PAVEMENT MARKINGS**  
 LS300 SCALE: N.T.S.



**7 LOCATION IDENTIFICATION KEY**  
 R300 SCALE: N.T.S.

NO.	DATE	REVISIONS	BY

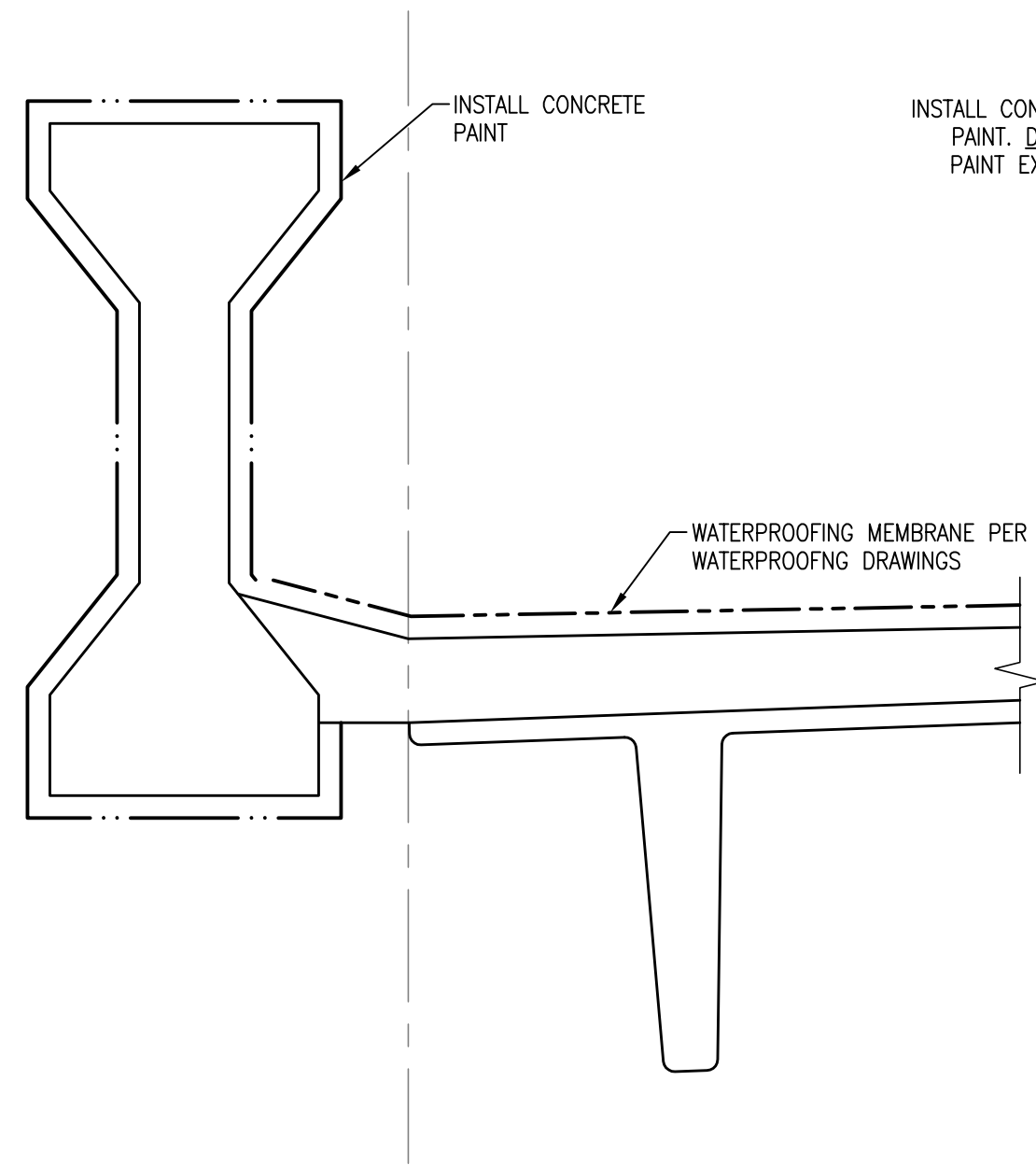
PPA PROJECT ID No.	BID 15-19
DESIGN:	JB
DRAWN:	VB
CHECKED:	AFW
SCALE:	AS SHOWN
DATE:	OCTOBER, 2015
PROJECT No.:	
DRAWING TITLE:	

DRAWING No.

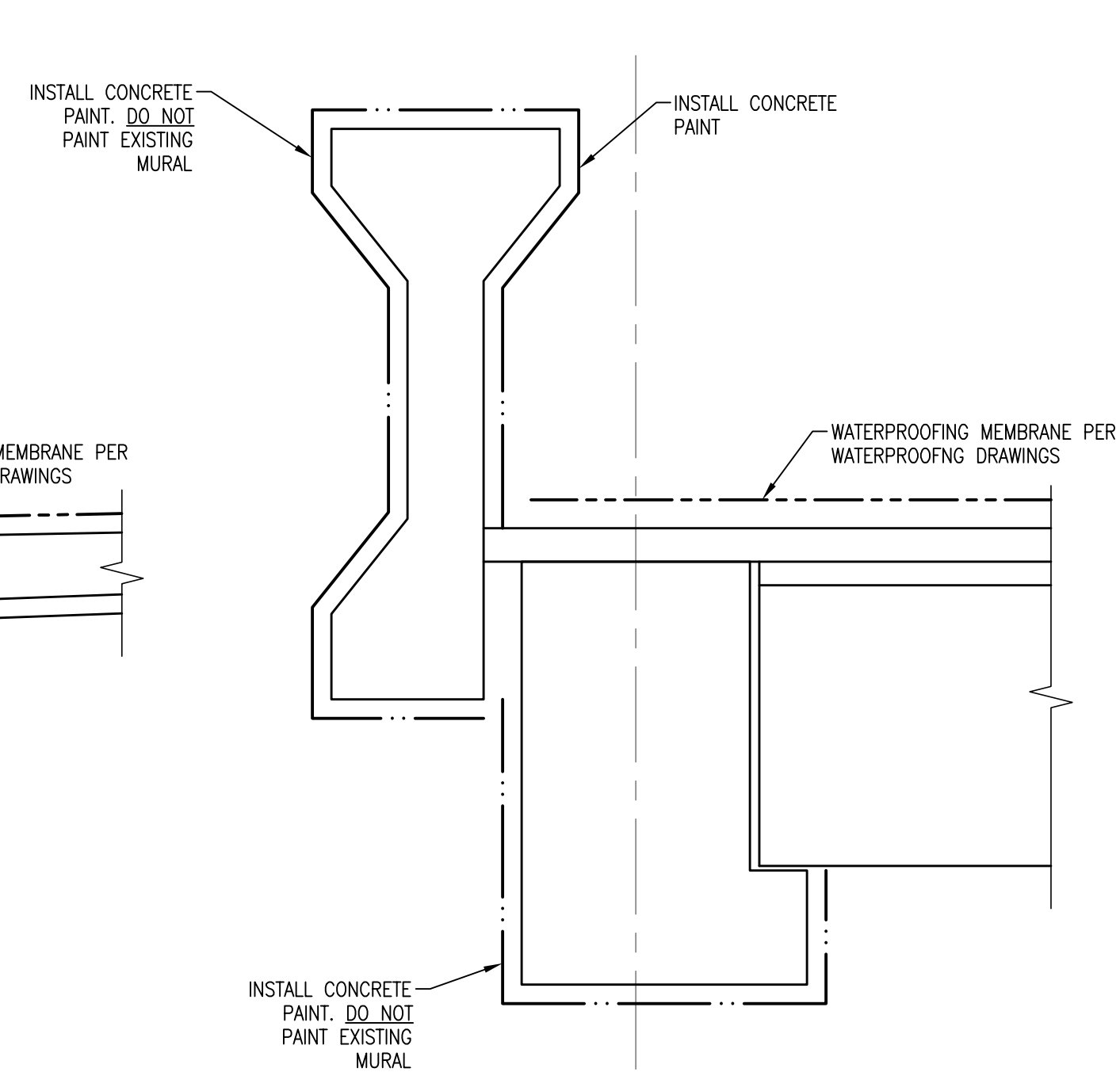
**LS-300**

ISSUED FOR PERMIT - JUNE 1, 2016

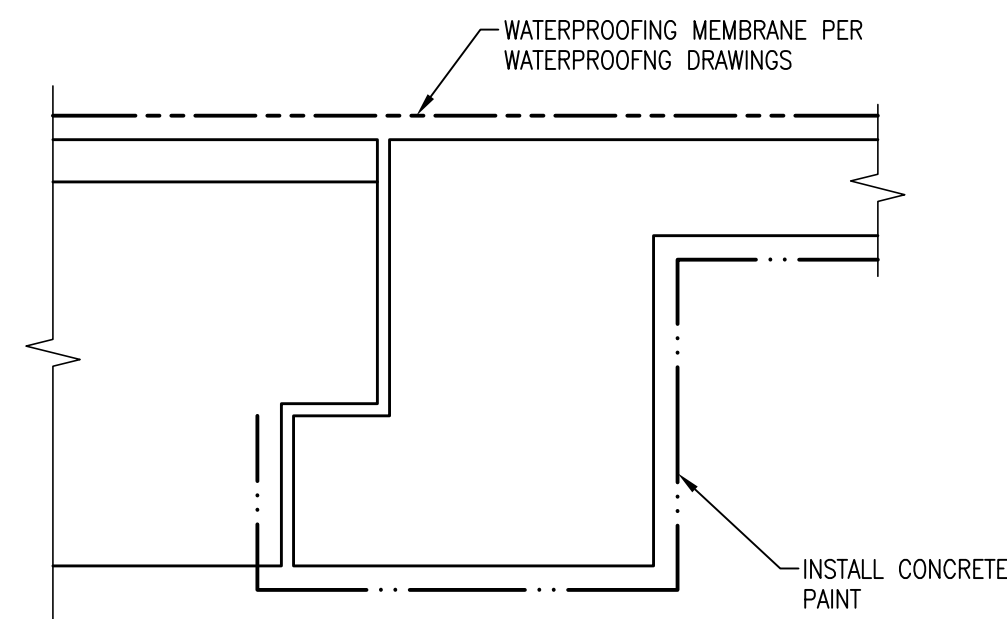




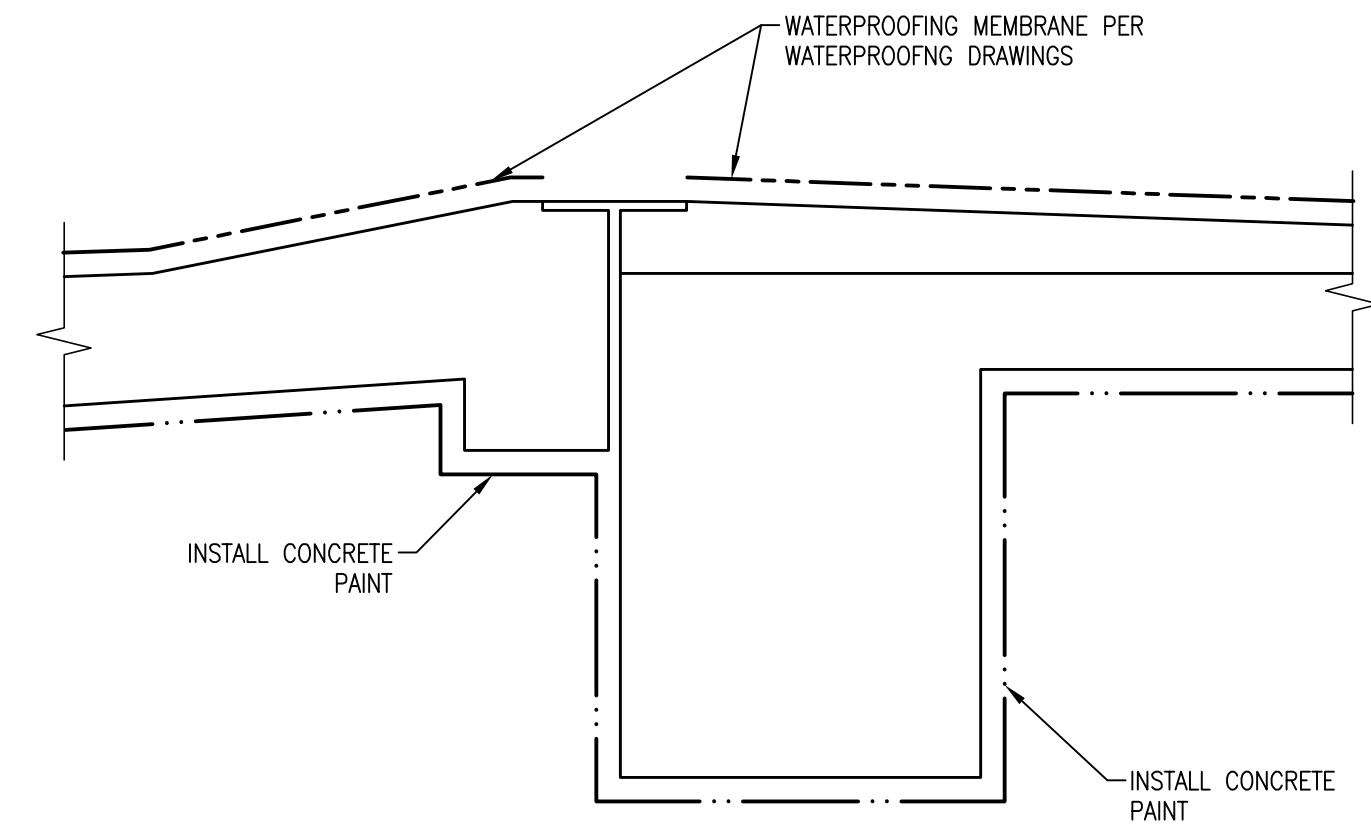
1 SPANDREL SECTION  
R401 SCALE: 3/4" = 1'-0"



2 SPANDREL SECTION  
R401 SCALE: 3/4" = 1'-0"



3 C.I.P. GIRDER  
R401 SCALE: 3/4" = 1'-0"



4 E.J. AT HELIX RAMP  
R401 SCALE: 3/4" = 1'-0"

SEAL:

PHILADELPHIA PARKING AUTHORITY  
**GARAGE D RENEWAL**  
PHILADELPHIA INTERNATIONAL AIRPORT  
PHILADELPHIA, PA

NO.	DATE	REVISIONS	BY

PPA PROJECT ID No.	BID 15-19
DESIGN:	JB
DRAWN:	VB
CHECKED:	AFW
SCALE:	AS SHOWN
DATE:	OCTOBER, 2015
PROJECT No.:	

DRAWING TITLE:  
**LINE STRIPING & PAINTING SECTIONS**

DRAWING No.

**LS-401**

ISSUED FOR PERMIT - JUNE 1, 2016