

THE CITY OF WALTHAM  
MASSACHUSETTS

PURCHASING DEPARTMENT

**Engineering DESIGN for the a) Immediate Stabilization Measures and b) a Full Replacement of the Rt. 60 Trapelo Road Culvert over Beaver Brook.**

**ADDENDUM NO. 2**

June 30, 2016

**CHANGES, CORRECTIONS AND CLARIFICATIONS**

The attention of bidders submitting proposals for the above subject project is called to the following addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (NO. 1) MUST BE ACKNOWLEDGED AS RECEIVED IN THE PRICE PAGE

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**ITEM 1: ADDITIONAL INFORMATION**

Please see the following: **1)** updated DOT Bridge Report dated June 28, 2016 and **2)** additional pictures of current conditions.

**End of Addendum 2**

STRUCTURES INSPECTION FIELD REPORT

ROUTINE & SPECIAL MEMBER INSPECTION

BR. DEPT. NO.

B-07-015-W-04-039

2-DIST  
04

B.I.N.  
7VB

CITY/TOWN BELMONT=WALTHAM		8-STRUCTURE NO. B07015-7VB-MUN-CUL	11-Kilo. POINT 000.000	41-STATUS A:OPEN	90-ROUTINE INSP. DATE MAY 24, 2016
07-FACILITY CARRIED ST 60 TRAPELO RD		MEMORIAL NAME/LOCAL NAME	27-YR BUILT 1850	106-YR REBUILT 1900	YR REHAB'D (NON 106) 0000
06-FEATURES INTERSECTED WATER BEAVER BROOK		26-FUNCTIONAL CLASS Urban Arterial	DIST. BRIDGE INSPECTION ENGINEER T. Weil		T. G. Weil
43-STRUCTURE TYPE 801 : Masonry Slab		22-OWNER Town Agency	21-MAINTAINER Town Agency	TEAM LEADER J. Dileo	
107-DECK TYPE 1 : Concrete Cast-in-Place		WEATHER CLOUDY	TEMP (air) 16°C	TEAM MEMBERS A. MARLIN AM	

100DAM53		3	DEF
<b>DECK</b>			
1. Wearing surface	5	M-P	
2. Deck Condition	3	C-S-I	
3. Stay in place forms	7	-	
4. Curbs	4	S-P	
5. Median	N	-	
6. Sidewalks	6	M-P	
7. Parapets	N	-	
8. Railing	7	-	
9. Anti Missile Fence	N	-	
10. Drainage System	N	-	
11. Lighting Standards	N	-	
12. Utilities	N	-	
13. Deck Joints	N	-	
14.	N	-	
15.	N	-	
16.	N	-	

CURB REVEAL (In millimeters)	N	S
	76	203

APPROACHES		DEF
a. Appr. pavement condition	5	M-P
b. Appr. Roadway Settlement	6	-
c. Appr. Sidewalk Settlement	6	M-P
d.	N	-

OVERHEAD SIGNS (Attached to bridge)		(Y/N)	DEF
		N	
a. Condition of Welds	N	-	
b. Condition of Bolts	N	-	
c. Condition of Signs	N	-	

100DAM59		3	DEF
<b>SUPERSTRUCTURE</b>			
1. Beams	3	C-S-I	
2. Floorbeams	N	-	
3. Floor System Bracing	N	-	
4. Girders or Beams	N	-	
5. Trusses - General	N	-	
a. Upper Chords		N	-
b. Lower Chords		N	-
c. Web Members		N	-
d. Lateral Bracing		N	-
e. Sway Bracings		N	-
f. Portals		N	-
g. End Posts		N	-
6. Pin & Hangers	N	-	
7. Conn Plt's, Gussets & Angles	N	-	
8. Cover Plates	N	-	
9. Bearing Devices	N	-	
10. Diaphragms/Cross Frames	N	-	
11. Rivets & Bolts	N	-	
12. Welds	N	-	
13. Member Alignment	N	-	
14. Paint/Coating	N	-	
15.	N	-	

Year Painted N

COLLISION DAMAGE: Please explain  
None X) Minor ( ) Moderate ( ) Severe ( )

LOAD DEFLECTION: Please explain  
None X) Minor ( ) Moderate ( ) Severe ( )

LOAD VIBRATION: Please explain  
None X) Minor ( ) Moderate ( ) Severe ( )

Any Fracture Critical Member: (Y/N) N

Any Cracks: (Y/N) N

100DAM60		2	DEF
<b>SUBSTRUCTURE</b>			
1. Abutments		Dive	Cur
a. Pedestals		N	N
b. Bridge Seats		N	H
c. Backwalls		N	N
d. Breastwalls		N	2
e. Wingwalls		N	5
f. Slope Paving/Rip-Rap		N	N
g. Pointing		N	N
h. Footings		N	5
i. Piles		N	N
j. Scour		N	4
k. Settlement		N	N
l.		N	N
m.		N	N
2. Piers or Bents		N	
a. Pedestals		N	N
b. Caps		N	N
c. Columns		N	N
d. Stems/Webs/Pierwalls		N	N
e. Pointing		N	N
f. Footing		N	N
g. Piles		N	N
h. Scour		N	N
i. Settlement		N	N
j.		N	N
k.		N	N
3. Pile Bents		N	
a. Pile Caps		N	N
b. Piles		N	N
c. Diagonal Bracing		N	N
d. Horizontal Bracing		N	N
e. Fasteners		N	N

UNDERMINING (Y/N) IF YES please explain N

COLLISION DAMAGE:  
None X) Minor ( ) Moderate ( ) Severe ( )

SCOUR: Please explain  
None X) Minor ( ) Moderate ( ) Severe ( )

I-60 (Dive Report): N I-60 (This Report): 2

93B-UW (DIVE) Insp 00/00/000

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

CITY/TOWN BELMONT=WALTHAM	B.I.N. 7VB	BR. DEPT. NO. B-07-015=W-04-039	S-STRUCTURE NO. E07015-7VB-MUN-CUL	INSPECTION DATE MAY 24, 2016
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<b>ITEM 61</b>	<b>2</b>	<b>CHANNEL &amp; CHANNEL PROTECTION</b>
	Dive Cur DEF	
1.Channel Scour	N 2	S-A
2.Embankment Erosion	N 7	-
3.Debris	N 7	-
4.Vegetation	N N	-
5.Utilities	N N	-
6.Rip-Rap/Slope Protection	N N	-
7.Aggradation	N 7	-
8.Fender System	N N	-
STREAM FLOW VELOCITY: Tidal ( ) High ( ) Moderate ( ) Low (X) None ( )		
ITEM 61 (Dive Report):	N	ITEM 61 (This Report): <b>2</b>
93b-U/W INSP. DATE:	00/00/0000	

<b>ITEM 36 TRAFFIC SAFETY</b>			
A. Bridge Railing	0	7	-
B. Transitions	0	6	M-P
C. Approach Guardrail	0	6	M-P
D. Approach Guardrail Ends	0	7	-
<b>WEIGHT POSTING</b> <span style="float: right;">Not Applicable <input checked="" type="checkbox"/></span>			
	H	3	3S2
Actual Posting	N	N	N
Recommended Posting	N	N	N
Waived Date:	00/00/0000		EJDMY Date: 00/00/0000
Signs In Place (Y=Yes, N=No, NR=Not Required)	At bridge	Other Advance	
Legibility/Visibility	E W	E W	
<b>CLEARANCE POSTING</b>			
	N	S	
Actual Field Measurement	ft in	ft in	meter
Posted Clearance	0	0	
Signs In Place (Y=Yes, N=No, NR=Not Required)	At bridge		Advance
Legibility/Visibility	N S	N S	

<b>ACCESSIBILITY (Y/N/P)</b>		
	Needs	Used
Lift Bucket	N	N
Ladder	N	N
Boat	N	N
Waders	Y	Y
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	N	N
RR Flagger	N	N
Police	N	N
Other:	N	N
<b>TOTAL HOURS</b>		26
<b>PLANS (Y/N):</b> N		
<b>(V.C.R.) (Y/N):</b> N		
<b>TAPE#:</b>		
<i>List of field tests performed:</i>		

<b>RATING</b>	Rating Report (Y/N): <input type="checkbox"/> N	<b>(To be filled out by DBIE)</b>
Date: 00/00/0000	Request for Rating or Rerating (Y/N): <input type="checkbox"/> N	<b>IF YES please give priority:</b>
Inspection data at time of existing rating	REASON: <u>Tw</u>	HIGH ( ) MEDIUM ( ) LOW ( )
158: - 159: - 160: - Date: 00/00/0000		

CONDITION RATING GUIDE			(For Items 58, 59, 60 and 61)
CODE	CONDITION	DEFECTS	
N	NOT APPLICABLE		
G 9	EXCELLENT	Excellent condition.	
G 8	VERY GOOD	No problem noted.	
G 7	GOOD	Some minor problems.	
F 6	SATISFACTORY	Structural elements show some minor deterioration.	
F 5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.	
P 4	POOR	Advance section loss, deterioration, spalling or scour.	
P 3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.	
C 2	CRITICAL	Advance deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.	
C 1	"IMMINENT" FAILURE	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put it back in light service.	
0	FAILED	Out of service - beyond corrective action.	

DEFICIENCY REPORTING GUIDE	
<b>DEFICIENCY</b>	A defect in a structure that requires corrective action.
<b>CATEGORIES OF DEFICIENCIES:</b>	
M= Minor Deficiency	- Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.
S= Severe/Major Deficiency	- Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebar, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.
C-S= Critical Structural Deficiency	- A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.
C-H= Critical Hazard Deficiency	- A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.
<b>URGENCY OF REPAIR:</b>	
I = Immediate-	[Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].
A = ASAP-	[Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].
P = Prioritize-	[Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

STRUCTURES INSPECTION FIELD REPORT

ROUTINE & SPECIAL MEMBER INSPECTION

BR. DEPT. NO.

B-07-015=W-04-039

2-DIST 04 B.I.N. 7VB

CITY/TOWN: BELMONT=WALTHAM  
 8-STRUCTURE NO.: B07015-7VB-MUN-CUL  
 11-Kilo. POINT: 000.000  
 90-ROUTINE INSP. DATE: May 24, 2016  
 93\*-SPEC. MEMB. INSP. DATE: May 24, 2016  
 07-FACILITY CARRIED: ST 60 TRAPELO RD  
 MEMORIAL NAME/LOCAL NAME: [Blank]  
 27-YR BUILT: 1850  
 106-YR REBUILT: 1900  
 \*YR REHAB'D (NON 106): 0000  
 06-FEATURES INTERSECTED: WATER BEAVER BROOK  
 26-FUNCTIONAL CLASS: Urban Arterial  
 DIST. BRIDGE INSPECTION ENGINEER: T. G. Weil  
 13-STRUCTURE TYPE: 801 : Masonry Slab  
 22-OWNER: Town Agency  
 21-MAINTAINER: Town Agency  
 TEAM LEADER: J. Dideo  
 107-DECK TYPE: 1 : Concrete Cast-in-Place  
 WEATHER: CLOUDY  
 TEMP (air): 16°C  
 TEAM MEMBERS: A. MARLIN, AM

WEIGHT POSTING: Not Applicable X  
 Actual Posting: N N N N  
 Recommended Posting: N N N N  
 Waived Date: 00/00/0000 EJDWT Date: 00/00/0000  
 Signs In Place (Y=Yes, N=No, NR=Not Required):  
 Legibility/Visibility: [Blank]  
 At bridge: E W  
 Advance: E W  
 PLANS (Y/N): N  
 (V.C.R.) (Y/N): N  
 TAPE#: [Blank]

RATING  
 Rating Report (Y/N): N Date: [Blank]  
 Request for Rating or Rerating (Y/N): N  
 If YES please give priority: HIGH ( ) MEDIUM ( ) LOW ( )  
 REASON: TW  
 Inspection data at time of existing rating  
 I 58: - I 59: - I 60: - I 62: - Date: 00/00/0000

SPECIAL MEMBER(S):

	MEMBER	CRACK (Y/N):	WELD'S CONDITION (0-9)	LOCATION OF CORROSION, SECTION LOSS (%), CRACKS, COLLISION DAMAGE, STRESS CONCENTRATION, ETC.	CONDITION		INV. RATING OF MEMBER FROM RATING ANALYSIS			Deficiencies
					PREVIOUS (0-9)	PRESENT (0-9)	H-20	3	3S2	
A	Item 58.2 - Deck Condition	N		See remarks in comments section.	7	3	Not Rated			C-S-I
B	Item 59.1 - Beams	N		See remarks in comments section.	5	3	Not Rated			C-S-I
C	Item 60.1.d - Breastwalls	N		See remarks in comments section.	2	2	Not Rated			C-S-I
D										
E										

List of field tests performed:

	I-58	I-59	I-60	I-62
(Overall Previous)	7	5	2	-
(Overall Current)	3	3	2	-

**DEFICIENCY** - A defect in a structure that requires corrective action.

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X=UNKNOWN    N=NOT APPLICABLE    H=HIDDEN/INACCESSIBLE    R=REMOVED

CITY/TOWN BELMONT=WALTHAM	B.I.N. 7VB	BR. DEPT. NO. B-07-015=W-04-039	S-STRUCTURE NO. B07015-7VB-WUN-CUL	INSPECTION DATE MAY 24, 2016
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### REMARKS

#### BRIDGE ORIENTATION

For this report, the approaches are west and east and the elevations are south and north. Beaver Brook flows from north to south.

#### GENERAL REMARKS

The superstructure is composed of a combination of the following four elements: 16 Granite slabs which are numbered from south to north, 8 steel I beams, 1 reinforced concrete section measuring 5-1/2' wide, and a concrete culvert extension at the north end (see sketch 1 and 2 for locations).

There was an Initial Routine and Special Member Report performed on August 27, 2002. In this report, it was documented that granite slab number 7 had a 3/4" wide crack, 4' from the east breastwall. This crack has increased in width to a maximum of 2" wide. This crack is beneath the eastbound roadway. There are also several full width small (hairline) cracks near mid-span located on slab number 3, 4, 5, 6, and 8. Slab 12 has 2 partial width cracks that run approximately half way across the slab near mid-span.

Repairs have been made to the east breastwall, repairing the undermined slabs 13 and 14. However, slab number 14 has a loss of bearing area at the west breastwall and for this reason the rating for the substructure will remain a "2" until repairs are made.

#### ITEM 58 - DECK

##### Item 58.1 - Wearing surface

There are numerous transverse, longitudinal and map cracks throughout the bituminous wearing surface (see photos 1 and 2).

##### Item 58.2 - Deck Condition

See Item 59.1 Beams for a detailed description.

Since we do not have bridge plans that show a concrete slab over the beams, we will consider that the beams act as the deck for this report.

##### Item 58.4 - Curbs

The north granite curb has settled several inches and has a 3" reveal. The south granite curb has an 8" reveal (see photos 1 and 2).

##### Item 58.6 - Sidewalks

The south sidewalk has slight heaving at the east end.

#### APPROACHES

##### Approaches a - Appr. pavement condition

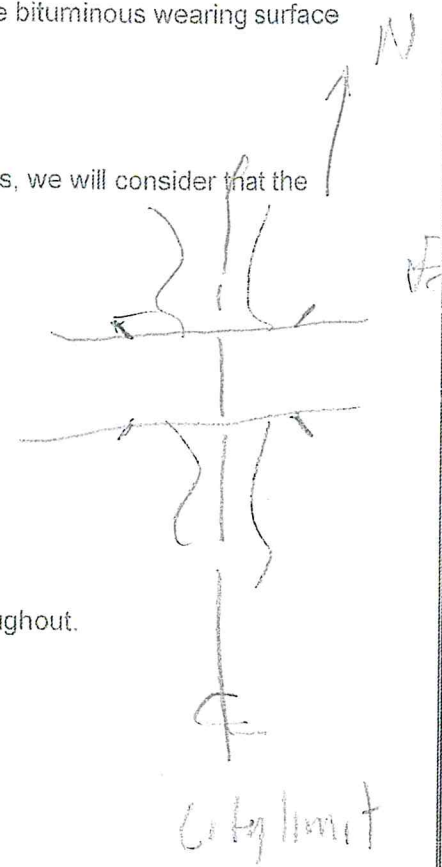
Both approaches have heavy transverse, longitudinal, and map cracks throughout.

##### Approaches b - Appr. Roadway Settlement

There is minor settlement along the curbs (see photos 1 and 2).

##### Approaches c - Appr. Sidewalk Settlement

There is slight heaving at the southeast approach sidewalk.



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### REMARKS

#### ITEM 59 - SUPERSTRUCTURE

##### Item 59.1 - Beams

There is a small section of reinforced concrete which acts as part of the superstructure below the westbound roadway. This section is mostly hidden by the corrugated metal stay in place form below it.

The seventh granite slab from the south end of the bridge has a split through it (see photos 3 and 4). The split ranges from 3/4" up to 2" wide which is larger than the reported 3/4" wide split in the 2002 inspection report. The split is located 4' from the east breastwall and is below the eastbound roadway. Because it is evident that the split has grown, the rating of the 59.1 is now serious.

Note: The average width from breastwall to breastwall was 6' 10".

Also, slab number 3, 4, 5, 6 and 8 all have full width hairline cracking at or near mid-span. (see sketch 1 and photos 5 through 9).

Slab number 12 has 2 partial width transverse cracks near midspan. (see sketch 1 and photo 10).

There are 8 steel I Beams below the eastbound roadway. Several of these beams exhibit severe rust, lamination and some section losses on the bottom flanges (see photos 11 and 12).

There are wooden planks between the beams so the condition of the webs is unknown.

#### ITEM 60 - SUBSTRUCTURE

##### Item 60.1 - Abutments

##### Item 60.1.d - Breastwalls \*

There is a large wash out at the top of the west breastwall below beam 14 measuring 40" L x 30" H x 50" D. This washout has caused the bearing area of beam 14 to be non existant (see photos 13, 14, and 15). Because beam 14 is essentially being only supported at the east end, the rating for the breastwalls will remain a 2.

West breastwall-Void below the reinforced concrete slab measuring: 20" W x 15" H x 24" D (see photo 16).

West breastwall-Void at the top measuring: 15" W x 21" H x 30" D (see photo 17 and 18).

West breastwall-Void below beam 5-Void measuring: 27" W x 17" H x 14" D (see photo 19).

West breastwall, south end-Large void measuring: 2.5' x 8" H x 20" D (see photo 20).

East breastwall-Large void at the bottom starting 18' 7" from the south end measuring: 2.5' W x 3' D x 4' H (see photo 21).

The east breastwall washout has been repaired since the last inspection below beams 13 and 14 (see photo 22).

##### Item 60.1.e - Wingwalls

The southeast wingwall has several displaced blocks (see photo 23 and 24).

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### REMARKS

#### Item 60.1.h - Footings

See Item 60.1.J Scour.

There is minor abrasion throughout the areas of the footings that are visible. There is only a minimal amount of footings visible.

#### Item 60.1.i - Scour

At the north end of the channel, the water is too deep to wade.

The scour around the footing for the concrete culvert extension is unknown.

Using a long pole, it was evident that the northeast wingwall footing is partially undermined and the west breastwall north end is also partially undermined.

#### TRAFFIC SAFETY

#### Item 36a - Bridge Railing

There is a masonry stone wall at the south end of structure.

There is Type "SS" Highway guardrail at the north end of the structure that acts as the bridge railing.

#### Item 36b - Transitions

The northeast and northwest transitions both have type "SS" highway guardrail in place.

The northeast and northwest transitions both have minor scrapes and dents.

The southeast transition is a continuation of the masonry stone wall.

The southwest transition does not exist.

#### Item 36c - Approach Guardrail

The northeast and northwest approach guardrail both have type "SS" highway guardrail in place.

The northeast and northwest approach guardrails both have minor scrapes and dents.

The southeast approach guardrail is a continuation of the masonry stone wall.

The southwest approach guardrail does not exist.

#### Item 36d - Approach Guardrail Ends

The northeast terminal is a boxing glove end.

The northwest terminal is continuous type "SS" Highway guardrail.

The southeast terminal is a continuation of the masonry stone wall.

The southwest terminal does not exist.

#### Sketch / Photo Log

Sketch 1 : Super structure composition (Granite beams numbered south to north).

Sketch 2 : Approximate Curb Line Locations

Photo 1 : Typical wearing surface photo showing heavy cracking throughout.

Photo 2 : Typical wearing surface photo showing heavy cracking throughout.

Photo 3 : Slab 7-Full width transverse crack ranging from 3/4" to 2" wide.

Photo 4 : Slab 7-Full width crack ranging from 3/4" to 2".

Photo 5 : Slab 3-Hairline diagonal crack at mid-span.

Photo 6 : Slab 4-Hairline diagonal crack at midspan.

Photo 7 : Slab 5-Longitudinal hairline crack at the east end measuring 2' long.

Photo 8 : Slab 6-Hairline transverse crack near mid-span

Photo 9 : Slab 8-Full width partial transverse crack near mid-span.

Photo 10 : Slab 12-2 partial width hairline transverse cracks near midspan.

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**REMARKS**

Sketch / Photo Log (Cont'd)

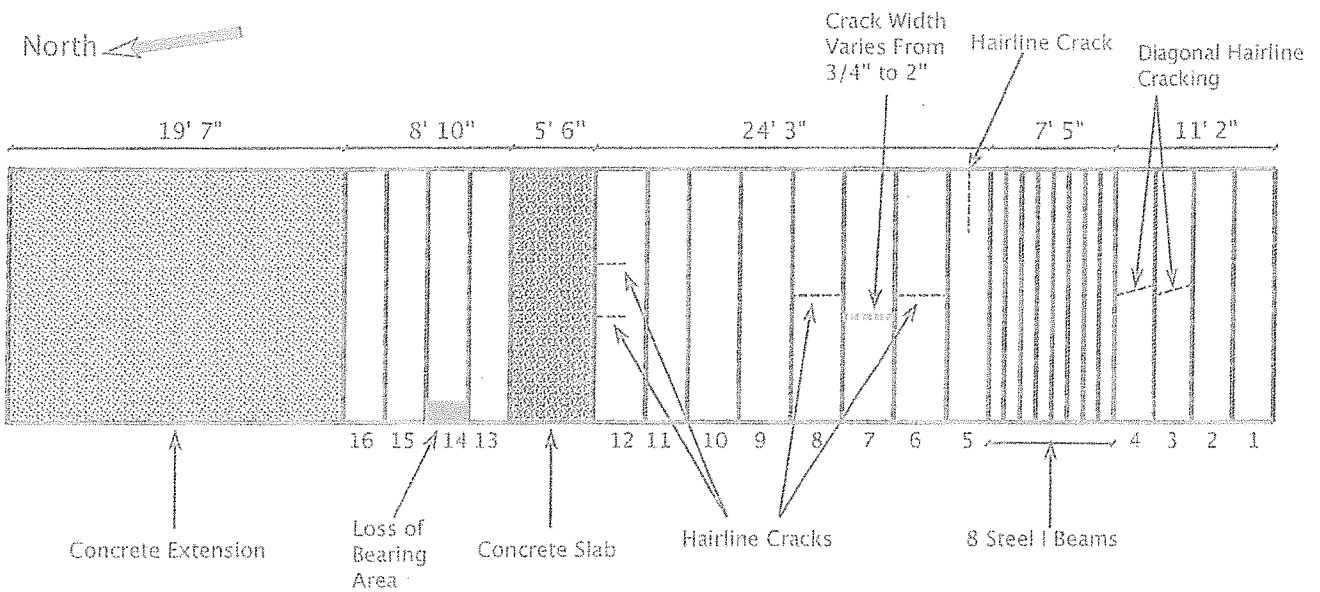
- Photo 11 : Typical condition of the bottom flanges of the steel I-Beams showing severe rust, lamination, and some section loss/ Wooden planks between beams.
- Photo 12 : Typical condition of steel I-Beams showing severe rust on the bottom flanges of several beams with lamination. Note: webs are hidden due to wooden planks between.
- Photo 13 : Slab 14-Complete loss of bearing area at the west breastwall.
- Photo 14 : Slab 14-Complete loss of bearing area at the west breastwall.
- Photo 15 : Slab 14-Complete loss of bearing area at the west breastwall.
- Photo 16 : West breastwall-Void below the reinforced concrete slab measuring: 20" W x 15" H x 24" D.
- Photo 17 : West breastwall-Void at the top measuring: 15" W x 21" H x 30" D.
- Photo 18 : West breastwall-Void at the top measuring: 15" W x 21" H x 30" D.
- Photo 19 : West breastwall, below beam 5-Void measuring: 27" W x 17" H x 14" D.
- Photo 20 : West breastwall, south end-Large void measuring: 2.5' x 8" H x 20" D.
- Photo 21 : East breastwall-Large void at the bottom starting 18' 7" from the south end measuring: 2.5' W x 3' D x 4' H.
- Photo 22 : East breastwall-Repaired area.
- Photo 23 : Southwest wingwall-Several displaced stones.
- Photo 24 : Southwest wingwall-Several displaced stones.



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**SKETCHES**

B-07-015 = W-04-039 MUN-BRI



Beams Labeled 1-16 Are Granite Slabs

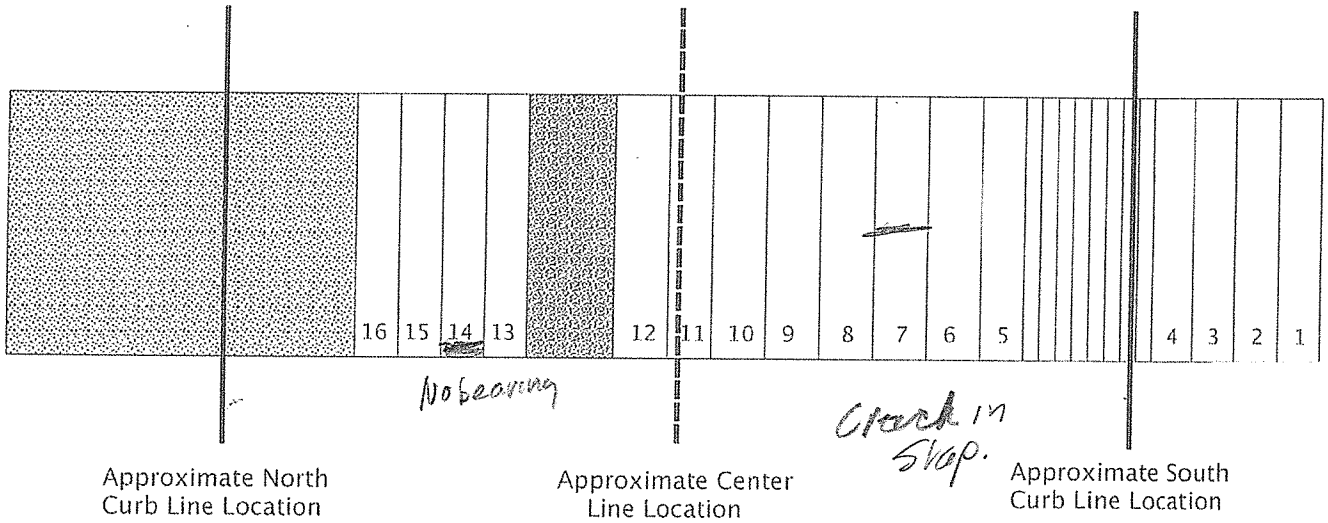
Sketch 1: Super structure composition (Granite beams numbered south to north).

CITY/TOWN BELMONT=WALTHAM	B.I.N. 7VB	BR. DEPT. NO. B-07-015=W-04-039	8.-STRUCTURE NO. B07015-7VB-MUN-CUL	INSPECTION DATE MAY 24, 2016
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SKETCHES

B-07-015 = W-04-039 MUN-BRI  
Approximate Curb Line Locations

North ←



Sketch 2: Approximate Curb Line Locations

CITY/TOWN BELMONT=WALTHAM	B.I.N. 7VB	BR. DEPT. NO. B-07-015=W-04-039	S.-STRUCTURE NO. B07015-7VB-MUN-CUL	INSPECTION DATE MAY 24, 2016
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**PHOTOS**



Photo 1: Typical wearing surface photo showing heavy cracking throughout.



Photo 2: Typical wearing surface photo showing heavy cracking throughout.

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**PHOTOS**

Photo 3: Slab 7-Full width transverse crack ranging from 3/4" to 2" wide.



Photo 4: Slab 7-Full width crack ranging from 3/4" to 2".

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**PHOTOS**



Photo 5: Slab 3-Hairline diagonal crack at mid-span.



Photo 6: Slab 4-Hairline diagonal crack at midspan.

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**PHOTOS**

Photo 7: Slab 5-Longitudinal hairline crack at the east end measuring 2' long.

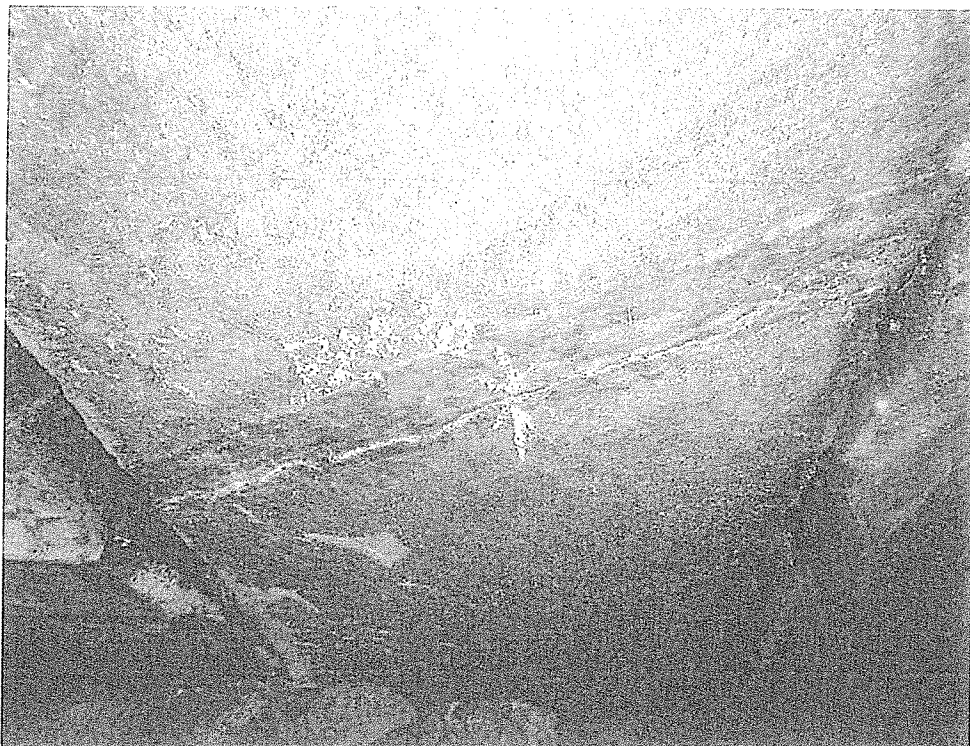


Photo 8: Slab 6-Hairline transverse crack near mid-span

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**PHOTOS**

Photo 9: Slab 8-Full width partial transverse crack near mid-span.



Photo 10: Slab 12-2 partial width hairline transverse cracks near midspan.

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## PHOTOS



Photo 11: Typical condition of the bottom flanges of the steel I-Beams showing severe rust, lamination, and some section loss/ Wooden planks between beams.



Photo 12: Typical condition of steel I-Beams showing severe rust on the bottom flanges of several beams with lamination. Note: webs are hidden due to wooden planks between.



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**PHOTOS**

Photo 13: Slab 14-Complete loss of bearing area at the west breastwall.

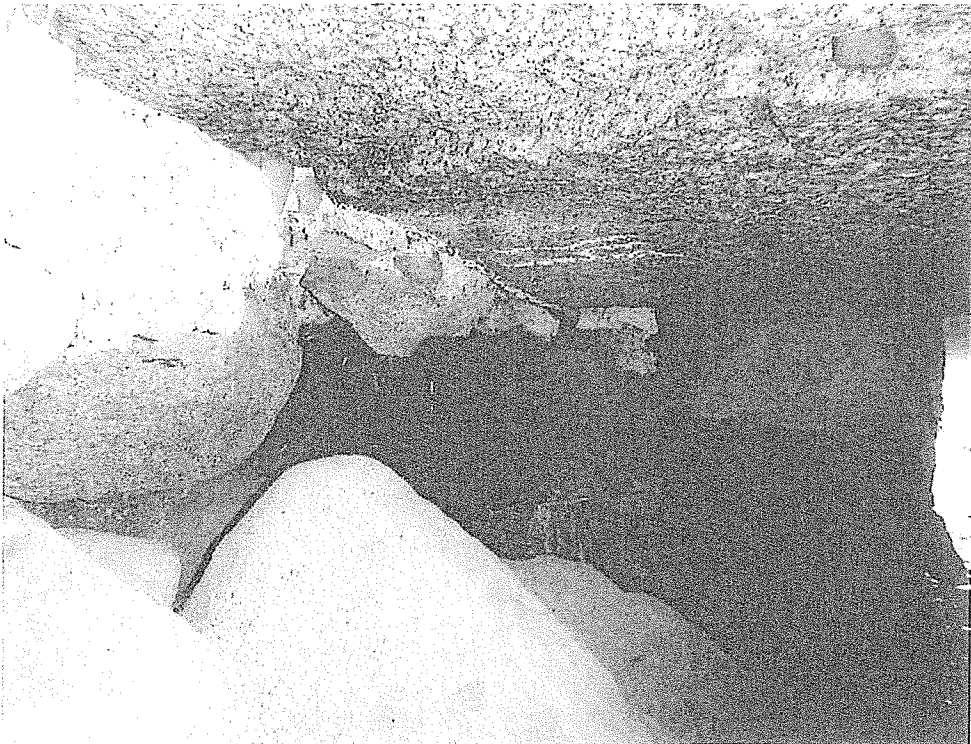


Photo 14: Slab 14-Complete loss of bearing area at the west breastwall.

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**PHOTOS**

Photo 15: Slab 14-Complete loss of bearing area at the west breastwall.



Photo 16: West breastwall-Void below the reinforced concrete slab measuring:  
20" W x 15" H x 24" D.

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**PHOTOS**

Photo 17: West breastwall-Void at the top measuring: 15" W x 21" H x 30" D.



Photo 18: West breastwall-Void at the top measuring: 15" W x 21" H x 30" D.

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**PHOTOS**



Photo 19: West breastwall, below beam 5-Void measuring: 27" W x 17" H x 14" D.

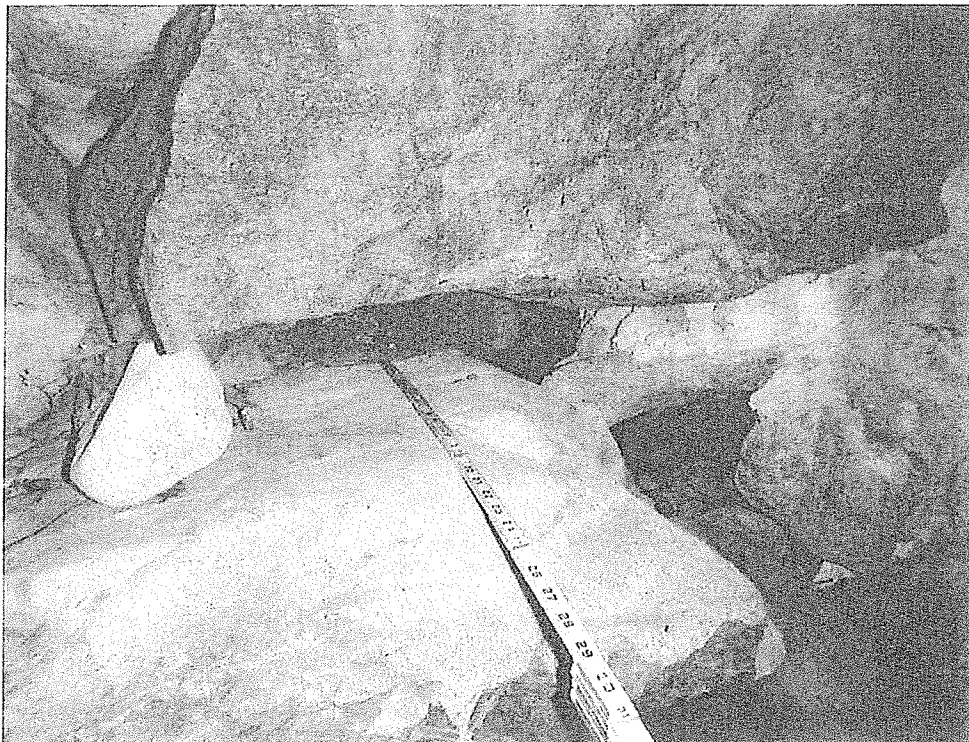


Photo 20: West breastwall, south end-Large void measuring: 2.5' x 8" H x 20" D.

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**PHOTOS**

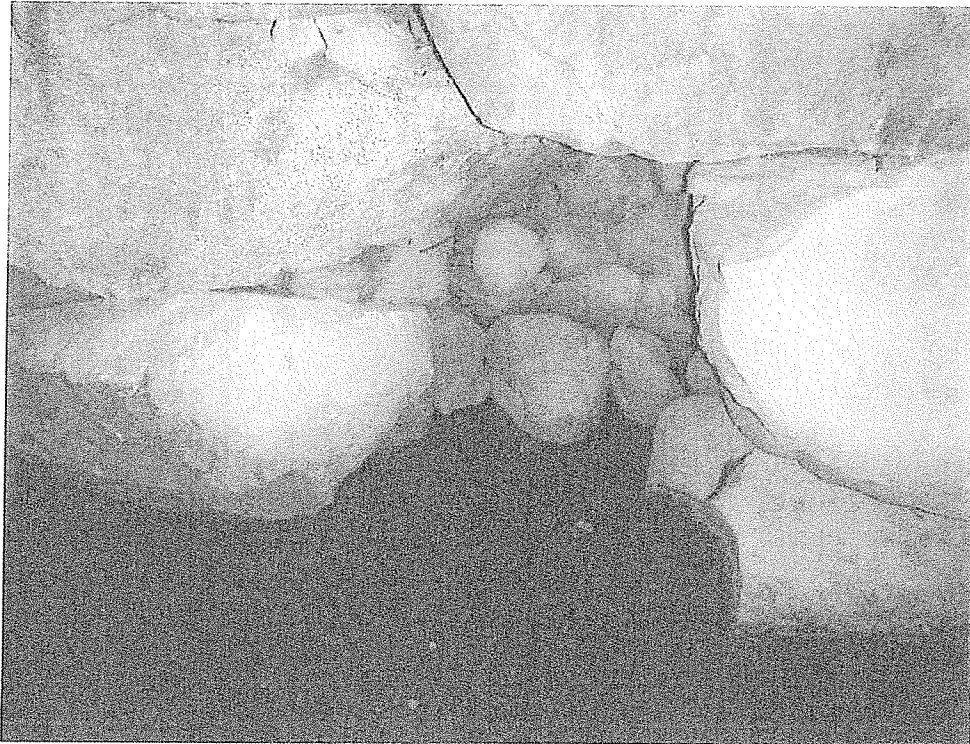


Photo 21: East breastwall-Large void at the bottom starting 18' 7" from the south end measuring: 2.5' W x 3' D x 4' H.

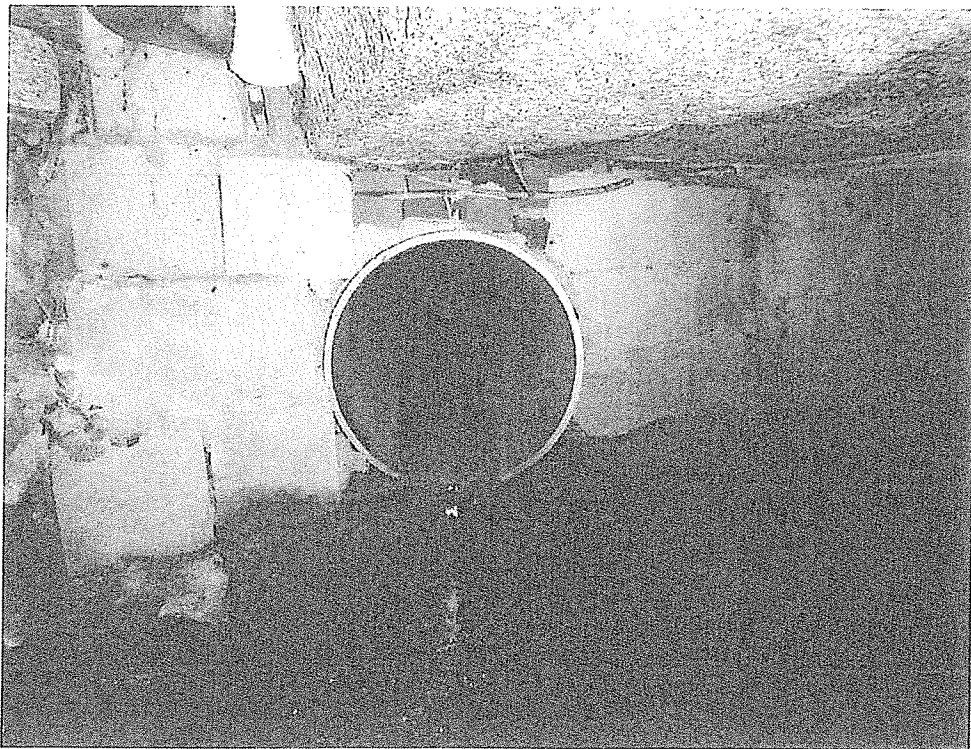


Photo 22: East breastwall-Repaired area.

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**PHOTOS**



Photo 23: Southwest wingwall-Several displaced stones.



Photo 24: Southwest wingwall-Several displaced stones.



