

# MANCHESTER-BOSTON REGIONAL AIRPORT

MANCHESTER, NEW HAMPSHIRE

RUNWAY INCURSION MITIGATION (RIM) PROJECT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION  
AND  
TAXIWAY H RECONFIGURATION TO TAXIWAY K



CITY OF MANCHESTER - DEPARTMENT OF AVIATION

1 AIRPORT ROAD, SUITE 300  
MANCHESTER, NEW HAMPSHIRE  
(603) 624-6539  
WWW.FLYMANCHESTER.COM

FAA A.I.P. 3-33-0011-XXX-2021

CITY BID #FY21-805-25 (A1/A2)

MJ PROJECT NO. 18700.03

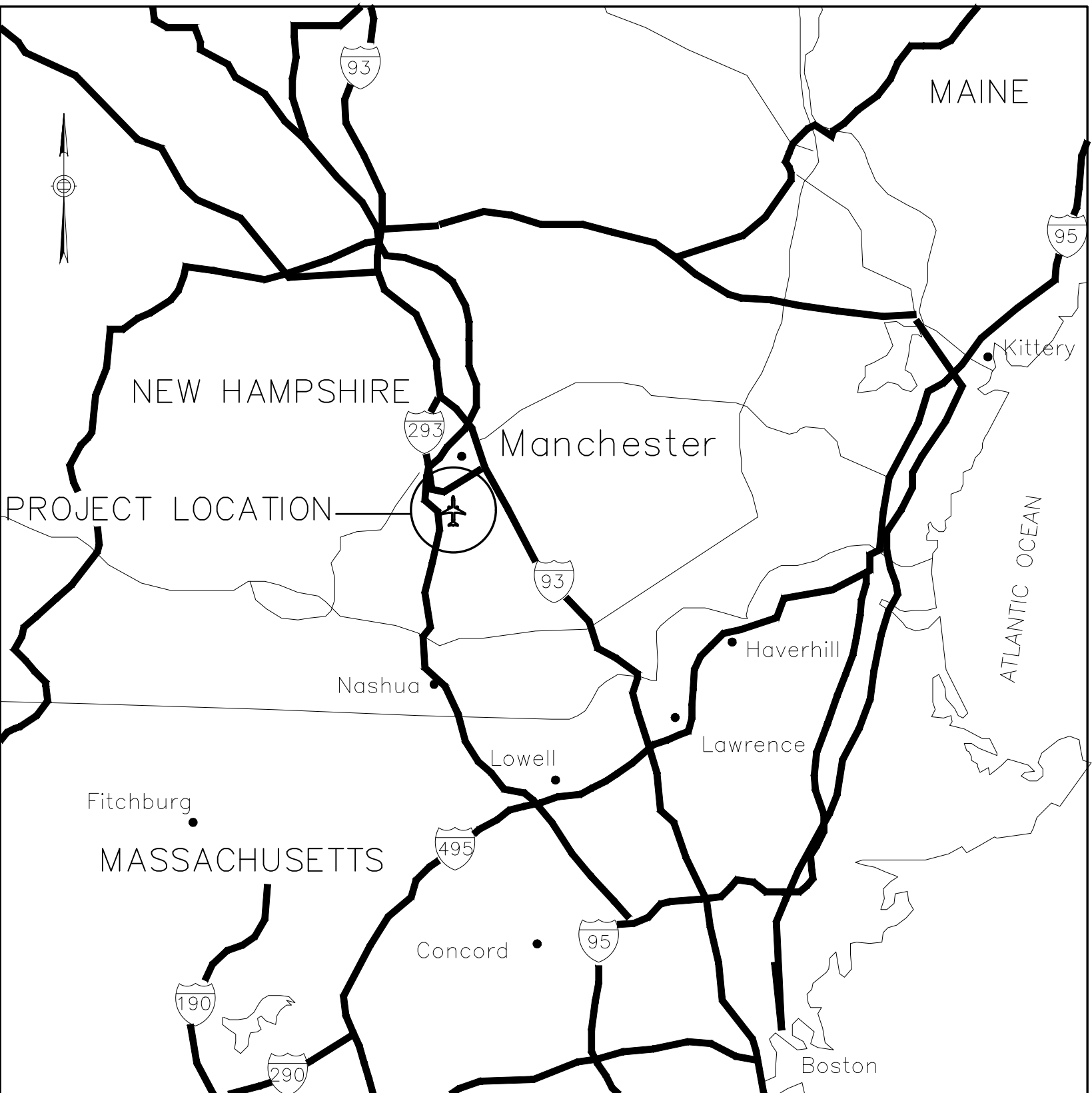
CITY BID #FY21-805-26 (TW H)

MJ PROJECT NO. 18700.01



BRIAN M. BENNETT  
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PROJECT DESIGNER



Scaled	Brian Bennett
PE No.	7416
Date	MARCH 19, 2021

ORDER OF DOCUMENTS		
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION	COVER SHEET	SCHEDULE A
	PLANS	
TAXIWAY H RECONFIGURATION TO TAXIWAY K	COVER SHEET	SCHEDULES B AND C
	PLANS	

PLANS BEST VIEWED IN COLOR

BID DOCUMENTS  
MARCH 2021

# MANCHESTER-BOSTON REGIONAL AIRPORT

MANCHESTER, NEW HAMPSHIRE

## RUNWAY INCURSION MITIGATION (RIM) PROJECT – TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION

FAA A.I.P. 3-33-0011-XXX-2021

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### CITY OF MANCHESTER - DEPARTMENT OF AVIATION

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### SCHEDULE A



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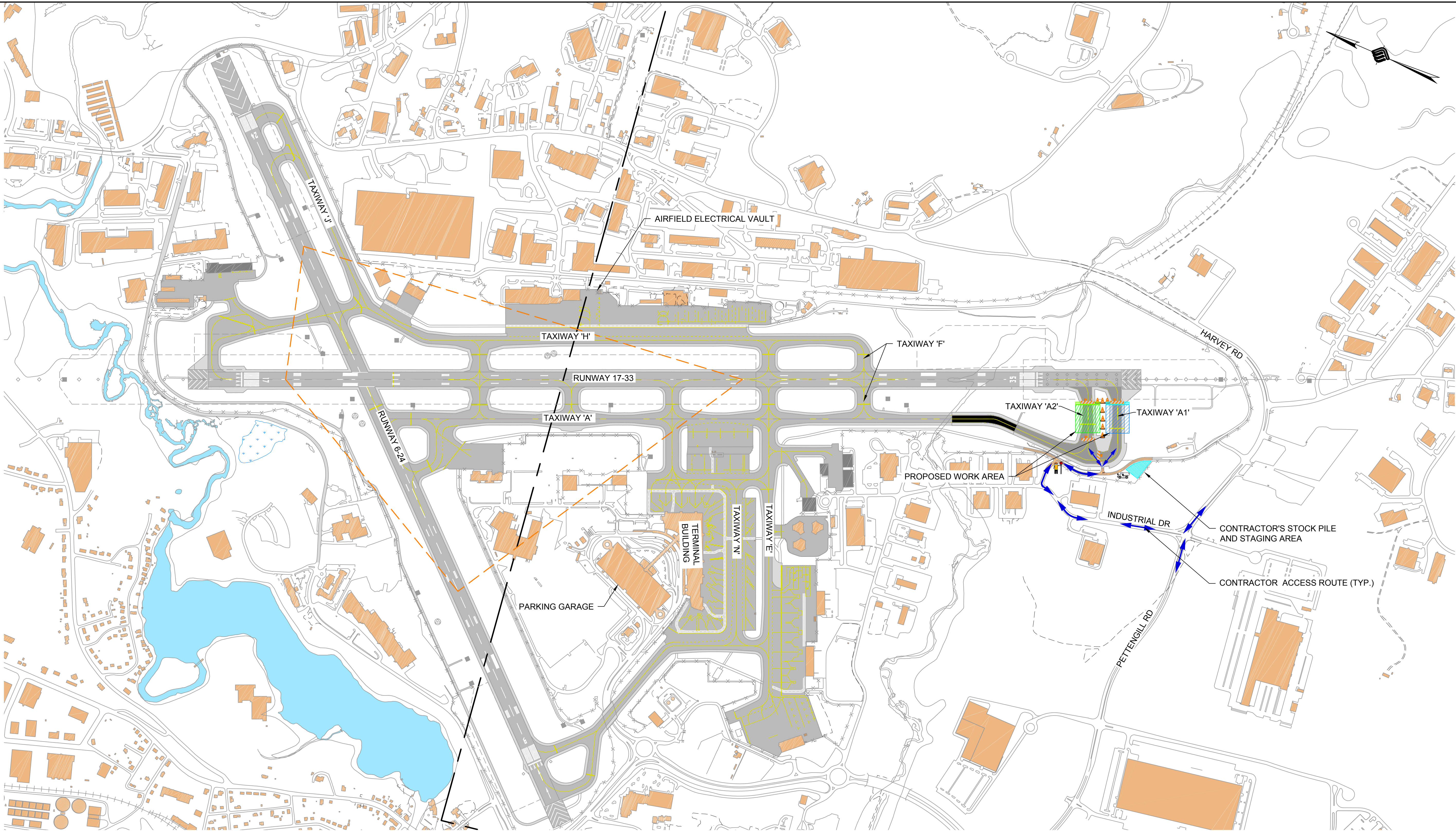
### SCHEDULE A QUANTITIES

BID ITEM	DESCRIPTION OF ITEM	UNIT	QUANTITY
C-105-5.1	Mobilization (10%)	LS	1
M-100-1	Allowance - Gate Guards	AL	1
M-200-1	Maintenance and Protection of Traffic	LS	1
M-300-1	Allowance - ALCMS Modifications	AL	1
P-101-5.6	Cold Milling (2" - 4.5")	SY	1100
P-152-4.1	Unclassified Excavation	CY	155
P-209-5.1	Crushed Aggregate Base Course	CY	125
P-403-8.1	Asphalt Mixture Surface Course	TON	220
P-603-5.1	Emulsified Asphalt Tack Coat	GAL	130
P-605-5.1	Joint Sealing Filler	LF	1300
P-608-8.1	Asphalt Surface Treatment	SY	215
P-620-5.1a	Pavement Preparation	SF	1900
P-620-5.2b	Markings	SF	5100
P-620-5.3c	Reflective Media	LBS	190
T-901-5.1	Seeding	KSF	1
T-905-5.2	Topsoil (Furnished from Off the Site)	CY	6
T-908-5.1	Mulching	SY	100

BID ITEM	DESCRIPTION OF ITEM	UNIT	QUANTITY
L-108-5.1	No. 8 AWG, 5kV, L-824 Type C Cable Installed in Trench, Duct Bank or Conduit	LF	2600
L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, installed above the duct bank or conduit, including connections/terminals	LF	500
L-110-5.1	Concrete Encased Electrical Conduit, 1-Way-2-inch	LF	310
L-110-5.2	Non-Encased Electrical Conduit, 1-Way-2-inch	LF	190
L-110-5.3	Removal of Existing Cable in Conduit/Duct Bank	LF	1900
L-125-5.1	Install New L-852G(L) In-Pvmt Runway Guard Light	EA	19
L-125-5.2	Relocate Existing Elevated L-804(L) Runway Guard Light	EA	4
L-125-5.3	Relocated Existing Airfield Guidance Sign Panels	EA	12
L-125-5.4	Remove Existing Guidance Sign & Foundation	EA	2
L-125-5.5	Remove Existing L-852G(L) In-Pavement Runway Guard Light	EA	18
L-125-5.6	Relocate Existing L-852C(L) In-Pavement Taxiway Centerline Light	EA	1
L-125-5.7	Install New L-867 Class 1A, Size Light Base Junction Can	EA	1

BID DOCUMENTS  
MARCH 2021





LEGEND:

- WORK AREA DELINEATION CONES
- LIGHTED BARRICADES
- WORK AREA 1
- WORK AREA 1A
- WORK AREA 2
- WORK AREA 2A
- HAUL ROUTE

OVERALL CONSTRUCTION SCHEDULE AND PHASING PLAN

CONSTRUCTION SCHEDULE

PHASE 1 (WORK AREA 1) DURATION: 15 CONSECUTIVE CALENDAR DAYS  
WORK AREA 1A DURATION: 3 CALENDAR DAYS WITHIN PHASE 1

PHASE 2 (WORK AREA 2) DURATION: 15 CONSECUTIVE CALENDAR DAYS  
WORK AREA 2A DURATION: 3 CALENDAR DAYS WITHIN PHASE 2

TOTAL CONTRACT DURATION: 30 CONSECUTIVE CALENDAR DAYS

- LIGHTED BARRICADES SHALL BE PLACED TO CLOSE ACCESS TO TAXIWAY A1 OR A2 DEPENDING ON WORK AREA. BARRICADES SHALL BE PLACED A MINIMUM OF 129.5' FROM TAXIWAY A CENTERLINE AS SHOWN ON THE PLANS. THE LIGHTED BARRICADES SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND APPROVED BY THE RPR PRIOR TO THE START OF CONSTRUCTION FOR EACH CONTRACT WORK ZONE.
- PERSONNEL AND EQUIPMENT SHALL REMAIN WITHIN ALL WORK ZONES AND NO CLOSER THAN 129.5' FROM THE ACTIVE TAXIWAY CENTERLINE, AND NO CLOSER THAN 250' FROM ANY ACTIVE RUNWAY CENTERLINE.

- THE CONTRACTOR WILL BE REQUIRED TO BE UNDER ESCORT FROM MHT OPERATIONS WHILE CROSSING AN ACTIVE TAXIWAY.
- ALL VEHICLES FROM THE CONSTRUCTION WORK AREAS SHALL BE CLEAR FROM FOD PRIOR TO LEAVING THE WORK AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AT LEAST ONE OPERATIONAL VACUUM-TYPE SWEEPER WITH DEDICATED OPERATOR AT ALL TIMES AND PROVIDE ADEQUATE SWEEPING AND MAINTENANCE OF THE HAUL ROUTES AT ALL TIMES.
- ALL CONSTRUCTED HAUL ROUTES AND STOCK PILE AREAS SHALL BE RETURNED TO THEIR PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL MAINTAIN GATE GUARD AT EACH THE ACCESS POINT DURING THE TIME IN WHICH THE ACCESS GATE IS UNLOCKED (I.E. DELIVERY OF MATERIALS).
- ACCESS TO WORK AREA SHALL BE VIA INDUSTRIAL DRIVE.



ENGINEER'S SEAL  
  
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CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION  
GENERAL PLAN  
SCALE: 1" = 500'  
DATE: MARCH 2021

REVISIONS  
REV. NO. DATE DESCRIPTION BY  
M/J PROJ. No.: 18700.03  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
G-01  
SHEET 2 OF 11



CONSTRUCTION SAFETY AND PHASING NOTES:

1.

THE CONTRACTOR SHALL SUBMIT A WRITTEN SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE ENGINEER, CITY OF MANCHESTER-DEPARTMENT OF AVIATION, AND FAA FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION AND BEFORE ANY CONSTRUCTION IS ALLOWED TO BE PERFORMED. ANY DELAY IN THE ISSUANCE OF THE NOTICE TO PROCEED DUE TO THE FAILURE BY THE CONTRACTOR TO OBTAIN AN APPROVED SPCD WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSION. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE OF THE REQUIREMENTS AND PROCEDURES OF THE FAA ADVISORY CIRCULAR NO. 150/5370-2G OR (CURRENT EDITION) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" AND THE APPROVED "CONSTRUCTION SAFETY AND PHASING PLAN" (CSPP), AND INCORPORATE RELEVANT ITEMS INTO THE SPCD WHICH MUST MEET OR EXCEED THE PROJECT'S CSPP REQUIREMENTS. THE SPCD SHALL BE MODIFIED AND UPDATED AS REQUIRED THROUGHOUT THE PROJECT TO ADDRESS EACH PHASE AND/OR SUB PHASE AS WORK PROGRESSES. SOME, BUT NOT ALL OF THE ITEMS, TO BE ADDRESSED IN THE SPCD ARE AS FOLLOWS:

• IDENTIFICATION AND QUALIFICATIONS OF DEDICATED SAFETY & SECURITY POINT OF CONTACT.

• WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITIES.

• AIRFIELD COMMUNICATIONS AND 24-HOUR EMERGENCY NOTIFICATION PROCEDURES.

• CONSTRUCTION OPERATIONS ADJACENT TO OR WITHIN SAFETY AREAS, OBJECT FREE AREAS, NAVAID CRITICAL AREAS, AND APPROACH SURFACES (I.E. GRADING, HAULING MATERIALS, ETC.).

• METHODS AND REQUIREMENTS FOR SEPARATING CONSTRUCTION AREAS FROM AIR OPERATIONS AREAS (AOA).

• PREVENTING INTERFERENCE WITH FAA NAVAID (ILS OR OTHER) CRITICAL AREAS.

• CONTROL OF FOREIGN OBJECT DEBRIS (FOD) AND DUST.

• CONSTRUCTION VEHICLE REQUIREMENTS, PROCEDURES AND DRIVER TRAINING FOR AUTHORIZED DRIVERS.

• OPERATIONS WITHIN MOVEMENT AND NON-MOVEMENT AREAS TO PREVENT RUNWAY INCURSIONS.

• CONTRACTOR ACCESS POINTS, VEHICLE CROSSING LOCATIONS, SECURITY FENCING AND GATES, AND EMPLOYEE SECURITY TRAINING.

• PROCEDURES, REQUIREMENTS, AND COORDINATION OF RUNWAY AND/OR TAXIWAY CLOSURES, INCLUDING NOTICE TO AIRMEN (NOTAM) COORDINATION.

• LIGHTED BARRICADE AND CHANNELIZER CONE PLACEMENT LOCATIONS, AND TEMPORARY CONSTRUCTION SIGN LOCATIONS.

• PROCEDURES FOR MANAGING HAZARDOUS MATERIALS.

• PROCEDURES FOR LOCATING & PROTECTING EXISTING UNDERGROUND UTILITIES.

2.

THE CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (WHO ALSO COULD BE THE SUPERINTENDENT OR OTHER SUPERVISORY PERSON) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES. THIS INDIVIDUAL WILL BE RESPONSIBLE FOR MONITORING CONSTRUCTION ACTIVITIES AND PERSONNEL TO ENSURE THAT THEY ADHERE TO THE SAFETY REQUIREMENTS ESTABLISHED BY THE CONTRACT DOCUMENTS, THE SPCD, THE REGULATIONS AND REQUIREMENTS OF THE AIRPORT, FAA, AND OTHER APPLICABLE AGENCIES.

3.

THE CONTRACTOR SHALL PROVIDE A POINT OF CONTACT TO THE OWNER, RESIDENT PROJECT REPRESENTATIVE (RPR), AND ENGINEER WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT. THIS INDIVIDUAL WILL BE CAPABLE OF COORDINATING AN IMMEDIATE RESPONSE TO CORRECT ANY CONSTRUCTION RELATED ACTIVITY THAT MAY ADVERSELY AFFECT THE OPERATIONAL SAFETY OF THE AIRPORT.

4.

UPON RECEIPT OF APPROVAL FOR A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD AND CONSTRUCTION COMMENCES, THE WORK AREA SHALL BE SECURED. LIGHTING EQUIPMENT, CHANNELIZER CONES AND SAFETY BARRICADES SHALL BE PLACED AND OPERATIONAL AS APPLICABLE. THE WORK AREA SHALL BE CLEARLY DELINEATED AND ALL SAFETY REQUIREMENTS SHALL BE APPROVED BY THE RPR PRIOR TO BEGINNING ANY WORK.

5.

CONSTRUCTION SIGNS (I.E. "CONSTRUCTION TRAFFIC" WITH ARROWS, "NO UNAUTHORIZED VEHICLES BEYOND THIS POINT" OR OTHER STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) SIGNS) SHALL BE LOCATED AT THE WORK AREA EGRESS/INGRESS POINTS. THERE SHALL BE NO SEPARATE PAYMENT FOR PROVIDING THESE SIGNS.

6.

THE CONTRACTOR SHALL ENSURE THAT NO PAVEMENT LIPS, PAVEMENT EDGES, SIGN FOUNDATIONS, STRUCTURES OR OTHER APPURTENANCES EXCEED 3 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS.

7.

DAILY COORDINATION OF CONSTRUCTION ACTIVITIES SHALL BE HELD ON-SITE WITH THE RPR AND MANCHESTER AIRPORT OPERATIONS (MHT) TO CLEARLY IDENTIFY THE LIMITS OF WORK FOR THE DAY. THE CONTRACTOR SHALL NOT EXCEED THE LIMITS OF WORK WITHOUT APPROVAL FROM THE RPR.

8.

TEMPORARY TAXIWAY CLOSURES, CAUTIONS, AND/OR RUNWAY CLOSURES IN ACCORDANCE WITH THE CSPP ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL TIME TO BE DETERMINED BY MHT OPERATIONS.

9.

IF WORKING UNDER A CAUTION ALLOWED BY THE CSPP, ALL ADJACENT PAVEMENTS WILL BE AVAILABLE FOR UNLIMITED AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER THAT NO INTERFERENCE WITH AIRCRAFT OPERATIONS WILL OCCUR. THE CONTRACTOR SHALL BE ESCORTED BY MHT OPERATIONS AND THE CONTRACTOR SHALL RELOCATE PERSONNEL AND EQUIPMENT 129.5' FROM THE TAXIWAY CENTERLINE, OR 250' FROM RUNWAY CENTERLINE, TO ALLOW FOR SAFE PASSAGE OF AIRCRAFT AS REQUIRED.

10.

AS NOTED PREVIOUSLY WITHIN THESE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE PROVIDED AN ESCORT FROM MHT OPERATIONS TO GET TO AND FROM THE WORK AREAS WHEN INSIDE THE AOA. THE CONTRACTOR SHALL STAGE VEHICLES COMING INTO THE AOA AT THE GATE AND BE ESCORTED, WITH A MAXIMUM OF 3 VEHICLES IN CONVOY BEHIND THE ESCORT VEHICLE, TO THE WORK AREAS.

11.

DURING NIGHT WORK (IF ALLOWED), ALL LIGHTING EQUIPMENT UTILIZED SHALL BE CONTROLLED TO PREVENT STRAY LIGHT. THE CONTRACTOR SHALL DIRECT ALL LIGHTING AWAY FROM ADJACENT NEIGHBORHOODS AND IN A MANNER THAT DOES NOT INTERFERE WITH THE AIR TRAFFIC CONTROL TOWER AND AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL PREPARE A LIGHTING PLAN TO BE REVIEWED AND APPROVED BY THE RPR. THE RPR SHALL APPROVE THE LOCATION AND OPERATION OF ALL LIGHTING EQUIPMENT.

CHANNELIZER NOTES:

1.

CHANNELIZER CONES SHALL BE SPACED 4' ON CENTER (MIN.), UNLESS OTHERWISE DIRECTED ON THE PLANS OR BY THE RPR.

2.

CONES SHALL BE ADEQUATELY SECURED WITH WEIGHTED BASES OR OTHER APPROVED METHODS TO WITHSTAND HIGH WINDS AND/OR JET BLAST.

WORK ZONE LIGHTED CHANNELIZER CONE

NOT TO SCALE  
(INCIDENTAL TO ITEM M-200-1)

WATER BALLASTED LIGHTED SAFETY BARRICADE NOTES:

1.

CONTRACTOR SHALL PROVIDE AN ADEQUATE NUMBER OF BARRICADES TO PROPERLY CLOSE AIRFIELD PAVEMENTS AS SHOWN ON THE SAFETY AND PHASING PLANS.

2.

BARRICADES SHALL BE MULTI-BARRIER SAFETY BARRICADES WITH REFLECTIVE STRIPING.

3.

BARRICADES SHALL BE PLACED END TO END TO CREATE A CONTINUOUS BARRIER.

4.

BARRICADES SHALL BE ADEQUATELY WEIGHTED TO WITHSTAND HIGH WINDS AND/OR JET BLAST.

5.

CONTRACTOR SHALL MAINTAIN FLASHING LIGHTS TO ENSURE PROPER WORKING ORDER THROUGHOUT THE DURATION OF THE PROJECT.

6.

CONTRACTOR SHALL MOVE BARRICADES AT THE DIRECTION OF THE RPR OR MHT OPERATIONS.

WATER BALLASTED LIGHTED SAFETY BARRICADE

NOT TO SCALE  
(INCIDENTAL TO ITEM M-200-1)

AVIATION BARRICADE NOTES:

1.

THE RPR AND MHT OPERATIONS WILL HAVE FINAL DETERMINATION WHERE EACH TYPE OF BARRICADE (LOW PROFILE, CHANNELIZER CONES, TRAFFIC CONES, ETC.) SHALL BE PLACED.

2.

BARRICADES SHALL BE ONE OF THE BARRICADES SHOWN ON THIS SHEET OR APPROVED EQUAL.

3.


ALL BARRICADES SHALL MEET REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5370-2G (CURRENT EDITION), "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

4.

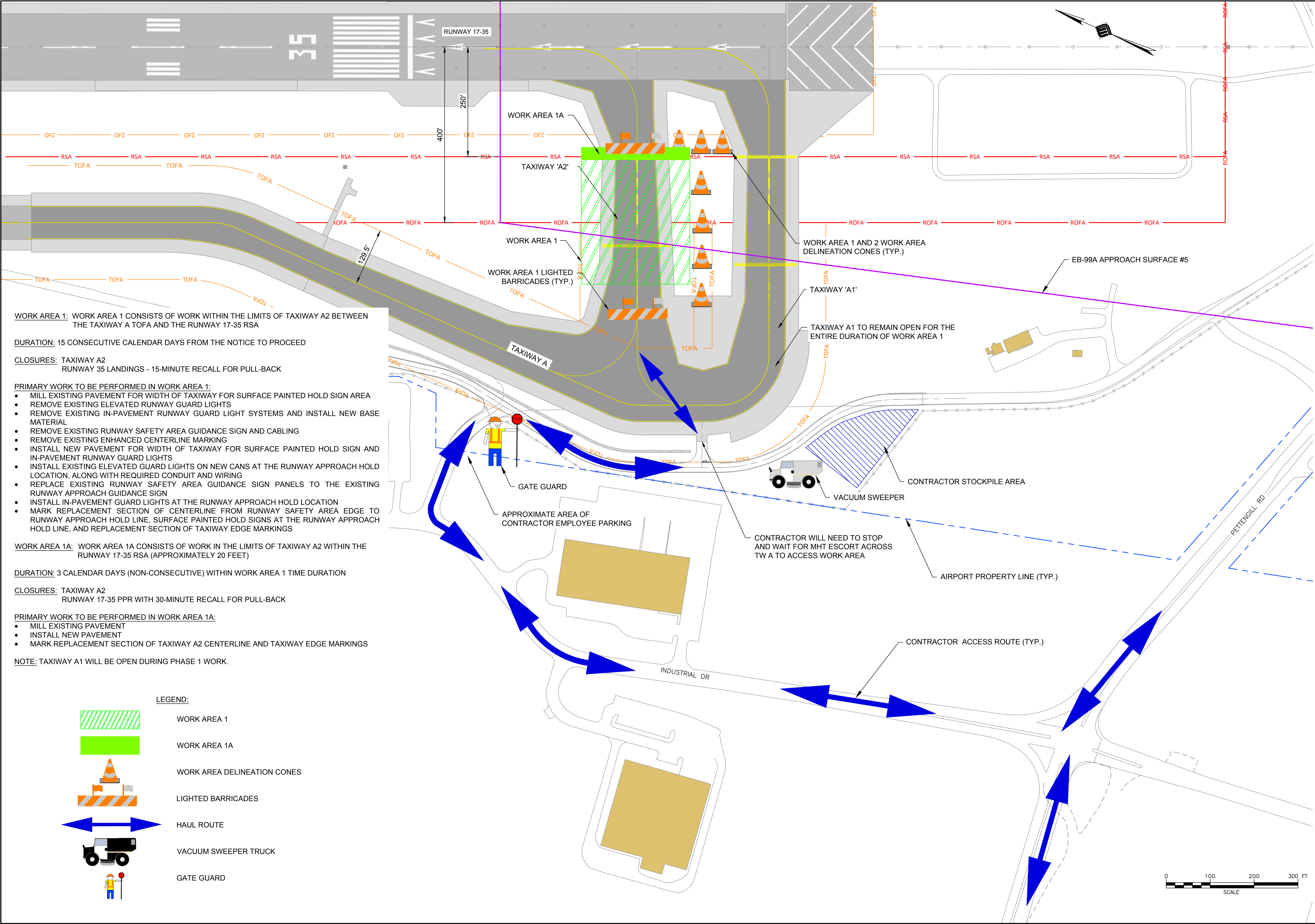
THE CONTRACTOR SHALL SUPPLY ALL BARRICADES AS BEING INCIDENTAL TO THE MAINTENANCE AND PROTECTION OF TRAFFIC ITEM (ITEM M-200-1). ALL BARRICADES SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER PROJECT COMPLETION.

5.

CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE BARRICADES/CONES TO ENSURE LIGHTS ARE IN PROPER WORKING ORDER.

ENGINEER'S SEAL 	
PROJECT DESIGNER  <b>McFarland Johnson</b> 53 REGIONAL DRIVE, CONCORD, NH 03301-5022 PH: 603-225-2978 FAX: 603-225-0095	CHECKED BY BNB DRAWN BY RHL DESIGNED BY SSS
CITY OF MANCHESTER DEPARTMENT OF AVIATION MANCHESTER, NEW HAMPSHIRE 	
MANCHESTER-BOSTON REGIONAL AIRPORT TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION	
GENERAL NOTES	
SCALE: N:1:S	DATE: MARCH 2021
REVISIONS	BY
REV. NO.	DATE
DESCRIPTION	
M/J PROJ. No.:18700.03	
FILE NAME:	
A/P No.: 3-33-0011-XXX-2021	
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G-02	
SHEET 3 OF 11	REV 





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DRAWN BY  
RHL

CHECKED BY  
BNB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION

PHASING PLAN - PHASE 1

SCALE: 1" = 100'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

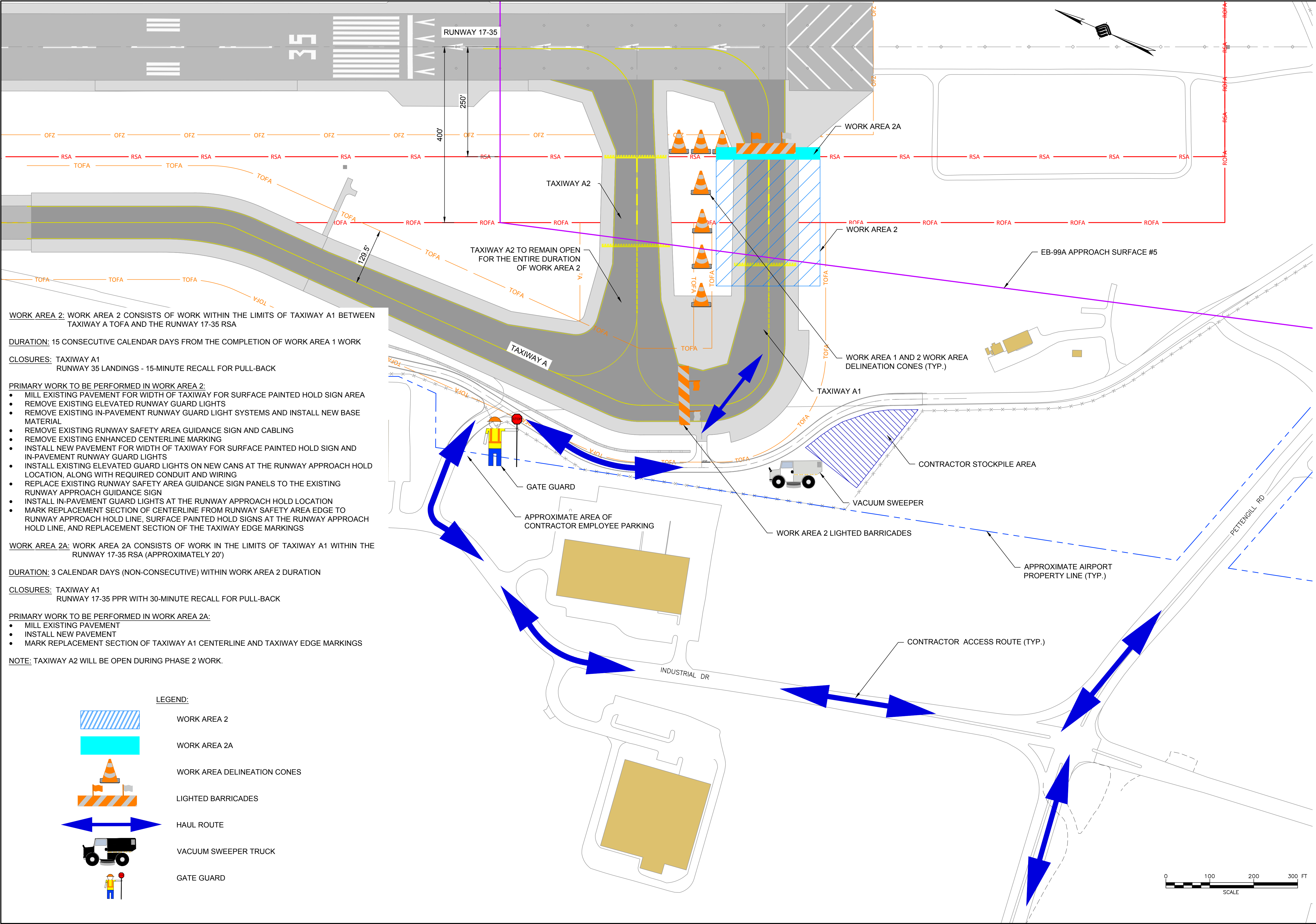
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G-03

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**WORK AREA 2:** WORK AREA 2 CONSISTS OF WORK WITHIN THE LIMITS OF TAXIWAY A1 BETWEEN TAXIWAY A TOFA AND THE RUNWAY 17-35 RSA

**DURATION:** 15 CONSECUTIVE CALENDAR DAYS FROM THE COMPLETION OF WORK AREA 1 WORK

**CLOSURES:** TAXIWAY A1  
RUNWAY 35 LANDINGS - 15-MINUTE RECALL FOR PULL-BACK

- PRIMARY WORK TO BE PERFORMED IN WORK AREA 2:**
- MILL EXISTING PAVEMENT FOR WIDTH OF TAXIWAY FOR SURFACE PAINTED HOLD SIGN AREA
  - REMOVE EXISTING ELEVATED RUNWAY GUARD LIGHTS
  - REMOVE EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT SYSTEMS AND INSTALL NEW BASE MATERIAL
  - REMOVE EXISTING RUNWAY SAFETY AREA GUIDANCE SIGN AND CABLING
  - REMOVE EXISTING ENHANCED CENTERLINE MARKING
  - INSTALL NEW PAVEMENT FOR WIDTH OF TAXIWAY FOR SURFACE PAINTED HOLD SIGN AND IN-PAVEMENT RUNWAY GUARD LIGHTS
  - INSTALL EXISTING ELEVATED GUARD LIGHTS ON NEW CANS AT THE RUNWAY APPROACH HOLD LOCATION, ALONG WITH REQUIRED CONDUIT AND WIRING
  - REPLACE EXISTING RUNWAY SAFETY AREA GUIDANCE SIGN PANELS TO THE EXISTING RUNWAY APPROACH GUIDANCE SIGN
  - INSTALL IN-PAVEMENT GUARD LIGHTS AT THE RUNWAY APPROACH HOLD LOCATION
  - MARK REPLACEMENT SECTION OF CENTERLINE FROM RUNWAY SAFETY AREA EDGE TO RUNWAY APPROACH HOLD LINE, SURFACE PAINTED HOLD SIGNS AT THE RUNWAY APPROACH HOLD LINE, AND REPLACEMENT SECTION OF THE TAXIWAY EDGE MARKINGS

**WORK AREA 2A:** WORK AREA 2A CONSISTS OF WORK IN THE LIMITS OF TAXIWAY A1 WITHIN THE RUNWAY 17-35 RSA (APPROXIMATELY 20')








**DURATION:** 3 CALENDAR DAYS (NON-CONSECUTIVE) WITHIN WORK AREA 2 DURATION

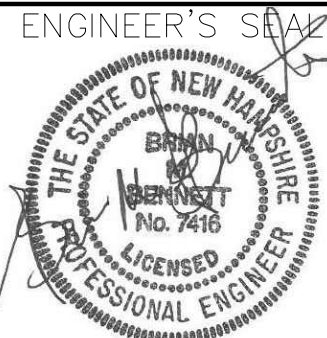
**CLOSURES:** TAXIWAY A1  
RUNWAY 17-35 PPR WITH 30-MINUTE RECALL FOR PULL-BACK

- PRIMARY WORK TO BE PERFORMED IN WORK AREA 2A:**
- MILL EXISTING PAVEMENT
  - INSTALL NEW PAVEMENT
  - MARK REPLACEMENT SECTION OF TAXIWAY A1 CENTERLINE AND TAXIWAY EDGE MARKINGS

**NOTE:** TAXIWAY A2 WILL BE OPEN DURING PHASE 2 WORK.


**LEGEND:**

-  WORK AREA 2
-  WORK AREA 2A
-  WORK AREA DELINEATION CONES
-  LIGHTED BARRICADES
-  HAUL ROUTE
-  VACUUM SWEEPER TRUCK
-  GATE GUARD



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MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION

PHASING PLAN - PHASE 2


SCALE: 1" = 100'  
DATE: MARCH 2021

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G-04

SHEET 5 OF 11

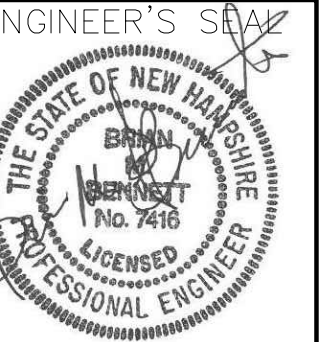
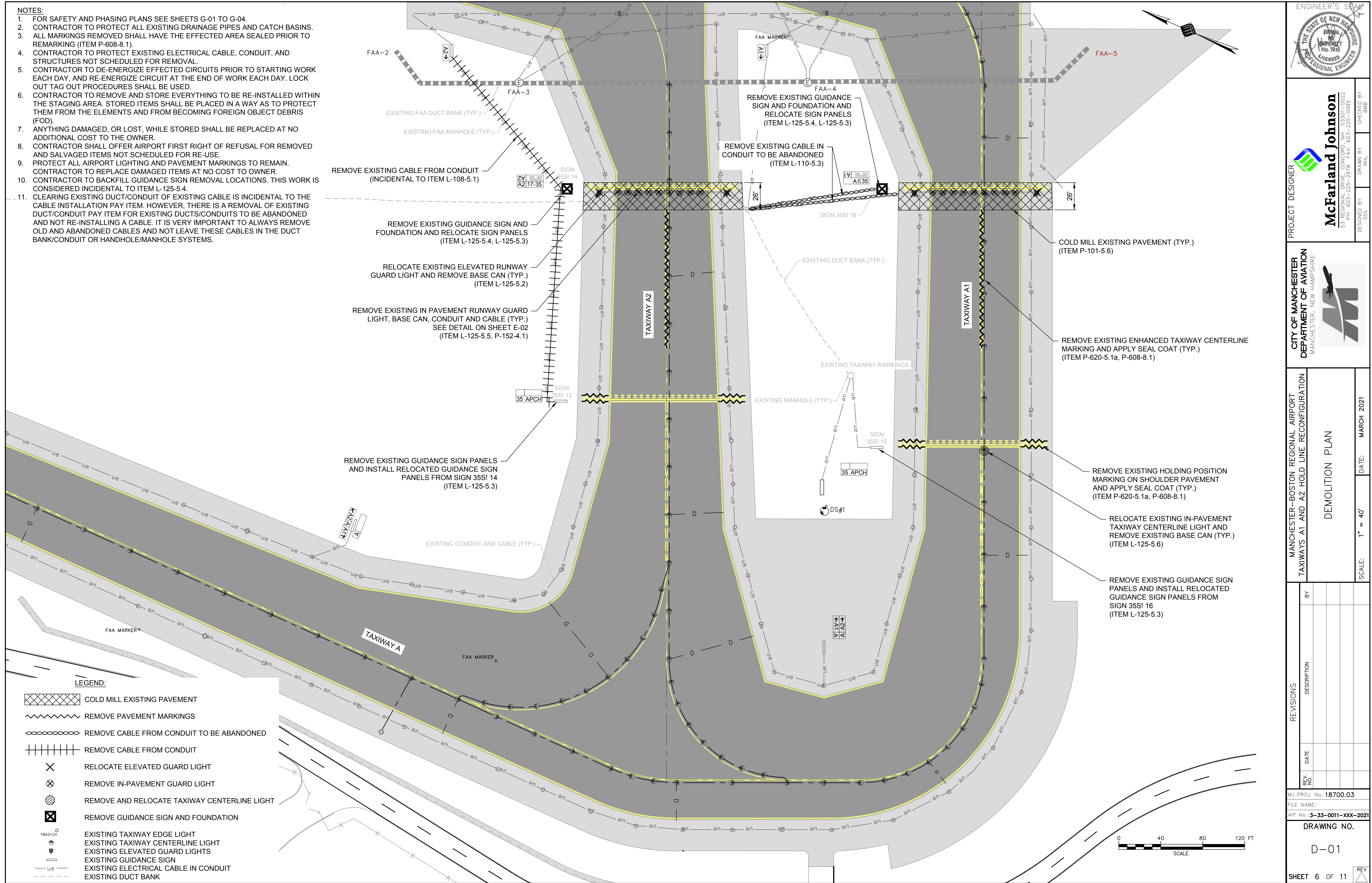


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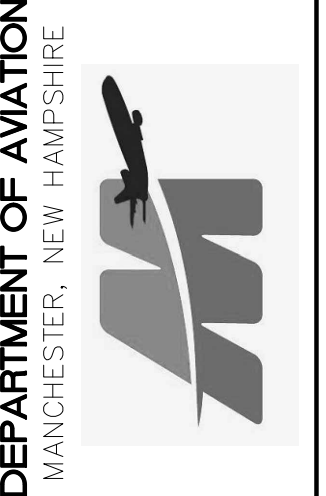


NOTES:

1. FOR SAFETY AND PHASING PLANS SEE SHEETS G-01 TO G-04.
2. CONTRACTOR TO PROTECT ALL EXISTING DRAINAGE PIPES AND CATCH BASINS.
3. ALL MARKINGS REMOVED SHALL HAVE THE EFFECTED AREA SEALED PRIOR TO REMARKING (ITEM P-608-8.1).
4. CONTRACTOR TO PROTECT EXISTING ELECTRICAL CABLE, CONDUIT, AND STRUCTURES NOT SCHEDULED FOR REMOVAL.
5. CONTRACTOR TO DE-ENERGIZE EFFECTED CIRCUITS PRIOR TO STARTING WORK EACH DAY, AND RE-ENERGIZE CIRCUIT AT THE END OF WORK EACH DAY. LOOK OUT TAG OUT PROCEDURES SHALL BE USED.
6. CONTRACTOR TO REMOVE AND STORE EVERYTHING TO BE RE-INSTALLED WITHIN THE STAGING AREA. STORED ITEMS SHALL BE PLACED IN A WAY AS TO PROTECT THEM FROM THE ELEMENTS AND FROM BECOMING FOREIGN OBJECT DEBRIS (FOD).
7. ANYTHING DAMAGED, OR LOST, WHILE STORED SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
8. CONTRACTOR SHALL OFFER AIRPORT FIRST RIGHT OF REFUSAL FOR REMOVED AND SALVAGED ITEMS NOT SCHEDULED FOR RE-USE.
9. PROTECT ALL AIRPORT LIGHTING AND PAVEMENT MARKINGS TO REMAIN.
10. CONTRACTOR TO REPLACE DAMAGED ITEMS AT NO COST TO OWNER.
11. CONTRACTOR TO BACKFILL GUIDANCE SIGN REMOVAL LOCATIONS. THIS WORK IS CONSIDERED INCIDENTAL TO ITEM L-125-5.4.
12. CLEARING EXISTING DUCT/CONDUIT OF EXISTING CABLE IS INCIDENTAL TO THE CABLE INSTALLATION PAY ITEM. HOWEVER, THERE IS A REMOVAL OF EXISTING DUCT/CONDUIT PAY ITEM FOR EXISTING DUCTS/CONDUITS TO BE ABANDONED AND NOT RE-INSTALLING A CABLE. IT IS VERY IMPORTANT TO ALWAYS REMOVE OLD AND ABANDONED CABLES AND NOT LEAVE THESE CABLES IN THE DUCT BANK/CONDUIT OR HANDHOLE/MANHOLE SYSTEMS.



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DRAWN BY: RHL  
CHECKED BY: BNB



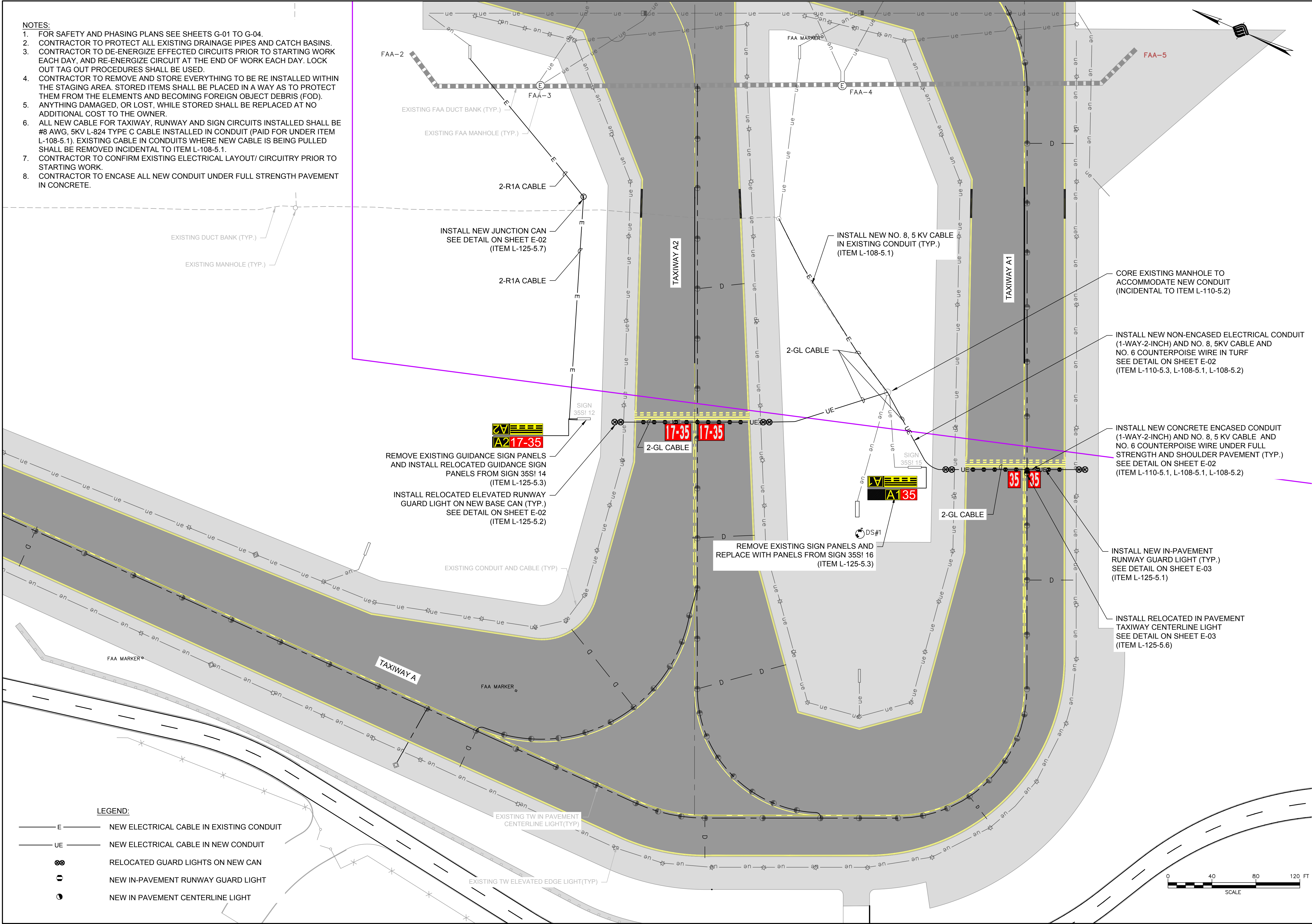
MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION  
DEMOLITION PLAN  
SCALE: 1" = 40'  
DATE: MARCH 2021

REVISIONS		BY	DATE
REV. NO.	DESCRIPTION		

MJ PROJ. No.: 18700.03  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
D-01  
SHEET 6 OF 11



- NOTES:
1. FOR SAFETY AND PHASING PLANS SEE SHEETS G-01 TO G-04.
  2. CONTRACTOR TO PROTECT ALL EXISTING DRAINAGE PIPES AND CATCH BASINS.
  3. CONTRACTOR TO DE-ENERGIZE EFFECTED CIRCUITS PRIOR TO STARTING WORK EACH DAY, AND RE-ENERGIZE CIRCUIT AT THE END OF WORK EACH DAY. LOCK OUT TAG OUT PROCEDURES SHALL BE USED.
  4. CONTRACTOR TO REMOVE AND STORE EVERYTHING TO BE RE INSTALLED WITHIN THE STAGING AREA. STORED ITEMS SHALL BE PLACED IN A WAY AS TO PROTECT THEM FROM THE ELEMENTS AND BECOMING FOREIGN OBJECT DEBRIS (FOD).
  5. ANYTHING DAMAGED, OR LOST, WHILE STORED SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
  6. ALL NEW CABLE FOR TAXIWAY, RUNWAY AND SIGN CIRCUITS INSTALLED SHALL BE #8 AWG, 5KV L-824 TYPE C CABLE INSTALLED IN CONDUIT (PAID FOR UNDER ITEM L-108-5.1). EXISTING CABLE IN CONDUITS WHERE NEW CABLE IS BEING PULLED SHALL BE REMOVED INCIDENTAL TO ITEM L-108-5.1.
  7. CONTRACTOR TO CONFIRM EXISTING ELECTRICAL LAYOUT/ CIRCUITRY PRIOR TO STARTING WORK.
  8. CONTRACTOR TO ENCASE ALL NEW CONDUIT UNDER FULL STRENGTH PAVEMENT IN CONCRETE.



ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BRIAN J. McFarland  
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RHL

CHECKED BY  
BNB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION

REVISIONS  
REV. NO. DATE DESCRIPTION BY

ELECTRICAL LAYOUT

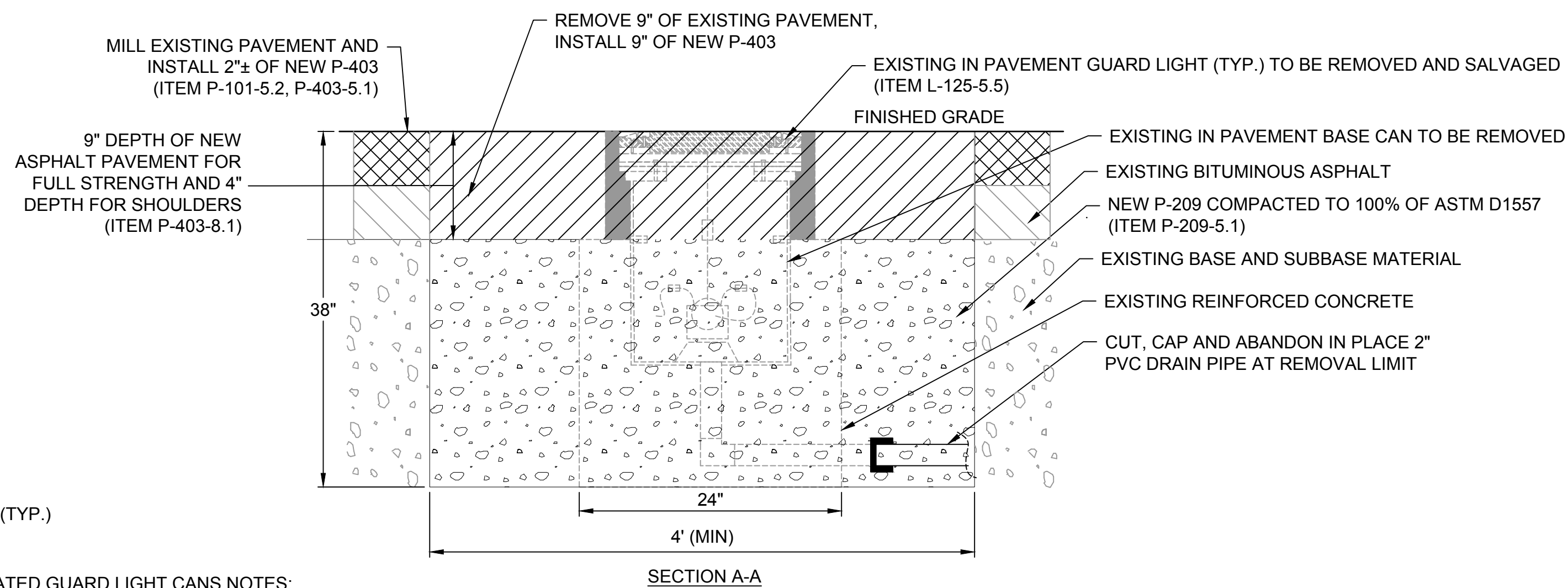
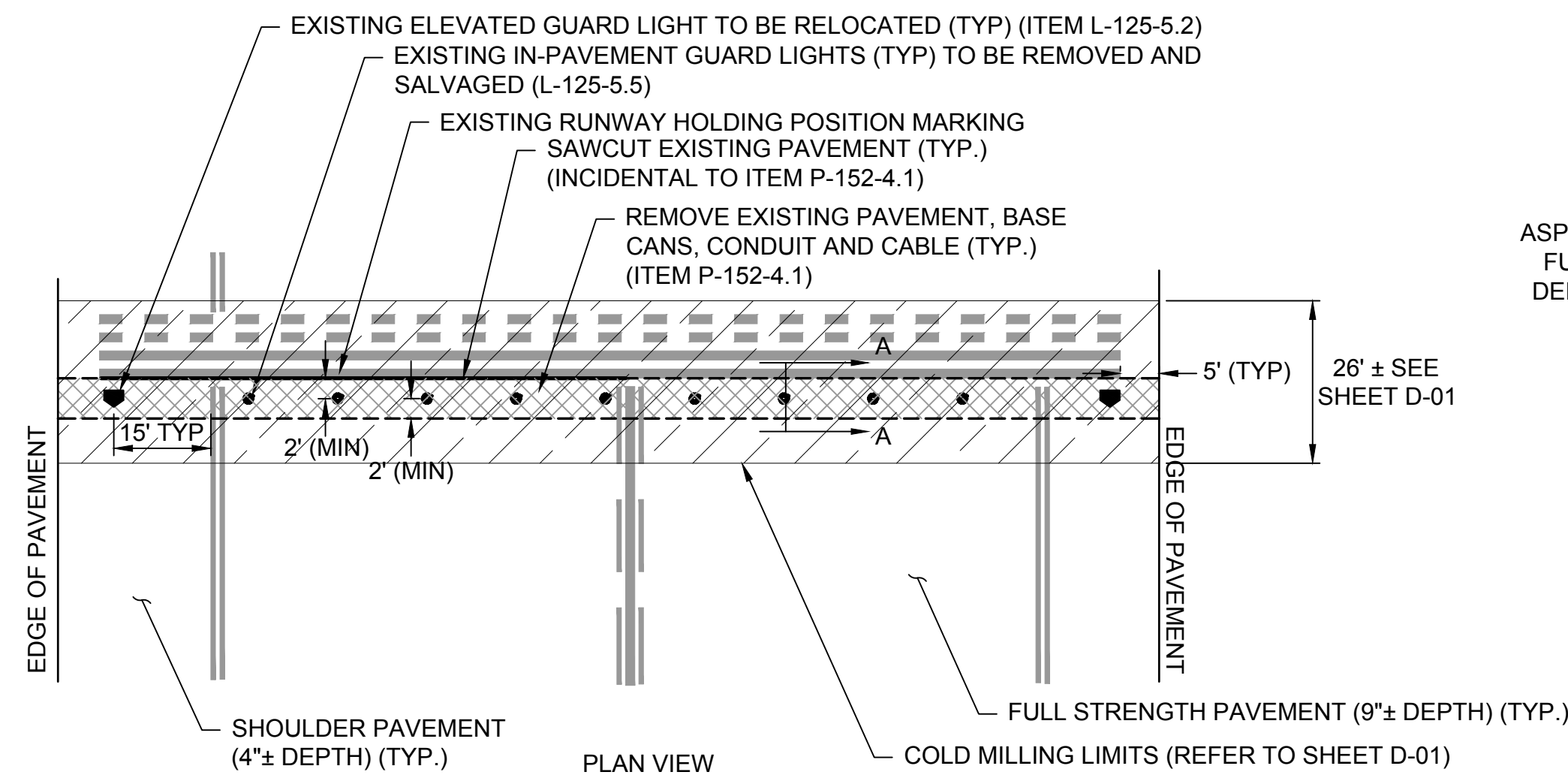
DATE: MARCH 2021  
SCALE: 1"=40'

MJ PROJ. No.:18700.03  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
E-01

SHEET 7 OF 11



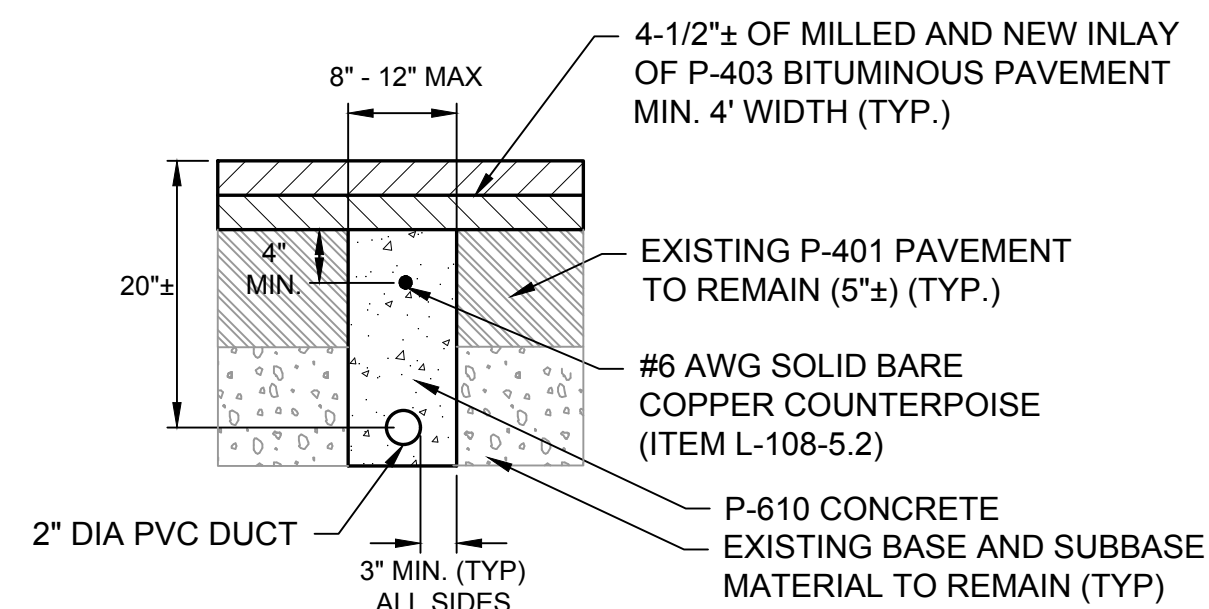
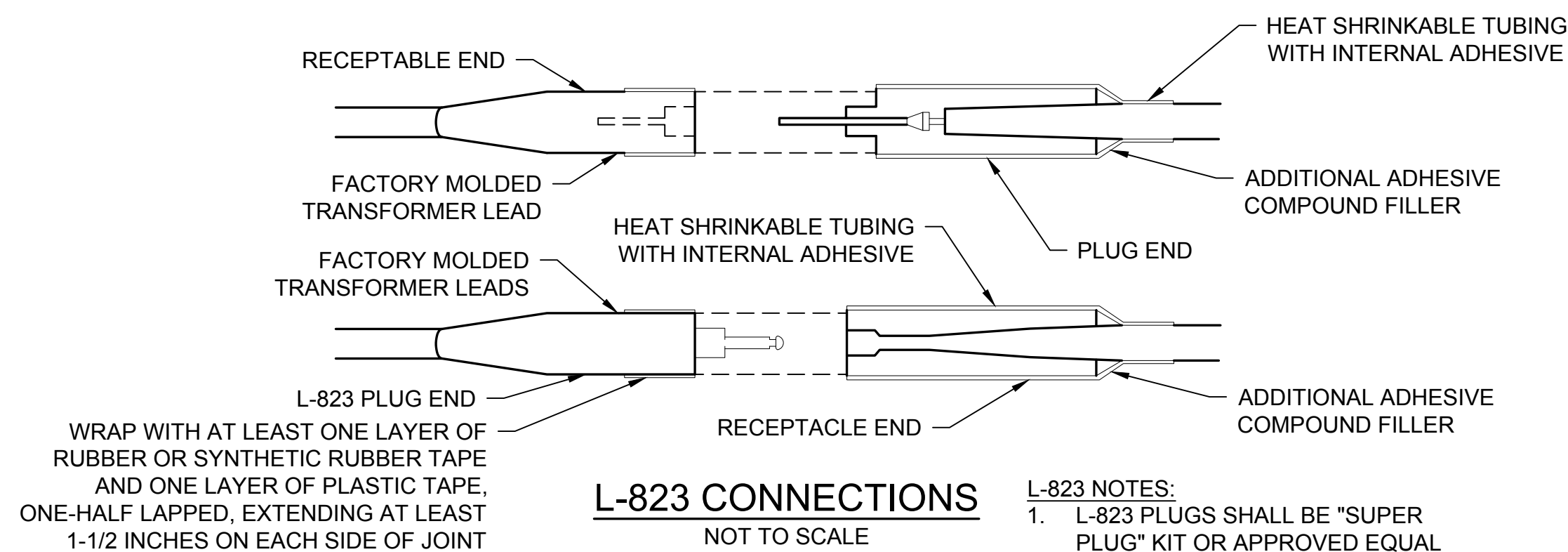


- DEMOLITION/REMOVAL OF EXISTING IN-PAVEMENT AND ELEVATED GUARD LIGHT CANS NOTES:

1. REMOVE IN-PAVEMENT LIGHT FIXTURES, SNOW PLOW RINGS AND TRANSFORMERS, AND SALVAGE TO OWNER (ITEM L-125-5.5).
2. ELEVATED GUARD LIGHTS TO REMOVED AND RELOCATED TO NEW LOCATION. (ITEM L-125-5.2).
3. CONTRACTOR TO SAW CUT EXISTING BITUMINOUS PAVEMENT (APPROXIMATELY 9"±) TO PROVIDE A SMOOTH VERTICAL FACE PRIOR TO PAVEMENT REMOVAL
4. CONTRACTOR SHALL REMOVE EXISTING PAVEMENT (APPROXIMATELY 9" THICK), EXISTING LIGHT CANS, CONDUIT, CABLE AND GROUNDING, EXISTING 2" PVC DRAIN TO UNDERDRAIN MAY BE CUT CAPPED AND ABANDONED IN PLACE AT REMOVAL LIMITS (ITEM P-152-4.1).
5. CONTRACTOR TO BACK FILL REMOVED LIGHTS, BASE CAN, CONDUIT, AND ALL ACCESSORY ITEMS WITH MATERIAL THAT MEETS A P-209 GRADATION AND SHALL BE COMPACTED TO 100% OF MODIFIED PROCTOR (ASTM D1557) (ITEM P-209-5.1).

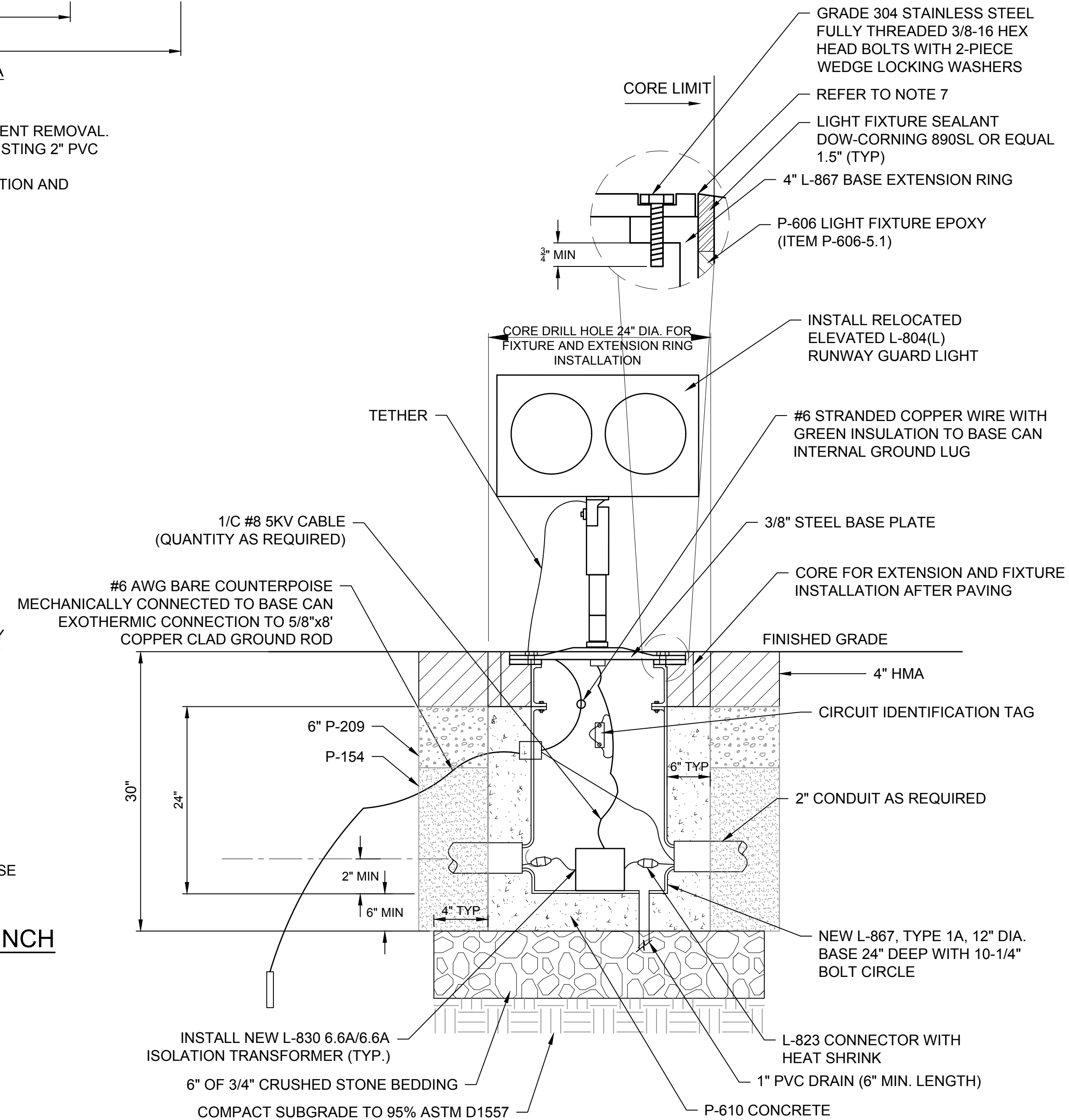
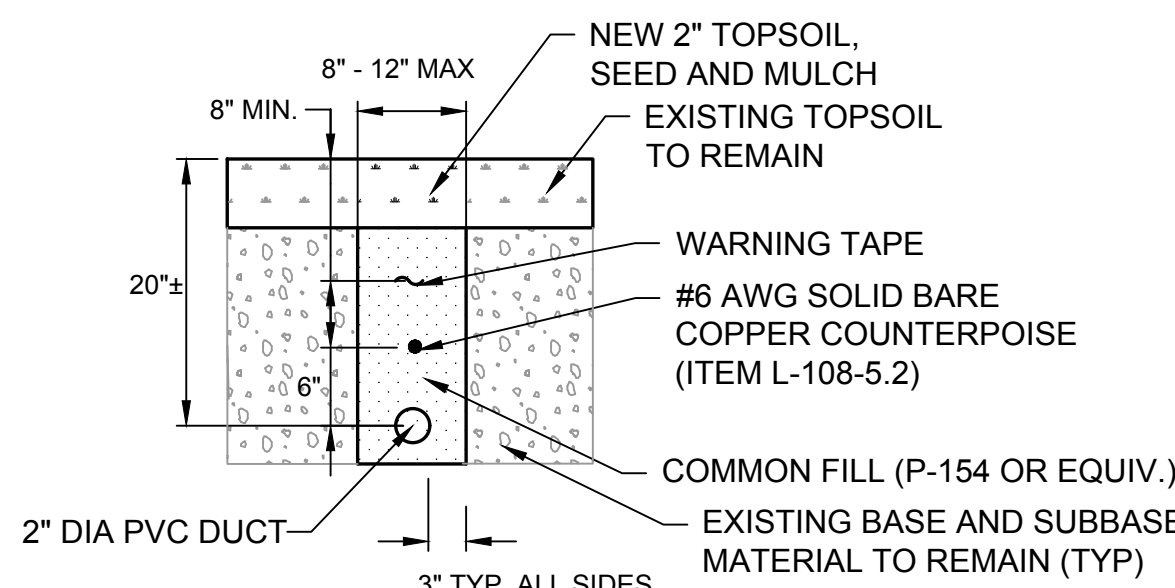
REMOVE IN-PAVEMENT L-852G(L) AND ELEVATED L-804(L) LIGHTS  
AND ASSOCIATED MATERIALS AND REFILLS

NOT TO SCALE



## CONCRETE ENCASED ELECTRICAL CONDUIT: 1-WAY, 2-INCH

NOT TO SCALE  
(ITEM L-110-5.1)

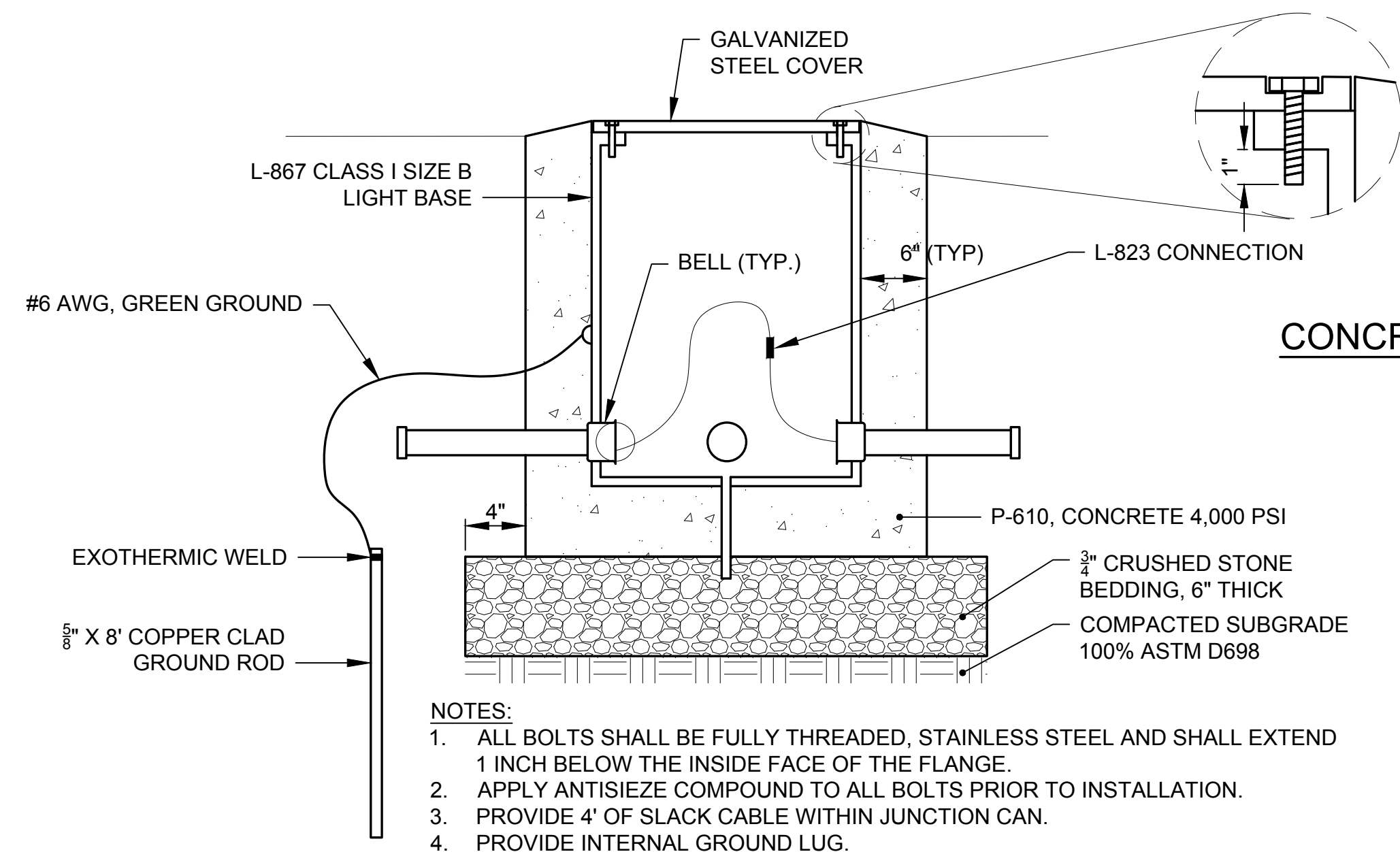


- ### INSTALLATION PROCEDURES:

1. INSTALL NEW L-867 12" DIA. 24" DEEP BASE WITH 10 1/4" BOLT CIRCLE FLUSH WITH EXISTING GRADE.
2. SAW AND SEAL THE PERIMETER OF ALL LIGHT BASE AND TRENCH INSTALLATIONS.
3. CONTRACTOR SHALL ORDER ALL LIGHT BASES WITH THE APPROPRIATE NUMBER OF HUBS FOR EACH LOCATION.
4. INSTALL TRANSFORMER AND FIXTURE AS SHOWN.
5. FOR LOCATION AND AIMING REFER TO SHEET E-03.
6. SUFFICIENT CABLE SLACK (MIN. 3') SHALL BE LEFT IN EACH BASE CAN TO ALLOW FOR THE RUNWAY GUARD LIGHT TO BE REMOVED AND WORKED ON.
7. GUARD LIGHTS SHALL BE SET FLUSH TO A MAXIMUM OF 3/4" BELOW PROPOSED GRADE.

RELOCATED L-804(L) RUNWAY GUARD LIGHT ON NEW CAN (L-867 BASE CAN)

NOT TO SCALE  
(ITEM L-125-5.2)



- NOTES:

1. ALL BOLTS SHALL BE FULLY THREADED, STAINLESS STEEL AND SHALL EXTEND 1 INCH BELOW THE INSIDE FACE OF THE FLANGE.
2. APPLY ANTISIEZE COMPOUND TO ALL BOLTS PRIOR TO INSTALLATION.
3. PROVIDE 4" OF SLACK CABLE WITHIN JUNCTION CAN.
4. PROVIDE INTERNAL GROUND LUG.
5. THE CONTRACTOR SHALL PROVIDE JUNCTION CANS WITH DUCT OPENINGS IN FOUR (4) ORTHOGONAL DIRECTIONS.

## ELECTRICAL JUNCTION CAN DETAIL

NOT TO SCALE  
(ITEM L-125-5.7)



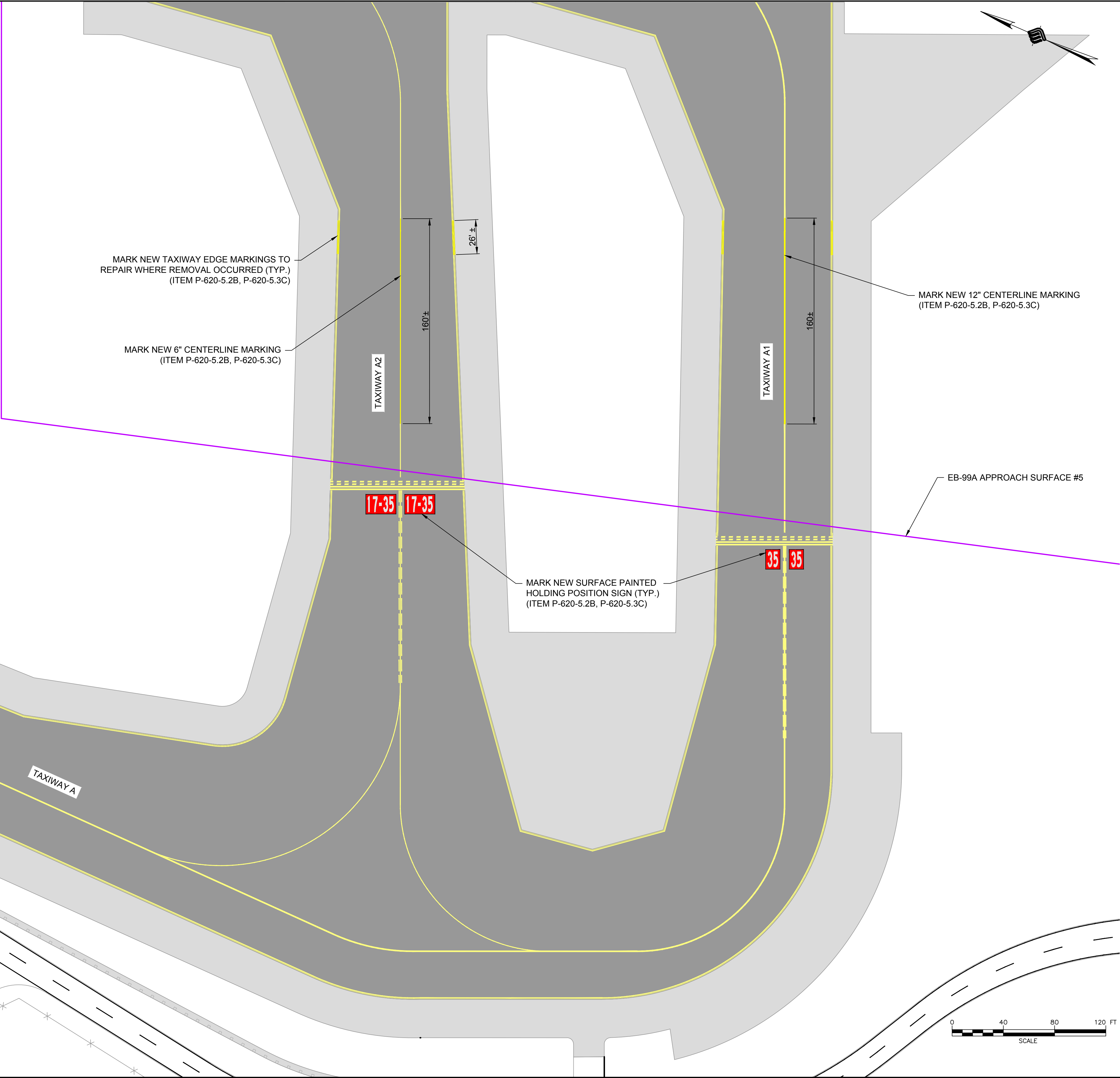
NOT TO SCALE  
(ITEM L-110-5.2)



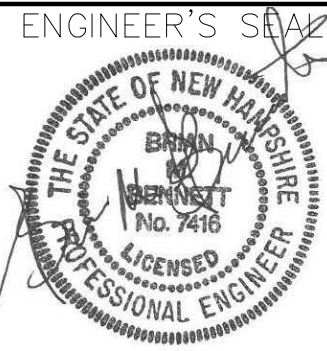





- NOTES:
1. FOR SAFETY AND PHASING PLANS SEE SHEETS G-01 TO G-04.
  2. FOR DEMOLITION PLANS SEE SHEET D-01.
  3. CONTRACTOR TO LAYOUT PROPOSED MARKINGS TO BE APPROVED BY THE RPR PRIOR TO STARTING WORK.
  4. ALL MARKINGS SHALL RECEIVE TYPE I - GRADATION A REFLECTIVE MEDIA EXCEPT FOR THE WHITE IN THE SURFACE PAINTED HOLD SIGN WHICH SHALL RECEIVE TYPE III, AND BLACK BORDERS WHICH SHALL NOT RECEIVE REFLECTIVE MEDIA.
  5. MHT OPERATIONS SHALL SUPPLY ALL TEMPLATES FOR THE SURFACE PAINTED HOLD MARKINGS. THE CONTRACTOR SHALL NOT DAMAGE THE TEMPLATES OR THEY WILL BE REQUIRED TO REPLACE THEM AT NO ADDITIONAL COST TO THE OWNER.



- LEGEND:
- NEW PAVEMENT MARKING
  - NEW SURFACE PAINTED HOLD SIGN


ENGINEER'S SEAL  


PROJECT DESIGNER  
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DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BNB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE  


MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION


MARKING PLAN

SCALE: 1" = 40'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

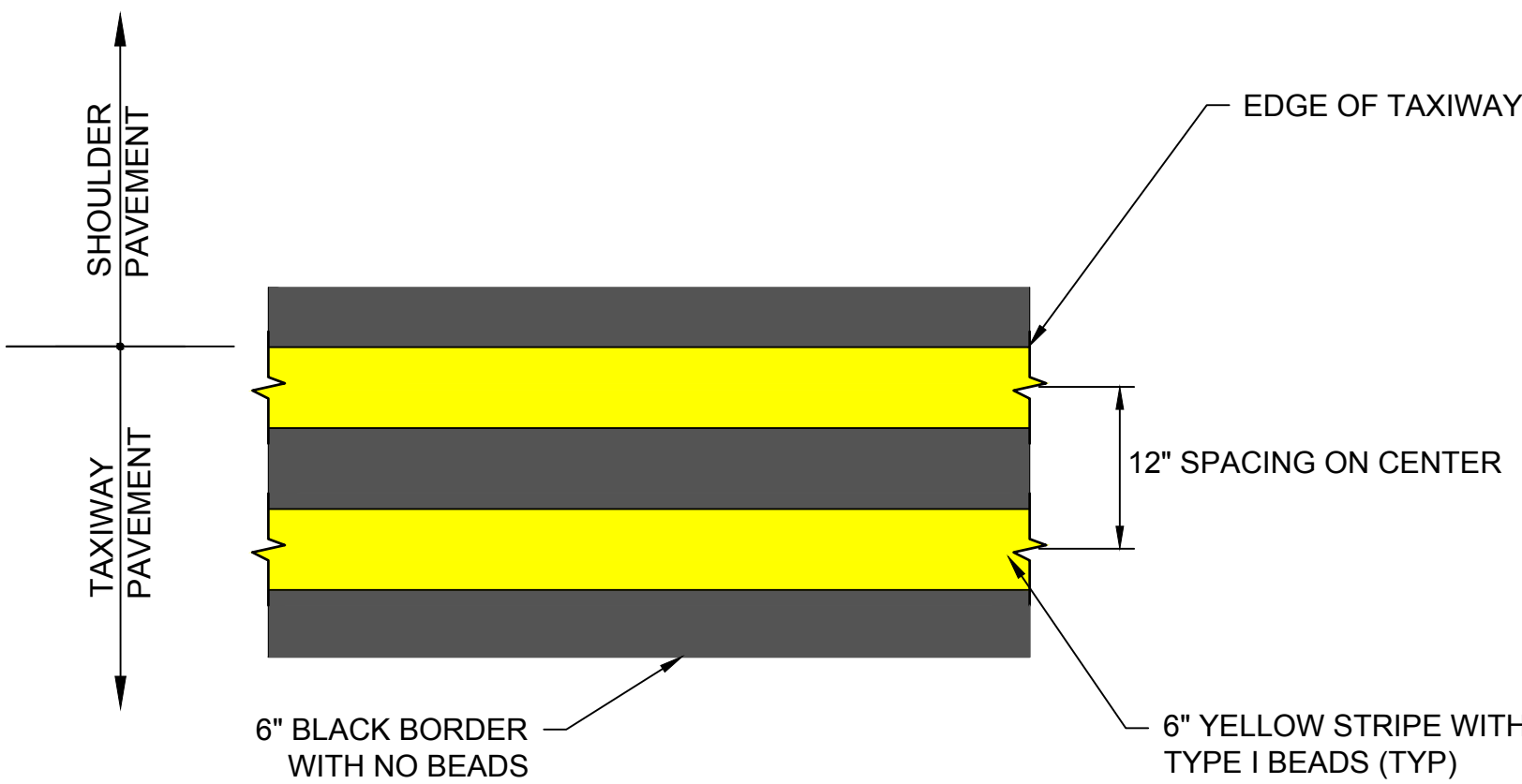
MJ PROJ. No.: 18700.03  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
C-01

SHEET 10 OF 11  
REV  


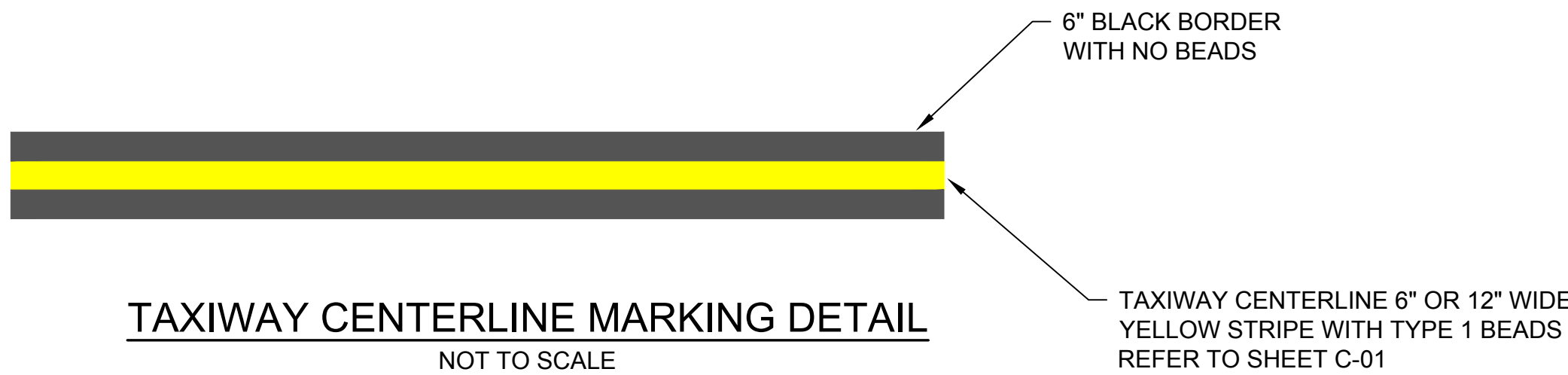


- GENERAL MARKING NOTES:
1. REFER TO SHEET C-01 FOR MARKING PLAN.
  2. BLACK BORDERS ARE REQUIRED SURROUNDING ALL PAVEMENT MARKINGS. DIMENSIONS AS SHOWN ON THE DETAILS.
  3. ALL YELLOW MARKINGS SHALL RECEIVE TYPE I - GRADATION A REFLECTIVE MEDIA.
  4. ALL WHITE MARKINGS SHALL RECEIVE TYPE III BEADS.
  5. BLACK MARKINGS SHALL RECEIVE NO BEADS.



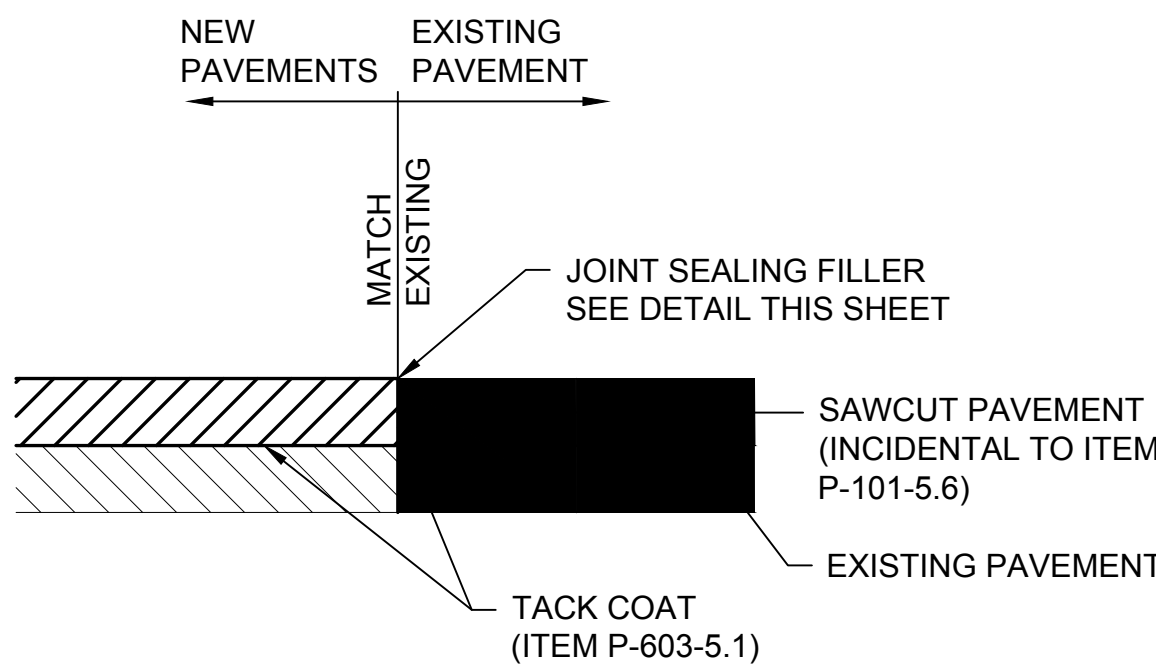
**TAXIWAY EDGE MARKING DETAIL**

NOT TO SCALE  
(ITEM P-620-5.2B, P-620-5.3C)



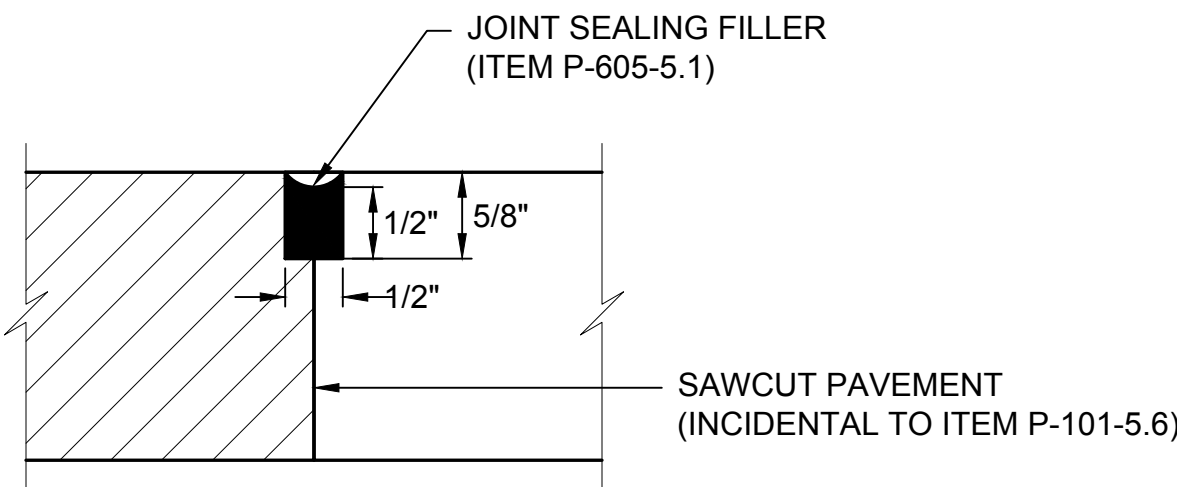
**TAXIWAY CENTERLINE MARKING DETAIL**

NOT TO SCALE  
(ITEM P-620-5.2B, P-620-5.3C)



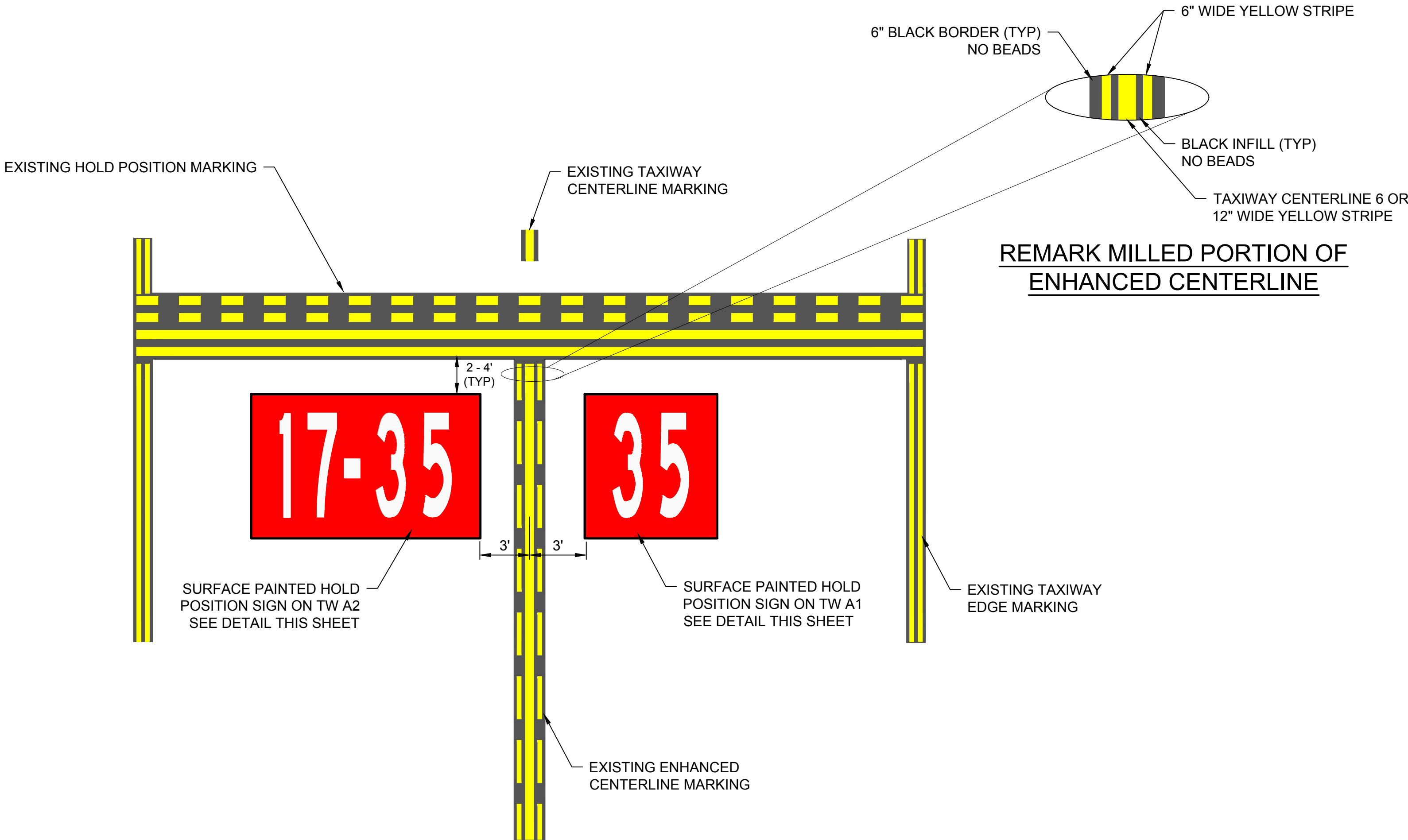
**PAVEMENT TIE-IN DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM P-403-8.1)



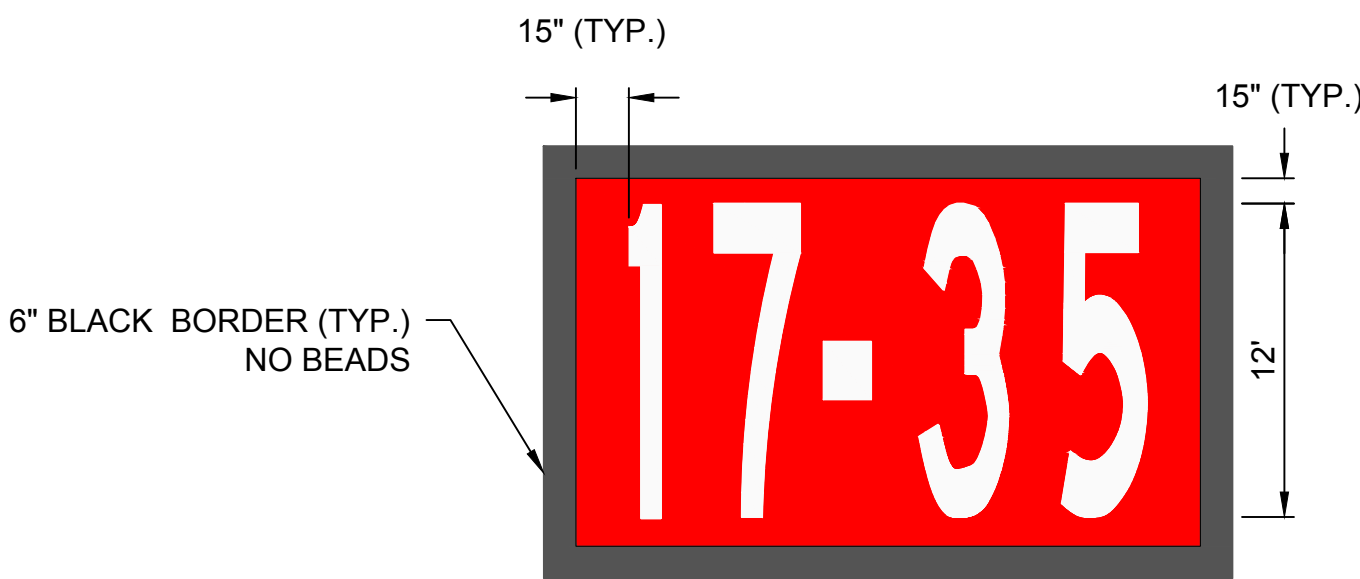
**JOINT SEALING FILLER DETAIL**

NOT TO SCALE  
(ITEM P-605-5.1)

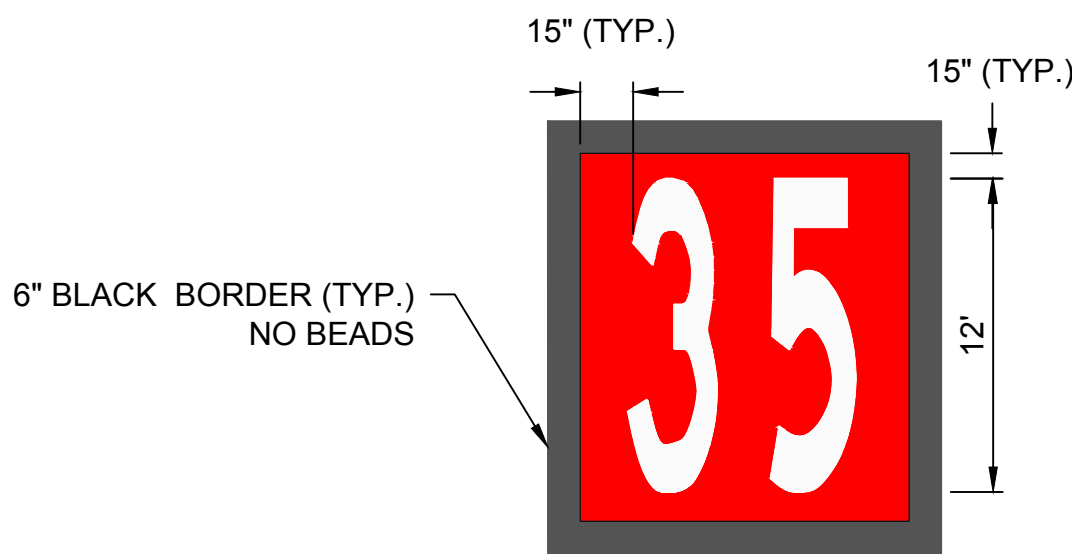


**RUNWAY HOLD POSITION MARKING AND ENHANCED CENTERLINE MARKING**

NOT TO SCALE  
(ITEM P-620-5.2B, P-620-5.3C)



**TAXIWAY A2**



**TAXIWAY A1**

**SURFACE PAINTED HOLDING POSITION SIGN**

NOT TO SCALE  
(ITEM P-620-5.2B, P-620-5.3C)

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BENNETT  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

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DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAYS A1 AND A2 HOLD LINE RECONFIGURATION

REVISIONS  
REV. NO.  
DATE  
DESCRIPTION  
BY

MJ PROJ. No.: 18700.03  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
C-02

SHEET 11 OF 11

McFarland Johnson  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
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CHECKED BY  
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DRAWN BY  
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DESIGNED BY  
SSS

MISC. & MARKING DETAILS

SCALE: N.T.S.

DATE: MARCH 2021

REV



# MANCHESTER BOSTON REGIONAL AIRPORT

MANCHESTER, NEW HAMPSHIRE

## RUNWAY INCURSION MITIGATION (RIM) PROJECT – TAXIWAY H RECONFIGURATION TO TAXIWAY K



**CITY OF MANCHESTER – DEPARTMENT OF AVIATION**

1 AIRPORT ROAD, SUITE 300  
MANCHESTER, NEW HAMPSHIRE  
(603) 624–6539  
WWW.FLYMANCHESTER.COM

FAA A.I.P. 3-33-0011-XXX-2021  
CITY BID #FY21-805-26  
MJ PROJECT NO. 18700.01



BRIAN M. BENNETT  
53 REGIONAL DRIVE, CONCORD, NH 03301  
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PROJECT DESIGNER

Scaled	Brian Bennett
PE No.	7416
Date	MARCH 19, 2021

SCHEDULES B & C

PLANS BEST VIEWED IN COLOR

BID DOCUMENTS



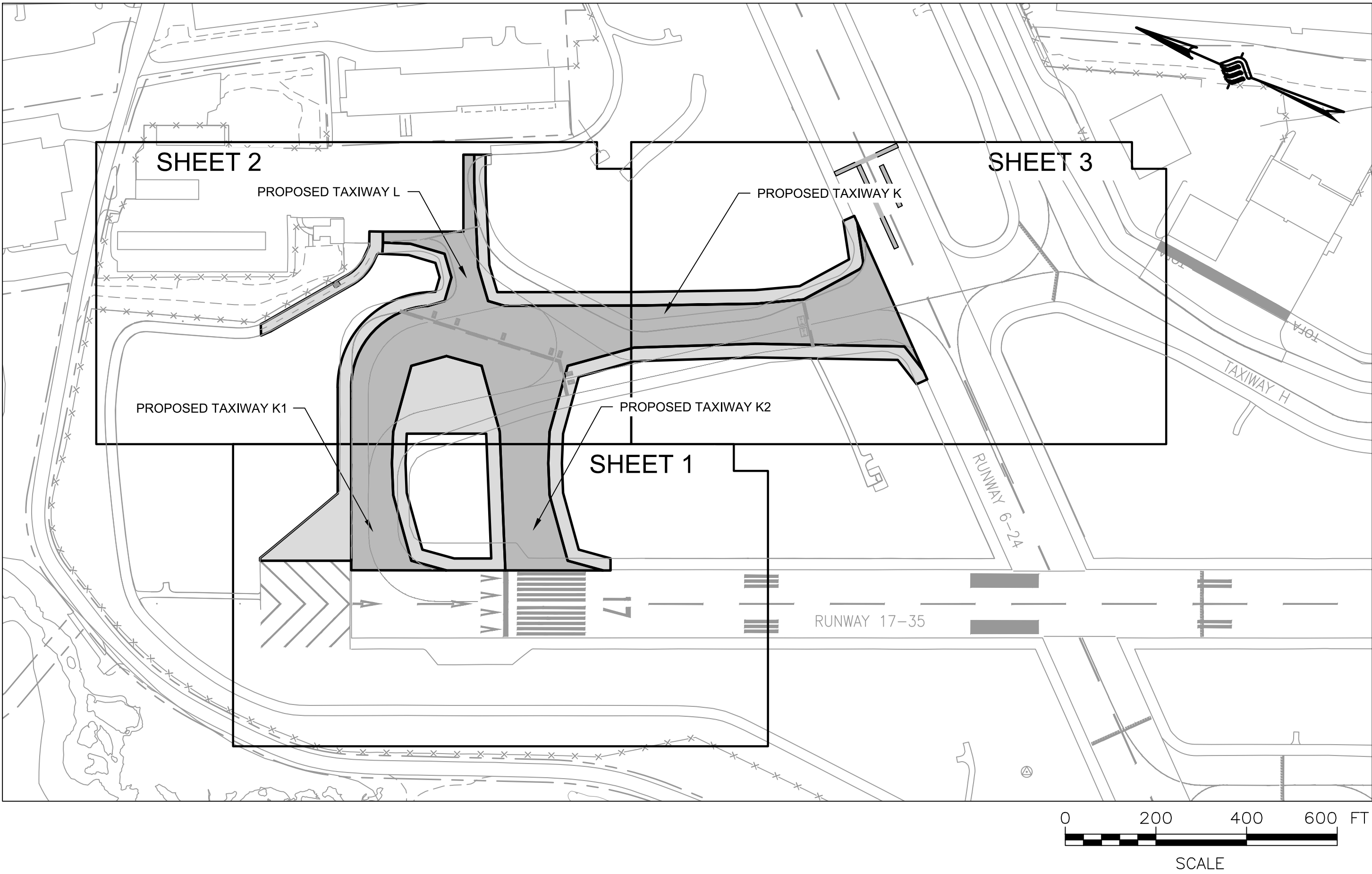
TAXIWAY H RECONFIGURATION TO TAXIWAY K		
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GP-01	INDEX SHEET	2
QU-01	QUANTITY TABLE	3
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G-02	GENERAL NOTES	5
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CS-03	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 2	8
CS-04	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 2A	9
CS-05	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 3	10
CS-06	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 3A	11
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EXISTING LEGEND:	
	EXISTING ELEVATED EDGE LIGHT
	EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT
	EXISTING ELEVATED RUNWAY GUARD LIGHT
	EXISTING AIRFIELD GUIDANCE SIGN
	EXISTING ELECTRIC MANHOLE
	EXISTING FAA ELECTRIC MANHOLE
	EXISTING CATCH BASIN
	EXISTING DRAIN MANHOLE
	EXISTING CLEANOUT
	EXISTING UNIDENTIFIED MANHOLE
	EXISTING SEWER MANHOLE
	CORE / BORING LOCATION
	EXISTING UNDERDRAIN PIPE
	EXISTING TW H AND TAXIWAY L CIRCUITRY
	EXISTING RUNWAY 6-24 CIRCUITRY
	EXISTING RUNWAY 17-35 CIRCUITRY
	EXISTING DUCT BANK
	EXISTING FENCE

PROPOSED LEGEND	
	FULL STRENGTH PAVEMENT
	SHOULDER PAVEMENT
	SAW AND SEAL JOINT
	TAXIWAY SAFETY AREA
	TAXIWAY OBJECT FREE AREA
	LIMIT OF DISTURBANCE
	MAJOR CONTOUR
	MINOR CONTOUR
	IN TURF INLET PROTECTION
	EROSION CONTROL LOG
	ADJUST EXISTING ELECTRIC STRUCTURE RIM ELEVATION
	ADJUST EXISTING DRAINAGE STRUCTURE RIM ELEVATION
	PAVEMENT MARKING

	AIRFIELD GUIDANCE SIGN
	ELEVATED TAXIWAY EDGE LIGHT
	ELECTRICAL DUCT BANK
	CABLE AND CONDUIT
	CABLE INSTALLED IN EXISTING CONDUIT
	FAA FIBER OPTIC AND COMMUNICATION CABLE
	IN-PAVEMENT RUNWAY GUARD LIGHT
	ELEVATED RUNWAY GUARD LIGHT
	ELECTRIC MANHOLE
	NEW JUNCTION CAN ON EXISTING CONDUIT
	SWAP SIGN PANEL
	IN-PAVEMENT CENTERLINE LIGHT
	REMOVE / REINSTALL FAA IN-PAVEMENT LIGHT
	REMOVE / REINSTALL RUNWAY GUARD LIGHT
	IN-PAVEMENT RUNWAY EDGE LIGHT
	WIND CONE

NOTE: EXISTING TAXIWAY H TO BE RECONFIGURED AND RENAMED TAXIWAY K WITH STUB TAXIWAYS K1 AND K2.



ENGINEER'S SEAL

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DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
INDEX SHEET

SCALE: AS SHOWN  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
GP-01

SHEET 2 OF 60



SCHEDULE B QUANTITIES

BID ITEM	DESCRIPTION OF ITEM	UNIT	QUANTITY
C-105-1	Mobilization (3%)	LS	1
M-100-1	Allowance - Gate Guards	AL	1
M-200-1	Maintenance and Protection of Traffic	LS	1
M-300-1	Allowance - ALCMS Modifications	AL	1
M-400-1	Record Documents	LS	1
M-400-2	Field Data Collection for GIS Survey Conversion	LS	1
M-500-1	Engineer Field Office	LS	1
M-600-1	Temporary Construction Access	LS	1
M-600-2	Vehicle Service Road Asphalt Pavement	Ton	240
M-700-1	FAA and MHT Cable Replacement Allowance	AL	1
C-100	Contractor Quality Control Program	LS	1
C-102-5.1	Installation and Removal of Inlet Protetion Filter Bags	EA	14
C-102-5.2	Installation and Removal of Erosion Control Logs	LF	1500
C-102-5.3	Installation and Removal of Stabilized Construction Entrance	EA	1
C-102-5.4	Installation of Erosion Control Blanket	SY	2600
P-101-5.1	Pavement Removal	SY	44800
P-101-5.2	Joint and Crack Repair	LF	2000
P-101-5.6	Cold Milling	SY	2450
P-101-5.7A	Removal of Pipe	LF	1100
P-101-5.7B	Removal of Drain Manhole/Inlet	EA	3
P-101-5.7C	Removal of Electric Manhole/Handhole	EA	6
P-101-5.7D	Removal of Cabling (In conduit to Remain)	LF	2500
P-152-4.1	Unclassified Excavation	CY	49000
P-152-4.2	Unsuitable Excavation	CY	2500
P-154-5.1	Subbase Course	CY	27400
P-209-5.1	Crushed Aggregate Base Course	CY	8100
P-401-8.1	Asphalt Surface Course	TON	8000
P-403-8.1	Asphalt Base Course/Shoulder Pavement	TON	13200
P-603-5.1	Emulsified Asphalt Tack Coat	GAL	7500
P-605-5.1	Joint Sealing Filler	LF	1820
P-620-5.1a	Surface Preparation	SF	1800
P-620-5.2b	Markings	SF	35000
P-620-5.3c	Reflective Media	LBS	1000
P-620-5.4d	Temporary Runway and Taxiway Marking	SF	400
F-162-5.1	Chain-Link Fence	LF	75
F-162-5.2a	Vehicle Gate	EA	1
D-701-5.1A	4-Inch SDR 35 PVC Pipe	LF	500
D-701-5.1B	12-Inch Class V Reinforced Concrete Pipe	LF	8
D-701-5.1C	15-Inch Class V Reinforced Concrete Pipe	LF	270
D-701-5.1D	18-Inch Class V Reinforced Concrete Pipe	LF	350
D-705-5.4	6-inch Pipe Double Wall High Density Polyethylene (smooth int./corrugated ext.)	LF	4700
D-751-5.2	Catch Basins	EA	1
D-751-5.3	Adjust Structure Rim/Grate Elevation	EA	1
D-751-5.4	Concrete Headwall	EA	1
T-901-5.1	Seeding	KSF	250
T-905-5.1	Topsoil (Obtained on Site or from Stockpile)	CY	1700
T-905-5.2	Topsoil (Furnished from Off the Site)	CY	330
T-908-5.1	Mulching	SY	27570

BID ITEM	DESCRIPTION OF ITEM	UNIT	QUANTITY
L-107-5.1	Type L-806 Style I-B Size 1 Wind Cone	EA	1
L-108-5.1	No. 8 AWG, 5kV, L-824 Type C Cable	LF	49600
L-108-5.2	No. 6 AWG, Solid Bare Copper Counterpoise Wire	LF	11660
L-109-7.4A	Installation of Equipment within Existing Vault, 15 kW L-829 CCR - TW K CL	EA	1
L-109-7.4B	Installation of Equipment within Existing Vault, 10 kW L-829 CCR - TW K Edge	EA	1
L-110-5.1	Concrete Encased Electrical Conduit, 1-Way-2-inch	LF	9900
L-110-5.2A	Concrete Encased Electrical Duct Bank 2-way-4-inch	LF	470
L-110-5.2B	Concrete Encased Electrical Duct Bank 4-way-4-inch	LF	1060
L-110-5.3	Non-Encased Electrical Conduit, 1-Way-2-inch	LF	700
L-110-5.4	Removal of Concrete Encased or Non-encased Electrical Conduit/Duct Bank	LF	7200
L-115-5.3	Existing Electrical Manhole/Junction Structure Elevation Adjustment	EA	7
L-115-5.4	Electric Handhole (4' x 4' Precast Concrete)	EA	7
L-125-5.1	New L-861T Elevated Taxiway Edge Lights	EA	97
L-125-5.2	New L-852C(L) In-Pavement Taxiway Centerline Light	EA	35
L-125-5.3	New L-852K(L) In-Pavement Taxiway Centerline Light	EA	31
L-125-5.4	New L-852G(L) In-Pavement Runway Guard Light	EA	36
L-125-5.5	New L-804(L) Elevated Runway Guard Light	EA	6
L-125-5.6A	New L-850C In-Pavement Runway Edge Light	EA	3
L-125-5.6B	Replace L-850C In-Pavement Runway Edge Light on Existing Base Can	EA	1
L-125-5.7A	New L-858(L) Airfield Guidance Sign - 1 Module	EA	2
L-125-5.7B	New L-858(L) Airfield Guidance Sign - 2 Module	EA	5
L-125-5.7C	New L-858(L) Airfield Guidance Sign - 3 Module	EA	7
L-125-5.8	Replace Airfield Guidance Sign Panel	EA	1
L-125-5.9	Remove Airfield Guidance Sign & Foundation	EA	10
L-125-5.10	Remove Elevated Taxiway/Runway Edge Light	EA	75
L-125-5.11	Remove Elevated Runway Guard Light	EA	4
L-125-5.12	Remove In-Pavement Runway Guard Light	EA	43
L-125-5.13	Remove, Store and Reinstall Existing Elevated Runway End/Threshold Light	EA	8
L-125-5.14	Remove, Store and Reinstall Existing FAA In-Pavement Runway Threshold Light	EA	4

GENERAL INCIDENTAL ITEMS AND CLARIFICATION NOTES:

1.

EVERYTHING LISTED BELOW ARE GENERAL CLARIFICATION, BUT DOES NOT INCLUDE EVERYTHING IF ANYTHING LISTED BELOW IS CONTRADICTED BY THE SPECIFICATIONS THEN THE SPECIFICATION SHALL DICTATE.
2.

M-200-1: MAINTENANCE AND PROTECTION OF TRAFFIC

2.1.

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL EQUIPMENT, MATERIALS, AND LABOR NECESSARY TO ADEQUATELY AND SAFELY MAINTAIN AND PROTECT TRAFFIC TO THE SATISFACTION OF THE RESIDENT PROJECT REPRESENTATIVE (RPR) AND MHT OPERATIONS.

2.2.

THE PLACEMENT OF SAFETY BARRICADES AND LIGHT RUNWAY CLOSURE MARKERS SHALL BE CONSIDERED INCIDENTAL TO ITEM M-200-1.

2.3.

THE CONTRACTOR SHALL PROVIDE VACUUM SWEEPER AND DEDICATED OPERATOR TO PROVIDE ADEQUATE SWEEPING AND MAINTENANCE OF HAUL ROUTES AND OPEN AIRFIELD PAVEMENTS AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM M-200-1.
3.

P-101-5.1: PAVEMENT REMOVAL

3.1.

ALL SAWCUTTING SHALL BE INCIDENTAL TO PAVEMENT REMOVAL.
4.

P-101-5.7D: REMOVAL OF CABLING

4.1.

THE UNIT MEASUREMENT FOR REMOVAL OF CABLING WILL BE MADE FOR EACH LINEAR FOOT COMPLETED AND ACCEPTED. THERE SHALL BE NO SEPARATE MEASUREMENT WHETHER THERE IS ONLY ONE CABLE OR MULTIPLE CONDUCTORS FOR THE LINEAR SECTION OF DUCT BANK OR CONDUIT FOR EACH CIRCUIT OF CABLING BEING REMOVED.
5.

P-606: ADHESIVE COMPOUND

5.1.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR MATERIALS USED FOR IN-PAVEMENT LIGHTING SYSTEMS.
6.

P-610: CONCRETE

6.1.

CONCRETE SHALL BE CONSIDERED INCIDENTAL AND NO SEPARATE MEASUREMENT SHALL BE MADE.
7.

P-620-5.2B: MARKING

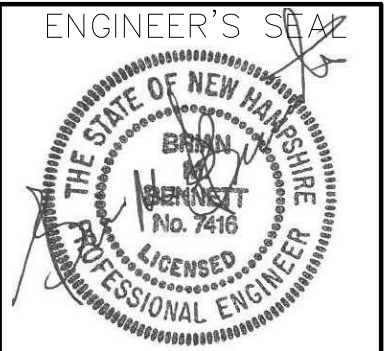
7.1.

ALL PAVEMENT MARKINGS SHALL RECEIVE TWO COATS OF PAINT. THE INITIAL APPLICATION SHALL BE PERFORMED AT PERMANENT APPLICATION RATE. THE FINAL COAT SHALL BE APPLIED AT PERMANENT APPLICATIONS RATE WITH REFLECTIVE MEDIA. FINAL PAYMENT TO THE CONTRACTOR FOR MEASURED QUANTITIES SHALL BE FOR BOTH COATS.


SCHEDULE C QUANTITIES

BID ITEM	DESCRIPTION OF ITEM	UNIT	QUANTITY
P-101-5.6	Cold Milling	SY	1150
P-403-8.1	Asphalt Base Course/Shoulder Pavement	TON	300
P-603-5.1	Emulsified Asphalt Tack Coat	GAL	170
P-605-5.1	Joint Sealing Filler	LF	1800

ENGINEER'S SEAL



PROJECT DESIGNER


**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

QUANTITY TABLES

REV. NO.

DATE

DESCRIPTION

BY


SCALE: N.T.S.

DATE: MARCH 2021

MJ PROJ. No.:18700.01


FILE NAME:

AIP No.:3-33-0011-XXX-2021

DRAWING NO.

QU-01

SHEET 3 OF 60

REV



GENERAL NOTES:

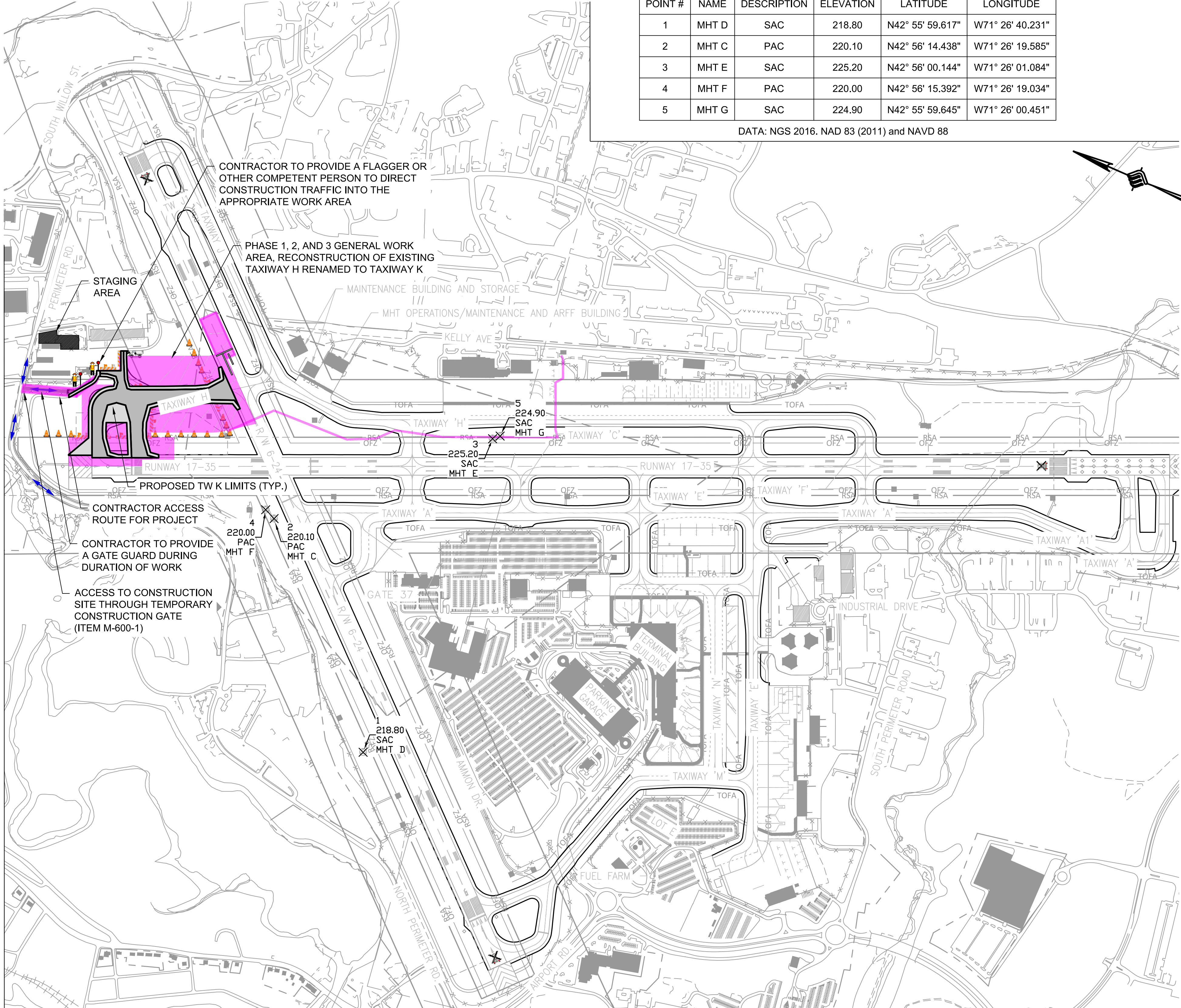
1. THE CONTRACTOR SHALL ACCESS THE WORK SITE AS SHOWN ON THIS SHEET. THE PRIMARY ACCESS AND HAUL ROUTE FOR ALL PHASES SHALL BE VIA CONTRACTOR INSTALLED TEMPORARY ACCESS GATE INSTALLED IN WORK AREA 1 OFF OF PERIMETER ROAD. ESCORT TO THE PROJECT SITE WILL BE REQUIRED FOR ALL PHASES AND SHALL BE PROVIDED BY MANCHESTER (MHT) OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL PROJECT SUPPLIERS AND SUBCONTRACTORS OF THESE ROUTES.
2. THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO AS TO AFFORD COMPLETE UNRESTRICTED ACCESS BY EMERGENCY PERSONNEL AND EQUIPMENT.
3. THE CONTRACTOR SHALL SUBMIT TO THE RPR A PROPOSED WORK SCHEDULE FOR THE SUBSEQUENT 2-WEEK PERIOD A MINIMUM OF 48 HOURS PRIOR TO THE BI-WEEKLY PROJECT PROGRESS MEETING. THE SCHEDULE SHALL INCLUDE IDENTIFICATION OF WORK TASKS AND SKETCHES OF PROPOSED PAVEMENT CLOSURES, PROPOSED HAUL ROUTES AND PROPOSED LOCATION OF ALL SAFETY BARRICADES. THE SCHEDULE SHALL BE REVIEWED AND APPROVED BY THE RPR AND MHT OPERATIONS.
4. THE CONTRACTOR SHALL NOT BEGIN WORK IN ANY AREA UNTIL THE RPR AND MHT OPERATIONS HAS APPROVED THE TEMPORARY MARKINGS AND SAFETY BARRICADES LAYOUT, AND CONFIRMED THAT TEMPORARY MARKINGS AND SAFETY BARRICADES HAVE BEEN PROPERLY PLACED. THE CONTRACTOR SHALL NOT ENTER THE WORK AREA TO COMMENCE OPERATIONS UNTIL OBTAINING APPROVAL FROM THE RPR AND MHT OPERATIONS.
5. ALL VEHICLES EXITING THE CONSTRUCTION WORK AREA SHALL BE CLEANED AND CLEAR FROM FOREIGN OBJECT DEBRIS (FOD) PRIOR TO LEAVING THE WORK SITE. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND OPERATE ONE VACUUM SWEEPER TRUCK WITH A DEDICATED OPERATOR ON A FULL-TIME BASIS FOR THE DURATION OF THE PROJECT AND SHALL UTILIZE IT TO REMOVE PROJECT DEBRIS FROM THE ACCESS ROUTE AND WORK AREA AS DIRECTED BY THE RPR OR MHT OPERATIONS.
6. AT THE COMPLETION OF EACH WORK DAY, THE CONTRACTOR SHALL INSPECT THE WORK SITE IN THE PRESENCE OF THE RPR AND MHT OPERATIONS TO ENSURE THAT ALL SAFETY BARRICADES AND SAFETY LIGHTS ARE IN PLACE AND IN PROPER WORKING ORDER. ACCESS ROUTES AND ALL APRON PAVEMENTS ADJACENT TO THE WORK AREA SHALL ALSO BE INSPECTED FOR FOD. ALL DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR PRIOR TO LEAVING THE WORK SITE FOR THE DAY. IN ADDITION, PRIOR TO THE COMPLETION OF EACH WORK DAY THE ELECTRICAL SUBCONTRACTOR SHALL BE PRESENT TO ENSURE THAT ALL THE ELECTRICAL SERVICES AND NAVAIDS ARE FULLY OPERATIONAL.
7. THE CONTRACTOR'S ATTENTION IS CALLED TO THE SUPPLEMENTAL PROVISIONS, CONSTRUCTION SAFETY AND PHASING PLAN, AND SPECIAL WORK REQUIREMENTS OF THE CONTRACT DOCUMENTS WITH REGARD TO ANY "SPECIAL PROVISIONS" WHICH MAY BE SPECIFIC TO THE SAFETY AND PHASING OF THIS PROJECT.
8. NORMAL AIRCRAFT OPERATIONS WILL BE CONDUCTED ON THE AIRPORT DURING CONSTRUCTION. THE PROJECT PHASING HAS BEEN DESIGNED TO MINIMIZE INTERFERENCE WITH DAILY AIRPORT OPERATIONS. THE WORK SHALL BE PERFORMED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE NECESSARY OPERATION OF THE AIRPORT. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THE SAFETY OF OPERATING AIRCRAFT AS WELL AS CONTRACTOR EQUIPMENT AND PERSONNEL. MINOR MODIFICATIONS AND/OR CHANGES TO THE PHASING PLAN MAY BE ALLOWED BUT ONLY IF IT MINIMIZES IMPACT TO AIRPORT OPERATIONS AND WILL BENEFIT MHT OPERATIONS. ALL SUCH CHANGES SHALL BE AT NO ADDITIONAL EXPENSE TO THE CITY OF MANCHESTER - DEPARTMENT OF AVIATION, AND SHALL BE APPROVED BY THE RPR, MHT OPERATIONS, AND FAA PRIOR TO ANY IMPLEMENTATION. ALL CHANGES SHALL BE DOCUMENTED.
9. NO CONSTRUCTION OPERATIONS SHALL BE PERFORMED WITHIN 129.5 FEET OF THE CENTERLINE OF ANY ACTIVE TAXIWAY, OR WITHIN 250 FEET OF THE CENTERLINE OF ANY ACTIVE RUNWAY OR WITHIN THE LIMITS OF ACTIVE RUNWAY APPROACH ZONES UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM MHT OPERATIONS. WHEN PERMISSION HAS BEEN GRANTED TO WORK INSIDE THESE LIMITS, NO EQUIPMENT SHALL BE LEFT WITHIN THE LIMITS WHEN NOT ACTUALLY WORKING. ALL BOOMS SHALL BE LOWERED WHEN THE EQUIPMENT IS NOT IN OPERATION. CONTRACTOR'S EQUIPMENT MAINTENANCE REQUIRING OPEN FLAME, WELDING, SPARKS OR BURNING, SHALL NOT BE PERFORMED WITHIN 150 FEET OF AIRCRAFT. ALL HOT WORK SHALL REQUIRE A PERMIT FROM THE MANCHESTER FIRE DEPARTMENT.
10. DURING ALL PHASES, ALL VEHICLES ENTERING THE AIRFIELD FOR CONSTRUCTION PURPOSES SHALL BE ESCORTED TO AND FROM THE WORK AREA BY MHT OPERATIONS. THE CONTRACTOR SHALL PROVIDE A GATE GUARD AT THE ACCESS GATE AT ALL TIMES WHEN THE GATE IS UNLOCKED TO PROPERLY IDENTIFY, REGULATE AND DIRECT ALL CONSTRUCTION VEHICLES ENTERING THE AIR OPERATIONS AREA (AOA) OF THE AIRPORT. ALL VEHICLES SHALL BE INSPECTED PRIOR TO ENTERING THE AOA. TEMPORARY CONSTRUCTION BADGES WILL BE ISSUED TO INDIVIDUALS THAT DO NOT HAVE AN MHT BADGE. INDIVIDUALS ENTERING THE AOA MUST BE IN A VEHICLE. WALKING THROUGH A VEHICLE GATE IS NOT PERMITTED.
11. ALL CONTRACTOR'S MOTORIZED VEHICLES OPERATING IN AIRCRAFT MOVEMENT AREAS SHALL BE EQUIPPED WITH AN AMBER FLASHING LIGHT AND/OR A 3 FOOT SQUARE FLAG CONSISTING OF INTERNATIONAL ORANGE AND WHITE SQUARES NOT LESS THAN ONE FOOT SQUARE DISPLAYED IN FULL VIEW ABOVE THE VEHICLE. ALL CONTRACTOR'S VEHICLES SHALL HAVE THE COMPANY IDENTIFICATION AND TELEPHONE NUMBER PLAINLY VISIBLE ON BOTH SIDES OF THE VEHICLE.
12. THE CONTRACTOR SHALL FOLLOW MANCHESTER AIRPORT OPERATIONS CONSTRUCTION TRAFFIC REQUIREMENTS AS THEY PERTAIN TO THE OPERATIONS AND ROUTES TO BE TAKEN BY EQUIPMENT TRAVELING ON AIRPORT PROPERTY. ANY SIGNS, LIGHTS, SIGNALS, MARKINGS, OR TRAFFIC CONTROL TO ENSURE THAT PERSONNEL AND EQUIPMENT CAN SAFELY ACCESS/EGRESS THE WORK SITE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE WORK AT NO ADDITIONAL COST TO THE CITY OF MANCHESTER, UNLESS SPECIFICALLY NOTED AS ELIGIBLE FOR PAYMENT. NO AIRCRAFT PAVEMENT OR NAVIGATION AID CURRENTLY IN SERVICE SHALL BE LEFT OUT OF SERVICE OVERNIGHT UNLESS PREVIOUSLY SCHEDULED AND APPROVED BY THE RPR, MHT OPERATIONS, AND FAA REPRESENTATIVE, WHERE APPLICABLE.
13. PARKING OF PERSONAL VEHICLES INSIDE THE AOA WILL NOT BE PERMITTED. THE CONTRACTOR, AS A SUBSIDIARY OBLIGATION, SHALL PROVIDE TRANSPORTATION FOR HIS/HER EMPLOYEES TO AND FROM THE WORK AREA FROM A PUBLIC PARKING AREA.
14. ALL EXCAVATIONS SHALL BE BACKFILLED, THE PAVEMENT REPAIRED, PROPERLY CURED, MARKED AND APPROVED BY THE RPR PRIOR TO THE WORK AREA BEING REOPENED TO TRAFFIC.
15. ALL EXCAVATED STRUCTURES, PAVEMENTS, AND UNUSED CONSTRUCTION DEBRIS SHALL BE IMMEDIATELY REMOVED FROM THE AIRFIELD AND BE LEGALLY RECYCLED OR DISPOSED OF BY THE CONTRACTOR OFF AIRPORT PROPERTY, OR TEMPORARILY STORED IN THE DESIGNATED CONTRACTOR STAGING AND EQUIPMENT STORAGE AREA. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR DISPOSAL OF CONSTRUCTION MATERIAL OFF THE AIRPORT. NO SEPARATE MEASUREMENT AND PAYMENT WILL BE MADE FOR THE DISPOSAL, BUT RATHER THE DISPOSAL SHALL BE INCIDENTAL TO THE RESPECTIVE ITEM ASSOCIATED WITH THE MATERIAL.
16. LOCATION OF EXISTING UTILITIES AND INFRASTRUCTURE UNDERGROUND AND ABOVEGROUND ARE FROM RECORD PLANS. THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES IN THE PROJECT AREA. ALL EXISTING UTILITIES AND INFRASTRUCTURE IN THE VICINITY OF ANY EXCAVATION SHALL BE CLEARLY MARKED BY THE CONTRACTOR ON THE GROUND PRIOR TO BEGINNING EXCAVATION. THE CONTRACTOR SHALL NOTIFY THE FAA AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION NEAR FAA NAVAIDS OR THEIR ASSOCIATED CABLES.

17. PRIOR TO COMMENCING CONSTRUCTION IN ANY PORTION OF THE WORK AREA, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL REPAIR, AT THEIR OWN EXPENSE, ANY UNDERGROUND UTILITIES DAMAGED BY THEIR OPERATIONS AND THEIR SUBCONTRACTOR'S OPERATIONS. ALL REPAIRS SHALL REQUIRE THE RPR'S AND UTILITY OWNER'S REVIEW AND APPROVAL.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE BY EQUIPMENT TO EXISTING PAVEMENT. ANY DAMAGE THAT OCCURS SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND RPR, AT NO COST TO THE OWNER.

19. THE CONTRACTOR SHALL PERFORM DUST CONTROL FOR THE PROJECT AS NECESSARY. NO SEPARATE MEASUREMENT AND PAYMENT WILL BE MADE FOR DUST CONTROL. DUST CONTROL SHALL BE INCIDENTAL TO THE VARIOUS ITEMS ASSOCIATED WITH DUST GENERATION. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR OWN WATER SOURCE.
20. ALL ENVIRONMENTAL EROSION CONTROL DEVICES SHALL BE INSTALLED AND APPROVED BY THE RPR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

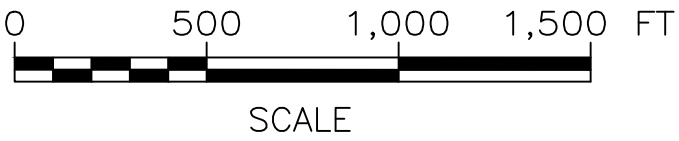
NGS MONUMENT DATA					
POINT #	NAME	DESCRIPTION	ELEVATION	LATITUDE	LONGITUDE
1	MHT D	SAC	218.80	N42° 55' 59.617"	W71° 26' 40.231"
2	MHT C	PAC	220.10	N42° 56' 14.438"	W71° 26' 19.585"
3	MHT E	SAC	225.20	N42° 56' 00.144"	W71° 26' 01.084"
4	MHT F	PAC	220.00	N42° 56' 15.392"	W71° 26' 19.034"
5	MHT G	SAC	224.90	N42° 55' 59.645"	W71° 26' 00.451"

DATA: NGS 2016, NAD 83 (2011) and NAVD 88



LEGEND:

- PHASED WORK AREA
- HAUL ROUTE



ENGINEER'S SEAL  
  
PROJECT DESIGNER  
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DRAWN BY RHL  
CHECKED BY BMG

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
**GENERAL PLAN**

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01  
FILE NAME:  
AIP No.: **3-33-0011-XXX-2021**  
**DRAWING NO.**  
**G-01**  
SHEET 4 OF 60  
REV



CONSTRUCTION SAFETY AND PHASING NOTES:

1.

CONTRACTOR SHALL SUBMIT A WRITTEN SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE ENGINEER, CITY OF MANCHESTER-DEPARTMENT OF AVIATION, AND FAA FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION AND BEFORE ANY CONSTRUCTION IS ALLOWED TO BE PERFORMED. ANY DELAY IN THE ISSUANCE OF THE NOTICE TO PROCEED DUE TO THE FAILURE BY THE CONTRACTOR TO OBTAIN AN APPROVED SPCD WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSION. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE OF THE REQUIREMENTS AND PROCEDURES OF THE FAA ADVISORY CIRCULAR NO. 150/5370-2G OR (CURRENT EDITION) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" AND THE APPROVED "CONSTRUCTION SAFETY AND PHASING PLAN" (CSPP), AND INCORPORATE RELEVANT ITEMS INTO THE SPCD WHICH MUST MEET OR EXCEED THE PROJECT'S CSPP REQUIREMENTS. THE SPCD SHALL BE MODIFIED AND UPDATED AS REQUIRED THROUGHOUT THE PROJECT TO ADDRESS EACH PHASE AND/OR SUB PHASE AS WORK PROGRESSES. SOME, BUT NOT ALL OF THE ITEMS, TO BE ADDRESSED IN THE SPCD ARE AS FOLLOWS:
- IDENTIFICATION AND QUALIFICATIONS OF DEDICATED SAFETY & SECURITY POINT OF CONTACT.
- WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITIES.
- AIRFIELD COMMUNICATIONS AND 24-HOUR EMERGENCY NOTIFICATION PROCEDURES.
- CONSTRUCTION OPERATIONS ADJACENT TO OR WITHIN SAFETY AREAS, OBJECT FREE.
- AREAS, NAVAID CRITICAL AREAS, AND APPROACH SURFACES. (I.E. GRADING, HAULING MATERIALS, ETC.).
- METHODS AND REQUIREMENTS FOR SEPARATING CONSTRUCTION AREAS FROM AIRPORT.
- AIR OPERATIONS AREAS (AOA).
- PREVENTING INTERFERENCE WITH FAA NAVAID (ILS OR OTHER) CRITICAL AREAS.
- CONTROL OF FOREIGN OBJECT DEBRIS (FOD) AND DUST.
- CONSTRUCTION VEHICLE REQUIREMENTS, PROCEDURES AND DRIVER TRAINING FOR ESCORT DRIVERS.
- OPERATIONS WITHIN MOVEMENT AND NON-MOVEMENT AREAS TO PREVENT RUNWAY INCURSIONS.
- CONTRACTOR ACCESS POINTS, VEHICLE CROSSING LOCATIONS, SECURITY FENCING AND GATES, AND EMPLOYEE SECURITY TRAINING.
- PROCEDURES, REQUIREMENTS, AND COORDINATION OF RUNWAY AND/OR TAXIWAY CLOSURES, INCLUDING NOTICE TO AIRMEN (NOTAM) COORDINATION.
- LIGHTED CHANNELIZER CONE PLACEMENT LOCATIONS, AND TEMPORARY CONSTRUCTION SIGN LOCATIONS.
- PROCEDURES FOR MANAGING HAZARDOUS MATERIALS.
- PROCEDURES FOR LOCATING & PROTECTING EXISTING UNDERGROUND UTILITIES.
2.

CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (WHO ALSO COULD BE THE SUPERINTENDENT OR OTHER SUPERVISORY PERSON) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES. THIS INDIVIDUAL WILL BE RESPONSIBLE FOR MONITORING CONSTRUCTION ACTIVITIES AND PERSONNEL TO ENSURE THAT THEY ADHERE TO THE SAFETY REQUIREMENTS ESTABLISHED BY THE CONTRACT DOCUMENTS, THE SPCD, THE REGULATIONS AND REQUIREMENTS OF THE AIRPORT, FAA, AND OTHER APPLICABLE AGENCIES.
3.

CONTRACTOR SHALL PROVIDE A POINT OF CONTACT TO THE OWNER AND RPR WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT. THIS INDIVIDUAL WILL BE CAPABLE OF COORDINATING AN IMMEDIATE RESPONSE TO CORRECT ANY CONSTRUCTION RELATED ACTIVITY THAT MAY ADVERSELY AFFECT THE OPERATIONAL SAFETY OF THE AIRPORT.
4.

UPON RECEIPT OF APPROVAL FOR A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD AND CONSTRUCTION COMMENCES, THE WORK AREA SHALL BE SECURED. LIGHTING EQUIPMENT, CHANNELIZER CONES AND SAFETY BARRICADES SHALL BE PLACED AND OPERATIONAL AS APPLICABLE. THE WORK AREA SHALL BE CLEARLY DELINEATED AND ALL SAFETY REQUIREMENTS SHALL BE APPROVED BY THE RPR PRIOR TO BEGINNING ANY WORK.
5.

CONSTRUCTION SIGNS (I.E. "CONSTRUCTION TRAFFIC" WITH ARROWS, "NO UNAUTHORIZED VEHICLES BEYOND THIS POINT" OR OTHER STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) SIGNS) SHALL BE LOCATED AT THE WORK AREA EGRESS/INGRESS POINTS. THERE SHALL BE NO SEPARATE PAYMENT FOR PROVIDING THESE SIGNS.
6.

CONTRACTOR SHALL ENSURE THAT NO PAVEMENT LIPS, PAVEMENT EDGES, SIGN FOUNDATIONS, STRUCTURES OR OTHER APPURTENANCES EXCEED 3 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS.
7.

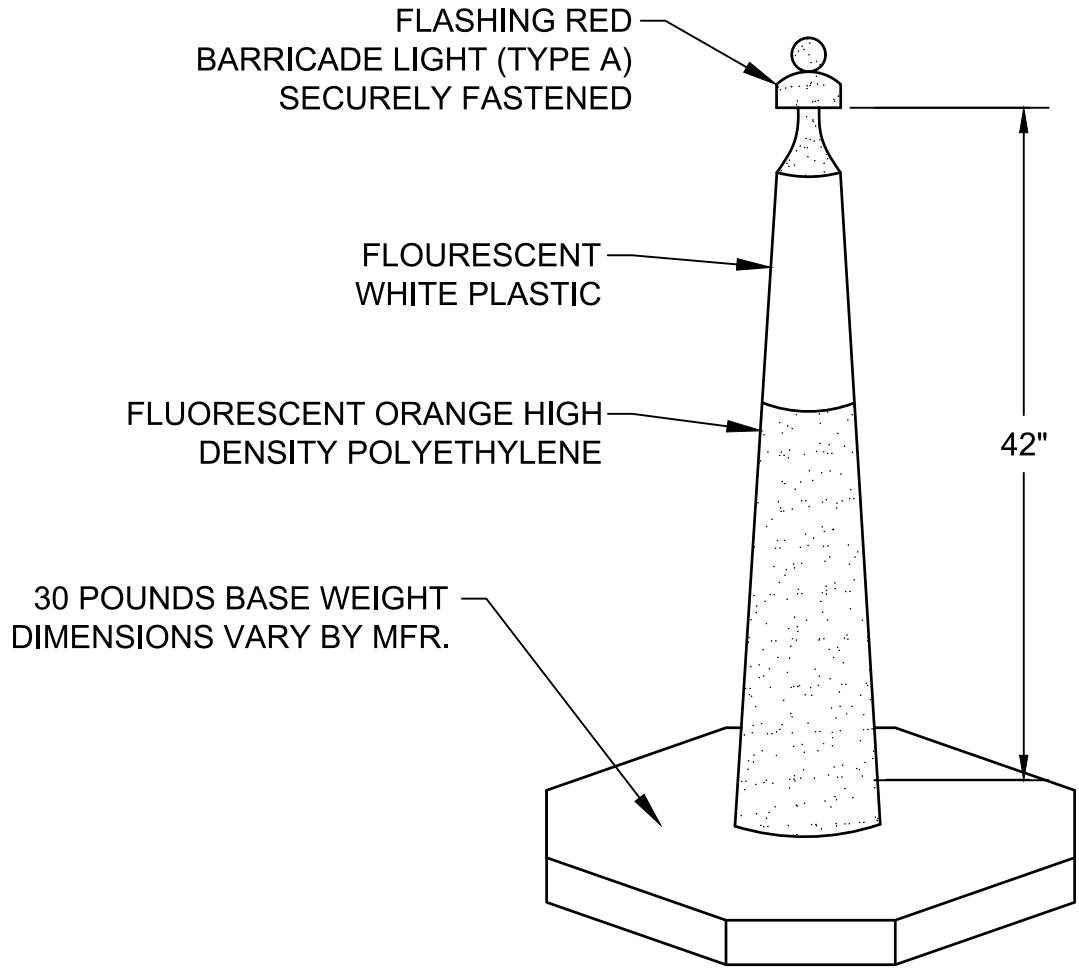
DAILY COORDINATION OF CONSTRUCTION ACTIVITIES SHALL BE HELD ON-SITE WITH THE RPR AND MHT OPERATIONS TO CLEARLY IDENTIFY THE LIMITS OF WORK FOR THE DAY. THE CONTRACTOR SHALL NOT EXCEED THE LIMITS OF WORK WITHOUT APPROVAL FROM THE RPR.
8.

TEMPORARY TAXIWAY CLOSURES OR CAUTIONS AND/OR RUNWAY CLOSURES IN ACCORDANCE WITH THE CSPP ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL TIME TO BE DETERMINED BY MHT OPERATIONS.
9.

IF WORKING UNDER A CAUTION ALLOWED BY THE CSPP, ALL ADJACENT PAVEMENTS WILL BE AVAILABLE FOR UNLIMITED AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER THAT NO INTERFERENCE WITH AIRCRAFT OPERATIONS WILL OCCUR. THE CONTRACTOR SHALL BE ESCORTED BY MHT OPERATIONS AND THE CONTRACTOR SHALL RELOCATE PERSONNEL AND EQUIPMENT A MINIMUM OF 129.5 FEET FROM THE TAXIWAY CENTERLINE, OR A MINIMUM OF 250' FROM RUNWAY CENTERLINE, TO ALLOW FOR SAFE PASSAGE OF AIRCRAFT AS REQUIRED.
10.

AS NOTED PREVIOUSLY WITHIN THESE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE PROVIDED WITH AN ESCORT FROM MHT OPERATIONS TO AND FROM THE WORK AREAS WHEN INSIDE THE AOA. THE CONTRACTOR SHALL STAGE VEHICLES COMING INTO THE AOA AT THE GATE AND BE ESCORTED, WITH A MAXIMUM OF 3 VEHICLES IN CONVOY BEHIND THE ESCORT VEHICLE, TO THE WORK AREAS.
11.

DURING NIGHT WORK (IF ALLOWED), ALL LIGHTING EQUIPMENT UTILIZED SHALL BE CONTROLLED TO PREVENT STRAY LIGHT. THE CONTRACTOR SHALL DIRECT ALL LIGHTING AWAY FROM ADJACENT NEIGHBORHOODS AND IN A MANNER THAT DOES NOT INTERFERE WITH THE AIR TRAFFIC CONTROL TOWER AND AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL PREPARE A LIGHTING PLAN TO BE REVIEWED AND APPROVED BY THE RPR. THE RPR SHALL APPROVE THE LOCATION AND OPERATION OF ALL LIGHTING EQUIPMENT.

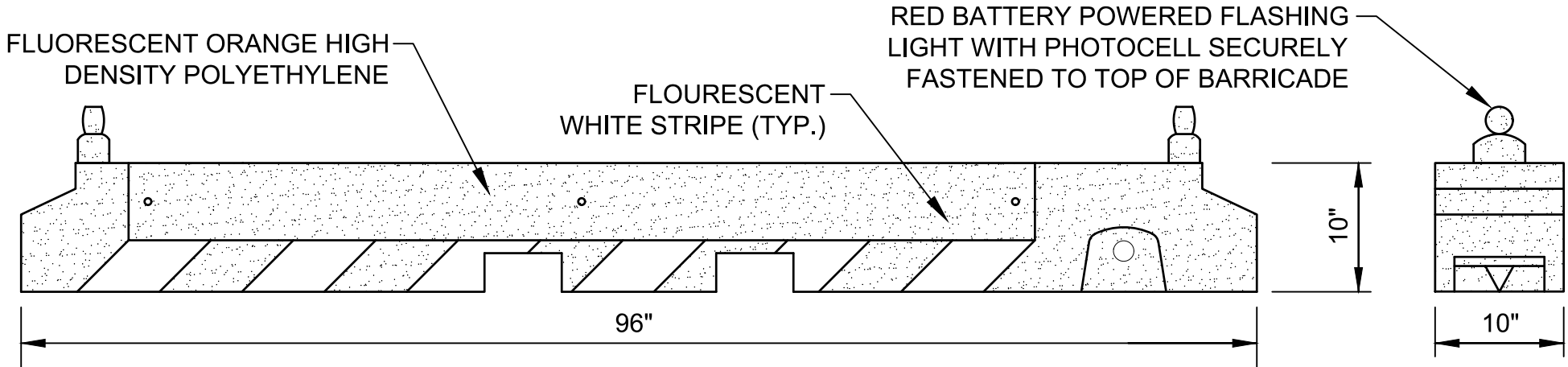


CHANNELIZER NOTES:

1. CHANNELIZER CONES SHALL BE SPACED 4' ON CENTER (MIN.), UNLESS OTHERWISE DIRECTED ON THE PLANS OR BY THE RPR.
2. CONES SHALL BE ADEQUATELY SECURED WITH WEIGHTED BASES OR OTHER APPROVED METHODS TO WITHSTAND HIGH WINDS AND/OR JET BLAST.

HAUL ROAD LIGHTED CHANNELIZER CONE

PROVIDED BY CONTRACTOR  
NOT TO SCALE

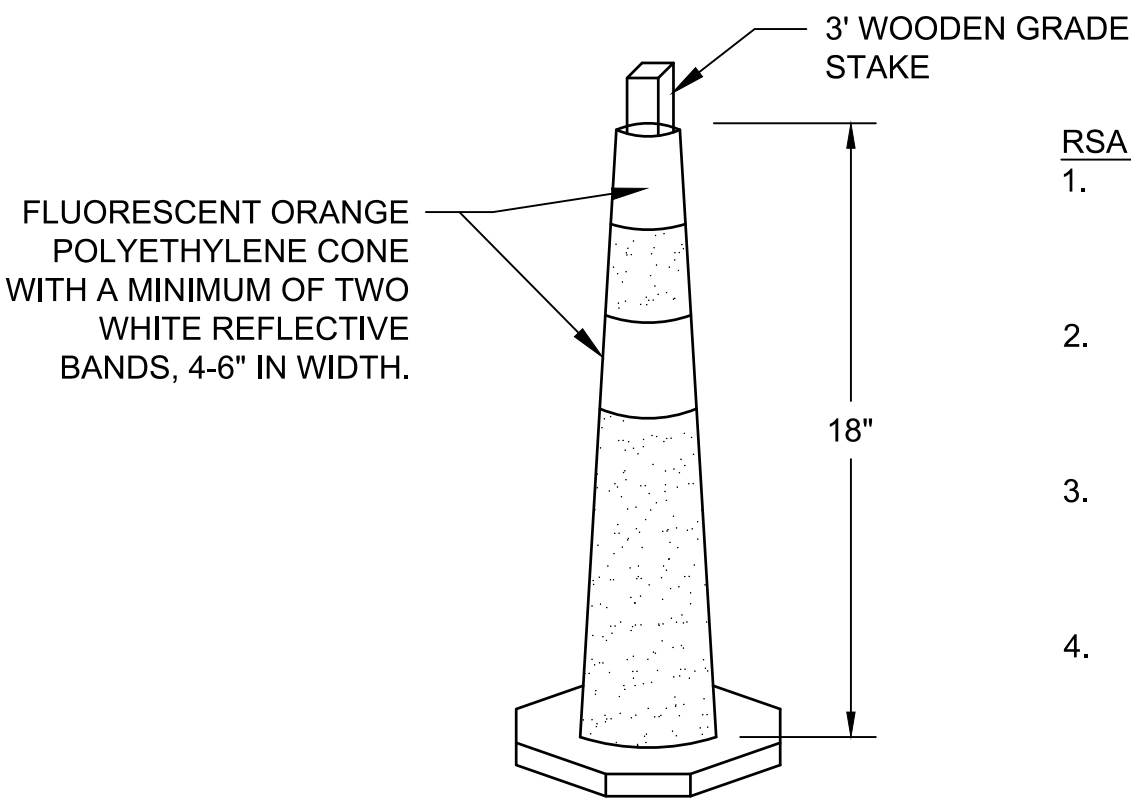


SAFETY BARRICADE NOTES:

1. BARRICADES SHALL BE MULTI-BARRIER SAFETY BARRICADES WITH REFLECTIVE STRIPING.
2. BARRIERS SHALL BE PLACED END TO END TO CREATE A CONTINUOUS BARRICADE.
3. BARRICADES SHALL BE ADEQUATELY WEIGHTED TO WITHSTAND HIGH WINDS AND/OR JET BLAST.
4. CONTRACTOR SHALL MAINTAIN THE FLASHING LIGHT IN WORKING ORDER THROUGHOUT THE PROJECT.

WATER BALLASTED LIGHTED SAFETY BARRICADE

PROVIDED BY CONTRACTOR  
NOT TO SCALE



RSA DELINEATION MARKER NOTES:

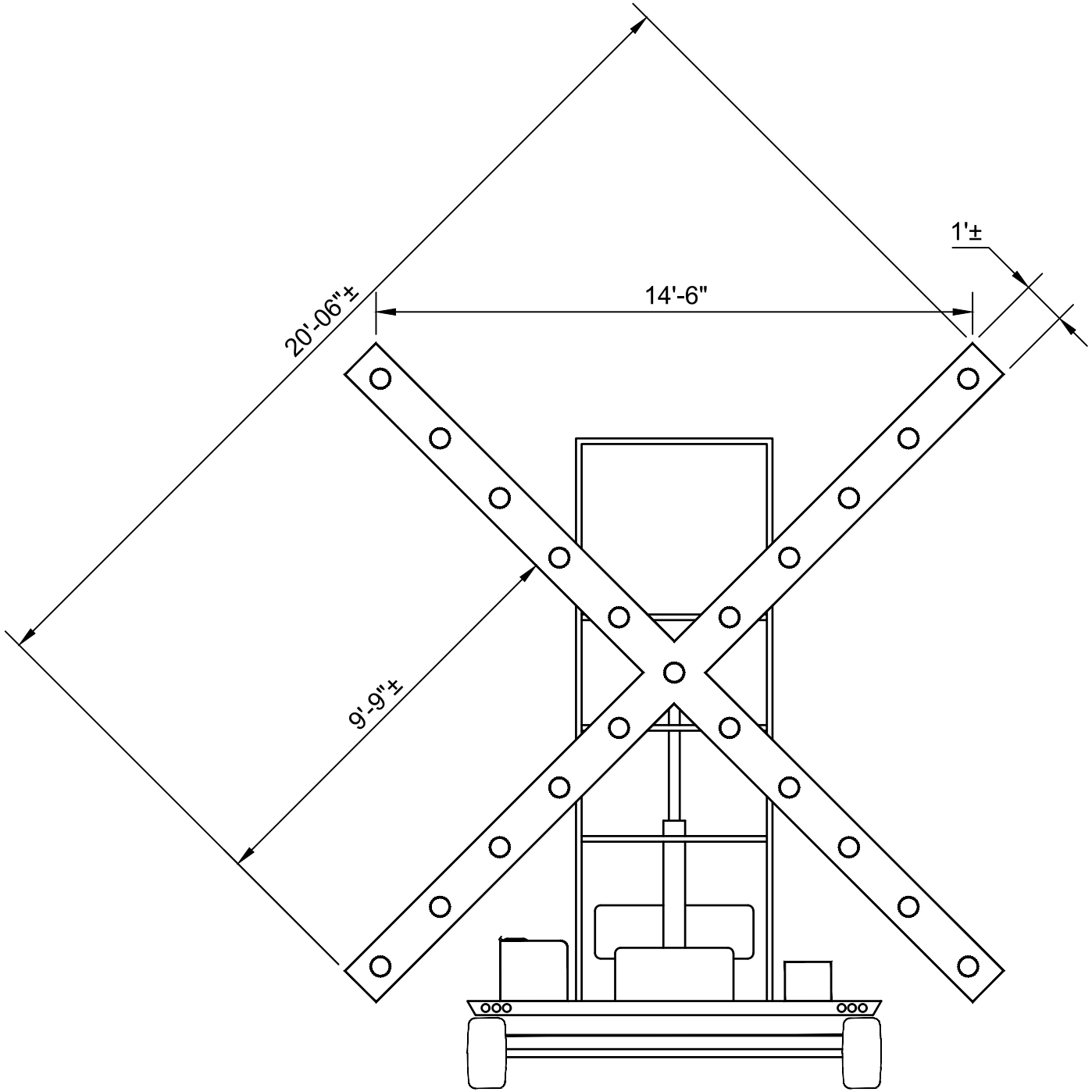
1. MARKER CONES SHALL BE SPACED AT 20' ON CENTER TO PROTECT THE RUNWAY SAFETY AREA AND SHALL BE PLACED 260' FROM THE RUNWAY CENTERLINE.
2. CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE MARKER CONES AND SHALL RELOCATE ANY CONES THAT ARE MISALIGNED.
3. TRAFFIC CONES SHALL BE ADEQUATELY SECURED TO WITHSTAND HIGH WINDS AND/OR JET BLAST USING GRADE STAKES AS SHOWN.
4. INSTALLATION, REMOVAL AND RELOCATION OF WORK AREA DELINEATION MARKERS AS DIRECTED BY THE RPR IS INCIDENTAL TO THE OVERALL PROJECT.

RSA DELINEATION MARKER

PROVIDED BY CONTRACTOR  
NOT TO SCALE

GENERAL AVIATION BARRICADE NOTES:

1. THE RPR AND MHT OPERATIONS WILL HAVE FINAL DETERMINATION WHERE EACH TYPE OF BARRICADE (LOW PROFILE, CHANNELIZER CONES, TRAFFIC CONES, ETC.) SHALL BE PLACED.
2. BARRICADES SHALL BE ONE OF THE BARRICADES OR CHANNELIZER CONES SHOWN ON THIS SHEET OR APPROVED EQUAL.
3. ALL BARRICADES SHALL MEET REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5370-2G (CURRENT EDITION), "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
4. MHT OPERATIONS MAINTAINS A SMALL SUPPLY OF LIGHTED CONSTRUCTION BARRICADES FOR CONTRACTOR USE. BARRICADES SHALL BE MHT OPERATIONS SUPPLIED TO THE GREATEST EXTENT POSSIBLE. IT IS ANTICIPATED THE CONTRACTOR WILL BE REQUIRED TO SUPPLY ADDITIONAL BARRICADES. THESE BARRICADES SHALL BE PROVIDED UNDER ITEM M-200-1 AND RETAINED BY THE CONTRACTOR AT COMPLETION OF THE PROJECT.
5. CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE BARRICADES/CONES TO ENSURE LIGHTS ARE OPERATING EVERY NIGHT.
6. CONTRACTOR SHALL INSTALL OWNER PROVIDED "DO NOT ENTER" SIGNS ON TAXIWAYS TO BE CLOSED AT 260' FROM RUNWAY CENTERLINE AT THE REQUEST OF THE OWNER.



LIGHTED RUNWAY CLOSURE MARKER

PROVIDED BY MHT  
NOT TO SCALE

RUNWAY CLOSURE MARKER NOTES:

1. RUNWAY CLOSURE MARKERS TO PROVIDED BY MHT OPERATIONS
2. RUNWAY CLOSURE MARKER IS TO BE A TOWABLE UNIT WHICH CAN BE QUICKLY AND EFFICIENTLY SET UP AND REMOVED FROM THE RUNWAY. THE RUNWAY CLOSURE MARKER SHALL MEET THE REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5345-55A (CURRENT REVISION), "SPECIFICATION FOR L-893 LIGHTED VISUAL AID TO INDICATE TEMPORARY RUNWAY CLOSURE".
3. RUNWAY CLOSURE MARKER MUST BE ABLE TO WITHSTAND A MINIMUM WIND SPEED OF 40 M.P.H. WITHOUT ADVERSELY AFFECTING AIMING OR OPERATION.
4. RUNWAY CLOSURE MARKER WILL CONSIST OF 21 90-WATT PAR 38 CLEAR INCANDESCENT LAMPS OR LAMPS WHICH ARE CAPABLE OF TRANSMITTING AVIATION WHITE LIGHT PER SAE-AS25050, ARRANGED IN THE SHAPE OF THE LETTER "X" WITH ARMS CROSSED AT AN ANGLE APPROPRIATE TO MAKE THE "X" DISCERNIBLE TO APPROACHING AIRCRAFT. THE "X" FRAME CONTAINING THE LIGHTS IS TO BE PAINTED NO. 13538 AVIATION YELLOW, PER FED-STD-595, ON ALL SIDES TO ENSURE VISIBILITY.
5. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST INDIVIDUALLY BE CAPABLE OF PROVIDING THE FOLLOWING MINIMUM INTENSITIES:  
DAYTIME EFFECTIVE INTENSITY OF 70,000 CANDELA (cd)  
AT THE BEAM CENTER, 34,000 cd AT 10 DEGREES RADIUS, AND 13,000 cd AT 15 DEGREES RADIUS.  
NIGHTTIME EFFECTIVE INTENSITY OF 2,000 (cd) AT THE BEAM CENTER, 970 cd AT 10 DEGREES RADIUS, AND 370 cd AT 15 DEGREES RADIUS.
6. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST HAVE ALL LIGHT BULBS SOCKETS, WIRING AND CONNECTIONS ENCLOSED IN WEATHER RESISTANT HOUSINGS.
7. LIGHT FIXTURES MOUNTED IN "X" FRAME ARE TO BE IN A FLASHING MODE CONTROLLED BY A SOLID STATE FLASHER. FLASHER IS TO BE EQUIPPED WITH A FAIL SAFE ALLOWING LIGHTS TO REMAIN ON CONTINUOUS SHOULD FLASHER UNIT FAIL.  
FLASH INTERVAL TIME WILL BE: DAYTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF  
NIGHTTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF
8. UNIT MUST BE EQUIPPED WITH A PHOTO CELL WHICH WILL REDUCE THE OUTPUT VOLTAGE TO 65 VOLTS DURING NIGHTTIME OPERATION.
9. THE RUNWAY CLOSURE MARKER MUST BE EQUIPPED FOR A CONNECTION TO 120V AC POWER SOURCE TO ALLOW FOR BACK-UP POWER SOURCE CAPABILITY OR ON-SITE POWER SUPPLY IF AVAILABLE. RUNWAY CLOSURE MARKER IS TO BE ENERGIZED BY A PORTABLE DIESEL ENGINE POWER SUPPLY WITH AN ADEQUATE FUEL CAPACITY TO SUPPLY POWER TO THE UNIT AT FULL LOAD FOR A MINIMUM OF 120 HOURS OF CONTINUOUS OPERATION.
10. RUNWAY CLOSURE MARKER IS TO BE EQUIPPED WITH 2 LIGHTS MOUNTED ON THE BACK SIDE OF THE TOP LEGS OF THE "X" FRAME. LIGHTS ARE TO BE WIRED SUCH THAT THEY REMAIN CONTINUOUSLY ON DURING CLOSURE MARKER OPERATION AS AN INDICATION OF POWER BEING SUPPLIED TO THE UNIT.
11. UNIT IS TO BE EQUIPPED WITH SOLAR POWERED SAFETY BEACON MOUNTED IN A LOCATION VISIBLE TO ATCT OR AIRPORT PERSONNEL. BEACON IS TO BE WIRED SUCH THAT IT WILL BE ACTIVATED IN THE EVENT OF TOTAL POWER LOSS AND HAVE SUFFICIENT POWER TO OPERATE FOR A MINIMUM OF 140 HOURS DAY OR NIGHT.
12. CONTRACTOR TO MOBILIZE, OPERATE AND MAINTAIN THE RUNWAY CLOSURE MARKERS AS PART OF THE M-200 MAINTENANCE AND PROTECTION OF TRAFFIC LINE ITEM IN THE CONTRACT.

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DRAWN BY RHL  
CHECKED BY MBM

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

GENERAL NOTES

SCALE: N.T.S. DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

M/J PROJ. No.:18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

G-02

SHEET 5 OF 60

REV



OVERALL CONSTRUCTION SAFETY AND PHASING PLAN NOTES

TOTAL CONTRACT DURATION: 95 CALENDAR DAYS

- CONTRACTOR SHALL PLACE LIGHTED BARRICADES FOR EACH INDIVIDUAL WORK AREA AS SHOWN ON SHEETS CS-02 TO CS-07 TO THE APPROVAL OF THE RESIDENT PROJECT REPRESENTATIVE (RPR) AND MHT OPERATIONS PRIOR TO THE COMMENCEMENT OF WORK. SEE DETAIL ON SHEET G-02.
- ALL CONSTRUCTION PERSONNEL AND EQUIPMENT SHALL REMAIN WITHIN ALL WORK AREAS.
- NO WORK MAY OCCUR WITHIN 129.5' OF THE CENTERLINE OF ANY OPEN TAXIWAY, OR WITHIN 250' OF THE CENTERLINE OF ANY OPEN RUNWAY, UNLESS EXPLICITLY DETAILED ON THE SAFETY AND PHASING PLANS.
- ALL WORK WITHIN RUNWAY SAFETY AREA SHALL BE PERFORMED IN THE DESIGNATED WORK AREA. RUNWAY CLOSURE TO BE COORDINATED WITH THE RPR, AND AIRPORT OPERATIONS A MINIMUM OF 72 HOURS IN ADVANCE TO THE START OF CONSTRUCTION.
- ALL WORK WITHIN TAXIWAY OBJECT FREE AREAS MUST BE COORDINATED WITH THE RPR AND AIRPORT OPERATIONS 72 HOURS IN ADVANCE TO THE THE START OF WORK.
- WHEN SWITCHING WORK AREAS, MHT OPERATIONS MUST BE NOTIFIED, AT A MINIMUM, 72 HOURS IN ADVANCE. CONTRACTOR SHALL COORDINATE A LOOK-AHEAD PHASING SCHEDULE WITH THE RPR.
- RSA DELINEATION MARKERS SHALL BE PLACED AT THE RUNWAY SAFETY AREA WITH A 10-FOOT BUFFER AS SHOWN ON THE PLANS PRIOR TO THE COMMENCEMENT OF WORK. SEE DETAIL ON SHEET G-02.
- ALL VEHICLES FROM THE CONSTRUCTION WORK AREAS SHALL BE CLEAR FROM FOREIGN OBJECT DEBRIS (FOD) PRIOR TO LEAVING MANCHESTER-BOSTON REGIONAL AIRPORT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A VACUUM SWEEPER WITH DEDICATED OPERATOR AT ALL TIMES AND SHALL PROVIDE ADEQUATE SWEEPING AND MAINTENANCE OF THE HAUL ROUTES AT ALL TIMES.
- ALL HAUL ROUTES SHALL BE RESTORED TO THEIR EXISTING CONDITION FOLLOWING CONSTRUCTION.
- ACCESS TO THE AIRPORT WILL BE VIA CONTRACTOR INSTALLED TEMPORARY GATE OFF PERIMETER ROAD. CONTRACTOR SHALL HIRE A DEDICATED GATE GUARD TO INSPECT VEHICLES ENTERING THE AIRPORT.
- THE AIRPORT SHALL PROVIDE ESCORTS DURING THE DURATION OF WORK.
- ANY PAVEMENT OR OTHER STRUCTURE DAMAGED DUE TO CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ANY PAVEMENT MARKING DAMAGED OR OBSCURED DUE TO HEAVY TRAFFIC SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- STOCK PILE HEIGHTS SHALL NOT EXCEED A HEIGHT OF 25 FEET UNLESS OTHERWISE SHOWN ON THE PLANS.
- CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES PRIOR TO COMMENCEMENT OF WORK.
- NO STAGING OF EQUIPMENT WITHIN THE RUNWAY VISUAL ZONE (RVZ), RUNWAY PROTECTION ZONE (RPZ), RUNWAY OBJECT FREE AREA (ROFA), OR ACTIVE TAXIWAY OBJECT FREE AREA (TOFA).

CONTRACT DURATION	
WORK AREA 1	3 CONSECUTIVE CALENDAR DAYS
WORK AREA 2	52 CONSECUTIVE CALENDAR DAYS
WORK AREA 2A	15 CALENDAR DAYS WITHIN WORK AREA 2
WORK AREA 3	35 CONSECUTIVE CALENDAR DAYS
WORK AREA 3A	15 CALENDAR DAYS WITHIN WORK AREA 3
WORK AREA 4	5 SCHEDULED CALENDAR DAYS
TOTAL DURATION	95 CALENDAR DAYS

LEGEND:

WORK AREA 1

WORK AREA 2

WORK AREA 2A

WORK AREA 3

WORK AREA 3A

WORK AREA 4

STAGING AREA

RSA DELINEATION

BARRICADES

HAUL ROUTE

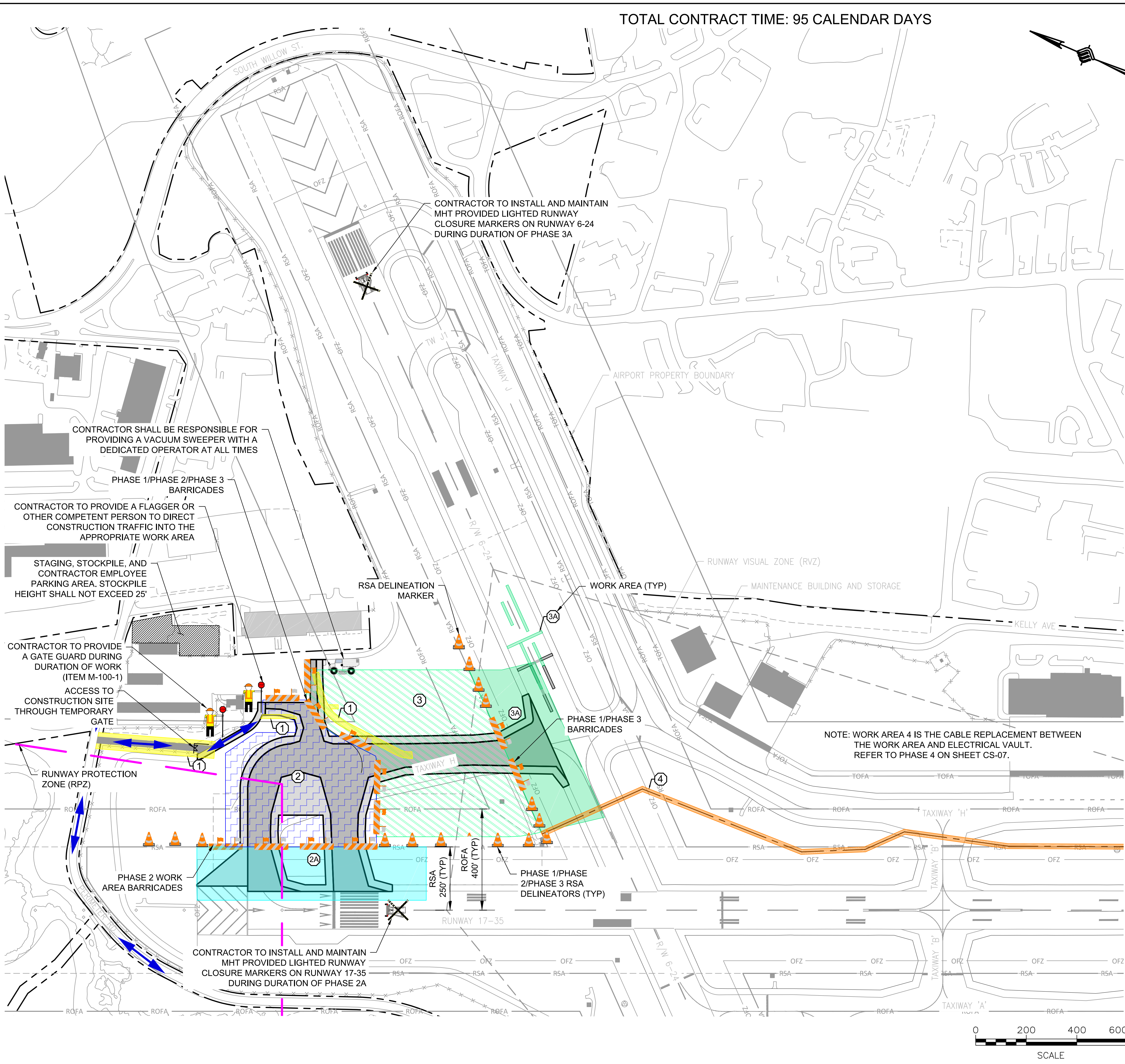
SWEEPER

GATE GUARDS

PROPOSED TAXIWAY K LIMITS

RUNWAY PROTECTION ZONE (RPZ)

TOTAL CONTRACT TIME: 95 CALENDAR DAYS



ENGINEER'S SEAL

PROJECT DESIGNER

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DESIGNED BY: SSS

DRAWN BY: RHL

CHECKED BY: BMB

CITY OF MANCHESTER

DEPARTMENT OF AVIATION

MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT

TAXIWAY H RECONFIGURATION TO TAXIWAY K

CONSTRUCTION SAFETY AND PHASING

PLAN - OVERALL PLAN

REV. NO.

DATE

DESCRIPTION

BY

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

CS-01

SHEET 6 OF 60

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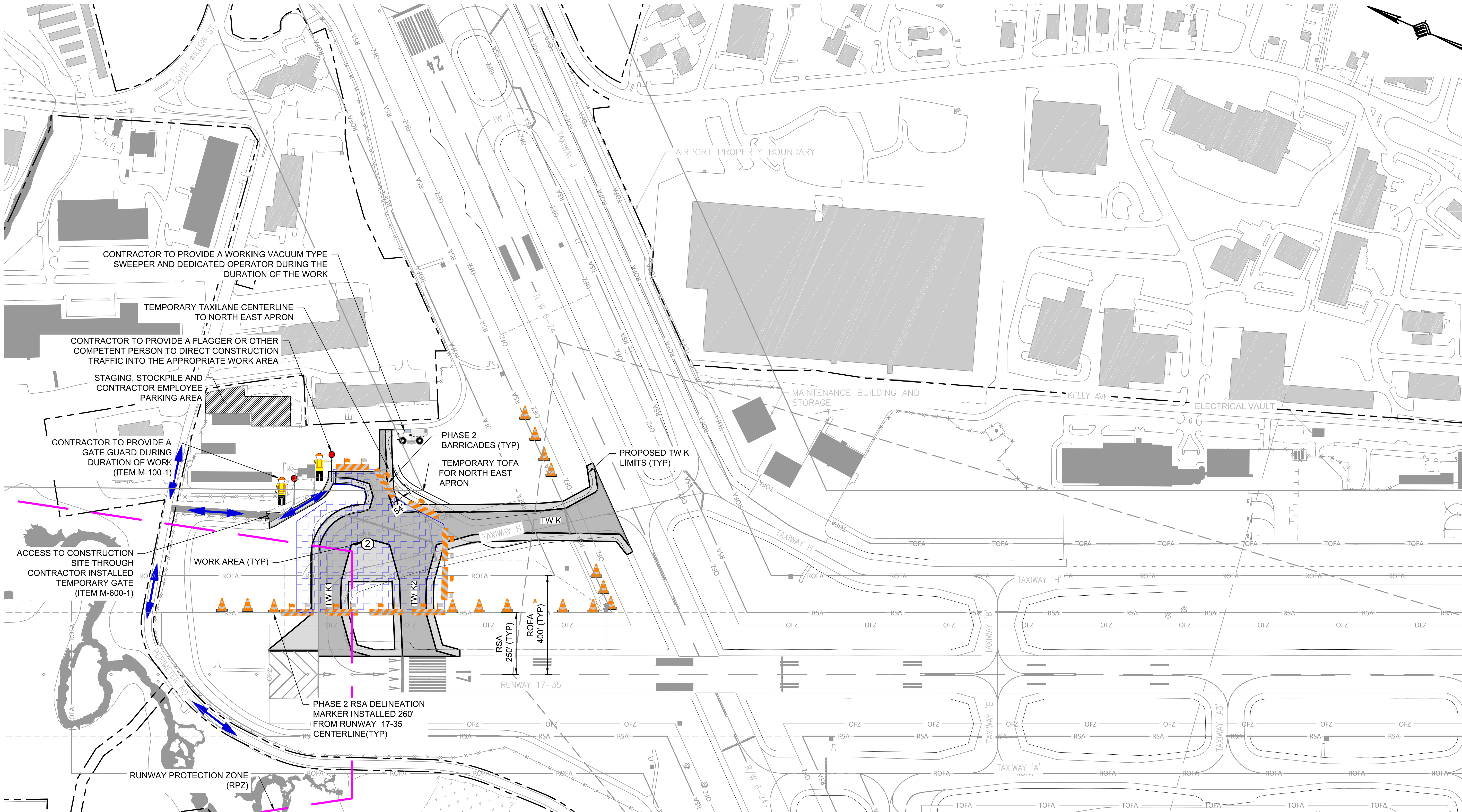
SCALE

0 200 400 600 FT









**LEGEND:**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- WORK AREA 2
- RSA DELINEATION
- BARRICADES
- HAUL ROUTE
- SWEeper
- GATE GUARDS

WORK AREA 2: WORK AREA 2 CONSISTS OF THE PORTION OF EXISTING TAXIWAY H (NORTH) BETWEEN THE EDGE OF RUNWAY 17-35 SAFETY AREA AT THE RUNWAY 17 END TO THE NORTH EDGE OF THE TEMPORARY TAXIWAY OBJECT FREE AREA (TOFA) AND EXTENDED ACROSS EXISTING TAXIWAY H (NORTH) FOR THE INSTALLATION OF THE RECONFIGURED TAXIWAYS K, L, K1 AND K2.

DURATION: 52 CONSECUTIVE CALENDAR DAYS FROM THE COMPLETION OF PHASE 1

CLOSURES: PORTION OF TAXIWAY H (NORTH): FROM RUNWAY 17-35 TO MIDPOINT OF TW L EXTENDED WESTERLY ACROSS TW (NORTH)

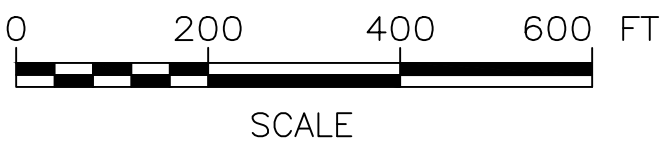
LIQUIDATED DAMAGES: REFER TO CONTRACT DOCUMENTS

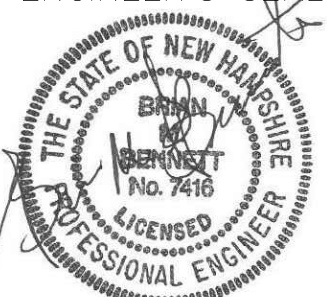
**RESTRICTIONS:**


- CONTRACTOR SHALL ACCESS THE WORK SITE VIA THE TEMPORARY ACCESS GATE UNDER MHT PROVIDED ESCORT.
- A CONTRACTOR PROVIDED GATE GUARD SHALL BE STAGED AT TEMPORARY ACCESS GATE DURING THE DURATION OF THE PROJECT TO INSPECT VEHICLES ENTERING THE AIRFIELD, AND TO KEEP UNAUTHORIZED VEHICLES OUT.
- ACCESS TO NORTH EAST APRON SHALL BE KEPT OPEN AT ALL TIMES AND SHALL BE THE DIMENSIONS AS SHOWN ON THE PLANS ABOVE.
- BARRICADES ALONG TAXIWAY L SHALL BE INSTALLED A MINIMUM 54' FROM THE SOUTHERLY EDGE OF EXISTING TAXIWAY L SHOULDER PAVEMENT.

**PRIMARY WORK TO BE PERFORMED IN WORK AREA 2:**


- REMOVE EXISTING PAVEMENT
- UNCLASSIFIED EXCAVATION FOR NEW PAVEMENT BOX
- REMOVAL OF EXISTING LIGHTING SYSTEM
- INSTALLATION OF NEW LIGHTING SYSTEM, INCLUDING DUCT BANKS, CANS, LIGHTS, CABLE AND GROUNDING SYSTEM
- INSTALLATION OF FAA COMMUNICATION CABLE IN DUCT BANK REPLACEMENT
- INSTALLATION OF NEW PAVEMENT BOX, INCLUDING SUBBASE, BASE, PAVEMENT BASE COURSE, TACK COAT, AND PAVEMENT TOP COURSE
- NEW PAVEMENT MARKINGS



ENGINEER'S SEAL  


PROJECT DESIGNER  
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DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE  


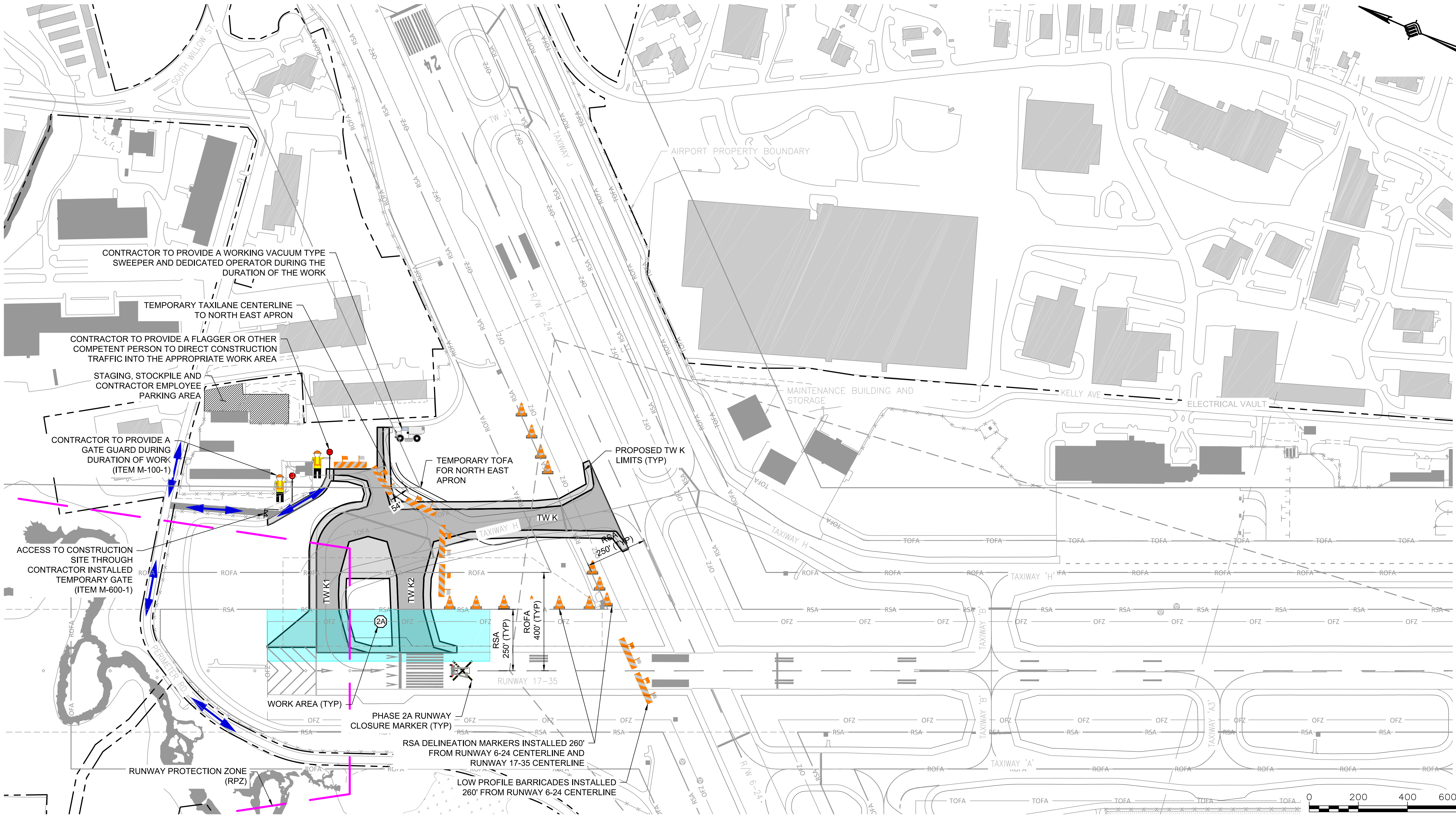
MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CONSTRUCTION SAFETY AND PHASING  
PLAN — PHASE 2

REV. NO. | DATE | DESCRIPTION | BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
CS-03  
SHEET 8 OF 60

SCALE: 1"=200'  
DATE: MARCH 2021





**LEGEND:**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- WORK AREA 2A
- RSA DELINEATION
- BARRICADES
- HAUL ROUTE
- SWEEPER
- GATE GUARDS

**WORK AREA 2A:** WORK AREA 2A CONSISTS OF A PORTION OF EXISTING TAXIWAY H (NORTH) AND GRASSED INFIELD AREA WITHIN THE SAFETY AREA OF RUNWAY 17-35 NEAR THE RUNWAY 17 END FOR INSTALLATION OF TW K1 & K2.

**DURATION:** 15 CONSECUTIVE CALENDAR DAYS WITHIN PHASE 2

**CLOSURES:** PORTION OF TAXIWAY H (NORTH): FROM RW 17-35 TO MIDPOINT OF TW L EXTENDED ACROSS TW H (NORTH)  
RUNWAY 17: FOR LANDINGS AND RESTRICTED RW 17 TAKEOFFS FROM TW INTERSECTIONS

**LIQUIDATED DAMAGES:** REFER TO CONTRACT DOCUMENTS

**RESTRICTIONS:**

- CONTRACTOR SHALL ACCESS THE WORK SITE VIA THE TEMPORARY ACCESS GATE UNDER MHT PROVIDED ESCORT.
- A CONTRACTOR PROVIDED GATE GUARD SHALL BE STAGED AT TEMPORARY ACCESS GATE DURING THE DURATION OF THE PROJECT TO INSPECT VEHICLES ENTERING THE AIRFIELD, AND TO KEEP UNAUTHORIZED VEHICLES OUT.
- ACCESS TO NORTH EAST APRON SHALL BE KEPT OPEN AT ALL TIMES AND SHALL BE THE DIMENSIONS AS SHOWN ON THE PLANS ABOVE.
- BARRICADES ALONG TAXIWAY L SHALL BE INSTALLED A MINIMUM OF 54' FROM THE SOUTHERLY EDGE OF EXISTING TAXIWAY L SHOULDER PAVEMENT.
- CONTRACTOR SHALL COORDINATE WITH RPR AND AIRPORT OPERATIONS 72 HOURS PRIOR TO RUNWAY CLOSURE.

**PRIMARY WORK TO BE PERFORMED IN WORK AREA 2A:**

- REMOVE EXISTING PAVEMENT
- UNCLASSIFIED EXCAVATION FOR NEW PAVEMENT BOX
- REMOVAL OF EXISTING LIGHTING SYSTEM
- INSTALLATION OF NEW LIGHTING SYSTEM, INCLUDING CONDUIT, CANS, LIGHTS, CABLE AND GROUNDING SYSTEM
- INSTALLATION OF NEW PAVEMENT BOX, INCLUDING SUBBASE, BASE, PAVEMENT BASE COURSE, TACK COAT, AND PAVEMENT TOP COURSE
- REMOVE ABANDONED FAA MANHOLES
- REMOVE EXISTING PAVEMENT MARKINGS
- INSTALL NEW PAVEMENT MARKINGS

ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

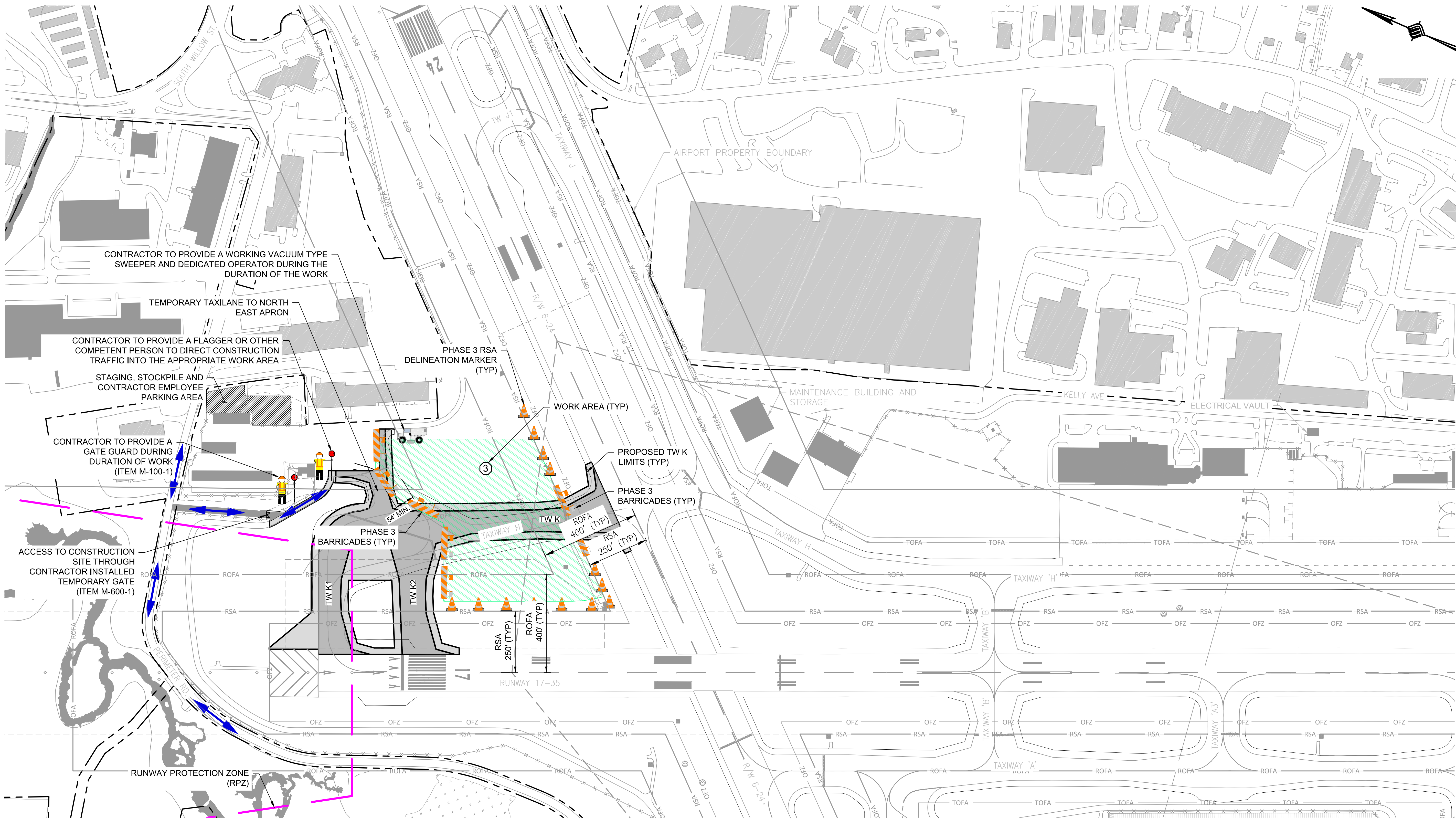
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DEPARTMENT OF AVIATION  
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CHECKED BY BMB

MANCHESTER-BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CONSTRUCTION SAFETY AND PHASING  
PLAN - PHASE 2A  
SCALE: 1"=200'  
DATE: MARCH 2021

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FILE NAME:  
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DRAWING NO.  
CS-04  
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LEGEND:

- RSA

Runway Safety Area (RSA)
- ROFA

Runway Object Free Area (ROFA)
- WORK AREA 3
- RSA DELINEATION
- BARRICADES
- HAUL ROUTE
- SWEEPER
- GATE GUARDS

WORK AREA 3: WORK AREA 3 CONSISTS OF A PORTION OF EXISTING TAXIWAY H (NORTH) BETWEEN THE EDGE OF RUNWAY 6-24 SAFETY AREA TO THE SOUTH EDGE OF THE TEMPORARY TW L TOFA FOR THE INSTALLATION OF TAXIWAYS K AND L.

DURATION: 35 CONSECUTIVE CALENDAR DAYS FROM THE COMPLETION OF PHASE 2

CLOSURES: PORTION OF TAXIWAY H (NORTH): FROM RUNWAY 6-24 TO APPROXIMATELY THE MIDPOINT OF TAXIWAY L EXTENDED WESTERLY ACROSS TAXIWAY H (NORTH) AND ALLOWABLE ACCESS FROM NEW TAXIWAY L TO TAXIWAY K2

LIQUIDATED DAMAGES: REFER TO CONTRACT DOCUMENTS

- RESTRICTIONS:
1.

CONTRACTOR SHALL ACCESS THE WORK SITE VIA THE TEMPORARY ACCESS GATE UNDER MHT PROVIDED ESCORT.
2.

A CONTRACTOR PROVIDED GATE GUARD SHALL BE STAGED AT TEMPORARY ACCESS GATE DURING THE DURATION OF THE PROJECT TO INSPECT VEHICLES ENTERING THE AIRFIELD, AND TO KEEP UNAUTHORIZED VEHICLES OUT.
3.

ACCESS TO NORTH EAST APRON SHALL BE KEPT OPEN AT ALL TIMES AND SHALL BE THE DIMENSIONS AS SHOWN ON THE PLANS ABOVE.
4.

BARRICADES ALONG TAXIWAY L SHALL BE INSTALLED A MINIMUM OF 54' FROM THE NORTHERLY EDGE OF THE RECONFIGURED TAXIWAY L.

PRIMARY WORK TO BE PERFORMED IN WORK AREA 3:

- REMOVE EXISTING PAVEMENT
- UNCLASSIFIED EXCAVATION FOR NEW PAVEMENT BOX
- REMOVAL OF EXISTING LIGHTING SYSTEM
- INSTALLATION OF NEW LIGHTING SYSTEM, INCLUDING CONDUIT, CANS, LIGHTS, CABLE AND GROUNDING SYSTEM
- INSTALLATION OF NEW PAVEMENT BOX, INCLUDING SUBBASE, BASE, PAVEMENT BASE COURSE, TACK COAT, AND PAVEMENT TOP COURSE
- REMOVE EXISTING PAVEMENT MARKINGS
- INSTALL NEW PAVEMENT MARKINGS
- DRAINAGE MODIFICATIONS INCLUDING GRADING FOR DRAINAGE TREATMENT SWALE

ENGINEER'S SEAL

THE STATE OF NEW HAMPSHIRE  
SEAL  
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LICENSED PROFESSIONAL ENGINEER

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DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMG

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CONSTRUCTION SAFETY AND PHASING  
PLAN – PHASE 3

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

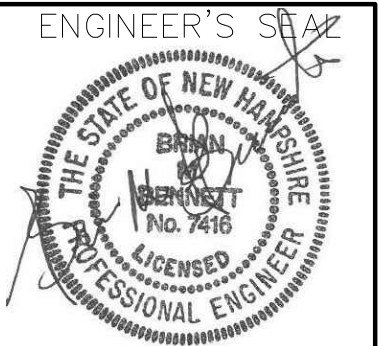
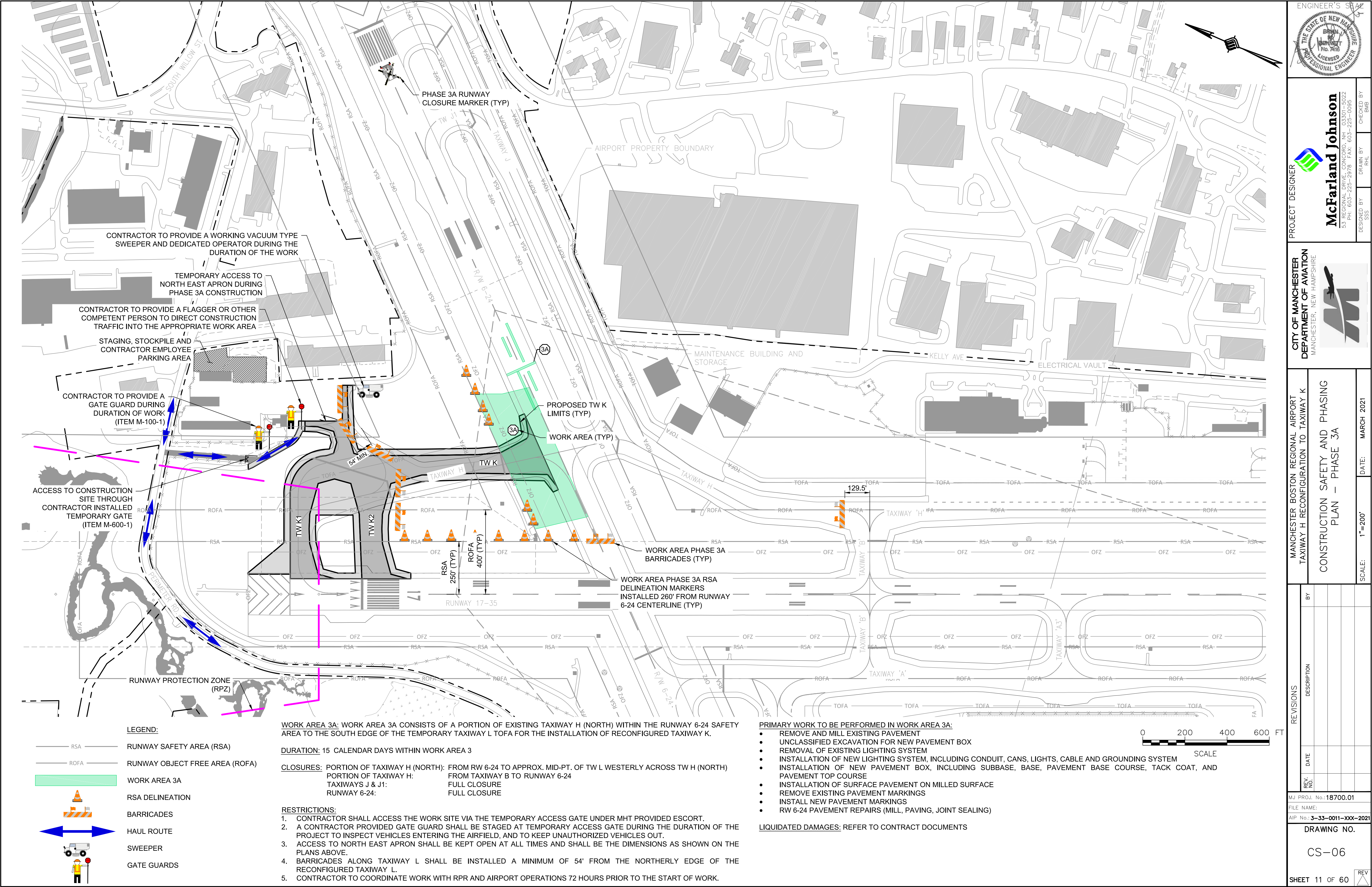
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CS-05


SHEET 10 OF 60

REV





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CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



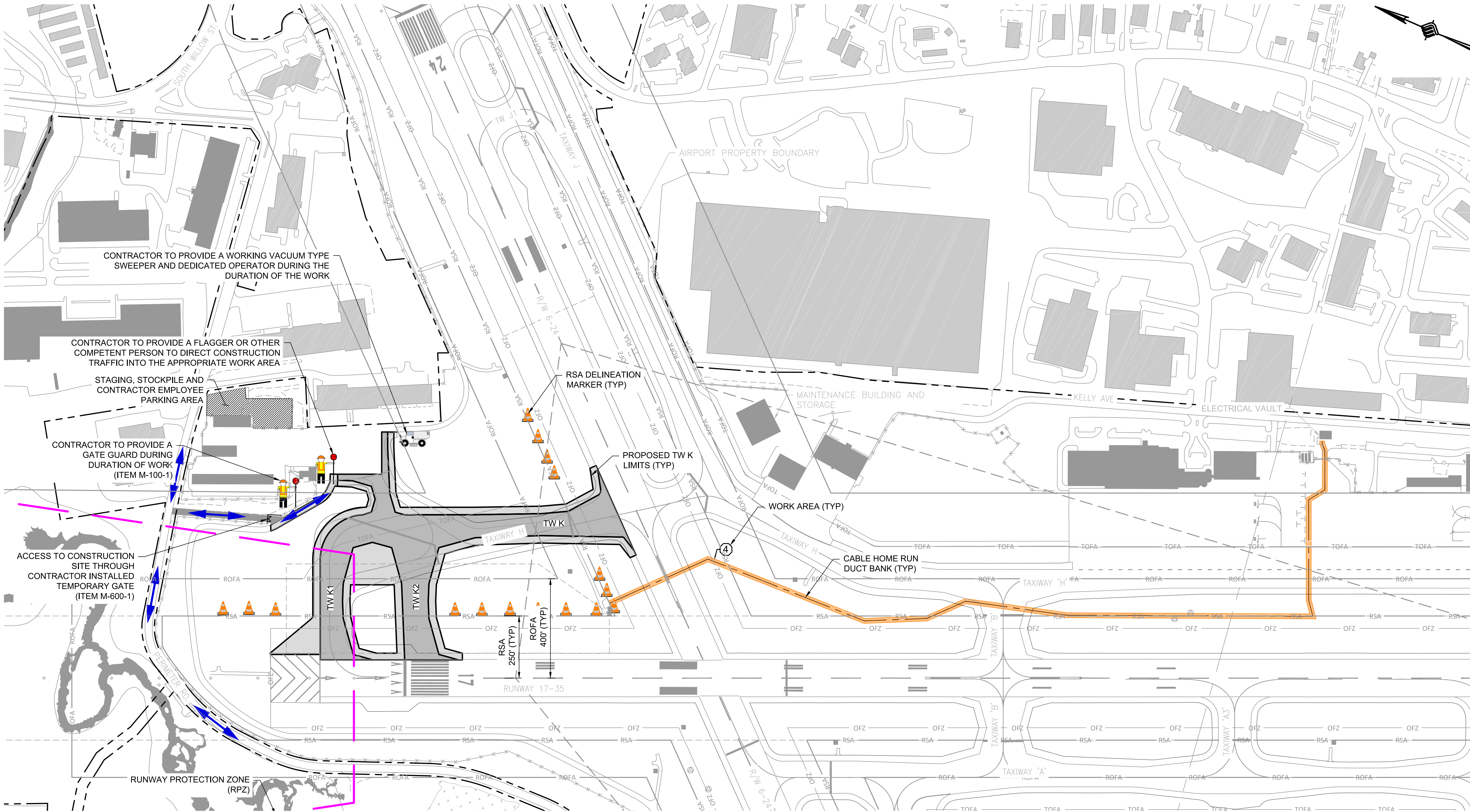
MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CONSTRUCTION SAFETY AND PHASING  
PLAN - PHASE 3A

SCALE: 1"=200'  
DATE: MARCH 2021

REVISIONS		DESCRIPTION	DATE	BY
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M/J PROJ. No.:18700.01				
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AIP No.: 3-33-0011-XXX-2021				
DRAWING NO.				
CS-06				
SHEET 11 OF 60				REV





**LEGEND:**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- WORK AREA 4
- RSA DELINEATION
- HAUL ROUTE
- SWEEPER
- GATE GUARDS

WORK AREA 4: WORK AREA 4 CONSISTS OF THE EXISTING ELECTRICAL DUCT BANK CORRIDOR FROM THE PRIMARY WORK ZONES FOR THE PROJECT TO THE ELECTRICAL VAULT

DURATION: 5 CALENDAR DAYS, SCHEDULED ANYTIME WITHIN OVERALL PROJECT DURATION AND TO BE APPROVED BY OWNER AND RPR

WORK HOURS: 6 AM TO 6 PM, MONDAY TO FRIDAY, UNLESS OTHERWISE APPROVED BY THE OWNER AND RPR

CLOSURES: NO TW OR RW CLOSURES - WORK TO BE PERFORMED UNDER PRIOR PERMISSION REQUESTED (PPR) WITH 15-MINUTE RECALL FOR ANY WORK WITHIN RUNWAY SAFETY AREA OR TAXIWAY OBJECT FREE AREA.

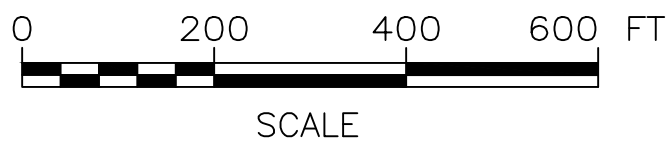
**RESTRICTIONS:**

- WORK AREA IS SUBJECT TO A 15-MINUTE RECALL FOR ANY WORK WITHIN THE RUNWAY 6-24 RSA OR TAXIWAY H TOFA
- CONTRACTOR SHALL ACCESS THE WORK SITE VIA TEMPORARY ACCESS GATE OR MHT OPERATIONS APPROVED GATE UNDER MHT PROVIDED ESCORT
- A CONTRACTOR PROVIDED GATE GUARD SHALL BE STAGED AT THE TEMPORARY ACCESS GATE DURING THE DURATION OF THE PROJECT TO INSPECT VEHICLES ENTERING THE AIRFIELD, AND TO KEEP UNAUTHORIZED VEHICLES OUT
- NO VEHICLES OR EQUIPMENT SHALL BE PARKED WITHIN ANY TOFA OR RSA DURING THE PROGRESS OF THE WORK

**PRIMARY WORK TO BE PERFORMED IN WORK AREA 4:**

- REMOVAL OF EXISTING ELECTRICAL CABLING AND INSTALLING NEW REPLACEMENT CABLING FROM PRIMARY PROJECT LIMITS TO THE ELECTRICAL VAULT FOR EXISTING CIRCUIT TO BE REUSED
- INSTALLATION OF NEW ELECTRICAL CABLING FROM PRIMARY PROJECT LIMITS TO THE ELECTRICAL VAULT FOR NEW CIRCUITS

LIQUIDATED DAMAGES: REFER TO CONTRACT DOCUMENTS



ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN J. McFarland  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

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CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

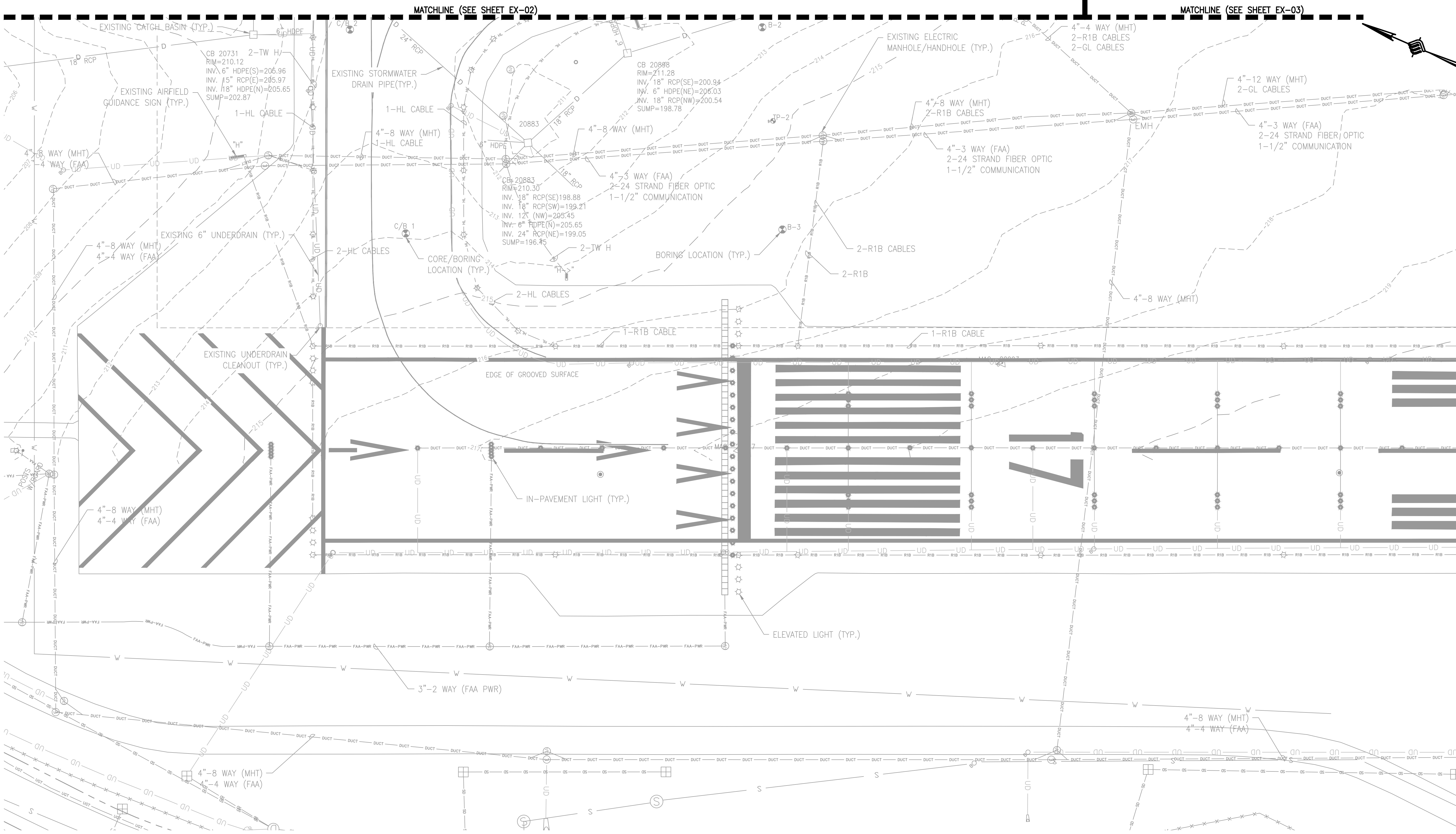
MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CONSTRUCTION SAFETY AND PHASING  
PLAN - PHASE 4

REV. NO. DATE DESCRIPTION BY

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AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
CS-07  
SHEET 12 OF 60

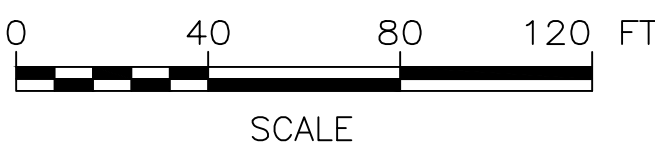
SCALE: 1"=200' DATE: MARCH 2021





LEGEND:			
	EXISTING ELEVATED EDGE LIGHT		EXISTING UNIDENTIFIED MANHOLE
	EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT		EXISTING SEWER MANHOLE
	EXISTING ELEVATED RUNWAY GUARD LIGHT		CORE / BORING LOCATION
	EXISTING AIRFIELD GUIDANCE SIGN		EXISTING UNDERDRAIN PIPE
	EXISTING ELECTRIC MANHOLE		EXISTING STORMWATER DRAIN PIPE
	EXISTING FAA ELECTRIC MANHOLE		EXISTING TW H AND TAXIWAY L CIRCUITRY
	EXISTING CATCH BASIN		EXISTING RUNWAY 6-24 CIRCUITRY
	EXISTING DRAIN MANHOLE		EXISTING RUNWAY 17-35 CIRCUITRY
	EXISTING CLEANOUT		EXISTING DUCT BANK
			EXISTING FENCE

NOTES:  
1. FOR BORING LOGS REFER TO SHEETS BL-01 AND BL-02.  
2. EXISTING CONDITION PLANS ARE BASED ON A DETAILED FIELD SURVEY PERFORMED BY GM2 ASSOCIATES DURING OCTOBER 2020. THE FIELD SURVEY PLANS ARE ENTITLED "TOPOGRAPHIC WORKSHEET OF TAXIWAY H AT MHT" DATED 10/30/2020. THE FIELD SURVEY PLANS HAVE BEEN SUPPLEMENTED WITH RECORD INFORMATION AND REFERENCE PLANS PROVIDED BY MHT. CONTRACTOR TO FIELD VERIFY INFORMATION SHOWN ON THE PLANS.



ENGINEER'S SEAL

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
EXISTING CONDITION PLAN ( 1 OF 3 )

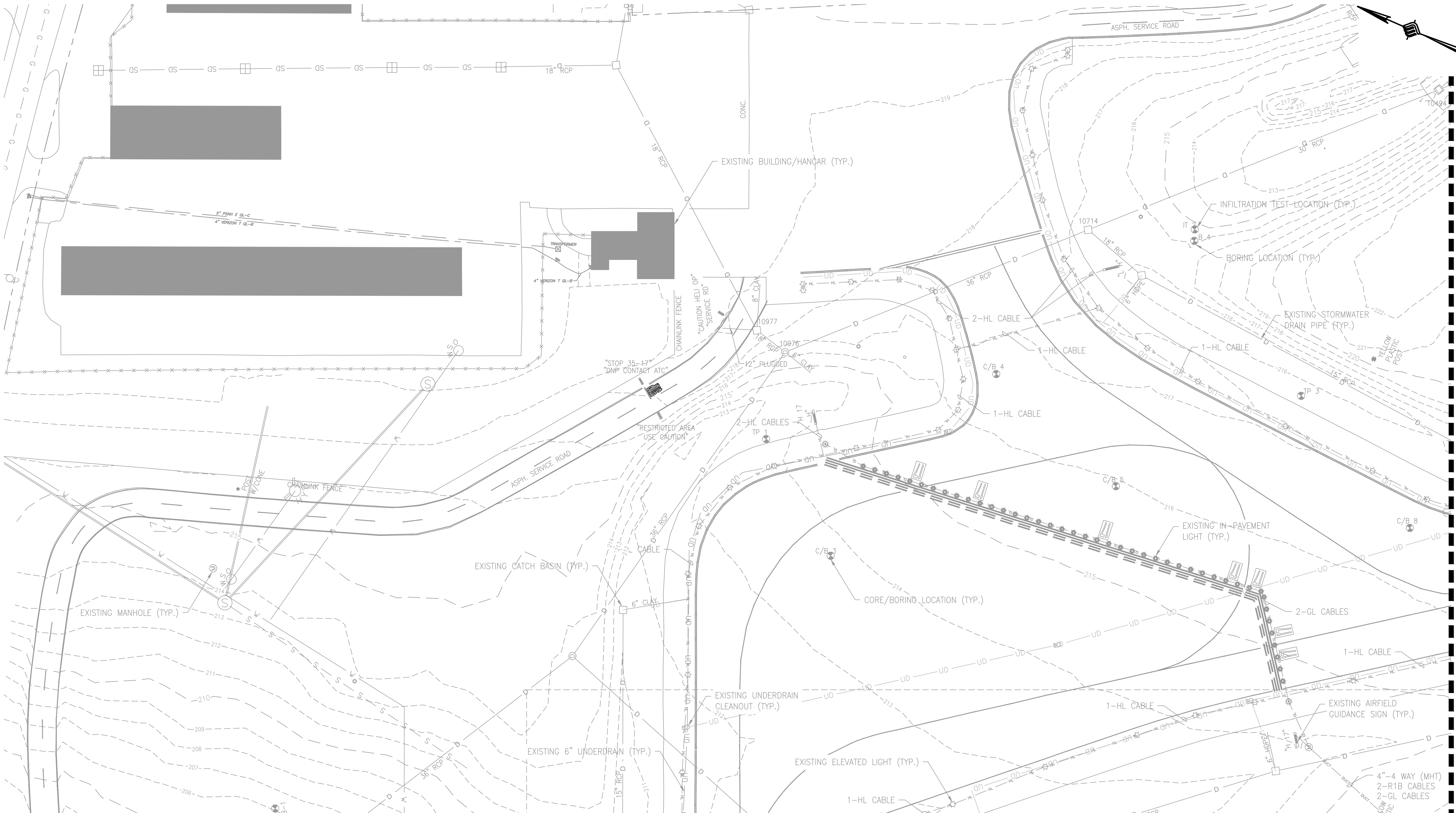
DATE: MARCH 2021  
SCALE: 1"=40'

BY  
DATE  
REV. NO.

MJ PROJ. No.:18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
EX-01

SHEET 13 OF 60





LEGEND:

EXISTING ELEVATED EDGE LIGHT

EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT

EXISTING ELEVATED RUNWAY GUARD LIGHT

EXISTING AIRFIELD GUIDANCE SIGN

EXISTING ELECTRIC MANHOLE

EXISTING FAA ELECTRIC MANHOLE

EXISTING CATCH BASIN

EXISTING DRAIN MANHOLE

EXISTING CLEANOUT

EXISTING UNIDENTIFIED MANHOLE

EXISTING SEWER MANHOLE

CORE / BORING LOCATION

EXISTING UNDERDRAIN PIPE

EXISTING STORMWATER DRAIN PIPE

EXISTING TW H AND TAXIWAY L CIRCUITRY

EXISTING RUNWAY 6-24 CIRCUITRY

EXISTING RUNWAY 17-35 CIRCUITRY

EXISTING DUCT BANK

EXISTING FENCE

EXISTING UNIDENTIFIED MANHOLE

EXISTING SEWER MANHOLE

CORE / BORING LOCATION

EXISTING UNDERDRAIN PIPE

EXISTING STORMWATER DRAIN PIPE

EXISTING TW H AND TAXIWAY L CIRCUITRY

EXISTING RUNWAY 6-24 CIRCUITRY

EXISTING RUNWAY 17-35 CIRCUITRY

EXISTING DUCT BANK

EXISTING FENCE

NOTES:

1. SEE SHEET EX-01.

0 40 80 120 FT

SCALE

ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY SSS

DRAWN BY RHL

CHECKED BY BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

EXISTING CONDITION PLAN (2 OF 3)

SCALE: 1"=40'

DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

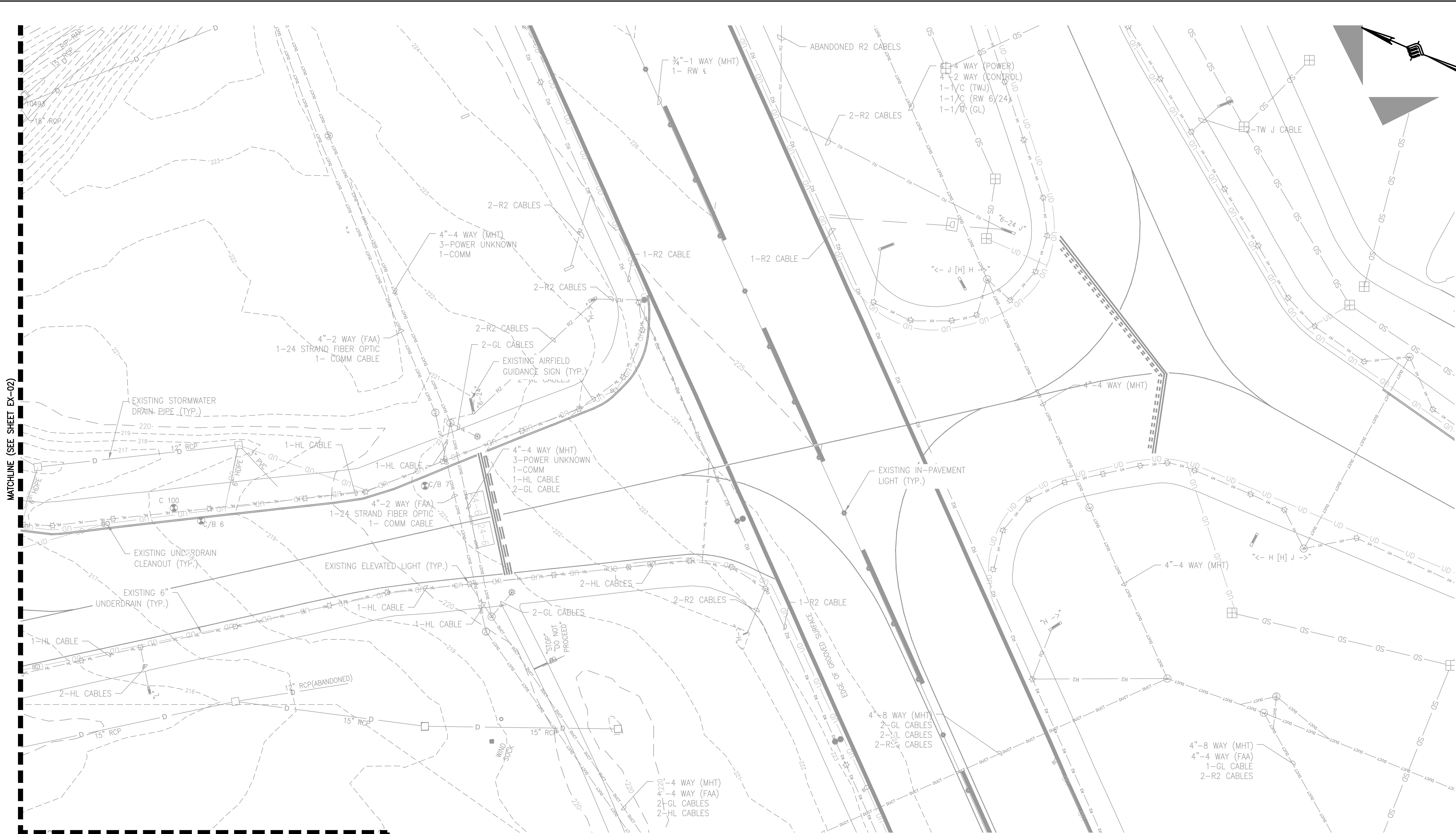
DRAWING NO.

EX-02

SHEET 14 OF 60

REV





MATCHLINE (SEE SHEET EX-02)

MATCHLINE (SEE SHEET EX-01)

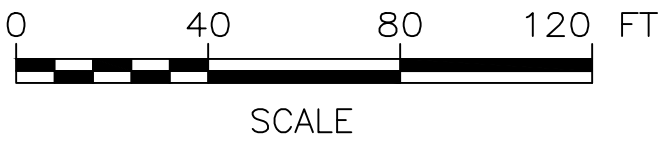
LEGEND:

- EXISTING ELEVATED EDGE LIGHT
- EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT
- EXISTING ELEVATED RUNWAY GUARD LIGHT
- EXISTING AIRFIELD GUIDANCE SIGN
- EXISTING ELECTRIC MANHOLE
- EXISTING FAA ELECTRIC MANHOLE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING CLEANOUT

- EXISTING UNIDENTIFIED MANHOLE
- EXISTING SEWER MANHOLE
- CORE / BORING LOCATION
- EXISTING UNDERDRAIN PIPE
- EXISTING STORMWATER DRAIN PIPE
- EXISTING TW H AND TAXIWAY L CIRCUITRY
- EXISTING RUNWAY 6-24 CIRCUITRY
- EXISTING RUNWAY 17-35 CIRCUITRY
- EXISTING DUCT BANK
- EXISTING FENCE

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

NOTES:  
1. SEE SHEET EX-01.



ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

EXISTING CONDITION PLAN (3 OF 3)

REV. NO.

DATE

BY

DESCRIPTION

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

EX-03

SHEET 15 OF 60

REV

DESIGNED BY  
SSS

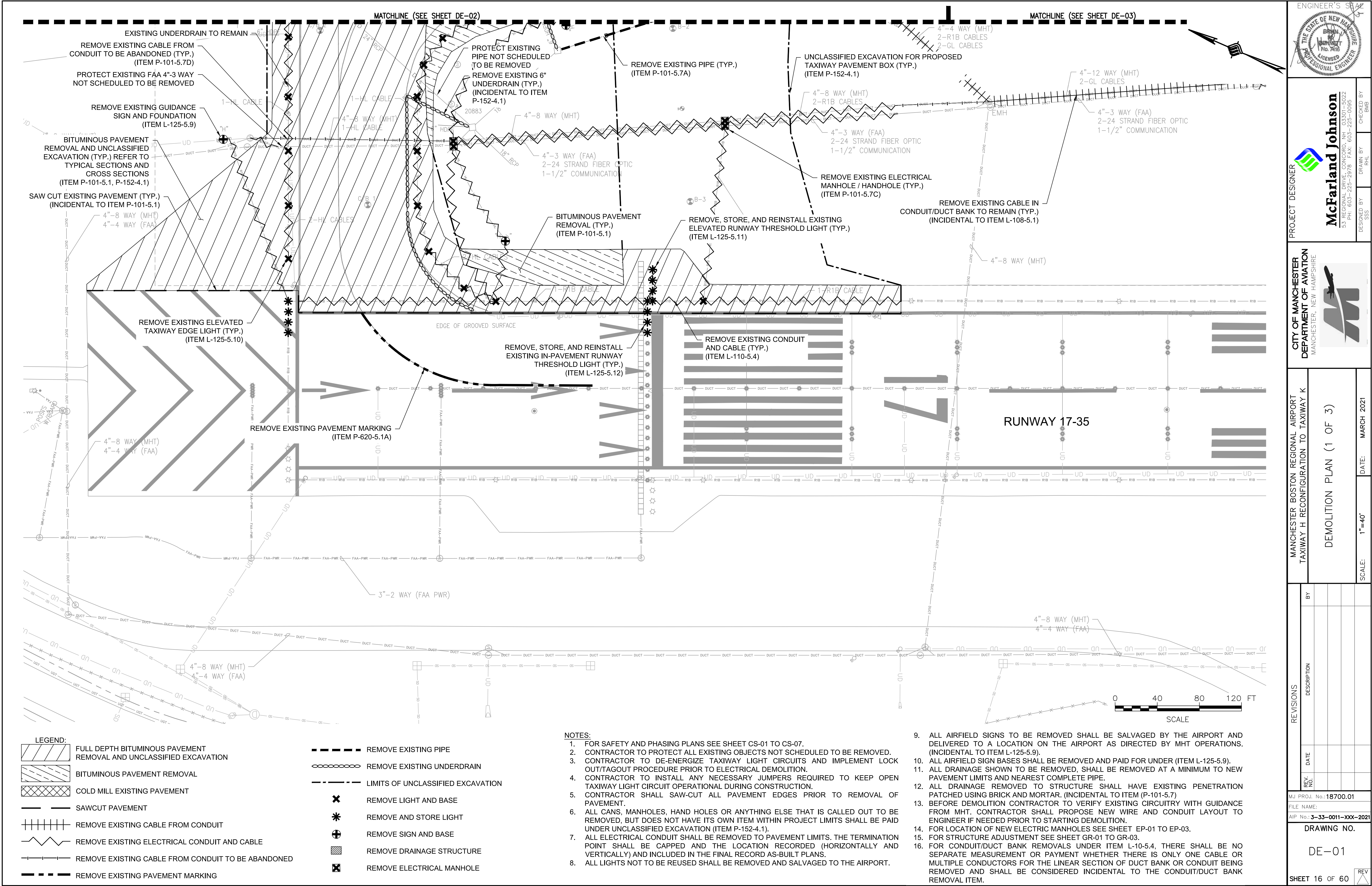
DRAWN BY  
RHL

CHECKED BY  
BMB

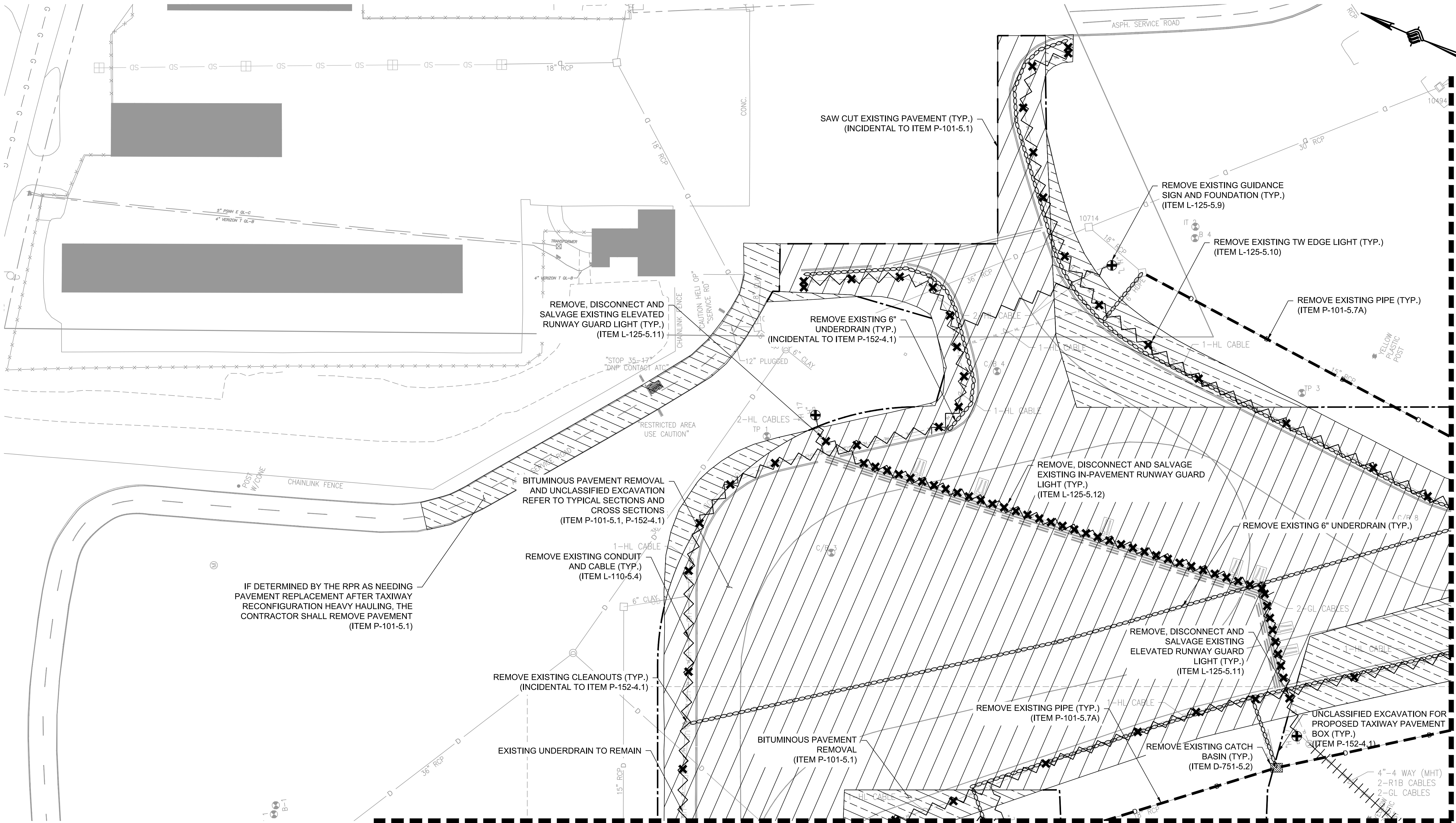
DATE: MARCH 2021

SCALE: 1"=40'









- LEGEND:
- FULL DEPTH BITUMINOUS PAVEMENT REMOVAL AND UNCLASSIFIED EXCAVATION
  - BITUMINOUS PAVEMENT REMOVAL
  - COLD MILL EXISTING PAVEMENT
  - SAWCUT PAVEMENT
  - REMOVE EXISTING CABLE FROM CONDUIT
  - REMOVE EXISTING ELECTRICAL CONDUIT AND CABLE
  - REMOVE EXISTING CABLE FROM CONDUIT TO BE ABANDONED
  - REMOVE EXISTING PAVEMENT MARKING

- REMOVE EXISTING PIPE
- REMOVE EXISTING UNDERDRAIN
- LIMITS OF UNCLASSIFIED EXCAVATION
- REMOVE LIGHT AND BASE
- REMOVE AND STORE LIGHT
- REMOVE SIGN AND BASE
- REMOVE DRAINAGE STRUCTURE
- REMOVE ELECTRICAL MANHOLE

NOTES:  
1. SEE SHEET DE-01.



ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY SSS  
DRAWN BY RHL  
CHECKED BY BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
DEMOLITION PLAN (2 OF 3)

SCALE: 1"=40'  
DATE: MARCH 2021

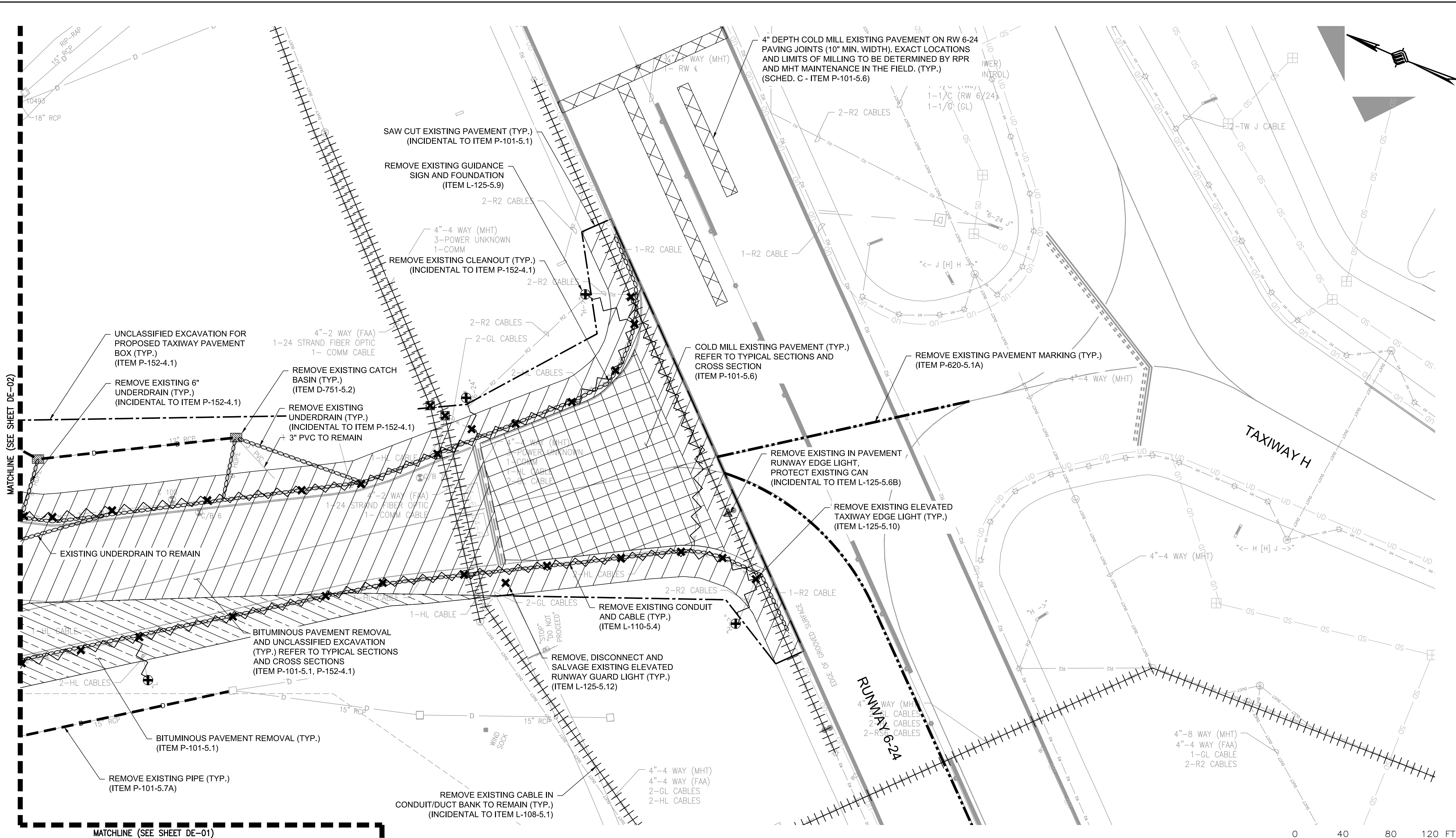
REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01  
FILE NAME:  
AIP No.:3-33-0011-XXX-2021

DRAWING NO.  
DE-02

SHEET 17 OF 60



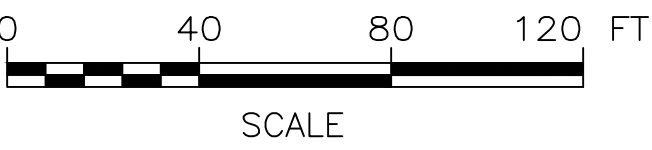


**LEGEND:**

	FULL DEPTH BITUMINOUS PAVEMENT REMOVAL AND UNCLASSIFIED EXCAVATION
	BITUMINOUS PAVEMENT REMOVAL
	COLD MILL EXISTING PAVEMENT
	SAWCUT PAVEMENT
	REMOVE EXISTING CABLE FROM CONDUIT
	REMOVE EXISTING ELECTRICAL CONDUIT AND CABLE
	REMOVE EXISTING CABLE FROM CONDUIT TO BE ABANDONED
	REMOVE EXISTING PAVEMENT MARKING
	REMOVE EXISTING PIPE
	REMOVE EXISTING UNDERDRAIN
	LIMITS OF UNCLASSIFIED EXCAVATION
	REMOVE LIGHT AND BASE
	REMOVE AND STORE LIGHT
	REMOVE SIGN AND BASE
	REMOVE DRAINAGE STRUCTURE
	REMOVE ELECTRICAL MANHOLE
	REMOVE EXISTING IN PAVEMENT RUNWAY EDGE LIGHT

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEET DE-01.
- MHT MAINTENANCE WILL "SELF-PERFORM" CRACK SEALING WORK FOR RUNWAY 6-24 PAVEMENT REPAIRS. CONTRACTOR SHALL COORDINATE THE SCHEDULING OF THE CRACK SEALING WORK WITH MHT MAINTENANCE TO OCCUR AFTER THE MILLING AND PRIOR TO THE PAVEMENT INSTALLATION.



ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

DEMOLITION PLAN (3 OF 3)

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

DE-03

SHEET 18 OF 60

DESIGNED BY: SSS

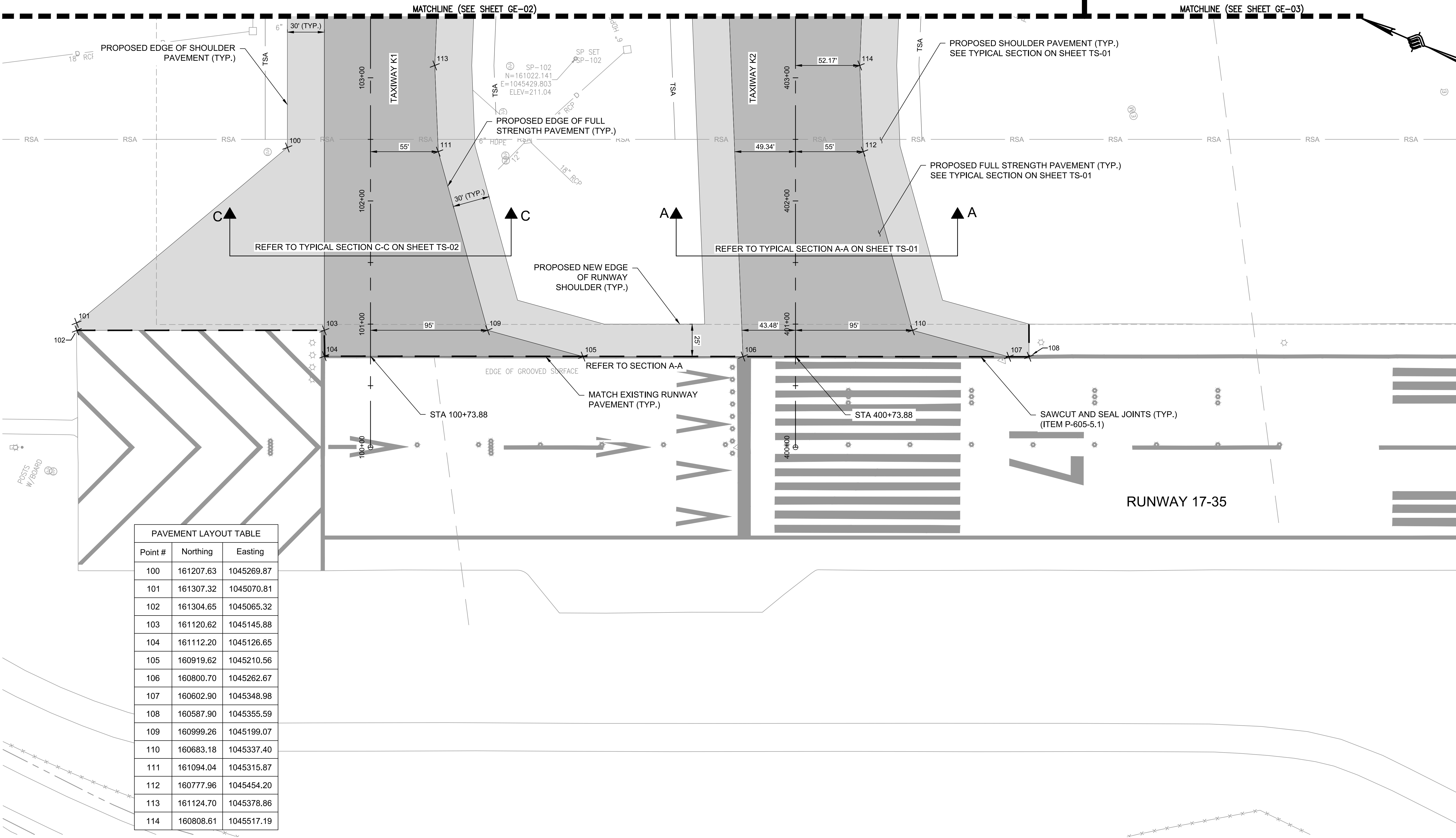
DRAWN BY: RHL

CHECKED BY: BMB

DATE: MARCH 2021

SCALE: 1"=40'

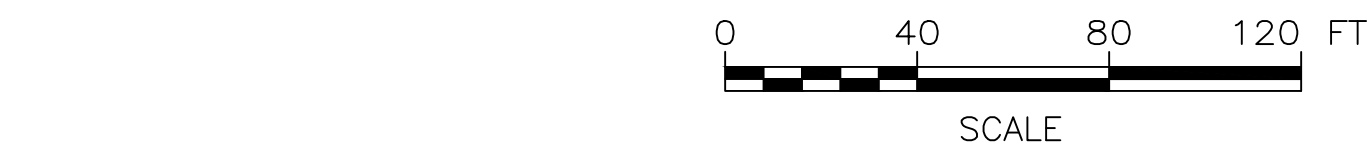




PAVEMENT LAYOUT TABLE		
Point #	Northing	Easting
100	161207.63	1045269.87
101	161307.32	1045070.81
102	161304.65	1045065.32
103	161120.62	1045145.88
104	161112.20	1045126.65
105	160919.62	1045210.56
106	160800.70	1045262.67
107	160602.90	1045348.98
108	160587.90	1045355.59
109	160999.26	1045199.07
110	160683.18	1045337.40
111	161094.04	1045315.87
112	160777.96	1045454.20
113	161124.70	1045378.86
114	160808.61	1045517.19

- LEGEND:
- FULL STRENGTH PAVEMENT
  - SHOULDER PAVEMENT
  - SAWCUT AND SEAL JOINT
  - TSA TAXIWAY SAFETY AREA
  - TOFA TAXIWAY OBJECT FREE AREA
  - RSA RUNWAY SAFETY AREA
  - ROFA RUNWAY OBJECT FREE AREA

- NOTES:
- FOR SAFETY AND PHASING PLANS SEE SHEET CS-01 TO CS-03.
  - FOR DEMOLITION PLANS SEE SHEET DE-01 TO DE-03.
  - FOR TYPICAL PAVEMENT SECTIONS SEE SHEETS TS-01 AND TS-02.
  - FOR MARKING PLANS SEE SHEET MK-01 TO MK-04.
  - FOR ELECTRICAL PLANS SEE SHEET EP-01 TO EP-03.
  - FOR GRADING, DRAINAGE AND EROSION CONTROL PLANS SEE SHEET GR-01 TO GR-03.



ENGINEER'S SEAL

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY SSS  
DRAWN BY RHL  
CHECKED BY BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
GEOMETRY LAYOUT PLAN (1 OF 3)

SCALE: 1"=40'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
GE-01

SHEET 19 OF 60  
REV



PAVEMENT LAYOUT TABLE		
Point #	Northing	Easting
200	161274.00	1045496.36
201	161191.37	1045728.62
202	161161.84	1045753.39
203	161168.72	1045807.20
204	161203.58	1045848.78
205	161281.12	1045838.88
206	161338.01	1045817.05
207	161335.86	1045791.09
208	161339.34	1045771.29
209	161361.42	1045706.49
210	161502.55	1045522.18
211	161512.60	1045543.79
212	161380.69	1045720.80
213	161363.34	1045771.72
214	161362.87	1045797.95
215	161375.20	1045827.55
216	161185.13	1045910.11
217	161253.21	1046065.68
218	161231.22	1046075.30
219	161206.07	1046017.84
220	161124.11	1045851.76
221	161073.89	1045791.88
222	161036.89	1045796.61
223	160855.57	1045731.32
224	160834.08	1045582.45
225	160934.86	1045538.35
226	161029.64	1045655.15
227	161109.22	1045643.66
228	161171.66	1045592.99
229	161150.17	1045444.12
230	161109.10	1045568.52
231	161145.32	1045582.69
232	161039.94	1045628.81
233	160829.23	1045721.02
235	161120.97	1045451.82
236	160960.32	1045522.12
237	161451.32	1045773.28

NOTES:  
1. SEE SHEET GE-01.

- LEGEND:
- FULL STRENGTH PAVEMENT
  - SHOULDER PAVEMENT
  - SAWCUT AND SEAL JOINT
  - TSA TAXIWAY SAFETY AREA
  - TOFA TAXIWAY OBJECT FREE AREA
  - RSA RUNWAY SAFETY AREA
  - ROFA RUNWAY OBJECT FREE AREA

SP SET  
SP-101  
N=161522.930  
E=1045375.452  
ELEV=213.88

MATCHLINE (SEE SHEET GE-01)



ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN J. McFarland  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

GEOMETRY LAYOUT PLAN (2 OF 3)

DATE: MARCH 2021

SCALE: 1"=40'

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01

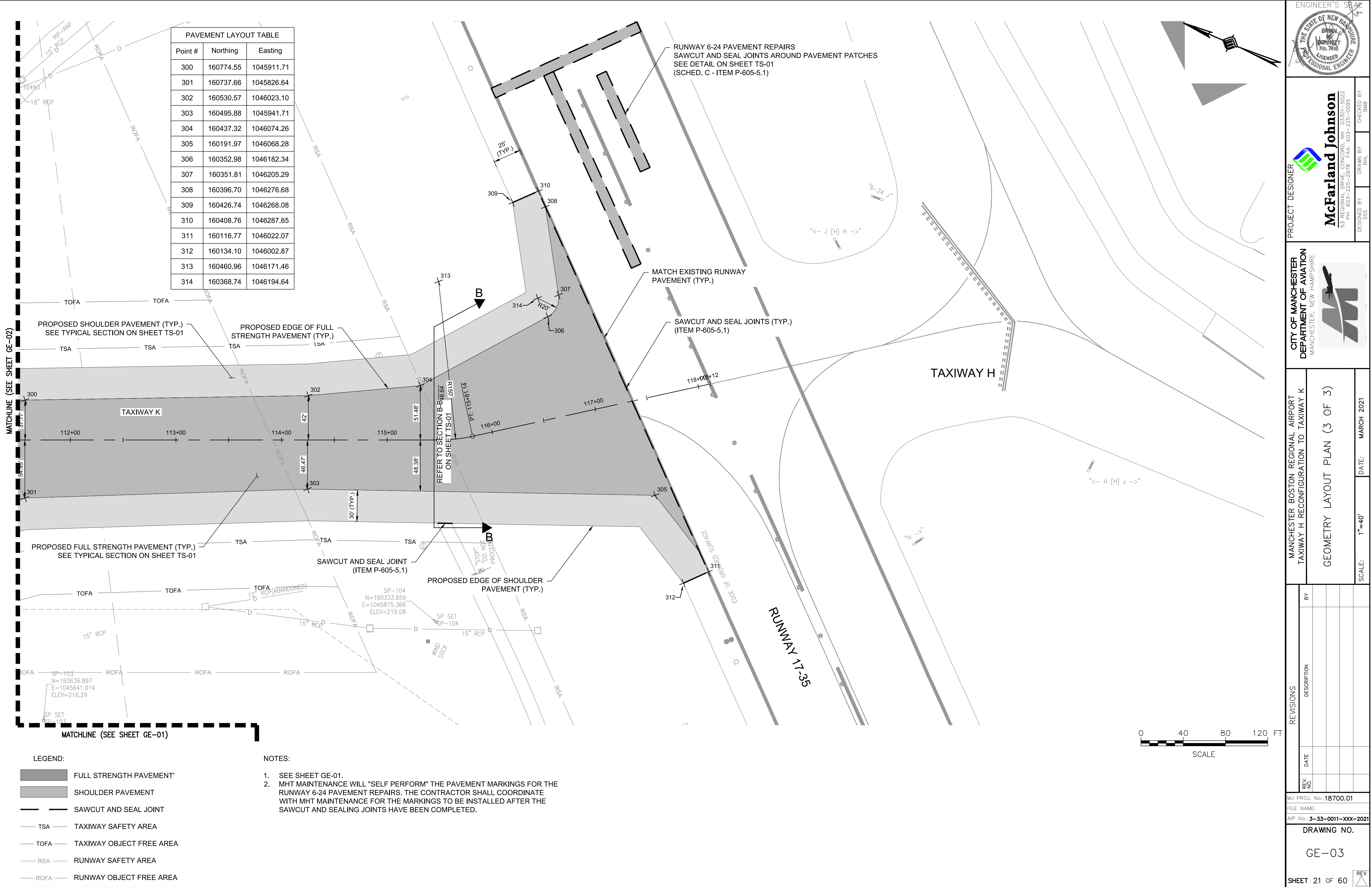
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AIP No.: 3-33-0011-XXX-2021

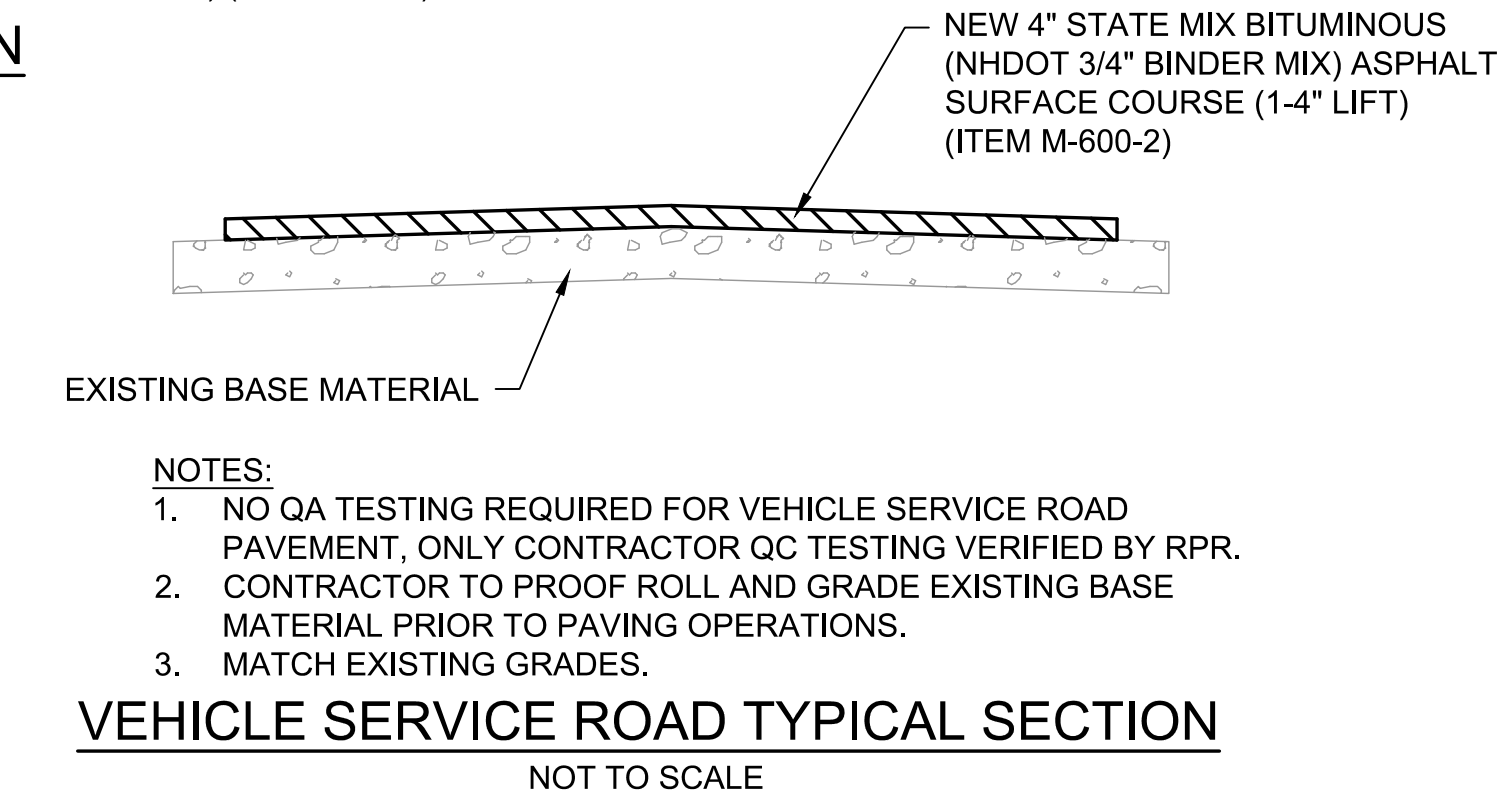
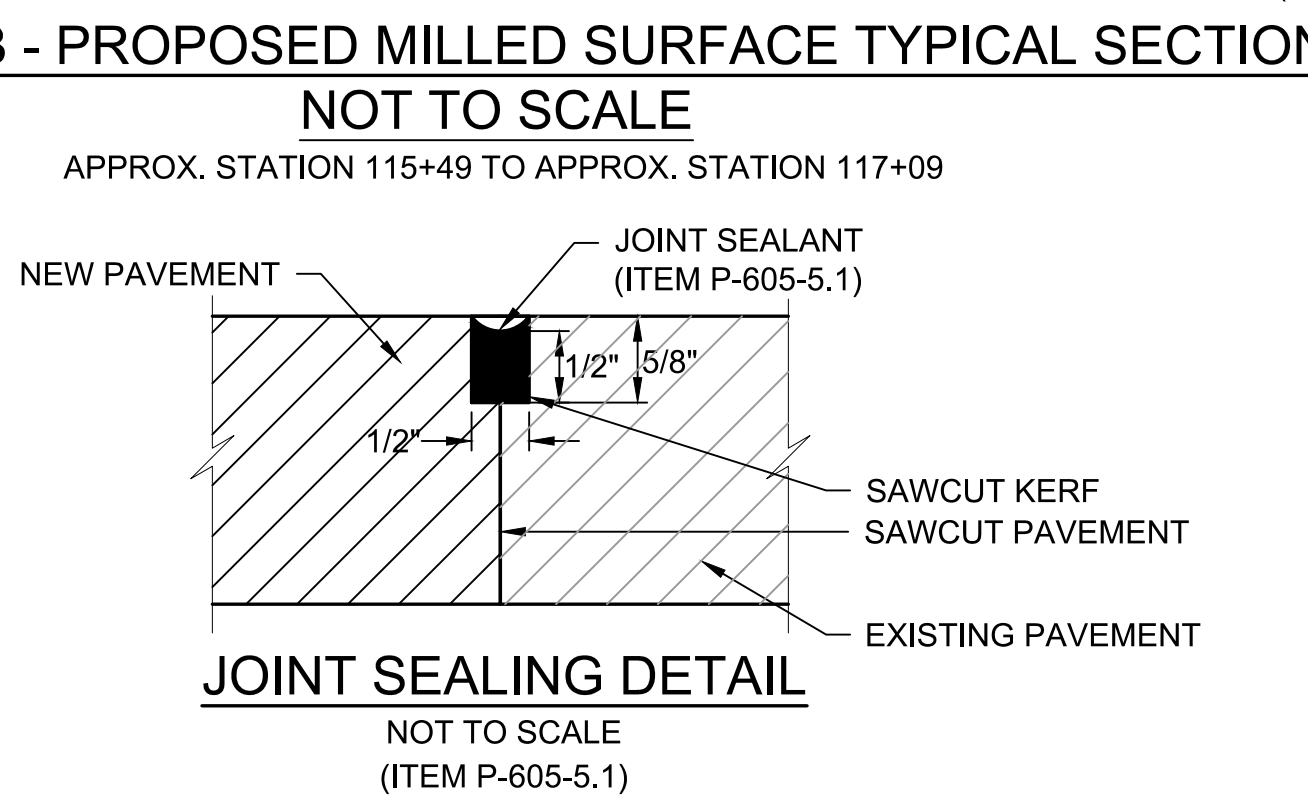
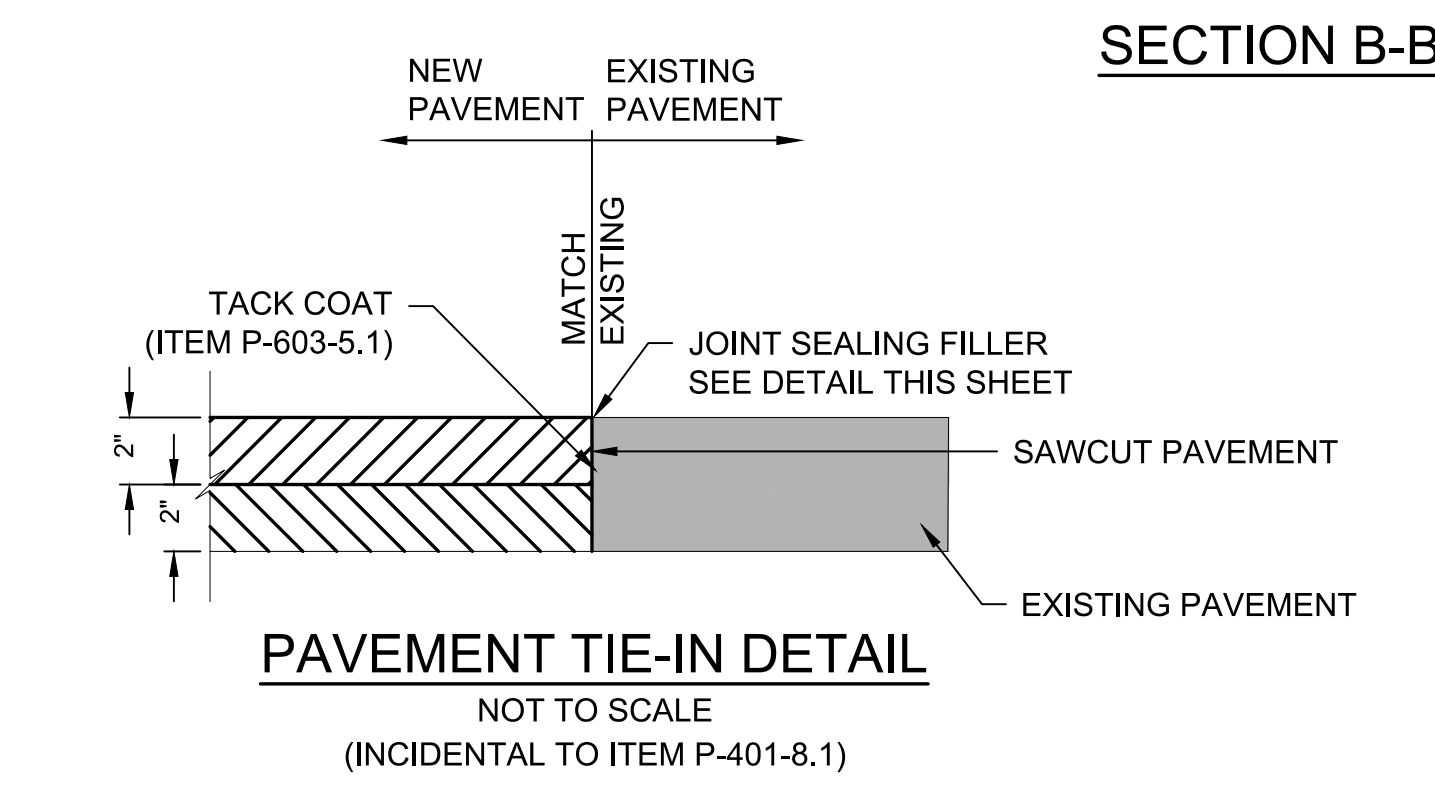
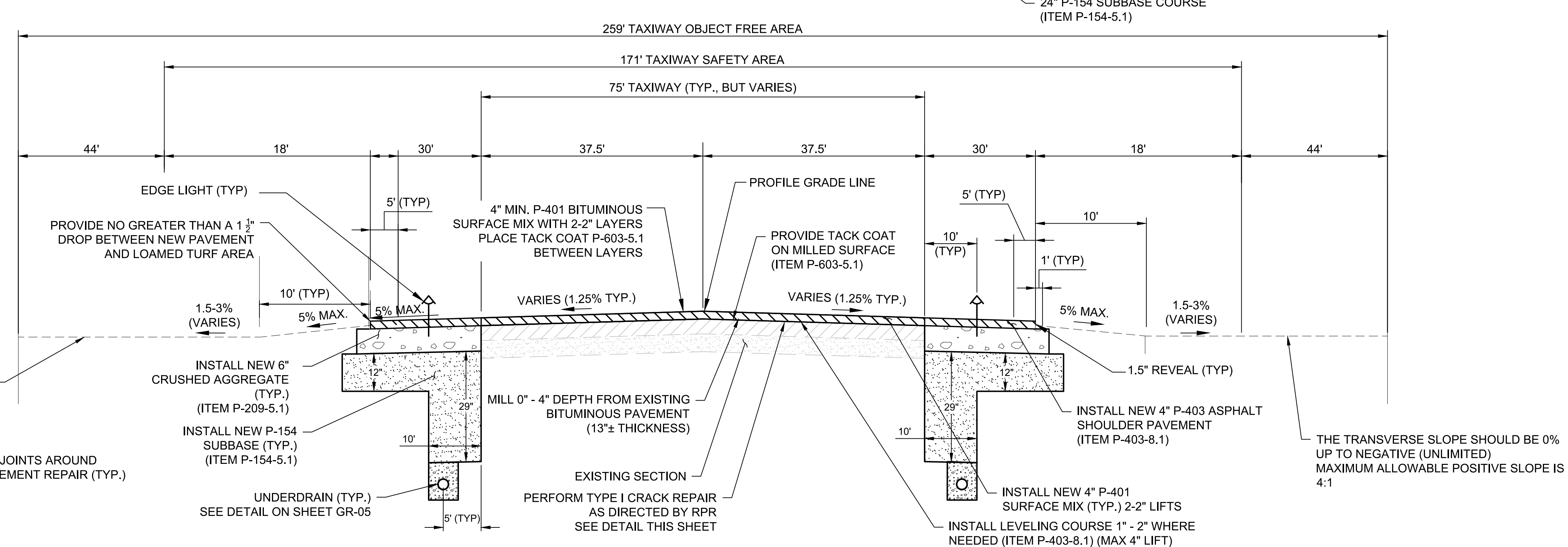
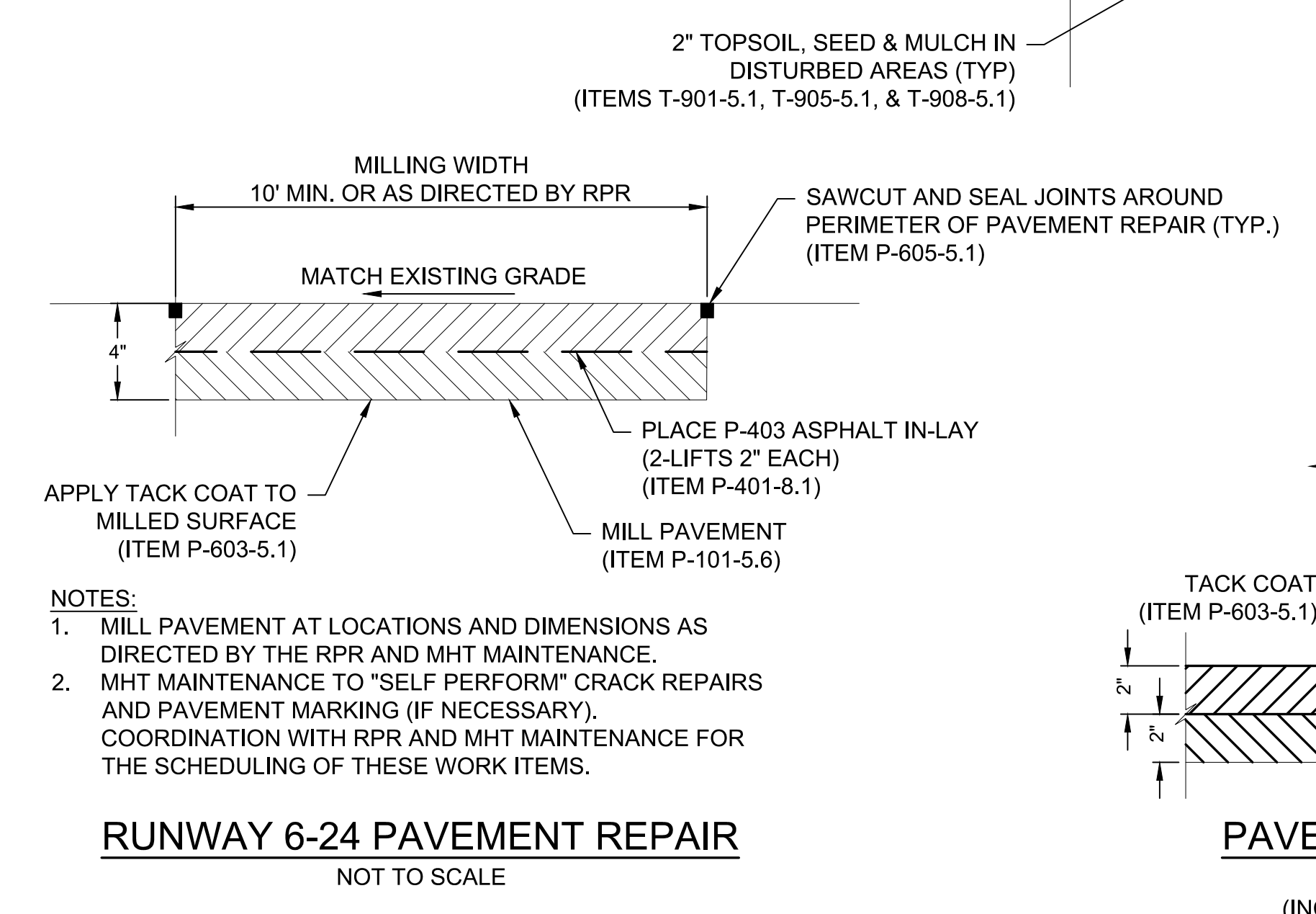
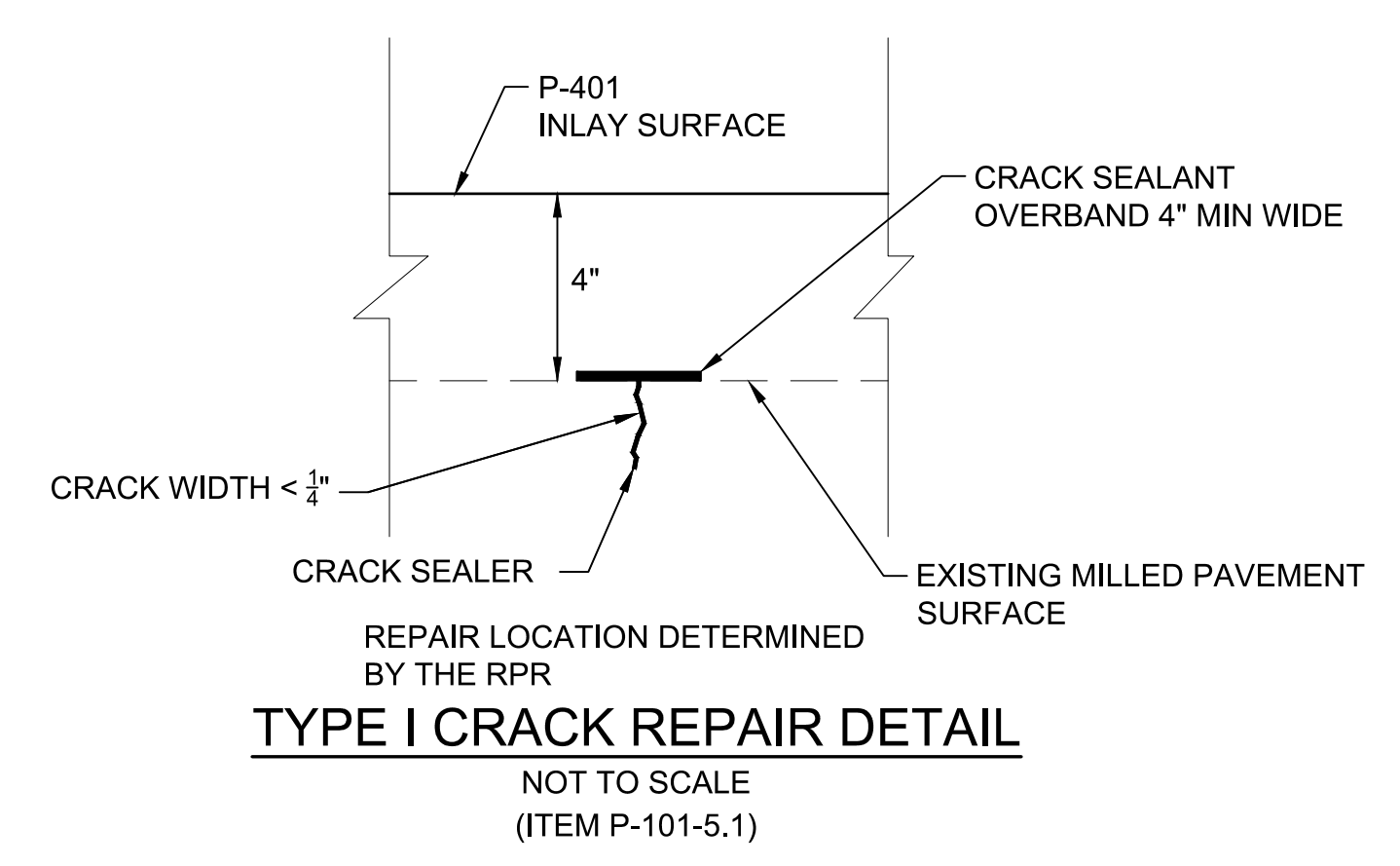
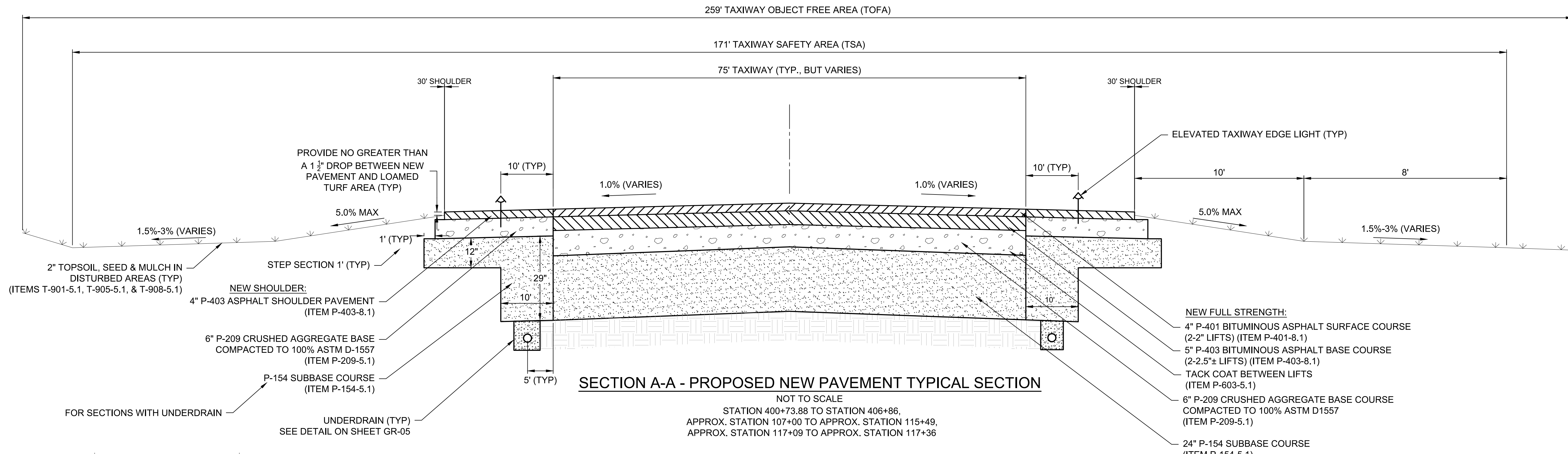
DRAWING NO.  
GE-02

SHEET 20 OF 60









ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BRIAN J. JOHNSON  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
McFarland Johnson  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY SSS  
DRAWN BY RHL  
CHECKED BY BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

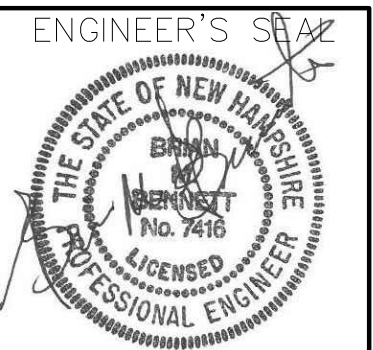
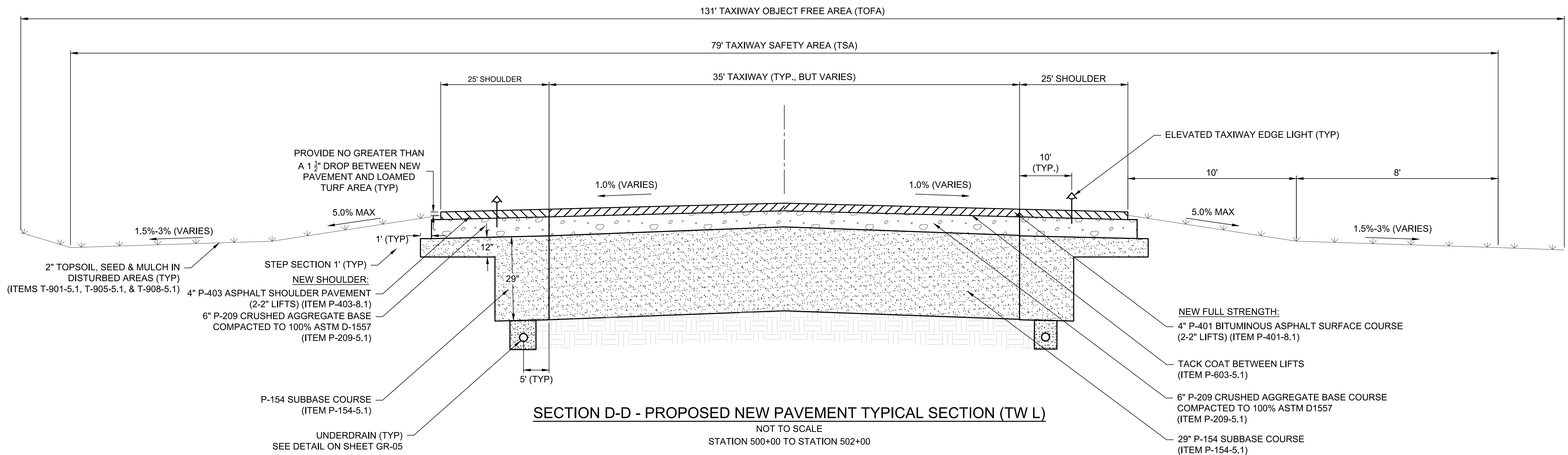
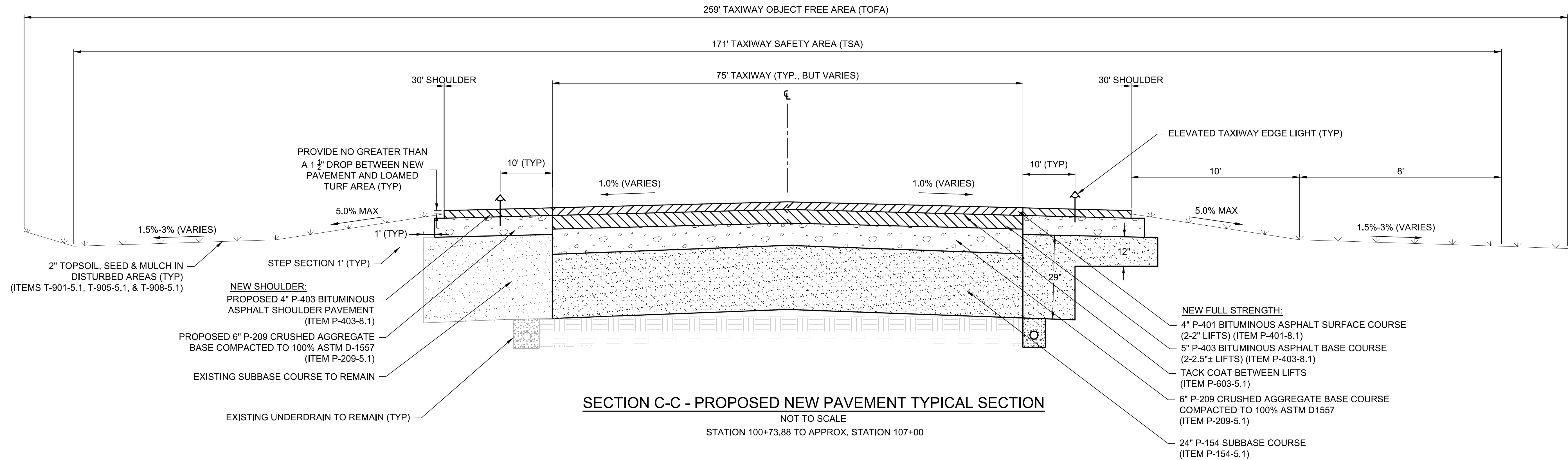
MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
TYPICAL SECTION AND PAVEMENT  
DETAILS (1 OF 2)

REVISIONS  
BY  
DATE  
REV. NO.

FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
TS-01  
SHEET 22 OF 60

DATE: MARCH 2021  
SCALE: N.T.S.





PROJECT DESIGNER  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY SSS  
DRAWN BY RHL  
CHECKED BY BMB

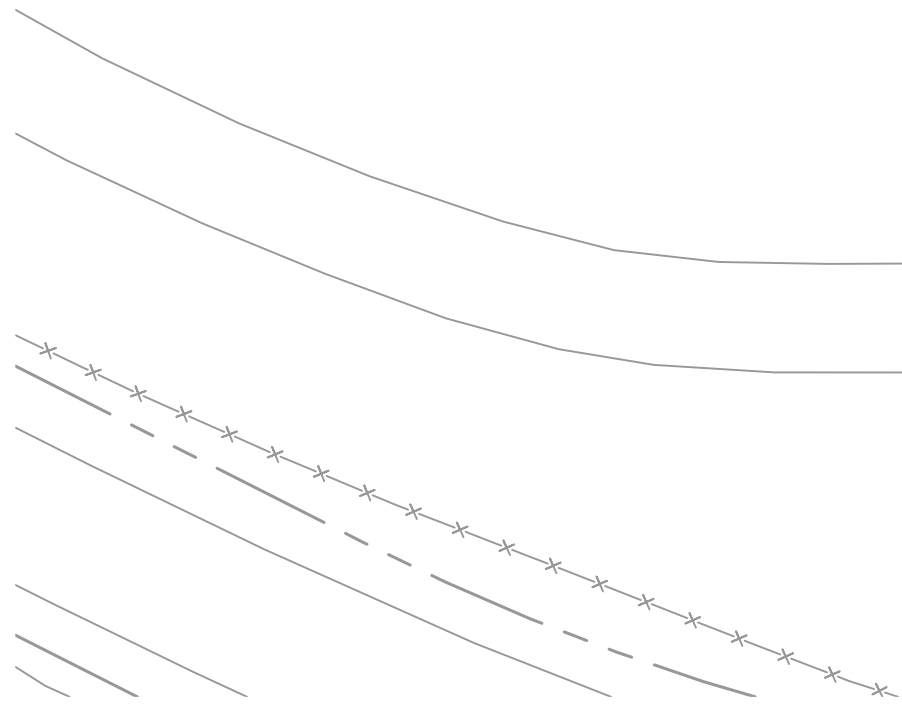
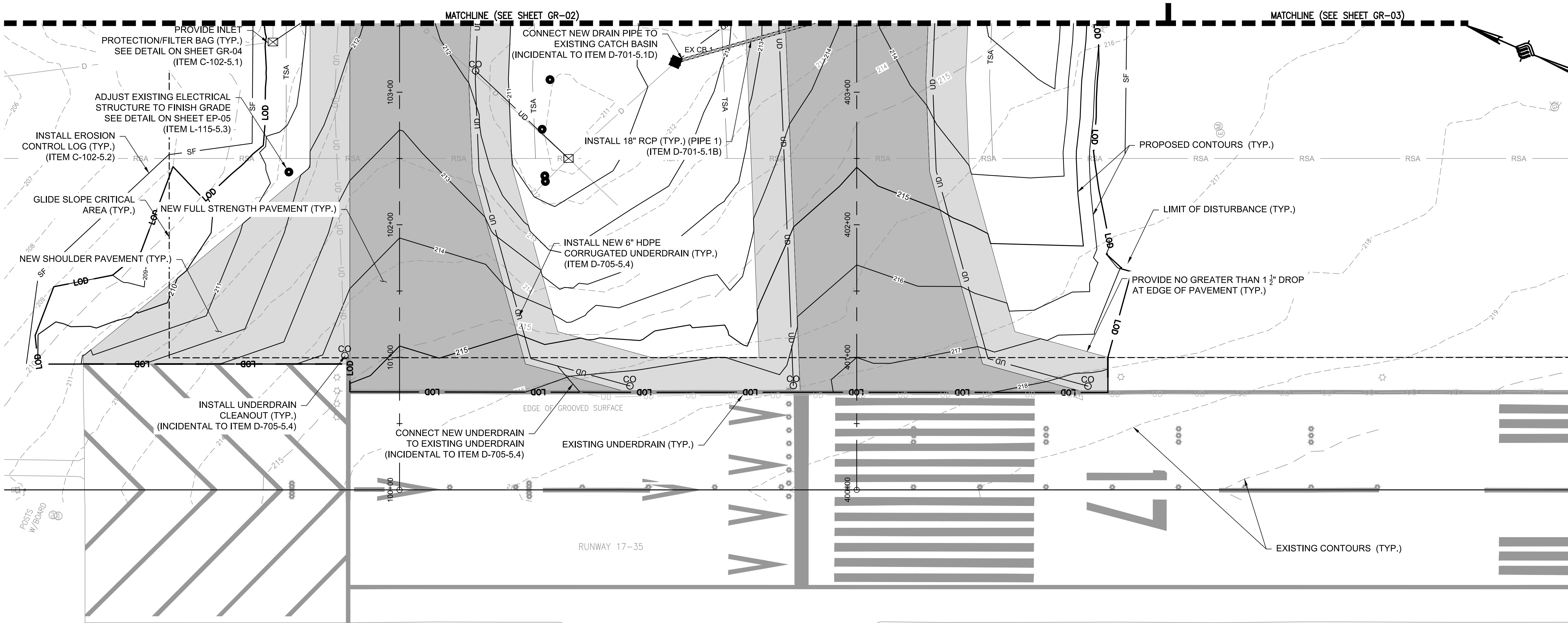


MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
TYPICAL SECTION AND PAVEMENT  
DETAILS (2 OF 2)  
SCALE: N.T.S. DATE: MARCH 2021

REVISIONS		BY	DATE
REV. NO.	DESCRIPTION		

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
TS-02  
SHEET 23 OF 60



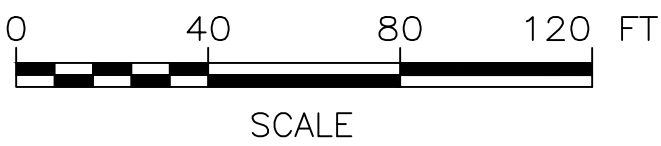


STRUCTURE TABLE						
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING
CB 1	212.24	206.12	206.02	(ITEM D-751-5.2)	160746.61	1045654.34
EX CB 1	211.29	200.94		EXISTING	160987.04	1045455.38
EX CB 2	216.16		210.26	EXISTING	160540.25	1045802.98
EX CB 3	215.28	206.20		EXISTING	161067.93	1045937.88
EX CB 4	212.16	208.98		EXISTING	160906.65	1046173.84
HW 1	210.77		209.10	(ITEM D-751-5.4)	160910.09	1046166.33

PIPE TABLE								
NAME	SIZE	LENGTH	SLOPE	MATERIAL	FROM STRC	TO STRC	TYPE	
PIPE 1	18"	312'	1.63%	Reinforced Concrete Pipe	CB 1	EX CB 1	(ITEM D-701-5.1D)	
PIPE 2	15"	254'	1.63%	Reinforced Concrete Pipe	EX CB 2	CB 1	(ITEM D-701-5.1C)	
PIPE 3	4"	220'	1.25%	PVC	EX 3"	PIPE 4	(ITEM D-701-5.1A)	
PIPE 4	4"	238'	1.24%	PVC	PIPE 3	EX CB 3	(ITEM D-701-5.1A)	
PIPE 5	12"	8'	1.50%	Reinforced Concrete Pipe	HW 1	EX CB 4	(ITEM D-701-5.1B)	

NOTES:

- FOR SAFETY AND PHASING PLANS SEE SHEET CS-01 TO CS-06.
- FOR DEMOLITION PLANS SEE SHEET DE-01 TO DE-03.
- FOR GEOMETRY LAYOUT PLANS SEE SHEET GE-01 TO GE-03.
- FOR PROFILES SEE SHEET PR-01 TO PR-02.
- FOR TYPICAL SECTIONS SEE SHEET TS-01.
- PROVIDE WATTLE AND INLET PROTECTION FILTER BAGS FOR IN-TURF CATCH BASINS.
- ALL AREAS DISTURBED WITHIN SHALL HAVE 2" OF TOPSOIL INSTALLED, SEEDED, AND MULCHED PER SPECIFICATIONS.



ENGINEER'S SEAL

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

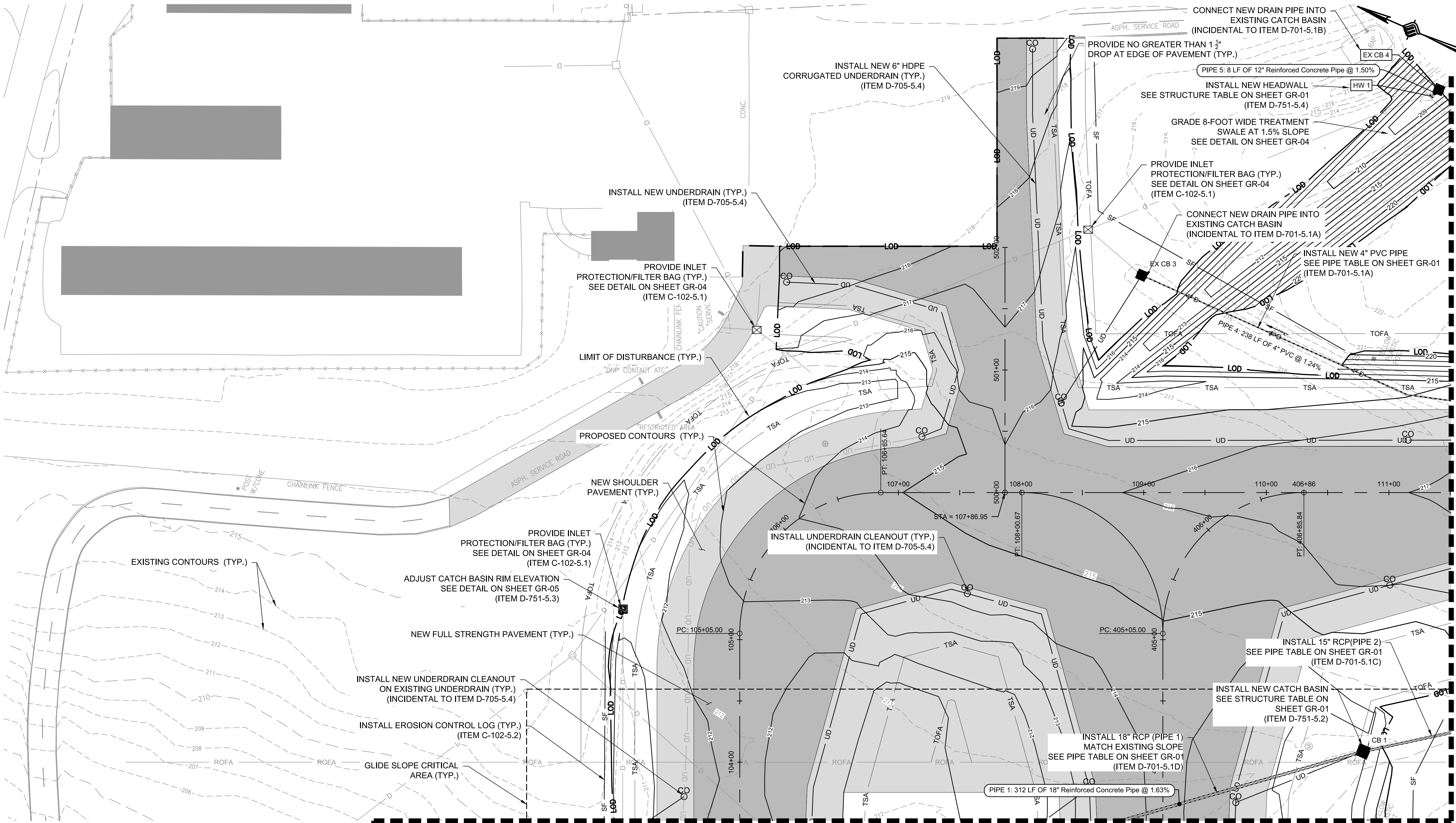
MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
GRADING, DRAINAGE AND EROSION  
CONTROL PLAN ( 1 OF 3 )

SCALE: 1"=40'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
**GR-01**  
SHEET 24 OF 60





LEGEND:

	FULL STRENGTH PAVEMENT
	SHOULDER PAVEMENT
	ADJUST EXISTING ELECTRIC STRUCTURE RIM ELEVATION
	ADJUST EXISTING DRAINAGE STRUCTURE RIM ELEVATION
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR

	IN-TURF INLET PROTECTION
	EROSION CONTROL LOG
	APPROXIMATE LIMIT OF DISTURBANCE
	TAXIWAY SAFETY AREA
	TAXIWAY OBJECT FREE AREA
	RUNWAY SAFETY AREA
	RUNWAY OBJECT FREE AREA

	EXISTING CATCH BASIN
	EXISTING DRAINAGE MANHOLE
	EXISTING ELECTRICAL MANHOLE
	EXISTING FAA ELECTRICAL MANHOLE
	EXISTING UNDERDRAIN

NOTES:

1. SEE SHEET GR-01.

ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

GRADING, DRAINAGE AND EROSION  
CONTROL PLAN (2 OF 3)

REV. NO.	DATE	DESCRIPTION	BY

DRAWING NO.

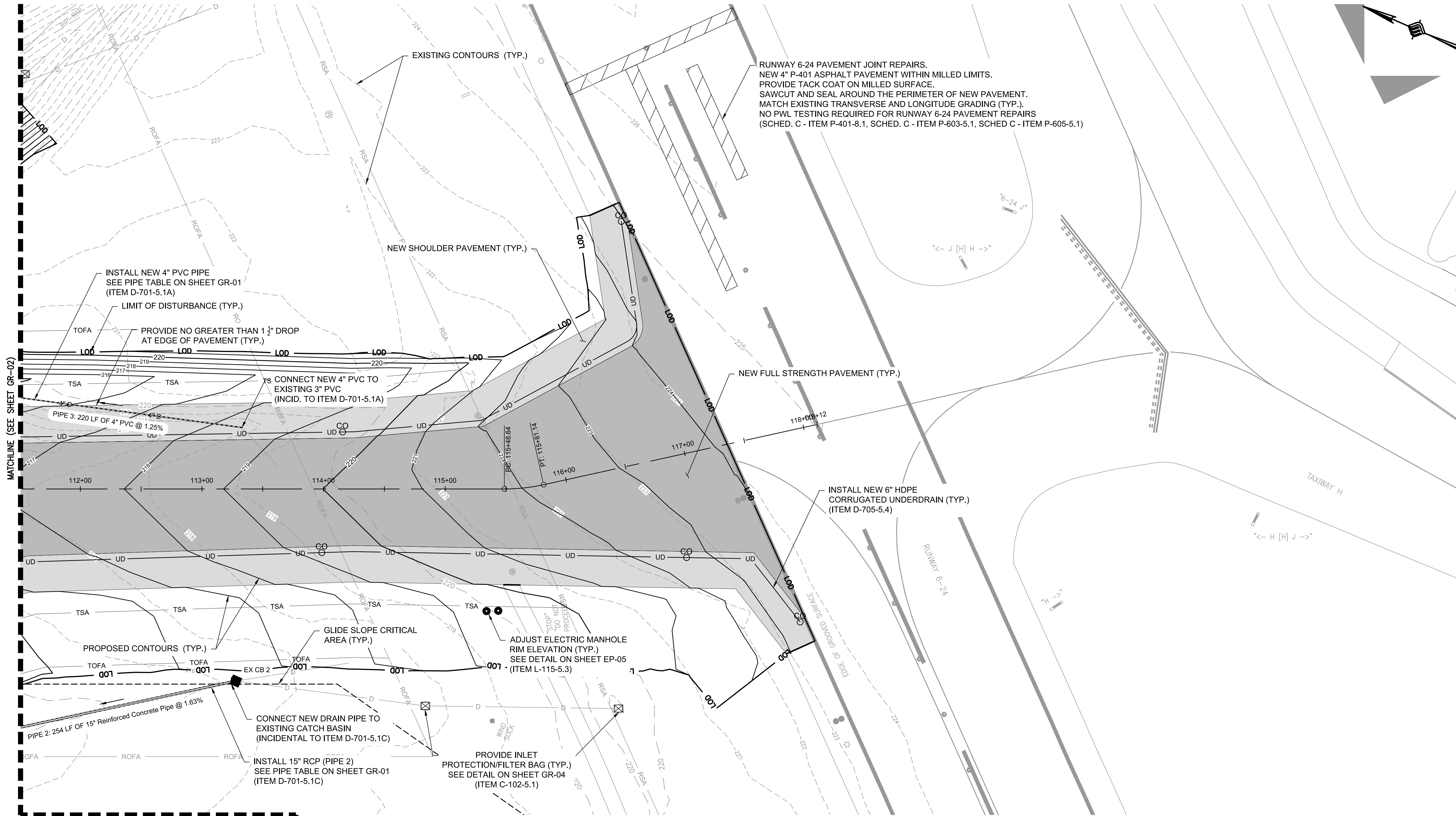
GR-02

SHEET 25 OF 60

DATE: MARCH 2021

SCALE: 1"=40'





LEGEND:

FULL STRENGTH PAVEMENT

SHOULDER PAVEMENT

ADJUST EXISTING ELECTRIC STRUCTURE RIM ELEVATION

ADJUST EXISTING DRAINAGE STRUCTURE RIM ELEVATION

210

EXISTING MAJOR CONTOUR

209

EXISTING MINOR CONTOUR

210

PROPOSED MAJOR CONTOUR

209

PROPOSED MINOR CONTOUR

IN-TURF INLET PROTECTION

SF

EROSION CONTROL LOG

LOD

APPROXIMATE LIMIT OF DISTURBANCE

TSA

TAXIWAY SAFETY AREA

TOFA

TAXIWAY OBJECT FREE AREA

RSA

RUNWAY SAFETY AREA

ROFA

RUNWAY OBJECT FREE AREA

EXISTING CATCH BASIN

EXISTING DRAINAGE MANHOLE

EXISTING ELECTRICAL MANHOLE

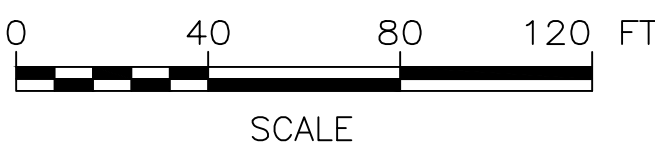
EXISTING FAA ELECTRICAL MANHOLE

UD

EXISTING UNDERDRAIN

NOTES:

- FOR ADDITIONAL NOTES SEE SHEET GR-01.
- THE LIMITS OF THE RUNWAY 6-24 PAVEMENT JOINT REPAIRS WILL BE AS OUTLINED ON SHEET DE-03 AND FIELD DETERMINED BY THE RPR AND MHT MAINTENANCE.
- MHT MAINTENANCE WILL "SELF PERFORM" THE PAVEMENT MARKINGS FOR THE RUNWAY 6-24 PAVEMENT REPAIRS. THE CONTRACTOR SHALL COORDINATE WITH MHT MAINTENANCE FOR THE MARKINGS TO BE INSTALLED AFTER THE SAWCUT AND SEALING JOINTS HAVE BEEN COMPLETED.



ENGINEER'S SEAL

PROJECT DESIGNER

McFarland Johnson

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CHECKED BY

BMB

DRAWN BY

RHL

DESIGNED BY

SSS

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

GRADING, DRAINAGE AND EROSION  
CONTROL PLAN (3 OF 3)

SCALE: 1"=40'

DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
GR-03

SHEET 26 OF 60



EROSION CONTROL SPECIFICATIONS FOR UPLAND AREAS:

1. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 - EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION", 2008, AND ALL OTHER FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. THIS CONTRACTOR SHOULD HAVE REFERENCE TO THE STORM WATER MANUAL.
2. RECOGNIZING THAT IMMEDIATE ATTENTION TO EROSION CONTROL PRACTICES DRAMATICALLY IMPROVES SOIL AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY. THE CONTRACTOR SHALL GIVE HIGH PRIORITY TO THE DAILY AND TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES. IMMEDIATE INSTALLATION OF PRACTICES USUALLY REDUCES LONG TERM COSTS TO THE CONTRACTOR AND PROVIDES BENEFITS TO THE DEVELOPER AND THE PUBLIC GOOD.
3. EROSION CONTROL PRACTICES ARE SHOWN ON THE PLANS WITH RESPECT TO LOCATION AS DETERMINED FROM EXISTING TOPOGRAPHY. CHANGES MAY BE INDICATED IN THE FIELD TO IMPROVE EROSION AND SEDIMENT CONTROL.
4. CONSTRUCTION SHALL PROCEED UNIT BY UNIT TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE WITHIN A UNIT. THIS PROCEDURE SHOULD RESULT IN THE EXPOSURE OF THE SMALLEST PRACTICAL LAND AREA AT ANY ONE TIME.
5. ALL DISTURBED UPLAND AREAS SHALL HAVE TOPSOIL SPREAD (2" MINIMUM (REFER TO PLANS)) WITHIN TWO WEEKS AND BE LIMED, FERTILIZED, TILLED, SEEDED AND MULCHED. ALL SLOPES 3:1 (1 RISE ON 3 RUN) AND STEEPER SHALL HAVE MULCH HELD IN PLACE WITH BIODEGRADABLE JUTE NETTING OR EROSION CONTROL BLANKET, STAPLED AND STAKED. EACH AREA SHALL BE LIMED, FERTILIZED, PREPARED, SEEDED AND MULCHED (WITH ANCHORED NETTING OR BLANKET IF REQUIRED) WITHIN 14 DAYS OF FINAL GRADING. WHEN PERMANENT SEEDING CANNOT BE INSTALLED BY SEPTEMBER 15, TEMPORARY SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL BE INSTALLED IMMEDIATELY AND MAINTAINED IN THAT CONDITION UNTIL PERMANENT PRACTICES CAN BE INSTALLED IN THE FOLLOWING PLANTING SEASON.
6. TEMPORARY STABILIZATION OF DISTURBED UPLAND AREAS (IF REQUIRED):

SEEDBED PREPARATION: TILL THREE INCHES (3") DEEP MIXING IN FERTILIZER AND GROUND LIMESTONE.  
APPLY LIMESTONE 2 TONS/ACRE (100#/1,000 SQ. FT.) OR ACCORDING TO SOIL TEST.

FERTILIZE: UNIFORMLY APPLY NOT LESS THAN 400#/ACRE (14#/1,000 SQ. FT.) OF 10-10-10 OR EQUIVALENT OR AS INDICATED BY SOIL TEST. FORTY PERCENT OF NITROGEN SHOULD BE IN ORGANIC FORM.

SEEDING: SELECT APPROPRIATE SEEDING MIXTURE FROM TABLE 1 BELOW. SPREAD SEED UNIFORMLY. FIRM SOIL BY ROLLING OR PACKING; IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS.

MULCHING: MULCH ALL DISTURBED AREAS WITH 1-1/2 TO 2 TONS OF HAY OR STRAW PER ACRE (80-90#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND FLATTER SLOPES SUBJECT TO WASH OR WIND BLOWN. USE JUTE (OR OTHER BIODEGRADABLE) NETTING OR BLANKET. STAKING AND STAPLING MAY BE REQUIRED.

7. PERMANENT STABILIZATION OF DISTURBED UPLAND AREAS:  
SEED BED PREPARATION: TOPSOIL (SANDY TOPSOIL, TOPSOIL, OR SILT TOPSOIL), FRIABLE, FREE OF TREE ROOTS, WEEDS, STONES MORE THAN 1-1/2 INCHES IN DIAMETER OR LENGTH SHALL BE PLACED OVER ALL DISTURBED AREAS IN A 2" MINIMUM (REFER TO PLANS) THICK LAYER.

TOPSOIL: TOPSOIL SHALL BE FREE OF HERBICIDES AND TOXIC MATERIALS. TILL THREE INCHES DEEP MIXING IN THE FERTILIZER AND LIME. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST AND CURRENT EXTENSION SERVICE RECOMMENDATIONS. IN ABSENCE OF A SOIL TEST, APPLY LIME (A PH OF 5.5-6.0 IS DESIRED) AT A RATE OF 2 TONS PER ACRE AND 10-20-20 ANALYSIS FERTILIZER AT A RATE OF 400# PER ACRE (40% OF NITROGEN TO BE IN AN ORGANIC OR SLOW-RELEASE FORM).

SEEDING: USDA RECOMMENDED SEED MIXES:

A. MARYLAND AVIATION ADMIN. MIX	LBS/ACRE	LBS/1000 SF
PREDATOR HARD FESCUE	131.25 (75%)	3.02
SEVEN SEAS CHEWING FESCUE	35.0 (20%)	0.80
WILDHORSE KENTUCKY BLUE GRASS	8.75 (5%)	0.20
TOTALS -	175	4.02

SEEDING METHODS: SEEDING SHOULD BE PERFORMED BY THE FOLLOWING METHOD:  
HYDROSEEDING WITH SUBSEQUENT TRACKING.  
TRACKING THE SEEDING WITH SMALL TRACK CONSTRUCTION EQUIPMENT.  
TRACKING SHOULD BE ORIENTED UP AND DOWN THE SLOPE.

MULCHING: MULCH ALL DISTURBED AREAS WITH 2 TONS OF HAY OR STRAW PER ACRE (90 - 100#/1,000 SQ. FT.).  
ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND ON FLATTER SLOPES SUBJECT TO WASH (WATERWAYS AND/OR WINDBLOWN) USING JUTE (OR OTHER BIODEGRADABLE) NETTING OR EROSION CONTROL BLANKET, STAKING, AND STAPLING.

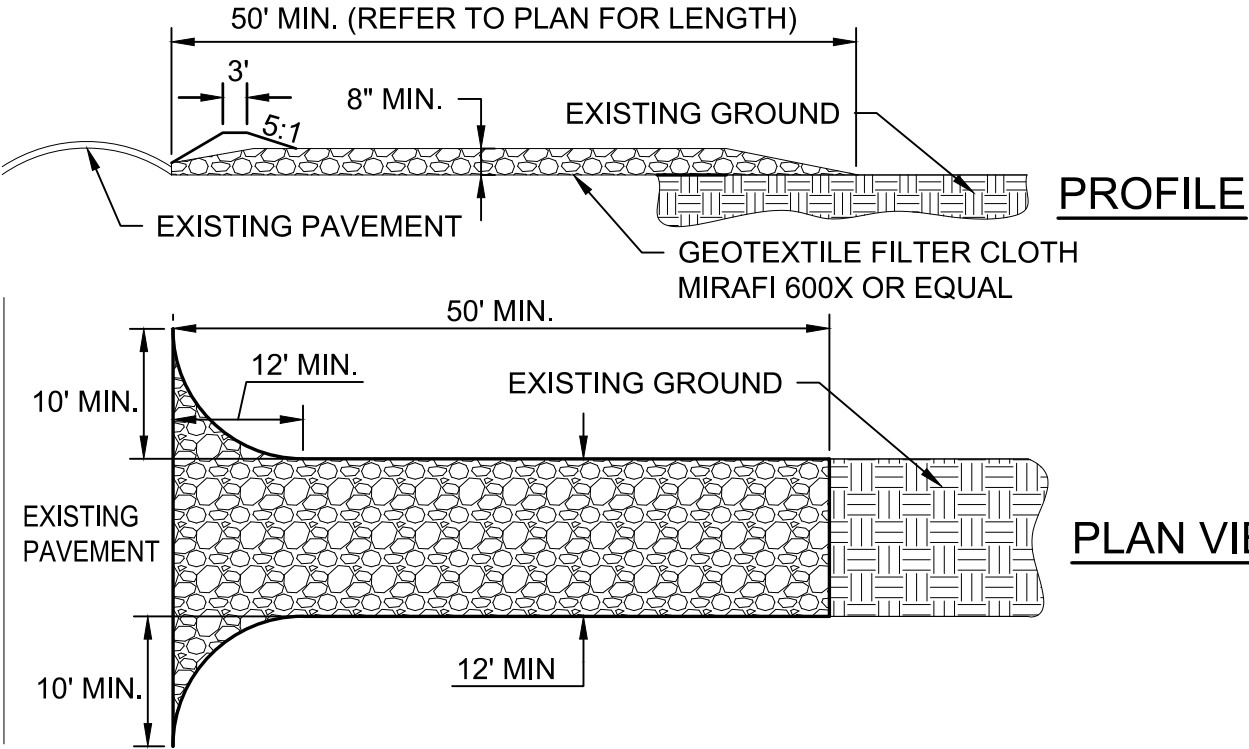
MAINTENANCE: INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND REPLACE FAILED SEEDINGS WHERE NECESSARY. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT EROSION, OVERSEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS. IF A STAND HAS LESS THAN 40% COVER, REEVALUATE CHOICE OF SEEDING MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS, OMITTING LIME AND FERTILIZER IN THE ABSENCE OF SOIL TEST RESULTS. IF THE SEASON PREVENTS RESOWING, MULCH OR JUTE NETTING IS AN EFFECTIVE TEMPORARY COVER. SEEDED AREAS SHOULD BE FERTILIZED DURING THE SECOND GROWING SEASON. LIME AND FERTILIZE THEREAFTER AT PERIODIC INTERVALS, AS NEEDED.

8. TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. AN AREA CONSIDERED TO BE STABLE, IF ONE OF THE FOLLOWING HAS OCCURRED:  
A. BASE COURSE GRAVELS HAVE BEEN INSTALLED FOR AREAS TO BE PAVED.  
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.  
C. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
9. MAINTENANCE: DURING THE CONSTRUCTION PERIOD AND UNTIL SUCH TIME AS THE LONG TERM VEGETATION IS ESTABLISHED TO A 70% VEGETATIVE STAND.  
A. DISTURBED AREAS WILL BE FERTILIZED AND RESEED.  
B. CATCH BASINS AND FILTER BAGS WILL BE CHECKED AND CLEANED AS NECESSARY.  
C. DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.  
D. THE SILT FENCES AND EROSION CONTROL LOSS WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT-CIRCUITING.
10. REFER TO "GRADING PLANS" FOR THIS PROJECT PRIOR TO ANY SITE DISTURBANCE.
11. INSPECTIONS: THE ENGINEER SHALL BE CONTACTED ON A REGULAR BASIS TO INSPECT ALL EROSION CONTROL PRACTICES AS WELL AS THE MAINTENANCE OF THE EROSION CONTROL COMPONENTS. REFER TO CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. EROSION CONTROL PRACTICES SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
12. ALL TREATMENT SWALES AND DITCHES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
13. ALTHOUGH NOT ANTICIPATED, FOR SPECIAL WINTER CONSTRUCTION CONSIDERATIONS, THE CONTRACTOR SHALL REFER TO THE "NEW HAMPSHIRE STORMWATER MANUAL".
14. THE MAXIMUM AMOUNT OF AREA TO BE DISTURBED AND UNSTABILIZED SHALL BE 5 ACRES AT ANY ONE TIME.
15. THE MAXIMUM AMOUNT OF TIME ANY AREA MAY BE DISTURBED WITHOUT STABILIZATION SHALL BE 30 DAYS.

CONSTRUCTION SEQUENCE

1. INSTALL INLET PROTECTION/FILTER BAGS AT ALL LOCATIONS INDICATED ON PLAN OR AT OTHER LOCATIONS AS DETERMINED BY ENGINEER. INSTALL OTHER TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES AS EARTHWORK PROCEEDS.
2. THE CONTRACTOR SHALL PHASE ALL CONSTRUCTION ACTIVITIES AS SHOWN ON THE PHASING PLANS, INCLUDING TEMPORARY ACCESS WORK.
3. CONTRACTOR TO EXCAVATE ALL NEW PAVEMENT SECTIONS AS SHOWN ON THE PLANS AND PROPERLY DISPOSE OF EXISTING PAVEMENTS AND UNCLASSIFIED MATERIALS AT APPROVED DISPOSAL LOCATIONS IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
4. CONTRACTOR TO MILL ALL PAVEMENT AREAS AS SHOWN ON THE PLANS WITH PROPER DISPOSAL OF THE MILLINGS. CRACK REPAIR THE MILLED SURFACE AS NECESSARY.
5. INSTALL NEW SUBBASE AND BASE MATERIALS AS SHOWN ON PLANS.
6. GRADE AREA AS SHOWN ON PLANS AND LOAM, FERTILIZE AND SEED AREAS TO ESTABLISH VEGETATION INCLUDING, PROPOSED TREATMENT SWALE.
7. REMOVE AND INSTALL ALL BRIXINAGE REPLACEMENT ITEMS (UNDERDRAIN, DRAIN PIPE AND STRUCTURES).
8. REMOVE AND INSTALL ALL AIRFIELD ELECTRICAL ITEMS (CONDUIT, DUCT, BANK, STRUCTURES, LIGHTS, SIGNS, CASTLE).
9. PAVE ALL AREAS. TACK COAT APPLIED TO MILL SURFACES. ADJUST ALL STRUCTURES AND LIGHT TO PROPER FINISH ELEVATIONS WITH PAVEMENT LIFTS AS REQUIRED.
10. INSTALL ALL PAVEMENT MARKINGS ON NEW PAVEMENT.
11. REMOVE ALL TEMPORARY WORK ITEMS AND RESTORE TO PRE-EXISTING CONDITIONS.
12. INSPECT ALL DISTURBED AREAS ON A DAILY BASIS. FOLLOWING THIS DAILY INSPECTION, INSTALL AS REQUIRED ANY AND ALL TEMPORARY DRAINAGE, EROSION, AND SEDIMENT CONTROL PRACTICES AS INDICATED, I.E., DIVERSION CHANNELS, BERMS, DRAINS, DITCHES, STONE DIKES, SILT FENCES, SEED AND MULCH OR OTHER PRACTICES AS RECOMMENDED AND SPECIFIED IN THE "NEW HAMPSHIRE STORM WATER MANUAL".
13. CLEAN AND RESTORE SILT DESTINATION SITES. REMOVE OTHER EROSION CONTROL PRACTICES ON A TIMELY BASIS AS PERMANENT MEASURES TAKE HOLD. SPOT FERTILIZE, SEED, AND MULCH AS REQUIRED.
14. INSPECT AND MAINTAIN GRADING, EROSION CONTROL AND SEDIMENT CONTROL PRACTICES WEEKLY AND IMMEDIATELY AFTER ALL SUBSTANTIAL STORMS.
15. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE PROJECT AND SHALL HAVE A DEDICATED VACCUUM SWEEPER ON-SITE AT ALL TIMES.
16. REFER TO "EROSION AND SEDIMENT CONTROL PLAN" FOR ADDITIONAL DETAILS RELATIVE TO THE REQUIRED CONSTRUCTION SEQUENCE. MAINTENANCE OF ALL EROSION CONTROL COMPONENTS SHALL BE AN ONGOING PRACTICE AND IN STRICT ACCORDANCE WITH THE APPROVED PLAN.

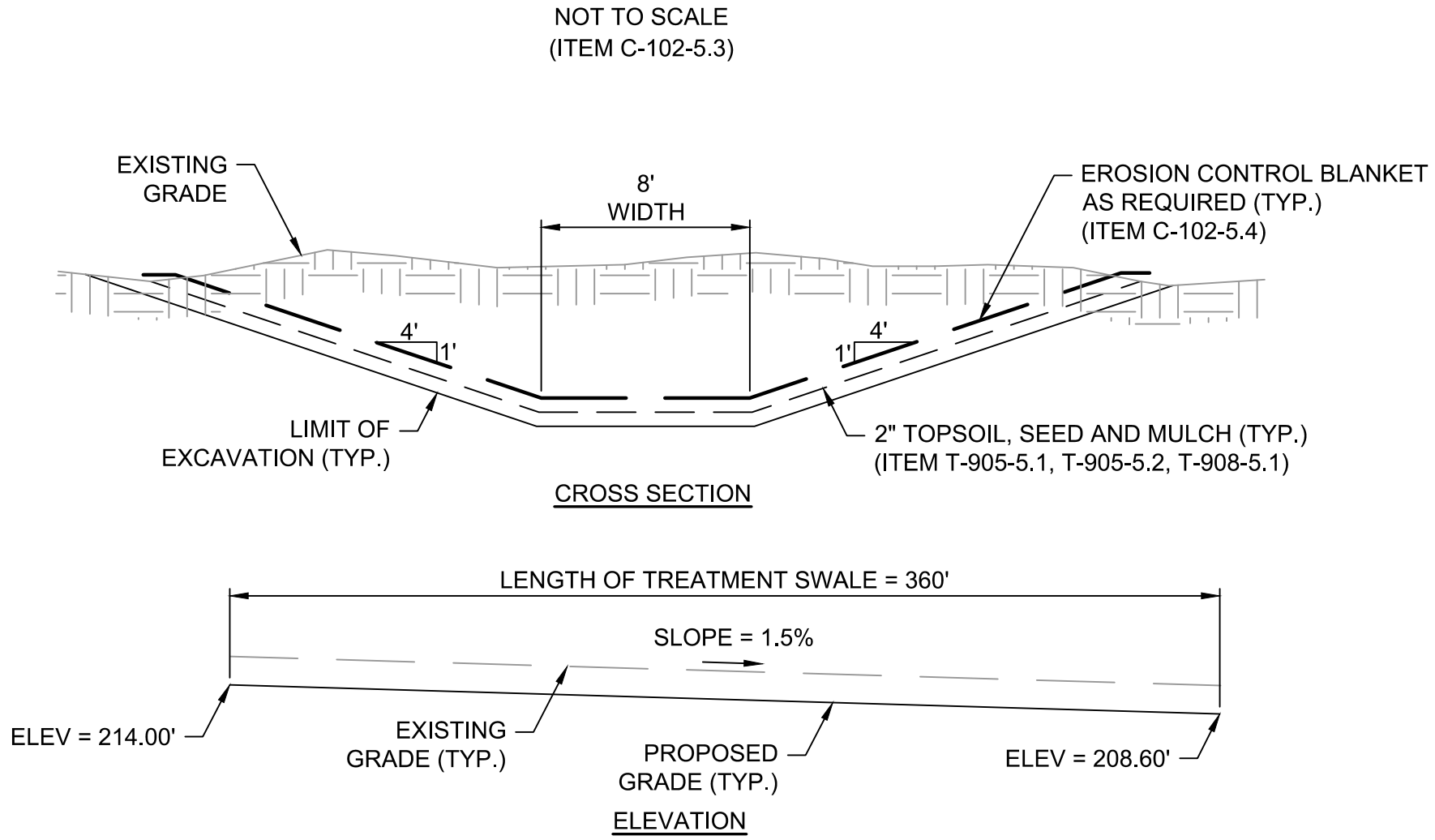
TABLE 1 - TEMPORARY UPLAND STABILIZATION PLANT SECTION AND SEEDING RATES			
SPECIES	PER ACRE	PER 1000 SQ.FT.	REMARKS
WINTER RYE	120 LBS.	3 LBS.	BEST FOR FALL SEEDING. SEED AUGUST 15 TO OCTOBER 15 FOR BEST COVER. SEED TO DEPTH OF ONE TO 1 1/2 INCHES.
OATS	2 1/2 BU OR 80 LBS.	2 LBS.	BEST FOR SPRING SEEDINGS. SEED BETWEEN APRIL 1 TO JULY 1 OR AUGUST 15 TO SEPTEMBER 15. SEED TO DEPTH OF ONE INCH.
ANNUAL RYE	40 LBS.	1 LB.	GROWS QUICKLY, BUT IS OF SHORT GRASS DURATION USE WHERE APPEARANCES ARE IMPORTANT. COVER SEED WITH NO MORE THAN 1/4 INCH OF SOIL. WITH MULCH. SEEDING MAY BE DONE THROUGHOUT GROWING SEASON. SEED BETWEEN APRIL 1 AND JUNE 1 OR AUGUST 15 & SEPTEMBER 15.
FOXTAIL MILLET	30 LBS.	0.7 LB.	MAY 1 TO JUNE 30. SEED TO DEPTH OF 1/2 TO 3/4 INCH.



NOTES:

1. STONE SIZE-USE 1"-1/2" STONE.  
2. LENGTH - NOT LESS THAN 50 FEET.  
3. THICKNESS - NOT LESS THAN 8".  
4. WIDTH - 12" MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24" IF SINGLE ENTRANCE TO SITE.  
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.  
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.  
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.  
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.  
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

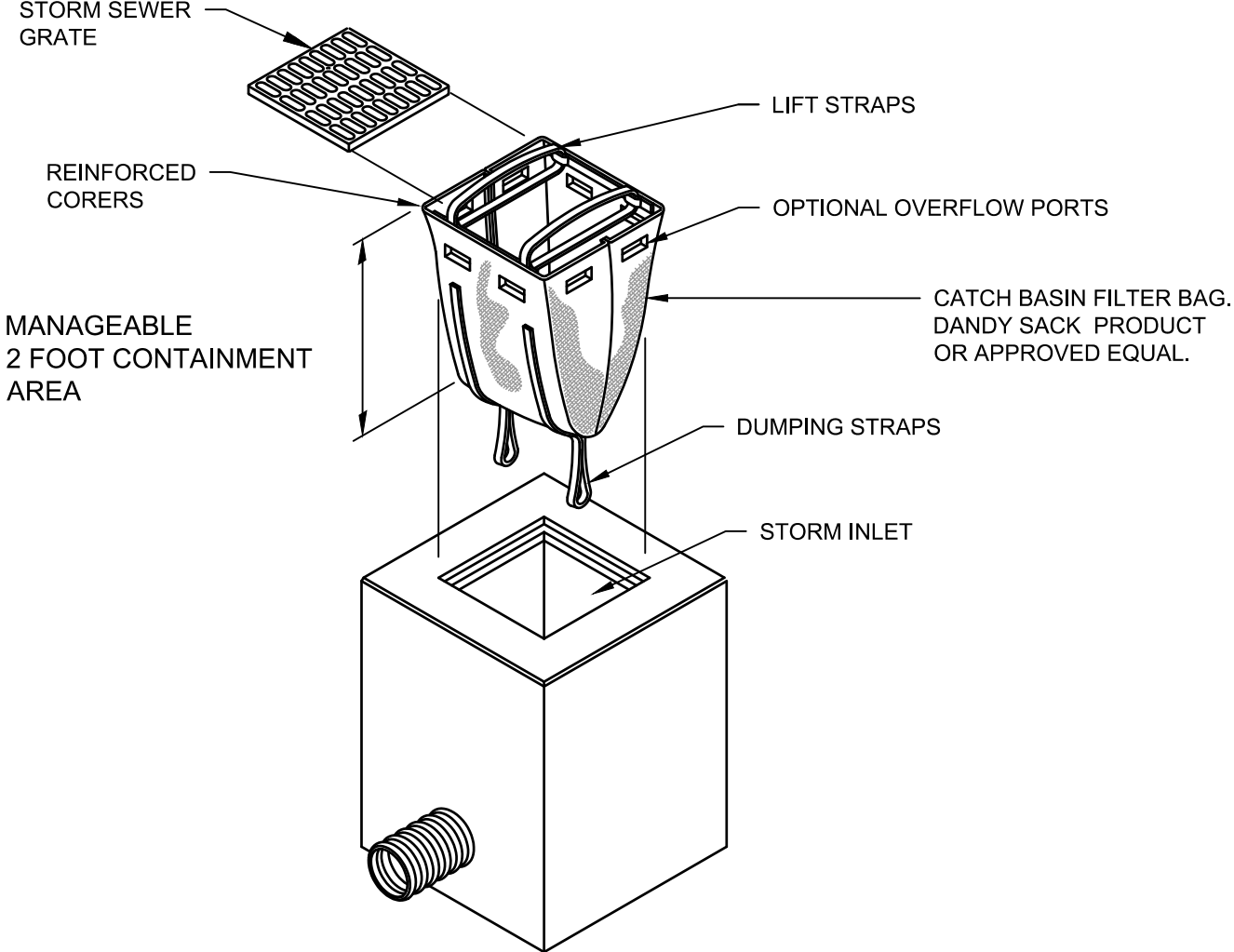


NOTES:

1. EROSION CONTROL BLANKET SHALL BE BIODEGRADABLE NATURAL FIBER MATERIAL WITH SINGLE BIODEGRADABLE NETTING.  
2. TURF ESTABLISHMENT ALONG THE TREATMENT SWALE SHALL BE SEED MIX APPROVED BY THE ENGINEER.

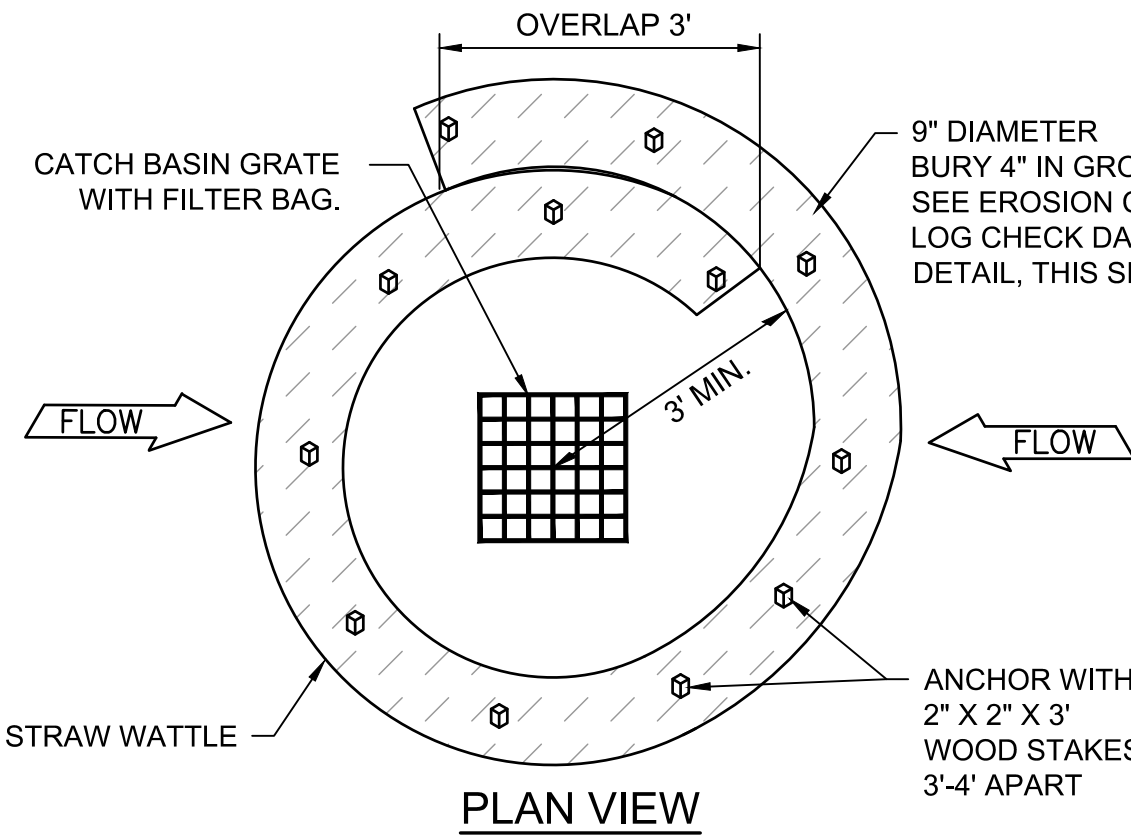
TREATMENT SWALE

NOT TO SCALE  
(ITEM P-152-4.1, T-905-5.1, T-905-5.2, T-908-5.1, C-102-5.2)



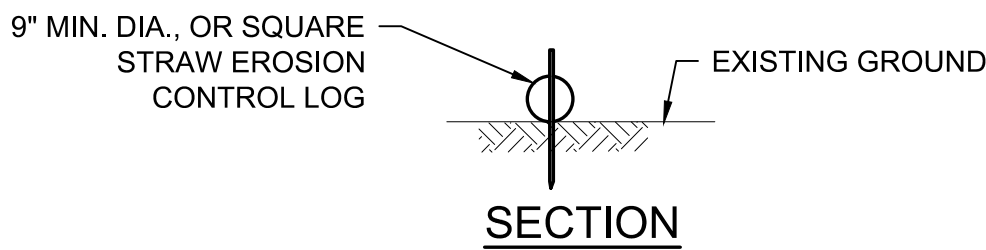
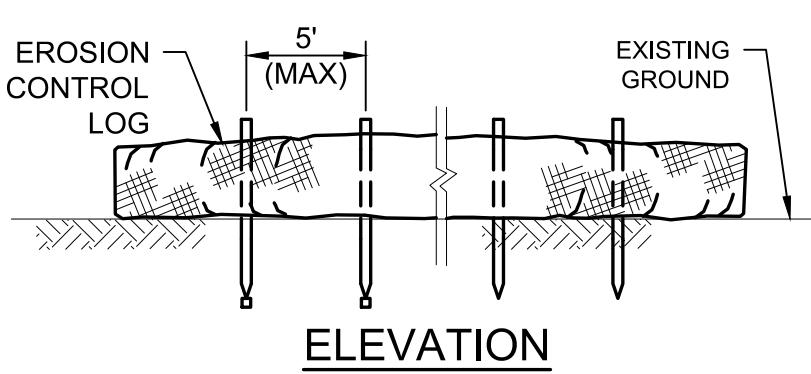
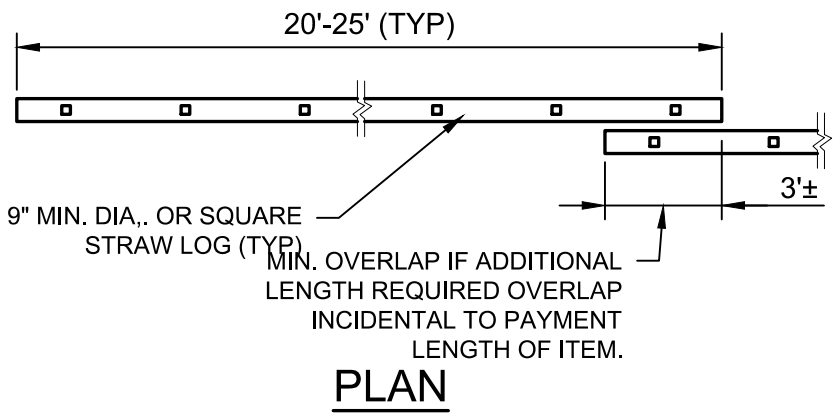
INLET PROTECTION (FILTER BAG) INSTALLATION

NOT TO SCALE  
(ITEM C-102-5.1)



EROSION CONTROL LOG INLET PROTECTION

NOT TO SCALE  
(ITEM C-102-5.2)



EROSION CONTROL LOG CHECK DAM

NOT TO SCALE  
(ITEM C-102-5.2)

ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
SEAL  
McFarland Johnson  
PROFESSIONAL ENGINEER  
No. 7416  
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PH: 603-225-2978 FAX: 603-225-0095

PROJECT DESIGNER  
CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

REVISIONS  
BY  
DATE  
DESCRIPTION

M/J PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
GR-04

SHEET 27 OF 60

CHECKED BY  
BWB

DRAWN BY  
RHL

DESIGNED BY  
SSS

DATE: MARCH 2021

N.T.S.

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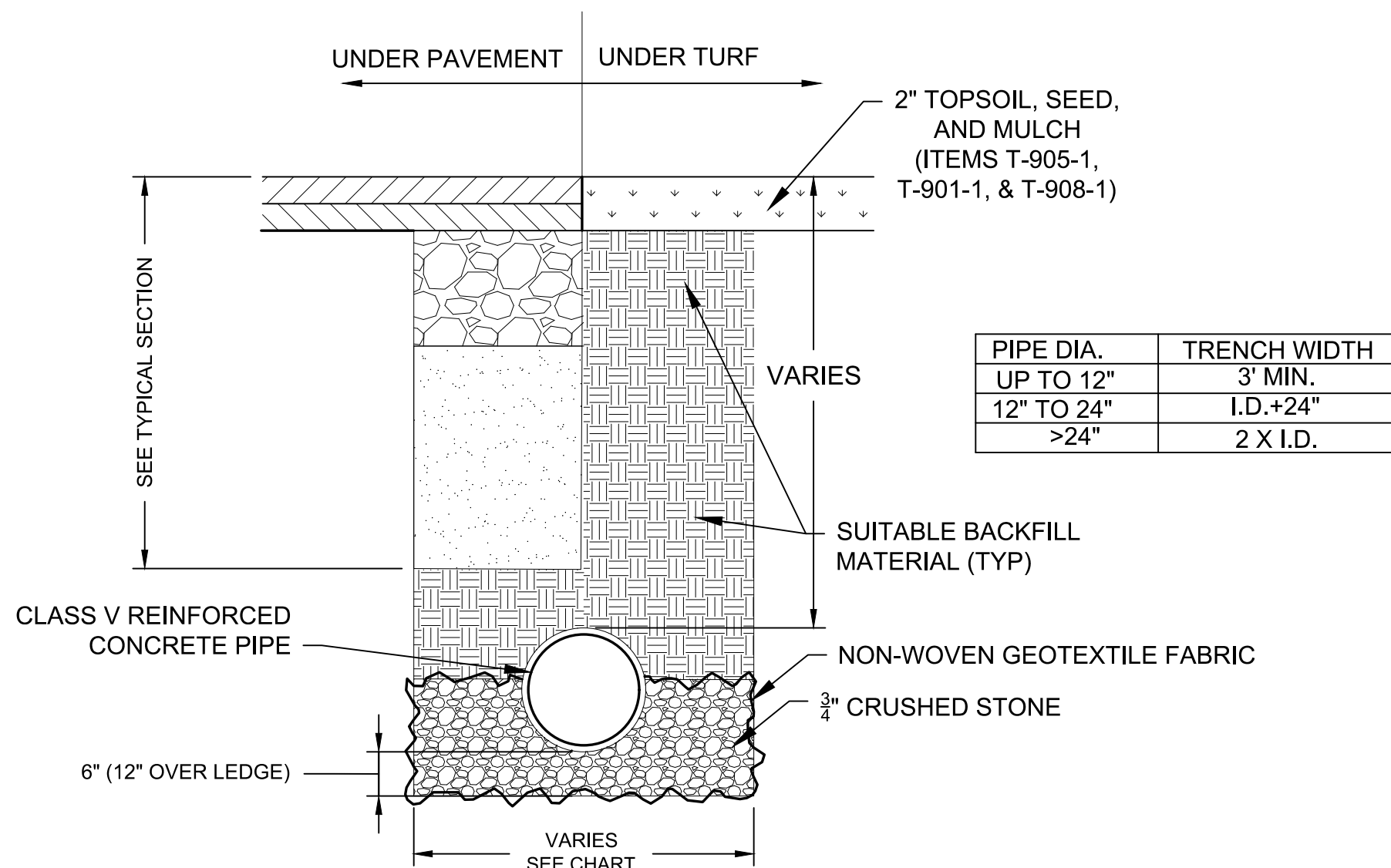
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OF

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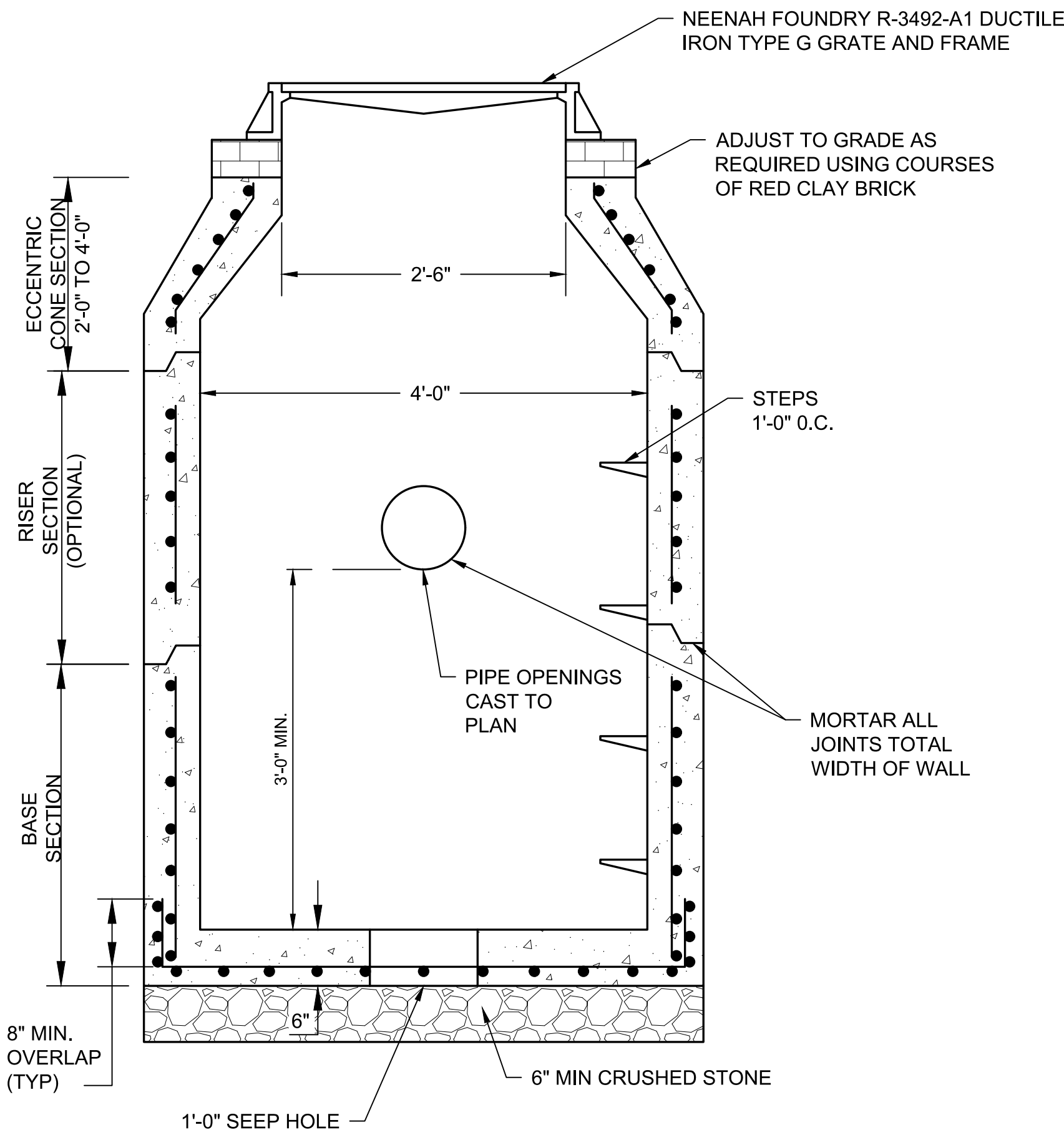




Drain pipe trench detail

NOT TO SCALE  
(ITEMS D-701-5.1A,-5.1B,-5.1C,-5.1D)

PIPE DIA.	TRENCH WIDTH
UP TO 12"	3' MIN.
12" TO 24"	I.D.+24"
>24"	2 X I.D.

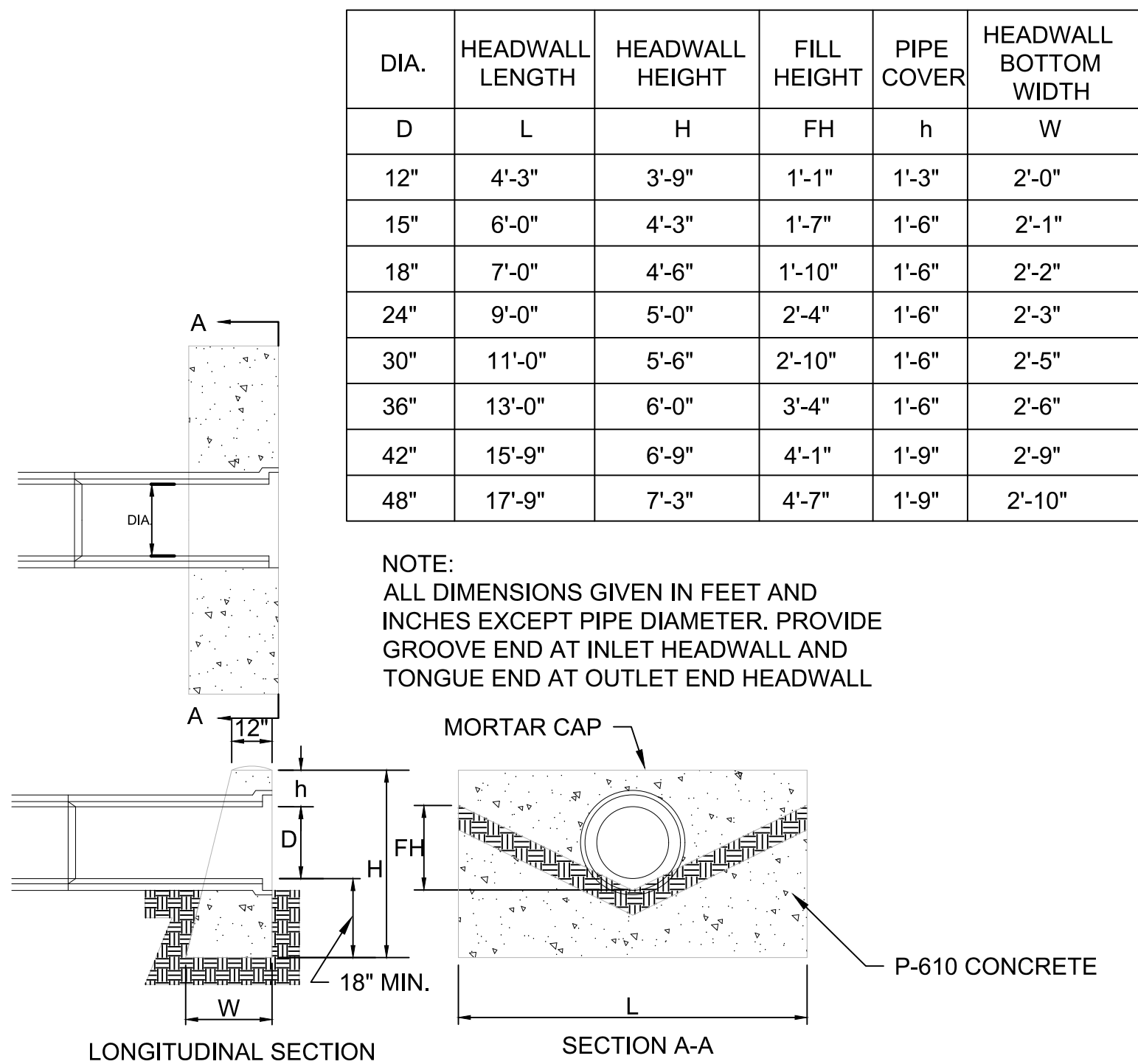


Catch basin notes:

- ALL PREFABRICATED REINFORCED CONCRETE STRUCTURES AND FRAME AND GRATES SHALL BE DESIGNED AND CONSTRUCTED TO SUPPORT A MINIMUM OF A 100,000 LB. WHEEL LOADING. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS AND MANUFACTURER CERTIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION. SHOP DRAWINGS FOR LOADING SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN NEW HAMPSHIRE.
- THE WALL THICKNESS SHALL INCREASE IN SIZE TO CONFORM WITH THE REQUIREMENTS OF THE MANUFACTURER OF THE RESILIENT RUBBER BOOT AND BE SIZED ACCORDING TO THE DIAMETER OF THE STRUCTURE AND THE SIZE AND TYPE OF PIPE. THE WALL THICKNESS SHALL NOT BE LESS THAN 6" FOR STEEL COVER REQUIREMENTS AND SHALL BE DESIGNED TO MEET ALL REQUIREMENTS INCLUDING THE REQUIRED LOADING IN NOTE 1.
- CONTRACTOR SHALL COMPACT THE EXCAVATED SUBGRADE TO 100% OF ASTM D-1557 WITHIN 10' OF ALL EDGES OF PAVEMENT EVEN IN TURF.
- THE FRAME AND GRATE FOR ALL AIRFIELD CATCH BASINS SHALL BE AIRPORT RATED AND HAVE A MINIMUM OPENING AREA OF 2.4 SF, AND A WEIR PERIMETER OF 8.5 FT (NEENAH FOUNDRY R-3492-A1 OR APPROVED EQUAL).
- ALL PREFAB-CONCRETE STRUCTURES SHALL HAVE COURSE, FINE, AND CONCRETE MATERIALS TESTED FOR ALKALI-SILICA REACTION (ASR) USING AASHTO T 303 MODIFIED.

Precast concrete round catch basin

NOT TO SCALE  
(ITEM D-751-5.1)

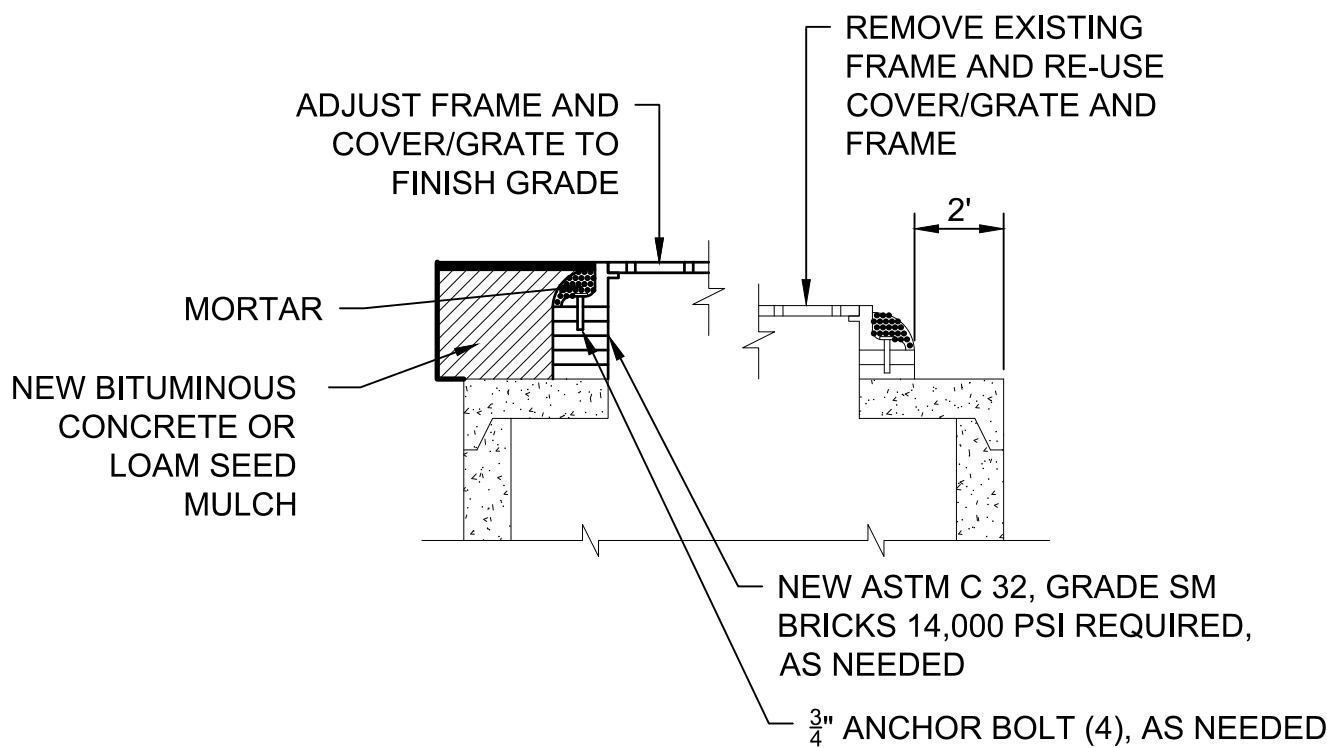


Notes:

- CONTRACTOR TO PROVIDE SHOP DRAWING FOR HEADWALL.
- PRECAST CONCRETE HEADWALL WILL BE ACCEPTABLE WITH APPROVED SHOP DRAWING.

Concrete masonry headwall detail

NOT TO SCALE  
(ITEM D-751-5.4)



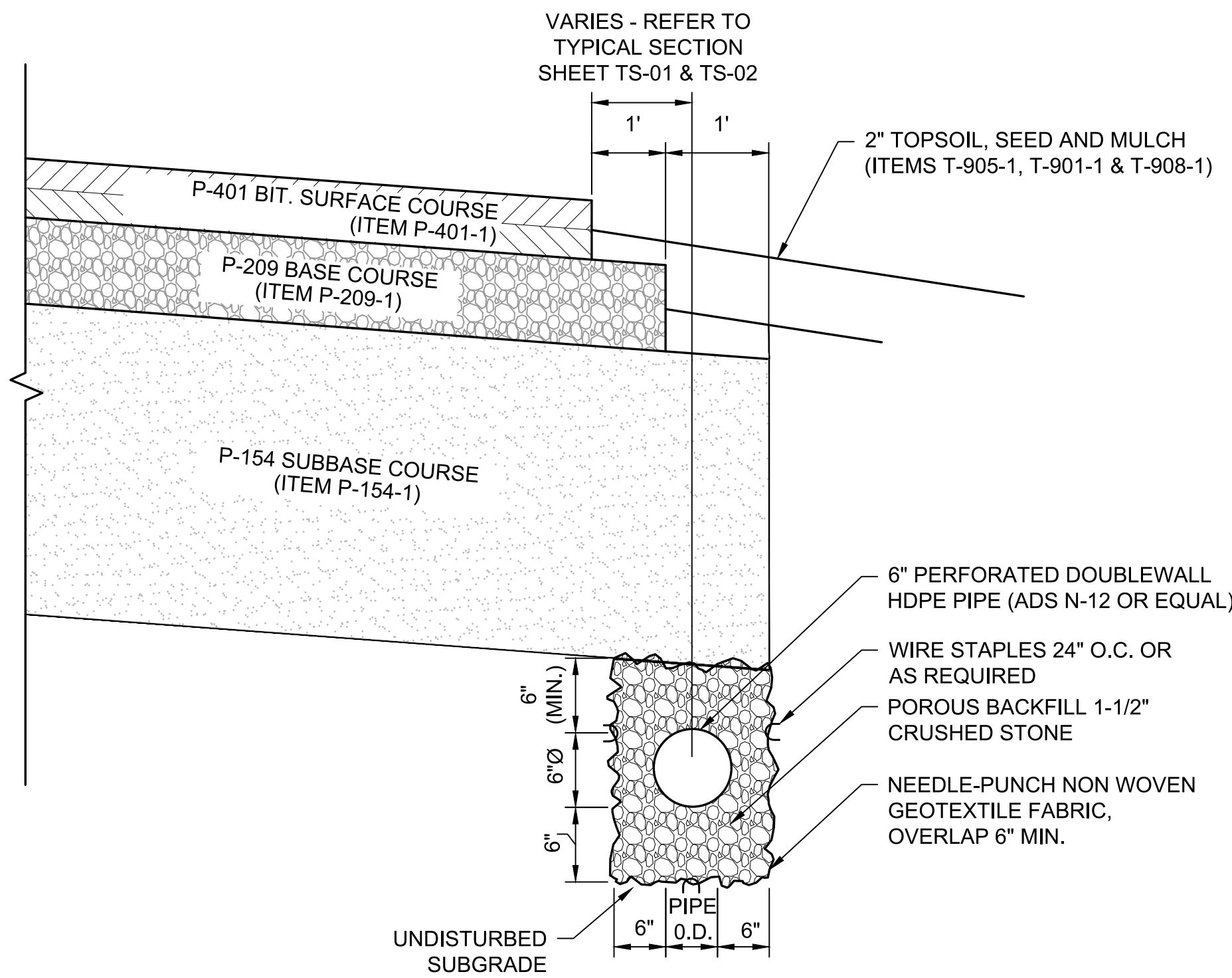
Manhole or drainage structure adjustment

NOT TO SCALE  
(ITEM D-751-5.3)

DIA.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	PIPE COVER	HEADWALL BOTTOM WIDTH
D	L	H	FH	h	W
12"	4'-3"	3'-9"	1'-1"	1'-3"	2'-0"
15"	6'-0"	4'-3"	1'-7"	1'-6"	2'-1"
18"	7'-0"	4'-6"	1'-10"	1'-6"	2'-2"
24"	9'-0"	5'-0"	2'-4"	1'-6"	2'-3"
30"	11'-0"	5'-6"	2'-10"	1'-6"	2'-5"
36"	13'-0"	6'-0"	3'-4"	1'-6"	2'-6"
42"	15'-9"	6'-9"	4'-1"	1'-9"	2'-9"
48"	17'-9"	7'-3"	4'-7"	1'-9"	2'-10"

NOTE:

ALL DIMENSIONS GIVEN IN FEET AND INCHES EXCEPT PIPE DIAMETER. PROVIDE GROOVE END AT INLET HEADWALL AND TONGUE END AT OUTLET END HEADWALL

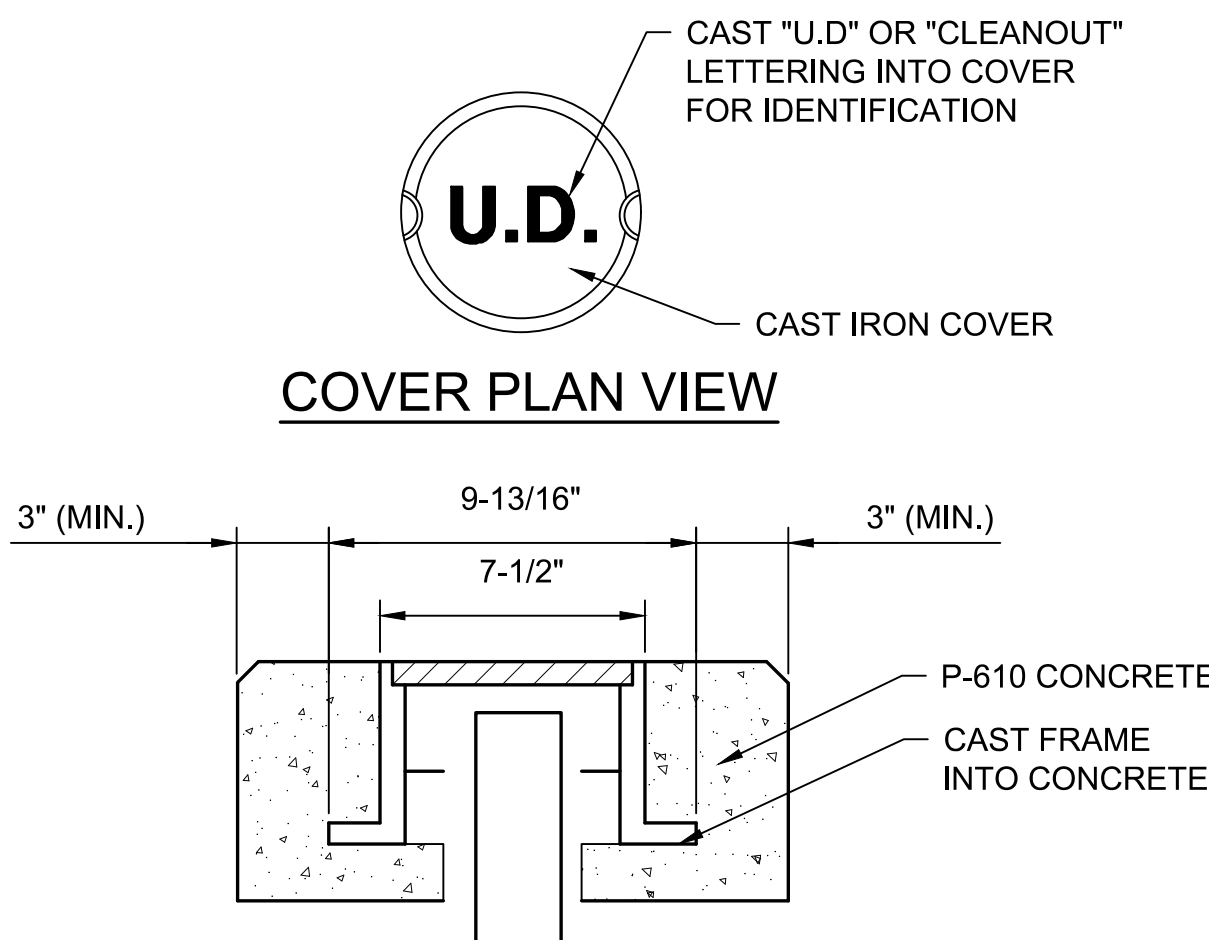


NOTES:

- ALL ITEMS SHOWN SHALL BE CONSIDERED INCIDENTAL UNLESS OTHERWISE NOTED IN THE DETAIL.
- SUBGRADE SHALL BE COMPACTED TO 100% OF ASTM D1557.

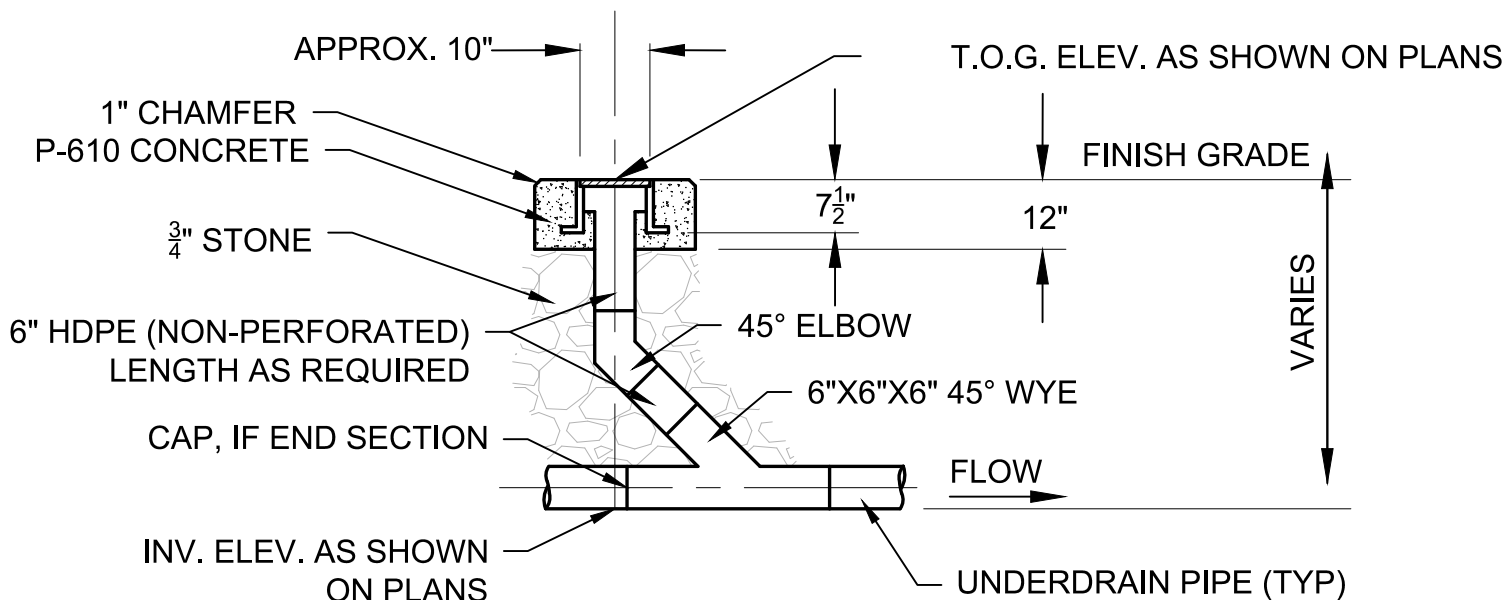
Typical underdrain installation detail

NOT TO SCALE  
(ITEM D-705-5.4)



Underdrain cleanout cover detail

NOT TO SCALE  
(INCIDENTAL TO ITEM D-705-5.4)



Underdrain cleanout detail

NOT TO SCALE  
(INCIDENTAL TO ITEM D-705-5.4)

NOTE:

UNDERDRAIN CLEANOUT LOCATIONS AS SHOWN ON THE PLANS

ENGINEER'S SEAL

PROJECT DESIGNER

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

DRAINAGE DETAILS

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.:18700.01

FILE NAME:

AIP No.:3-33-0011-XXX-2021

DRAWING NO.

GR-05

SHEET 28 OF 60

CHECKED BY

DESIGNED BY

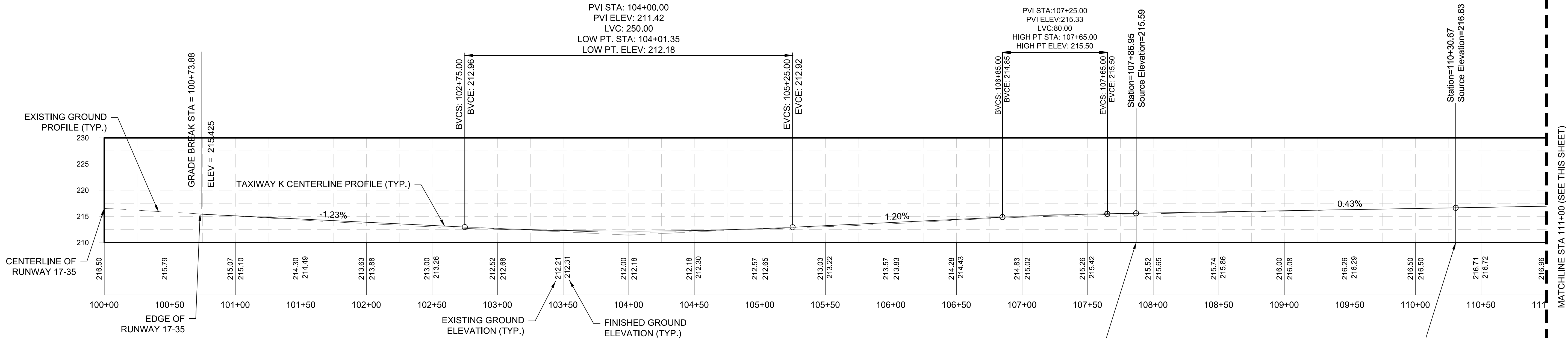
DRAWN BY

DATE: MARCH 2021

N.T.S.

SCALE:

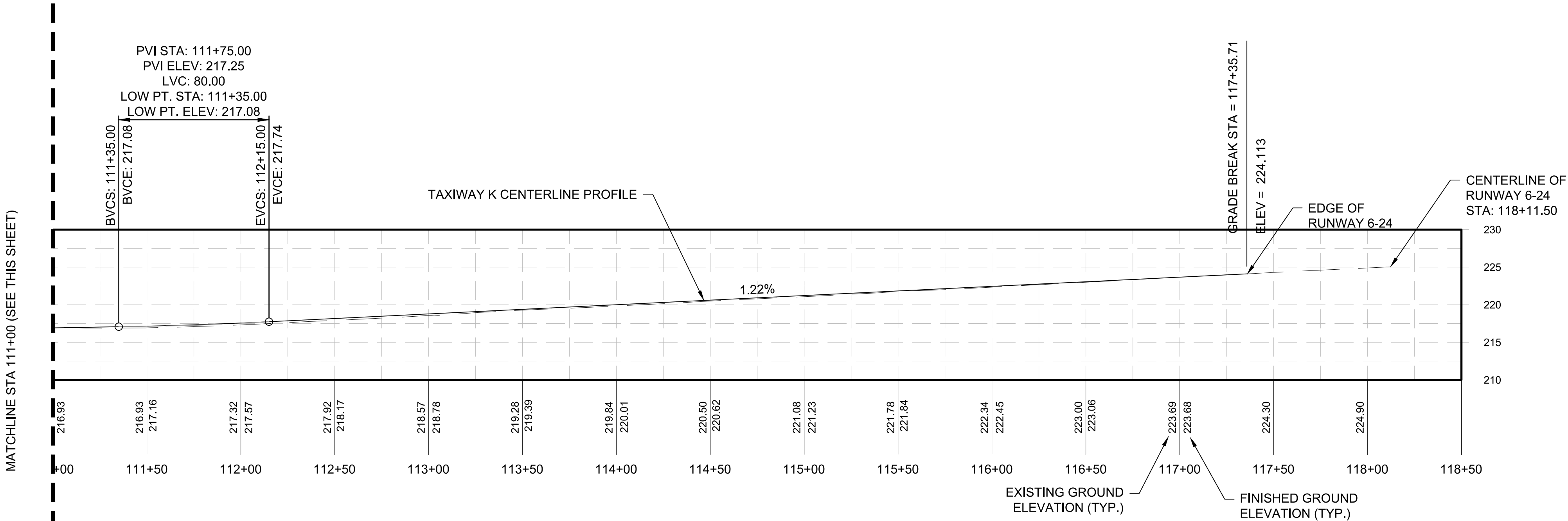
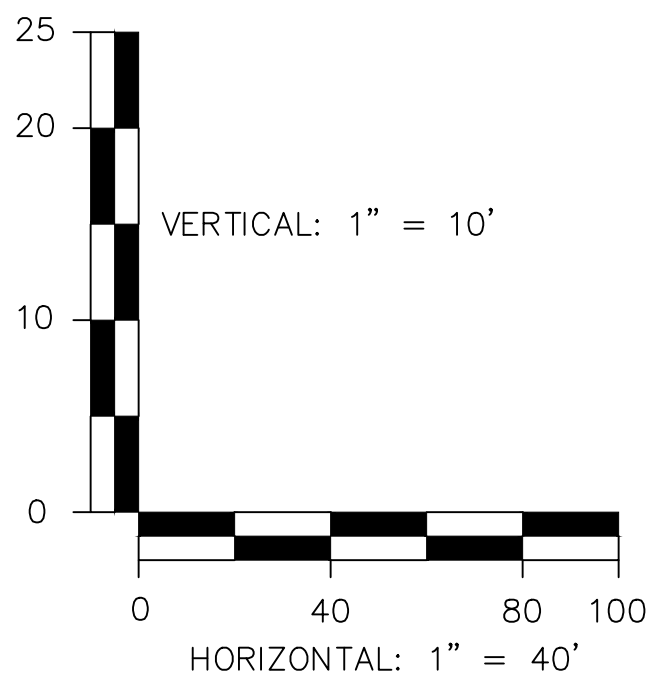




TAXIWAY K CENTERLINE PROFILE

NOTES:

- FOR TAXIWAY GEOMETRY, LAYOUT AND CENTERLINE ALIGNMENT REFER TO SHEETS GE-01 TO GE-03.
- FOR GRADING AND DRAINAGE REFER TO SHEETS GR-01 TO GR-03.



TAXIWAY K CENTERLINE PROFILE

ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY

SSS

CHECKED BY

BMB

DRAWN BY

RHL

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

TAXIWAY K PROFILE

REV. NO.	DATE	DESCRIPTION	BY

SCALE: AS SHOWN

DATE: MARCH 2021

MJ PROJ. No.: 18700.01

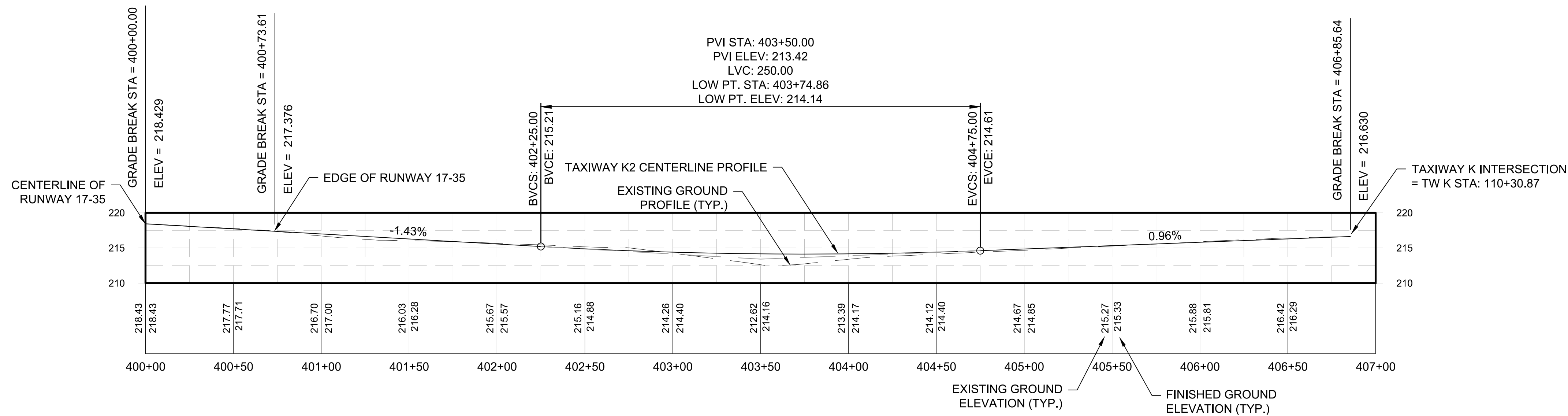
FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
PR-01

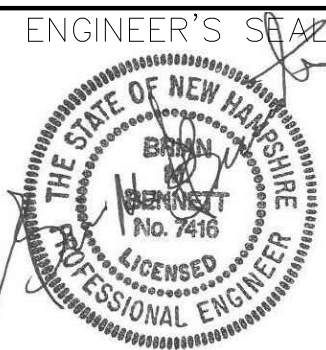
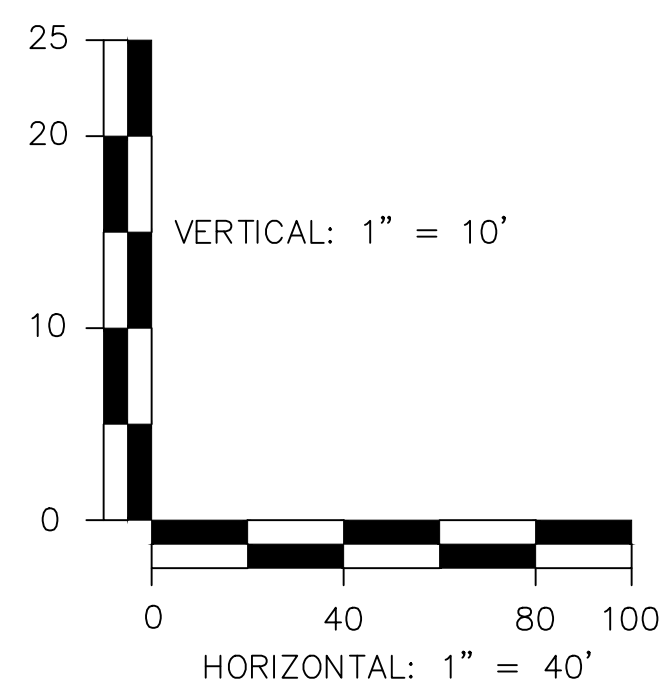
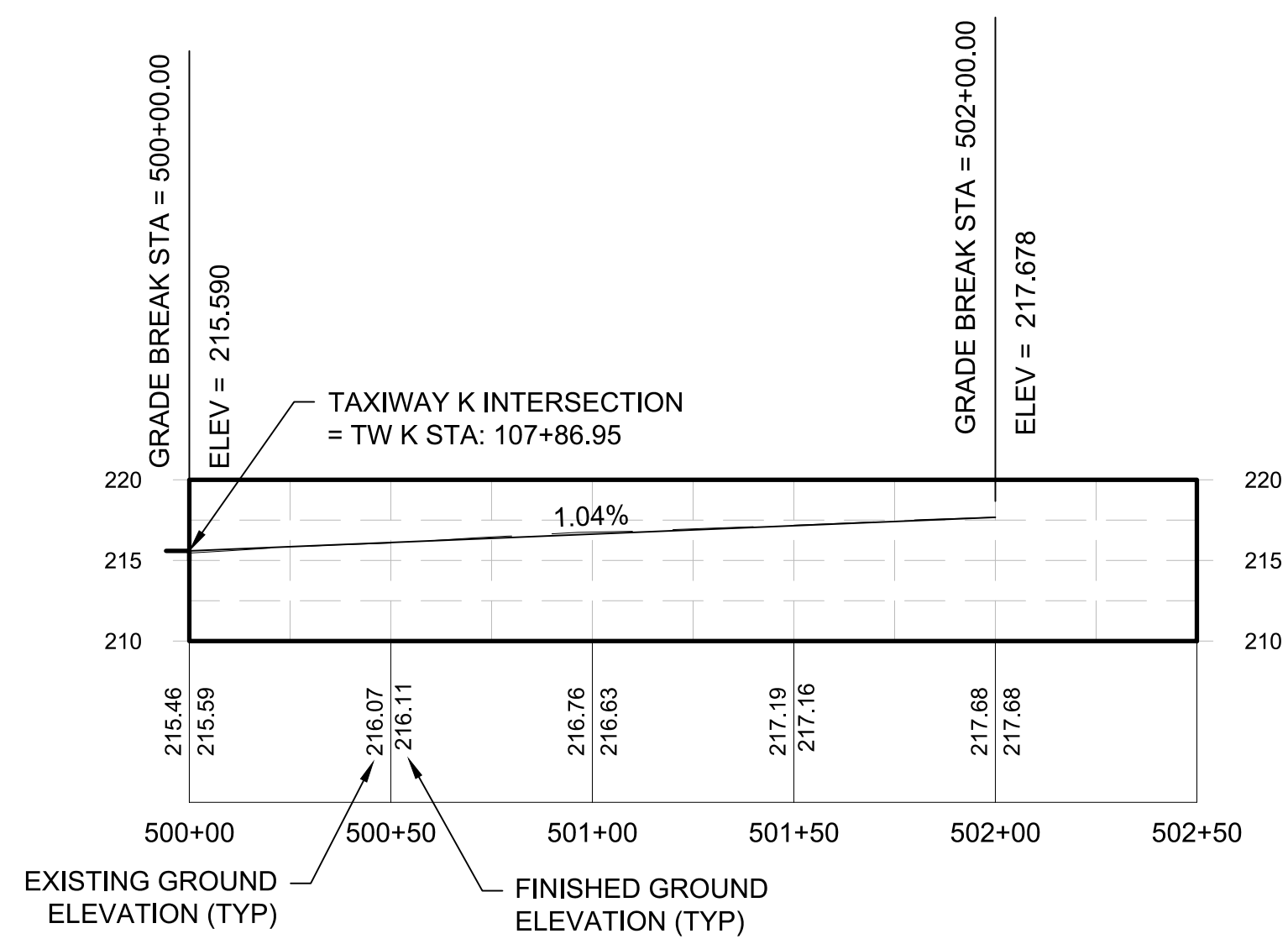
SHEET 29 OF 60






NOTES:

1. FOR TAXIWAY GEOMETRY, LAYOUT AND CENTERLINE ALIGNMENT REFER TO SHEETS GE-01 TO GE-03.
2. FOR GRADING AND DRAINAGE REFER TO SHEETS GR-01 TO GR-03.



PROJECT DESIGNER



**McFarland Johnson**  
 REGIONAL DRIVE, CONCORD, NH 03301-5022  
 PH: 603-225-2978 FAX: 603-225-0095

DRAWN BY R/H/L	CHECKED BY B/M/B
-------------------	---------------------

**CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE**



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

TAXIWAY K2 AND TAXIWAY L PROFILES

SCALE:	AS SHOWN	DATE:	MARCH 2021
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[illegible]

MJ PROJ. No.:18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-202

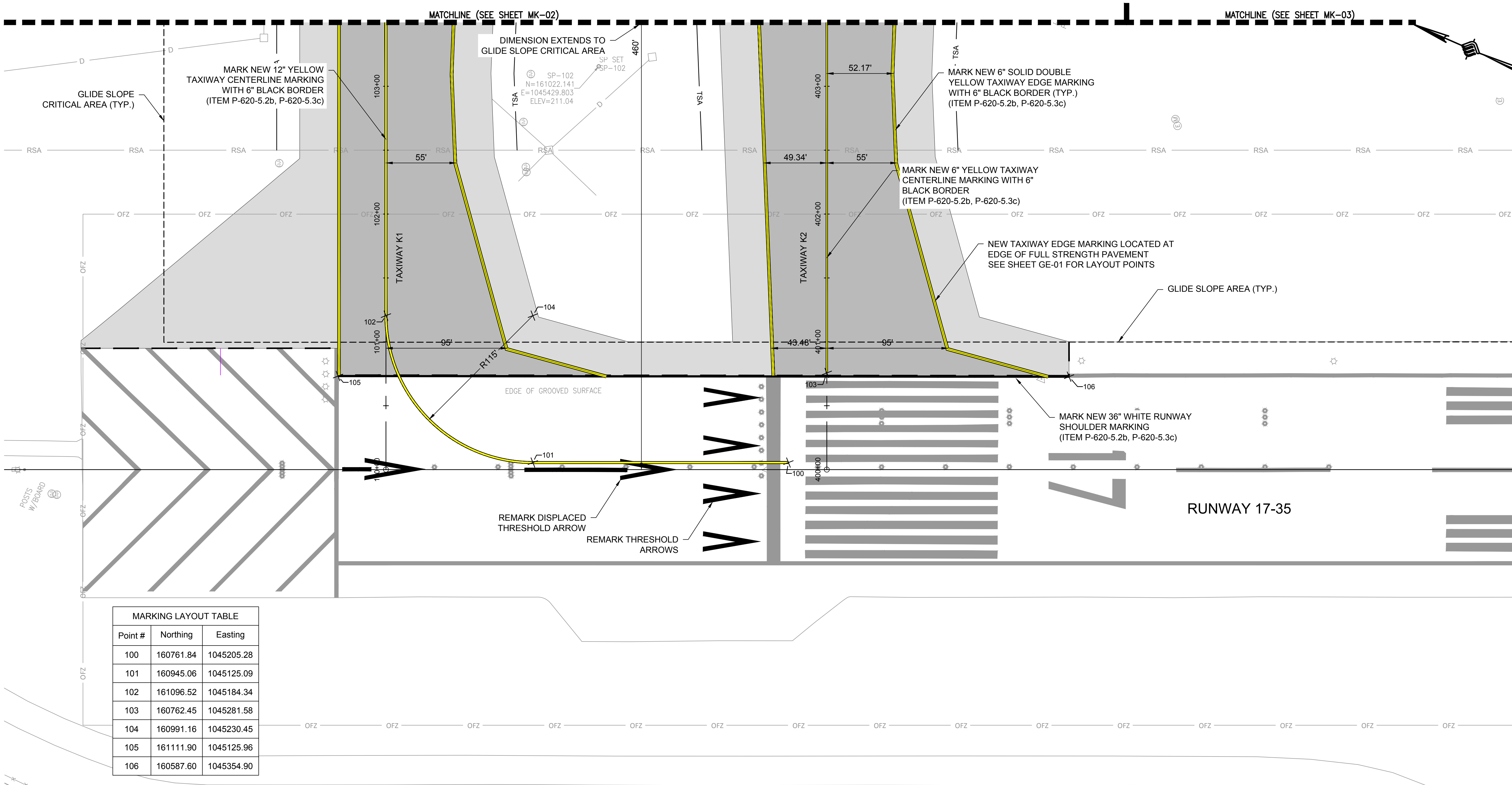
DRAWING NO.

PR-02

SHEET 30 OF 60







ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN J. McFarland  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

MARKING PLAN ( 1 OF 3 )

SCALE: 1"=40'

DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

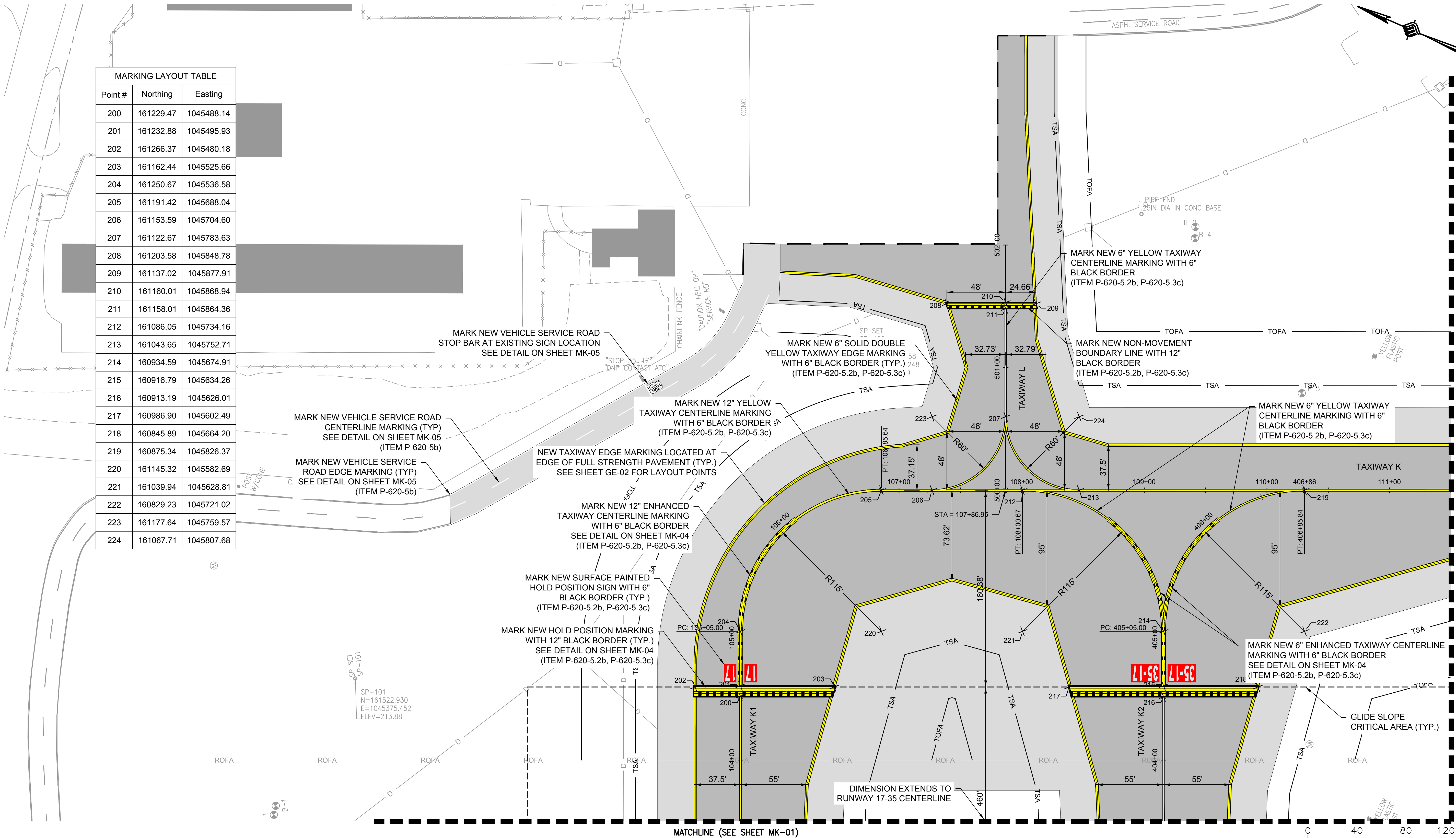
MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
**MK-01**

SHEET 31 OF 60

REV





MARKING LAYOUT TABLE		
Point #	Northing	Easting
200	161229.47	1045488.14
201	161232.88	1045495.93
202	161266.37	1045480.18
203	161162.44	1045525.66
204	161250.67	1045536.58
205	161191.42	1045688.04
206	161153.59	1045704.60
207	161122.67	1045783.63
208	161203.58	1045848.78
209	161137.02	1045877.91
210	161160.01	1045868.94
211	161158.01	1045864.36
212	161086.05	1045734.16
213	161043.65	1045752.71
214	160934.59	1045674.91
215	160916.79	1045634.26
216	160913.19	1045626.01
217	160986.90	1045602.49
218	160845.89	1045664.20
219	160875.34	1045826.37
220	161145.32	1045582.69
221	161039.94	1045628.81
222	160829.23	1045721.02
223	161177.64	1045759.57
224	161067.71	1045807.68

LEGEND:  
— PROPOSED MARKING

NOTES:  
1. SEE SHEET MK-01.

ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN J. JOHNSON  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

McFarland Johnson  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BNB

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

MARKING PLAN (2 OF 3)

DATE: MARCH 2021  
SCALE: 1"=40'

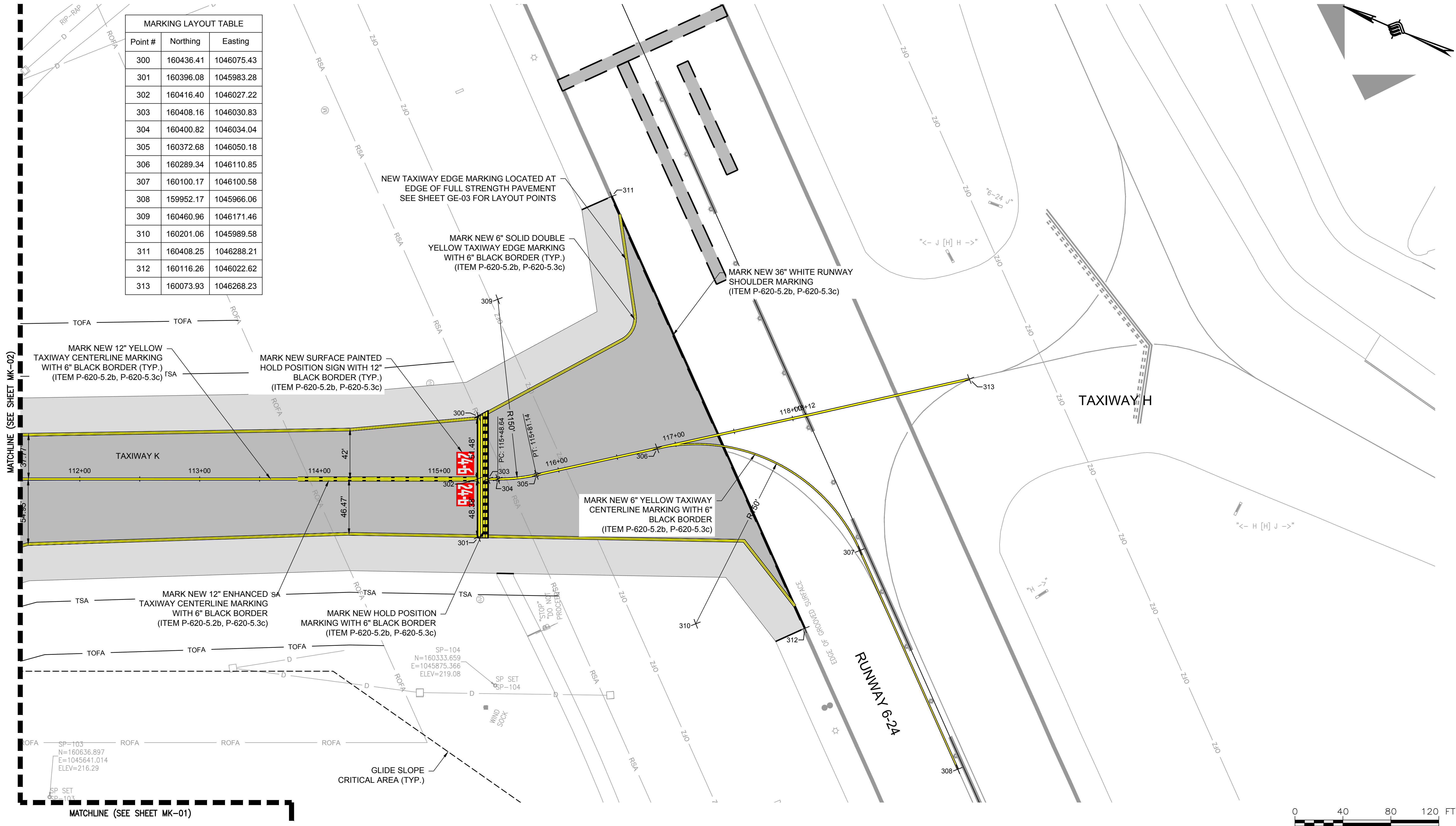
REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
MK-02

SHEET 32 OF 60





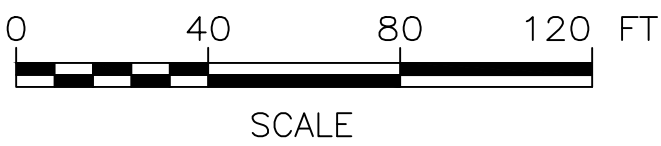
MARKING LAYOUT TABLE		
Point #	Northing	Easting
300	160436.41	1046075.43
301	160396.08	1045983.28
302	160416.40	1046027.22
303	160408.16	1046030.83
304	160400.82	1046034.04
305	160372.68	1046050.18
306	160289.34	1046110.85
307	160100.17	1046100.58
308	159952.17	1045966.06
309	160460.96	1046171.46
310	160201.06	1045989.58
311	160408.25	1046288.21
312	160116.26	1046022.62
313	160073.93	1046268.23

LEGEND:

PROPOSED MARKING

NOTES:

1. SEE SHEET MK-01.



ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY

SSS

DRAWN BY

RHL

CHECKED BY

BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

MARKING PLAN (3 OF 3)

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01

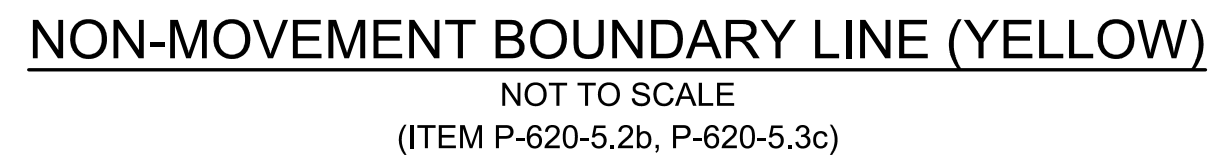
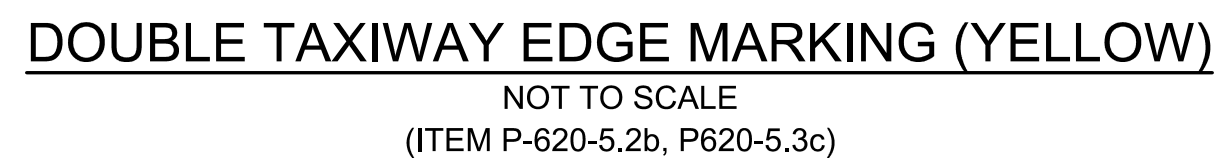
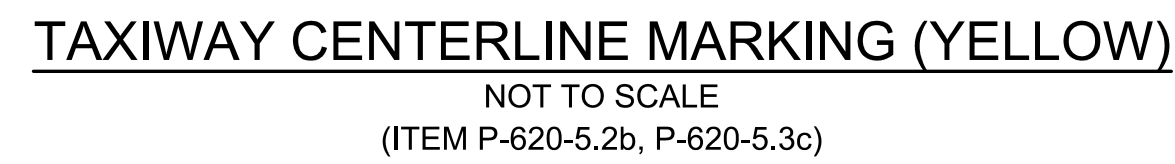
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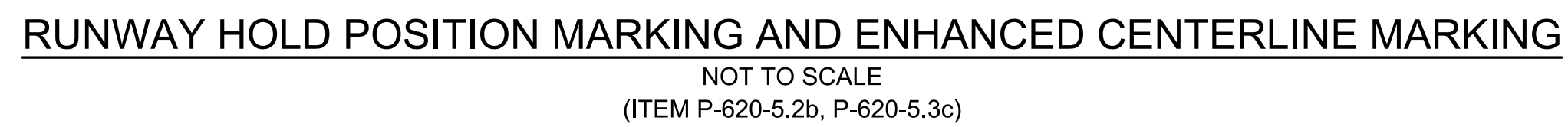
DRAWING NO.  
  
MK-03

SHEET 33 OF 60

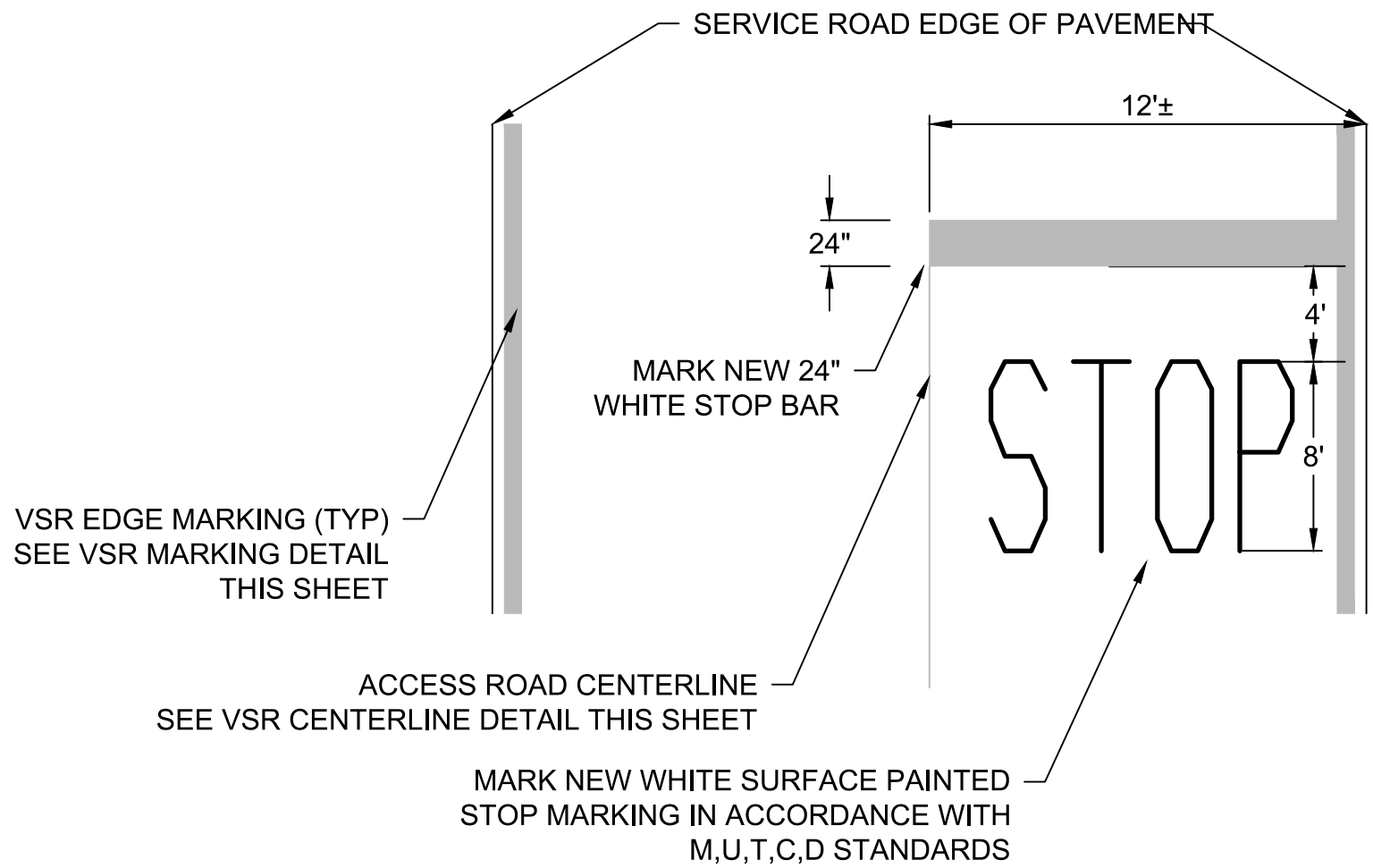




- RUNWAY EDGE MARKING DETAIL (WHITE)  
NOT TO SCALE  
(ITEM P-620-5.2b, P-620-5.3c)

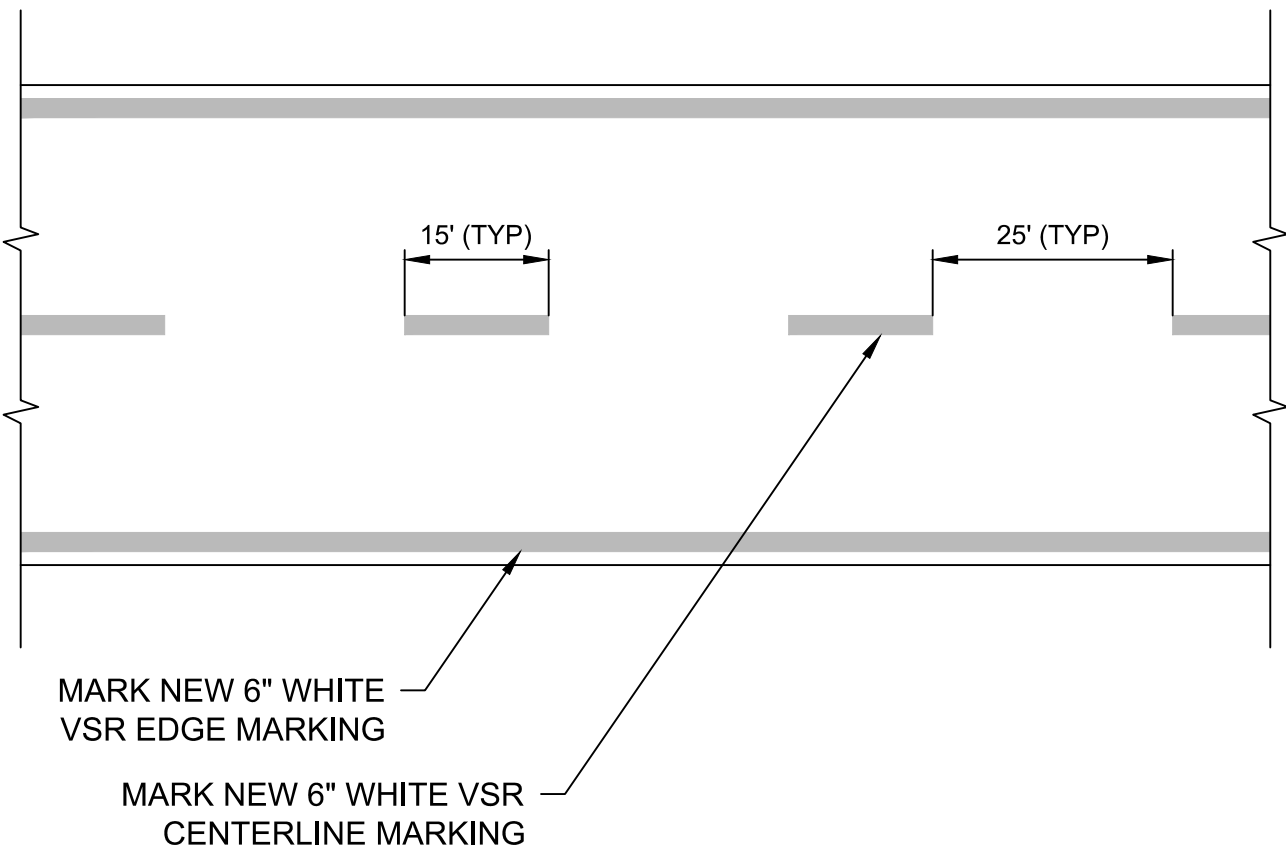




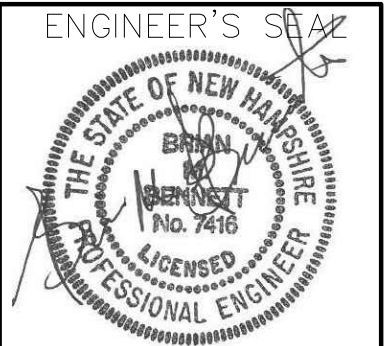


**VEHICLE SERVICE ROAD (VSR) STOP BAR DETAIL**  
NOT TO SCALE  
(ITEM P-620-5.2b, P-620-5.3c)


- VSR MARKING NOTES:**
1. ALL VSR MARKINGS SHALL RECIEVE TYPE I GLASS BEADS.
  2. ALL VSR MARKINGS SHALL BE LAID OUT AND APPROVED BY THE RPR AND AIRPORT REPRESENTATIVE PRIOR TO PERMANENT INSTALLATION



**VEHICLE SERVICE ROAD (VSR) MARKING DETAIL**  
NOT TO SCALE  
(ITEM P-620-5.2b, P-620-5.3c)



PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

MARKING DETAILS (2 OF 2)

SCALE: N.T.S. DATE: MARCH 2021

REVISIONS		DATE	BY
REV. NO.	DESCRIPTION		

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

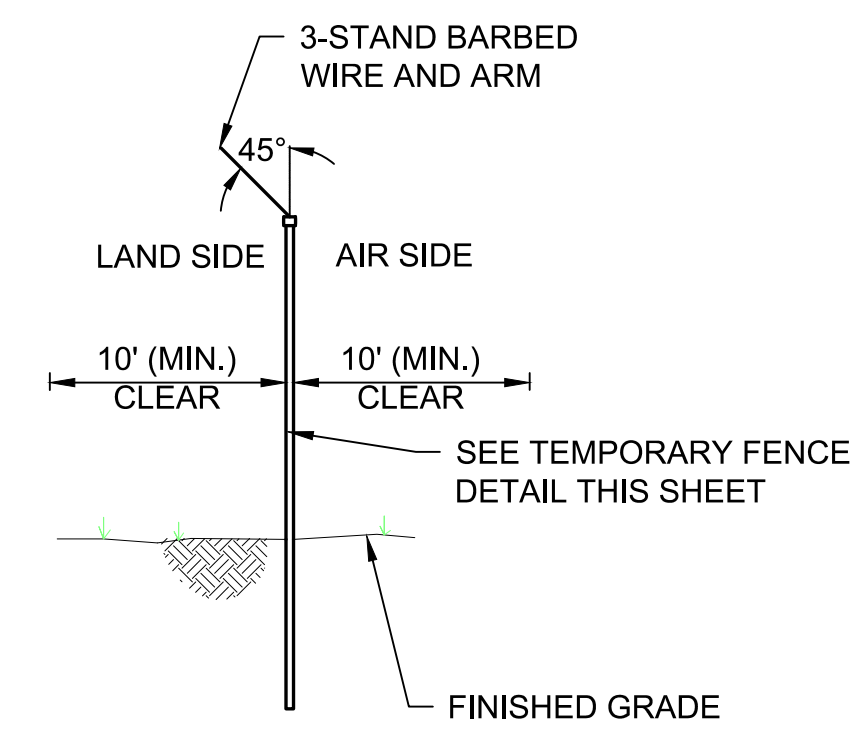
DRAWING NO.

MK-05

SHEET 35 OF 60

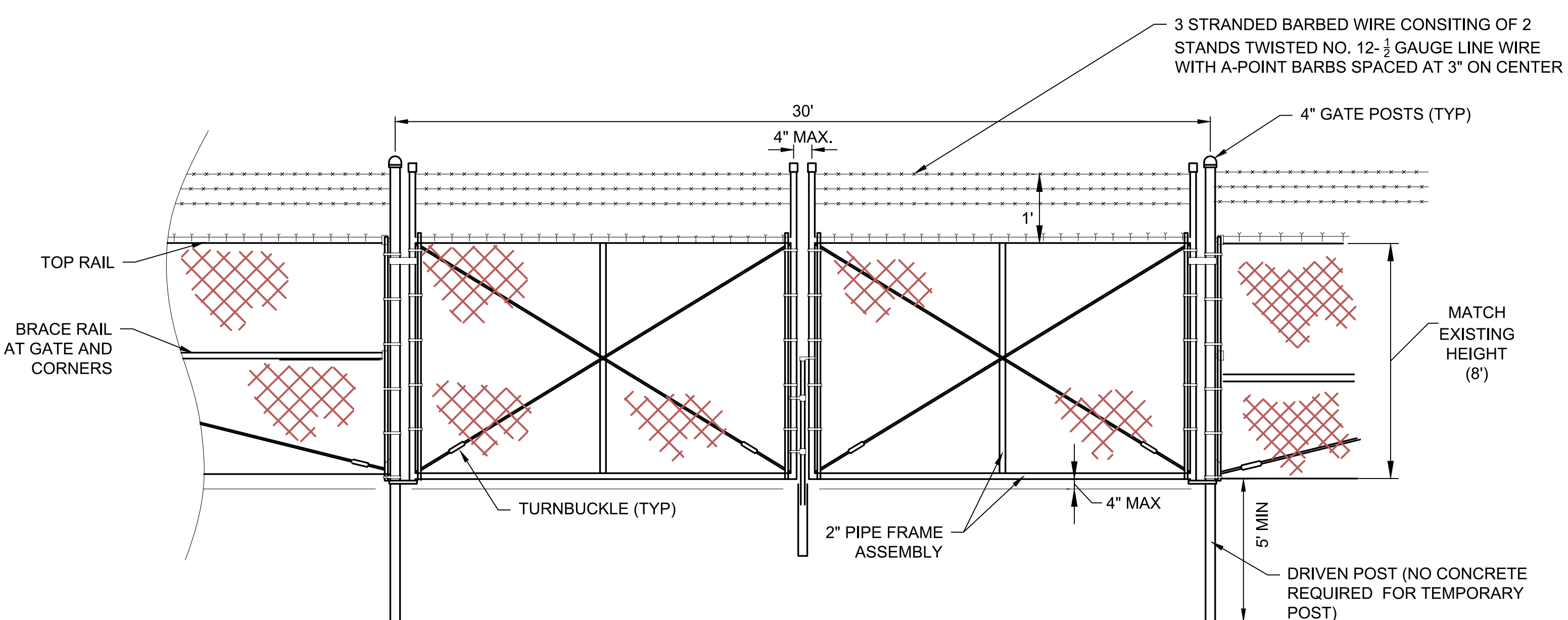
REV





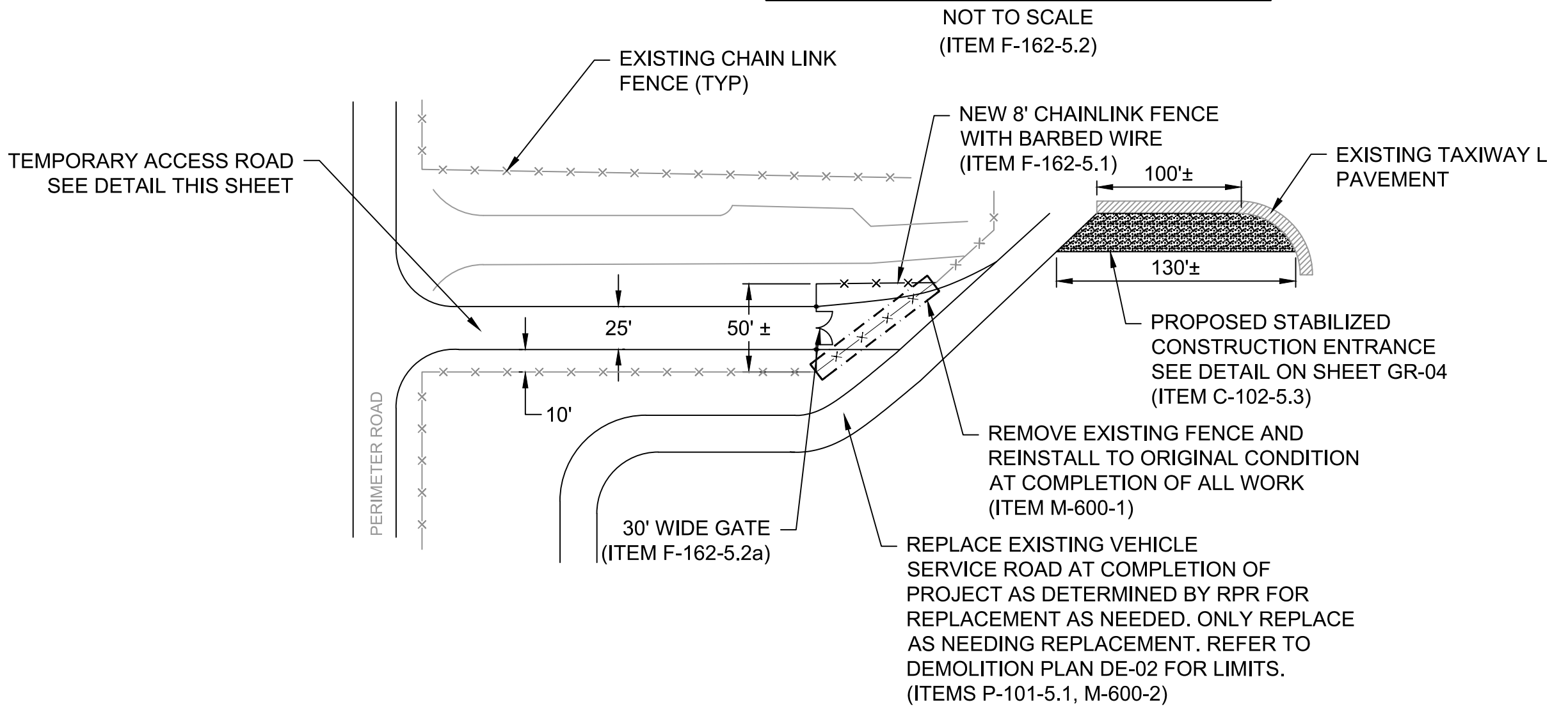
TEMPORARY CHAIN LINK FENCE DETAIL  
NOT TO SCALE  
(ITEM F-162-5.1)

POST AND RAIL SCHEDULE				
USE	MATERIAL	FED SPEC RR-F-191-3 SIZE (INCHES)	STEEL O.D.	
END CORNER AND INTERMEDIATE POSTS FOR FENCES LESS THAN 8'	CLASS 1 (STEEL) GRADE B, GROUP 1C	SP4	2.875	
BRACE RAILS FOR FENCES 6' AND OVER	CLASS 1 (STEEL) GRADE B, GROUP 1C	SP1	1.66	
TOP RAIL	CLASS 1 (STEEL) GRADE B, GROUP 1C	SP1	1.66	
LINE POSTS FOR FENCES GREATER THAN 6' AND EQUAL TO OR LESS THAN 8'	CLASS 1 (STEEL) GRADE B, GROUP 1C	SP3	2.375	
GATE POSTS	CLASS 1 (STEEL) GRADE B, GROUP 1C	SP5	4.00	
NOTE: ALL POSTS AND RAILS TO BE GALVANIZED TUBULAR STEEL PIPE				

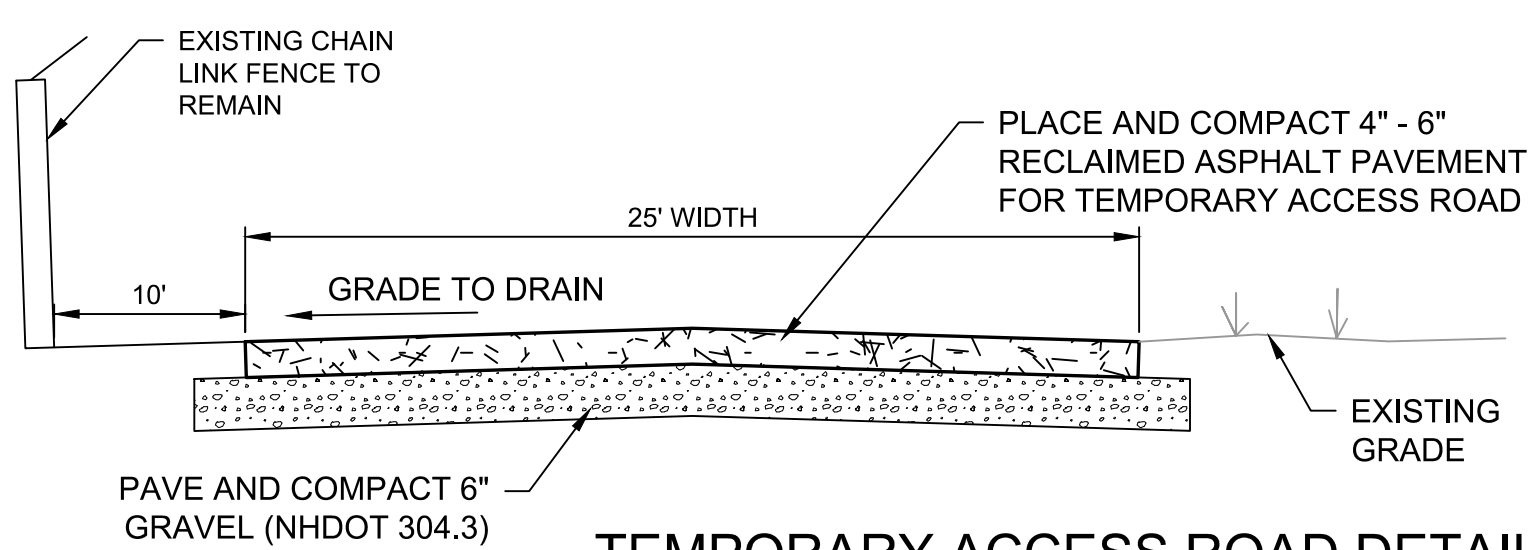


- SECURITY FENCE AND GATE NOTES:
1. POSTS SHALL BE SET AS SHOWN ON PLANS/DETAILS THE EXISTING FENCE OR AS DIRECTED BY THE RPR. WHEN DIRECTED BY THE RPR THE FABRIC SHALL BE PLACED ON THE OPPOSITE SIDE OF THE POSTS SO THAT THE FABRIC CAN BE PULLED TIGHT AGAINST THE POSTS.
  2. POSTS IN ROCK - WHERE SUBSTANTIAL ROCK IS ENCOUNTERED, A HOLE 2" LARGER IN DIAMETER THAN THE POST, AND 12" MINIMUM DEPTH FOR LINE POSTS, AND 18" MINIMUM FOR ALL OTHER POSTS SHALL BE MADE. AFTER INSERTING THE POSTS, THE HOLES ARE TO BE BACKFILLED WITH A HAND MIXED MORTAR CONSISTING OF ONE PART PORTLAND CEMENT TWO PARTS FINE AGGREGATE MIXED TO A PLASTIC CONSISTENCY SHOWING NO SIGNS OF FREE WATER. THE HAND MIXING AND CONSOLIDATION OF THE MORTAR SHALL BE PERFORMED IN A MANNER APPROVED BY THE RPR.
  3. THE CONTRACTOR SHALL SUBMIT THE DETAILS FOR THE CHAIN LINK GATE TO BE ERECTED TO THE RPR. NO GATE SHALL BE ERECTED PRIOR TO THE APPROVAL OF THE VARIOUS DETAILS.
  4. GATE FABRIC SHALL MATCH FENCE FABRIC. BARBED WIRE ON GATES SHALL MATCH THAT USED ON FENCE.
  5. TENSION WIRE SHALL BE FASTENED TO EACH POST IN A MANNER APPROVED BY THE RPR.
  6. A COMMERCIAL GRADE COMBINATION PADLOCK WITH THE SAME MHT STANDARD LOCK SHALL BE SUPPLIED AND INSTALLED ON GATE BY CONTRACTOR.
  7. ALL DOUBLE SWING GATES SHALL HAVE THE CAPABILITY OF SWINGING IN BOTH DIRECTIONS WITH STOPS ON BOTH SIDES.
  8. AT THE COMPLETION OF THE PROJECT, MHT SHALL HAVE FIRST RIGHT OF REFUSAL FOR THE GATE OR FENCE AND ANY GATE OR FENCE COMPONENTS. THE CONTRACTOR SHALL DELIVER THE FENCE TO A LOCATION ON THE AIRFIELD ON BEHALF OF THE AIRPORT AT THE AIRPORT'S REQUEST.

TEMPORARY 30' GATE DETAIL

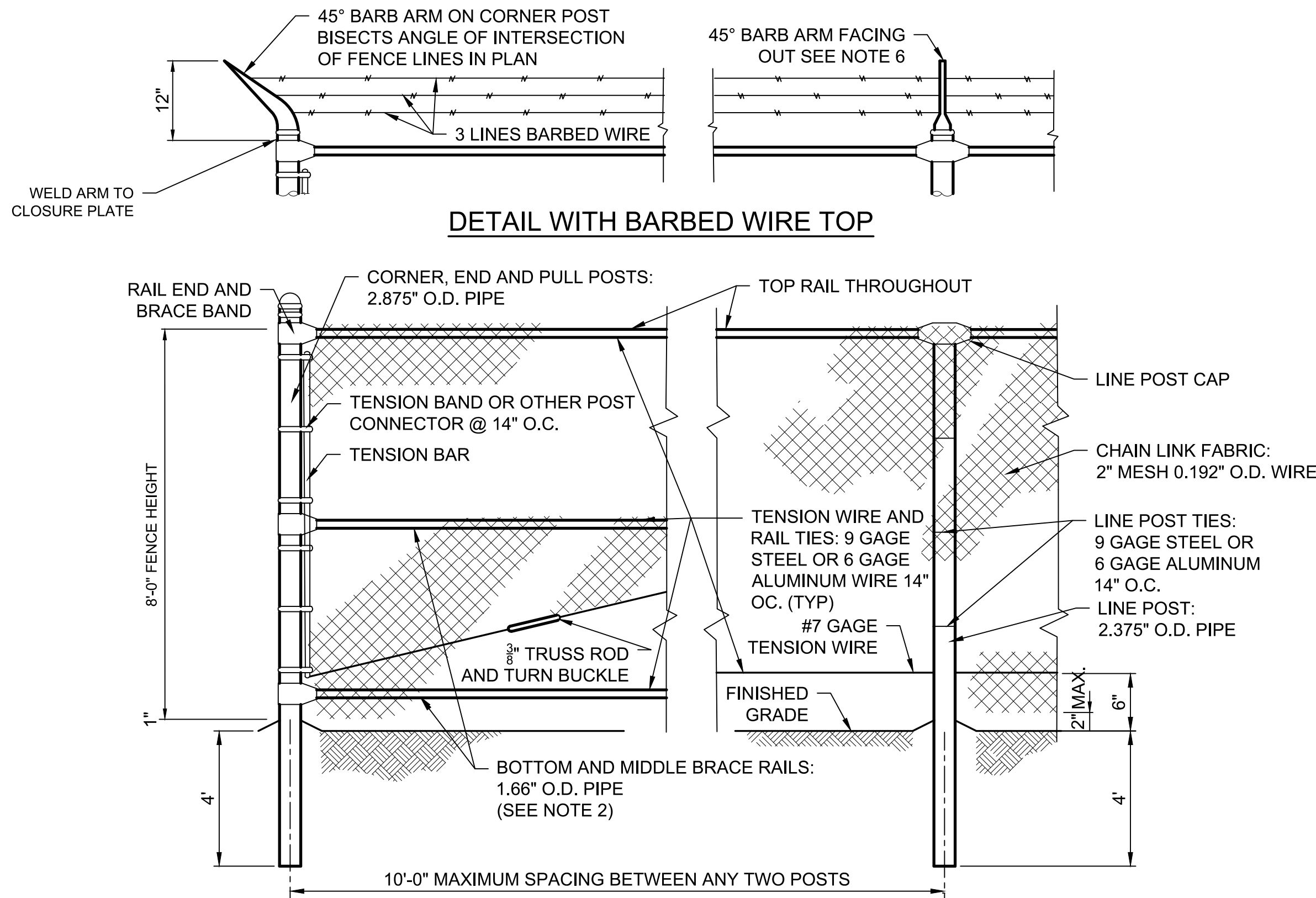


TEMPORARY ACCESS ROAD AND STABILIZED CONSTRUCTION ENTRANCE LAYOUT



TEMPORARY ACCESS ROAD DETAIL

NOTES:  
AFTER COMPLETION OF CONSTRUCTION, REMOVE RECLAIMED ASPHALT, PROPERLY DISPOSE OF MATERIAL AND RESTORE THE AREA TO TURF WITH MIN. 2" OF TOPSOIL, SEED AND MULCH ON THE GRAVEL WHICH IS TO REMAIN.  
(PAID UNDER ITEM M-600-1)



TERMINAL POST DETAIL

LINE POST DETAIL

TEMPORARY 8-FT CHAIN LINK FENCE WITH BARBWIRE DETAIL

NOT TO SCALE  
(ITEM F-162-5.1)

- TEMPORARY CHAIN LINK FENCE NOTES:
1. PIPE SECTIONS SHOWN ARE ASTM F1083 FOR STANDARD WEIGHT (SCHEDULE 40) PIPE. EQUIVALENT STEEL SECTIONS FOR FRAME SHALL BE BASED ON PIPE SECTION SHOWN (SEE SPECIFICATIONS).
  2. MIDDLE AND BOTTOM BRACE RAILS AND BRACE ROD ON ONE BAY EACH SIDE OF CORNER, END, PULL AND GATE POSTS ONLY.
  3. BARBED WIRE SHALL BE CARRIED ACROSS GATES.
  4. FENCE TOPPED WITH BARBED WIRE SHALL BE INSTALLED ON ALL FENCE.

ENGINEER'S SEAL  
THE STATE OF NEW HAMPSHIRE  
BENJAMIN J. McFarland  
No. 7416  
LICENSED PROFESSIONAL ENGINEER

PROJECT DESIGNER  
McFarland Johnson  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY SSS  
DRAWN BY RHL  
CHECKED BY BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MISCELLANEOUS DETAILS

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

REVISIONS  
REV. NO. DATE DESCRIPTION  
BY

SCALE: N.T.S. DATE: MARCH 2021

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
MD-01  
SHEET 36 OF 60



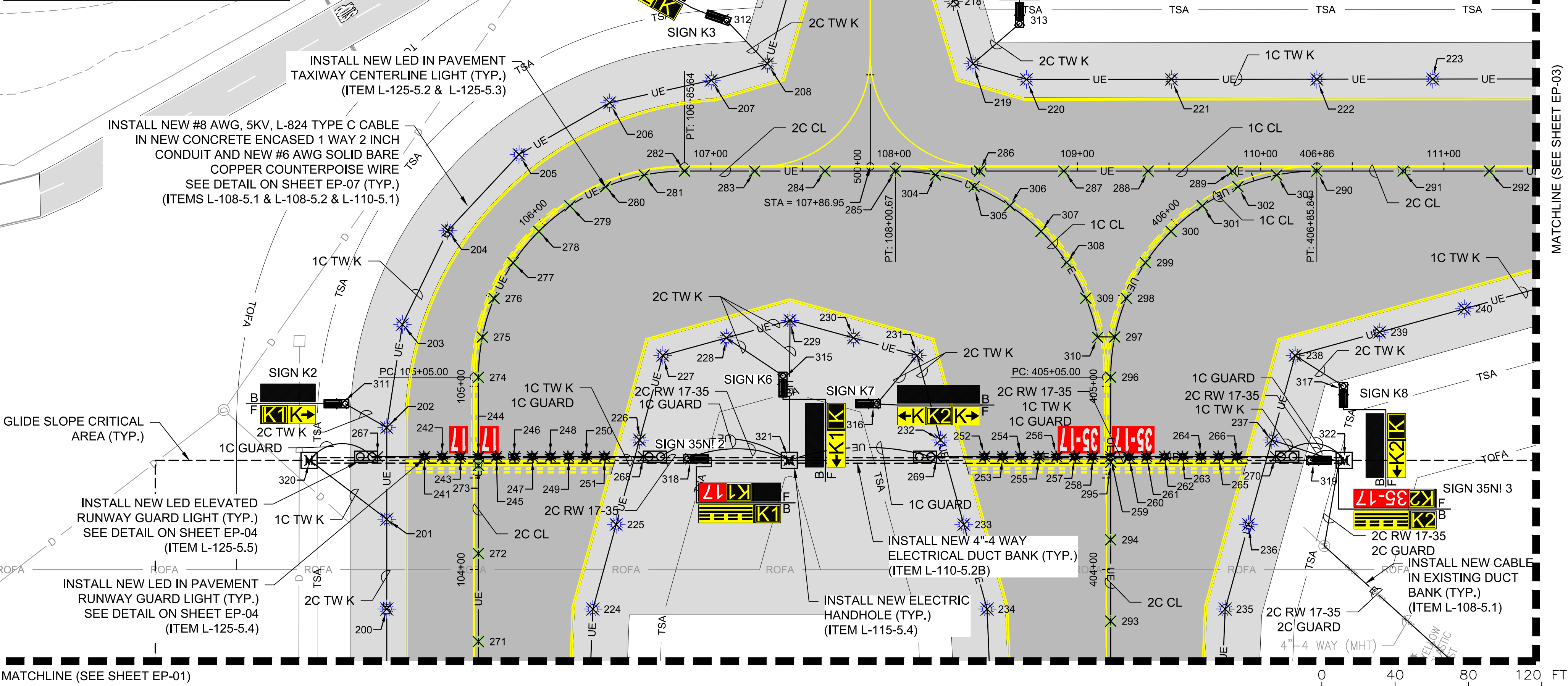




ELECTRICAL LAYOUT TABLE			
POINT #	NORTHING	EASTING	ITEM NO.
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201	161263.12	1045446.54	L-125-5.1
202	161283.16	1045492.35	L-125-5.1
203	161297.91	1045547.30	L-125-5.1
204	161295.73	1045604.16	L-125-5.1
205	161276.81	1045657.82	L-125-5.1
206	161242.85	1045703.48	L-125-5.1
207	161196.94	1045737.00	L-125-5.1
208	161172.45	1045757.54	L-125-5.1
209	161178.27	1045803.03	L-125-5.1
210	161207.74	1045838.17	L-125-5.1
211	161243.20	1045833.64	L-125-5.1
212	161278.66	1045829.11	L-125-5.1
213	161325.34	1045811.20	L-125-5.1
214	161218.26	1046070.63	L-125-5.1
215	161185.52	1045998.79	L-125-5.1
216	161150.60	1045928.03	L-125-5.1
217	161115.68	1045857.27	L-125-5.1
218	161093.13	1045829.44	L-125-5.1
219	161069.74	1045802.49	L-125-5.1
220	161039.58	1045806.35	L-125-5.1
221	160967.18	1045838.11	L-125-5.1
222	160894.38	1045869.89	L-125-5.1
223	160836.47	1045895.38	L-125-5.1
224	161140.44	1045446.69	L-125-5.1
225	161147.27	1045494.06	L-125-5.1
226	161154.11	1045541.42	L-125-5.1
227	161160.95	1045588.81	L-125-5.1
228	161133.01	1045611.48	L-125-5.1
229	161105.06	1045634.16	L-125-5.1
230	161069.44	1045639.30	L-125-5.1
231	161033.82	1045644.44	L-125-5.1
232	161003.67	1045607.28	L-125-5.1
233	160973.51	1045570.11	L-125-5.1
234	160943.35	1045532.94	L-125-5.1
235	160824.35	1045585.02	L-125-5.1
236	160831.19	1045632.40	L-125-5.1
237	160838.03	1045679.77	L-125-5.1
238	160844.87	1045727.14	L-125-5.1
239	160807.69	1045757.30	L-125-5.1
240	160770.53	1045787.46	L-125-5.1
241	161258.01	1045486.02	L-125-5.4
242	161249.05	1045489.96	L-125-5.4
243	161240.00	1045493.90	L-125-5.4
244	161230.99	1045497.84	L-125-5.4
245	161221.98	1045501.79	L-125-5.4
246	161212.97	1045505.73	L-125-5.4
247	161203.96	1045509.67	L-125-5.4
248	161194.96	1045513.61	L-125-5.4
249	161185.95	1045517.56	L-125-5.4

ELECTRICAL LAYOUT TABLE			
POINT #	NORTHING	EASTING	ITEM NO.
250	161176.94	1045521.50	L-125-5.4
251	161167.93	1045525.44	L-125-5.4
252	160977.96	1045608.58	L-125-5.4
253	160968.96	1045612.52	L-125-5.4
254	160959.95	1045616.46	L-125-5.4
255	160950.94	1045620.41	L-125-5.4
256	160941.93	1045624.35	L-125-5.4
257	160932.92	1045628.29	L-125-5.4
258	160923.91	1045632.23	L-125-5.4
259	160914.90	1045636.18	L-125-5.4
260	160905.66	1045639.97	L-125-5.4
261	160896.89	1045644.06	L-125-5.4
262	160887.88	1045648.00	L-125-5.4
263	160878.87	1045651.95	L-125-5.4
264	160869.86	1045655.89	L-125-5.4
265	160860.85	1045659.83	L-125-5.4
266	160851.85	1045663.77	L-125-5.4
267	161281.37	1045475.79	L-125-5.5
268	161148.52	1045533.94	L-125-5.5
269	161001.96	1045598.08	L-125-5.5
270	160832.43	1045672.27	L-125-5.5
271	161190.54	1045405.43	L-125-5.2
272	161209.81	1045449.46	L-125-5.2
273	161229.08	1045493.49	L-125-5.2
274	161248.35	1045537.52	L-125-5.3
275	161255.18	1045558.49	L-125-5.3
276	161257.80	1045580.38	L-125-5.3
277	161256.08	1045602.37	L-125-5.3
278	161250.09	1045623.67	L-125-5.3
279	161240.12	1045643.26	L-125-5.3
280	161226.48	1045660.59	L-125-5.3
281	161209.73	1045674.93	L-125-5.3
282	161190.42	1045685.75	L-125-5.3
283	161155.37	1045701.09	L-125-5.2
284	161120.24	1045716.47	L-125-5.2
285	161085.11	1045731.84	L-125-5.2
286	161042.97	1045750.28	L-125-5.2
287	161000.83	1045768.72	L-125-5.2
288	160958.69	1045787.17	L-125-5.2
289	160916.55	1045805.61	L-125-5.2
290	160874.34	1045824.08	L-125-5.3
291	160831.27	1045842.93	L-125-5.2
292	160788.13	1045861.81	L-125-5.2
293	160878.92	1045553.96	L-125-5.2
294	160896.71	1045594.61	L-125-5.2
295	160913.67	1045633.36	L-125-5.2
296	160932.30	1045675.92	L-125-5.3
297	160939.12	1045696.89	L-125-5.3
298	160941.71	1045718.79	L-125-5.3
299	160939.99	1045740.78	L-125-5.3

ELECTRICAL LAYOUT TABLE			
POINT #	NORTHING	EASTING	ITEM NO.
300	160934.00	1045762.00	L-125-5.3
301	160924.00	1045781.65	L-125-5.3
302	160910.35	1045798.98	L-125-5.3
303	160893.58	1045813.30	L-125-5.3
304	161064.15	1045738.67	L-125-5.3
305	161042.25	1045741.28	L-125-5.3
306	161020.26	1045739.57	L-125-5.3
307	160999.03	1045733.61	L-125-5.3
308	160979.37	1045723.61	L-125-5.3
309	160962.04	1045709.97	L-125-5.3
310	160947.55	1045692.99	L-125-5.3
311	161310.92	1045494.39	L-125-5.7B
312	161204.29	1045769.99	L-125-5.7B
313	161055.98	1045834.49	L-125-5.7B
314	161089.68	1045873.93	L-125-5.7C
315	161095.68	1045603.14	L-125-5.7C
316	161045.11	1045610.74	L-125-5.7C
317	160813.21	1045720.57	L-125-5.7C
318	161124.29	1045543.27	L-125-5.7C
319	160812.62	1045678.76	L-125-5.7C
320	161314.49	1045459.12	L-115-5.4
321	161074.85	1045564.00	L-115-5.4
322	160797.28	1045685.47	L-115-5.4



- LEGEND:
- E NO. 8 5KV L-824 CABLE IN EXISTING CONDUIT
  - UE NO.8 5KV L-824 CABLE AND CONDUIT
  - UFO FAA FIBER OPTIC AND COMMUNICATION CABLE IN DUCT BANK
  - ELECTRICAL DUCT BANK
  - M ELECTRIC MANHOLE
  - GUIDANCE SIGN
  - ELEVATED RUNWAY GUARD LIGHT
  - IN PAVEMENT RUNWAY GUARD LIGHT
  - ELEVATED TAXIWAY EDGE LIGHT

- INSTALL NEW JUNCTION CAN ON EXISTING CONDUIT
- SWAP SIGN PANEL
- REMOVE STORE AND REINSTALL EXISTING FAA IN PAVEMENT LIGHT
- REMOVE STORE AND REINSTALL EXISTING ELEVATED RW THRESHOLD LIGHT
- IN PAVEMENT CENTERLINE LIGHT
- IN PAVEMENT RUNWAY EDGE LIGHT
- WIND CONE

NOTES:  
1. SEE SHEET EP-01.

F FRONT OF SIGN  
B BACK OF SIGN

2C TW K  
CIRCUIT  
NUMBER OF CONDUCTORS

SCALE  
0 40 80 120 FT

ENGINEER'S SEAL  
STATE OF NEW HAMPSHIRE  
REGISTERED PROFESSIONAL ENGINEER  
CHRISTOPHER ROYCE No. 18888

PROJECT DESIGNER  
CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

McFarland Johnson  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

ELECTRICAL PLAN (2 OF 3)

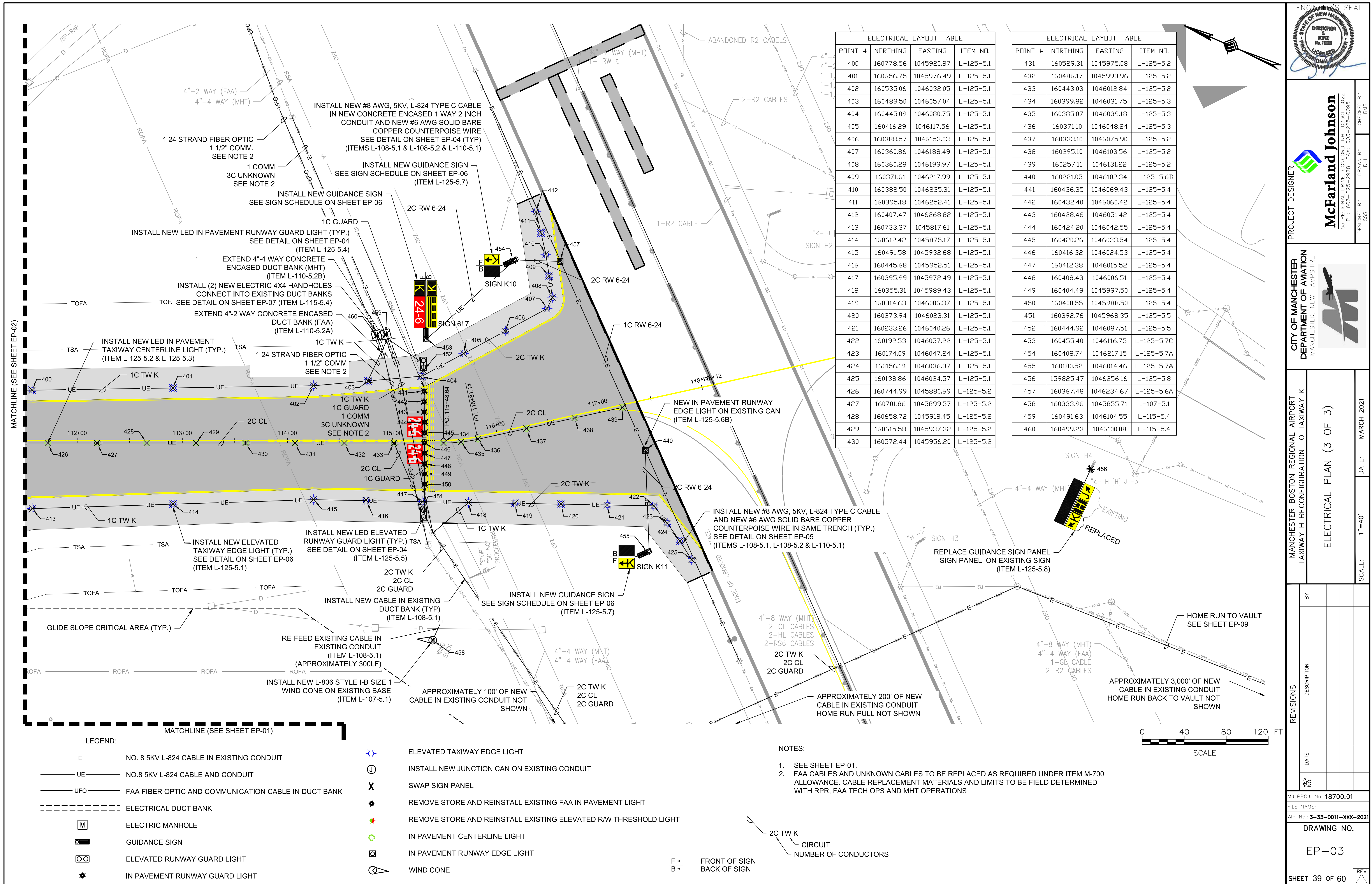
DATE: MARCH 2021

SCALE: 1"=40'

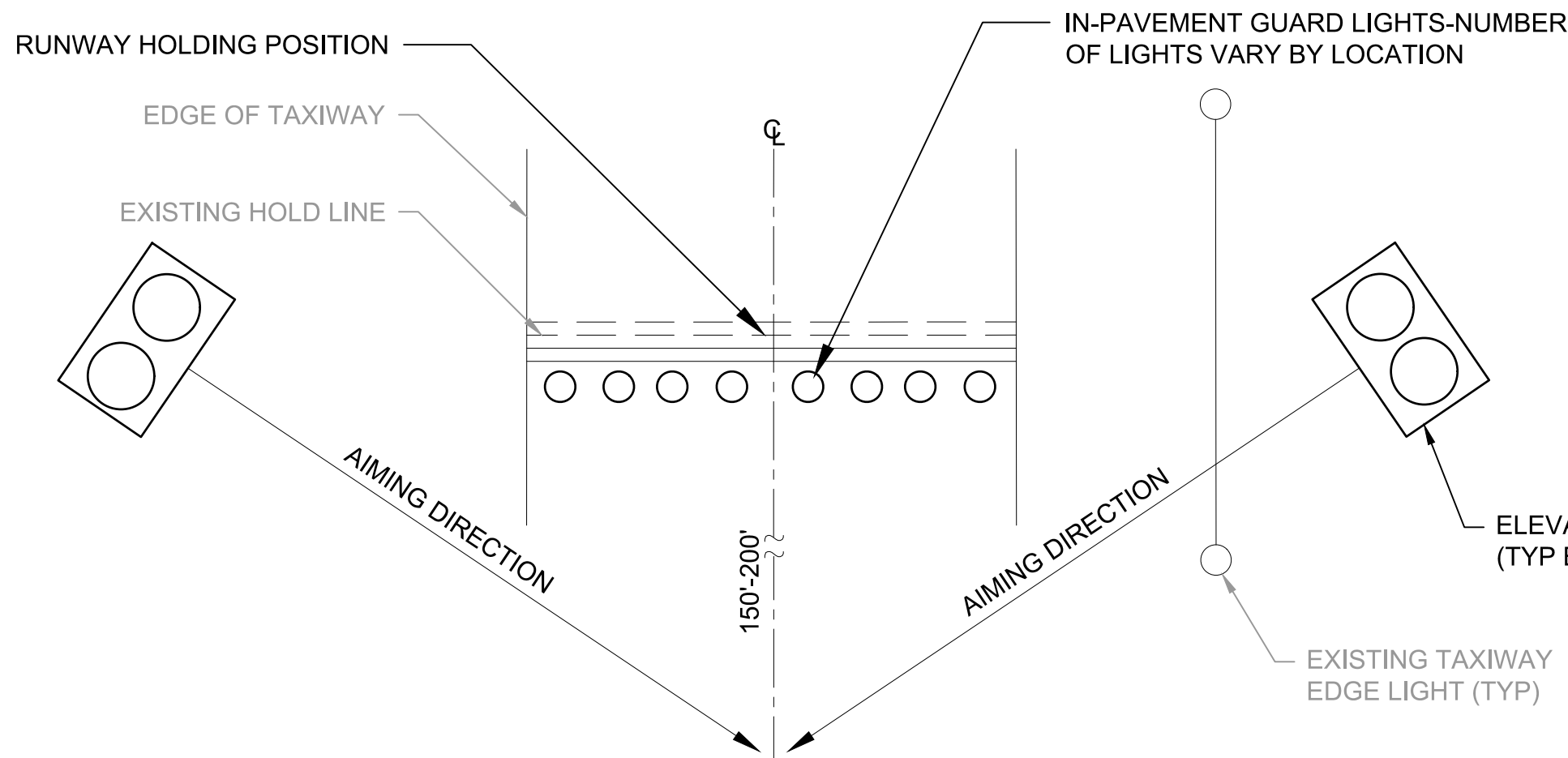
REV. NO.	DATE	DESCRIPTION

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021  
DRAWING NO.  
EP-02  
SHEET 38 OF 60









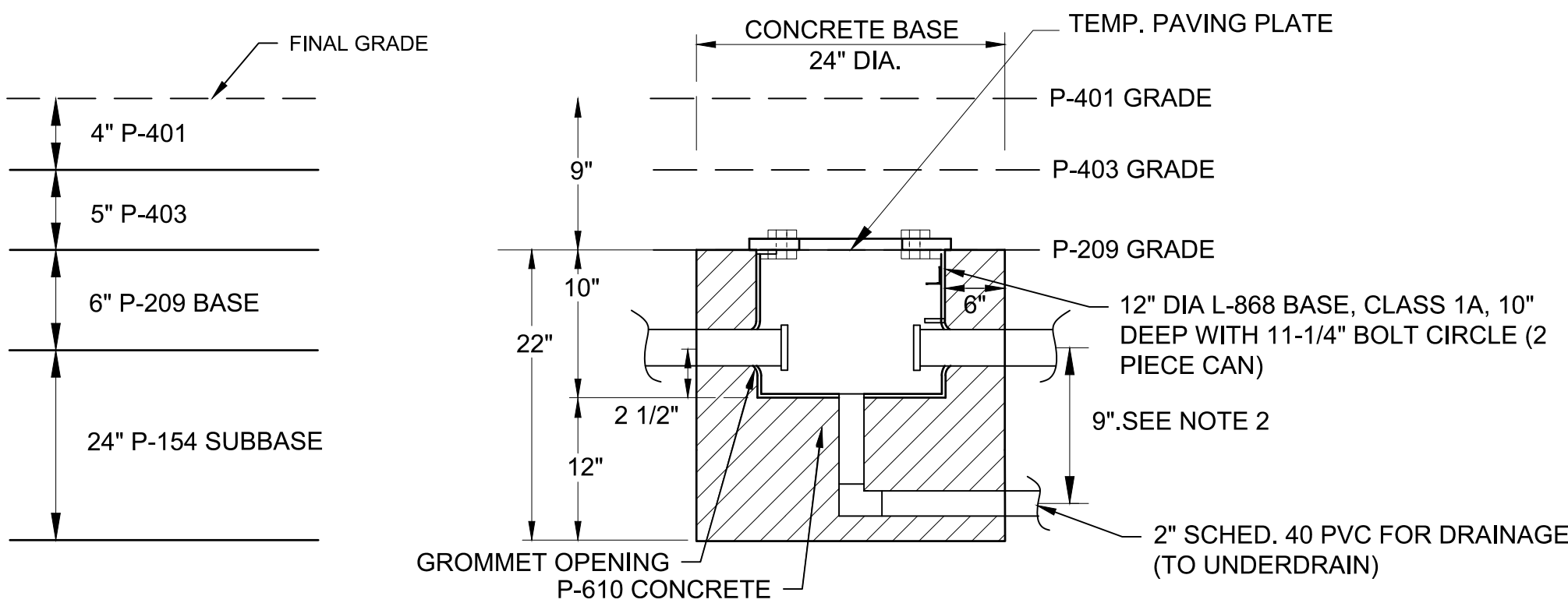
**AIMING NOTES:**  
CONTRACTOR SHALL POSITION ALL NEW ELEVATED RUNWAY GUARD LIGHT FIXTURES 5 TO 10 DEGREES ABOVE THE HORIZONTAL AND POINTED TOWARDS CENTERLINE 150'-200' FROM THE RUNWAY HOLDING POSITION. THE FINAL AIMING POSITION SHALL BE APPROVED BY THE ENGINEER.

### L-804(L) ELEVATED RUNWAY GUARD LIGHT AIMING DIAGRAM

NOT TO SCALE  
(ITEM L-125-5.5)

#### IN PAVEMENT GUARD LIGHT INSTALLATION NOTES:

- CONCRETE AROUND BASE CAN AND CONDUIT. PLACE CONCRETE ANCHOR USING CARE THAT NEITHER JIG NOR LIGHT BASE ALIGNMENT IS DISTURBED (TYP.). FOR EXPEDIENCY, CONTRACTOR MAY USE HIGH EARLY CONCRETE.
- DO NOT USE SHIPPING BOLTS. USE SAE GRADE 5 FLUOROPOLYMER COATED BOLTS WITH 2 PART LOCKING WASHERS TO ATTACH THE LIGHT FIXTURE. TORQUE BOLTS TO 21.7 FT-LBS.
- DRAIN SHALL TERMINATE IN TAXIWAY UNDERDRAIN SYSTEM INSTALL LATERAL EVERY 10 LIGHTS AS SHOWN ON DRAWINGS
- #6 AWG BARE COPPER COUNTERPOISE SHALL BE EXOTHERMICALLY BONDED TO 5/8" COPPER CLAD GROUND ROD
- #6 AWG BARE COPPER COUNTERPOISE WIRE MUST BE MECHANICALLY BONDED TO THE EXTERNAL CAN LUG, CONTINUOUS FROM CAN TO CAN.
- COUNTERPOISE MUST BE INSTALLED A MINIMUM OF 4" ABOVE CONDUIT.
- THE CAN SHALL BE INSTALLED SUCH THAT THE LIGHT BEAM (CENTER OF LIGHT BASE) IS ALIGNED AS DESCRIBED PER AC 150/5340-30, PARAGRAPH 11.1. THE LIGHT BEAM MUST BE ALIGNED AS DESCRIBED IN THE LIGHTING SYSTEM MANUAL WITH A TOLERANCE  $\pm 1$  DEGREE. THE LIGHTING FIXTURE MUST BE LEVEL, AND THE TOP OF THE SNOW RING EDGE MUST BE BETWEEN +0 INCH AND -1/16 INCH FROM THE PAVEMENT TOP.
- THE CAN SHALL BE INSTALLED IN SUCH A MANNER THAT THE MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH AC 150/5340-30, PARAGRAPH 11.2 ELEVATION OF THE BASE WITH RESPECT TO THE TAXIWAY OR RUNWAY SURFACE AND AZIMUTH WITH RESPECT TO THE EDGE LIGHTS ARE TWO PARAMETERS THAT MUST BE MET. IT IS ABSOLUTELY NECESSARY THAT THE ELEVATION OF THE LIGHT BASE TOP FLANGE BE AT LEAST THE THICKNESS OF THE LIGHT FITTING PLUS THE THICKNESS OF TYPICAL PAVING TOLERANCES OF  $\pm 1/2$  INCH (13 MM) BELOW THE PAVEMENT FINISHED SURFACE. IF LESS THAN THAT REMAINS AFTER PAVING, THE LIGHTING FIXTURE WILL BE UNACCEPTABLY HIGH. IF MORE THAN 3/4 INCH (19 MM) IS LEFT, FLAT SPACER RINGS CAN BE USED TO BRING THE LIGHTING FIXTURES UP TO THE CORRECT ELEVATION. IN ORDER TO PRESERVE THE BASE INTEGRITY AND PROPER BOLT TORQUE, A MAXIMUM OF TWO SPACER RINGS MAY BE STACKED TOGETHER.

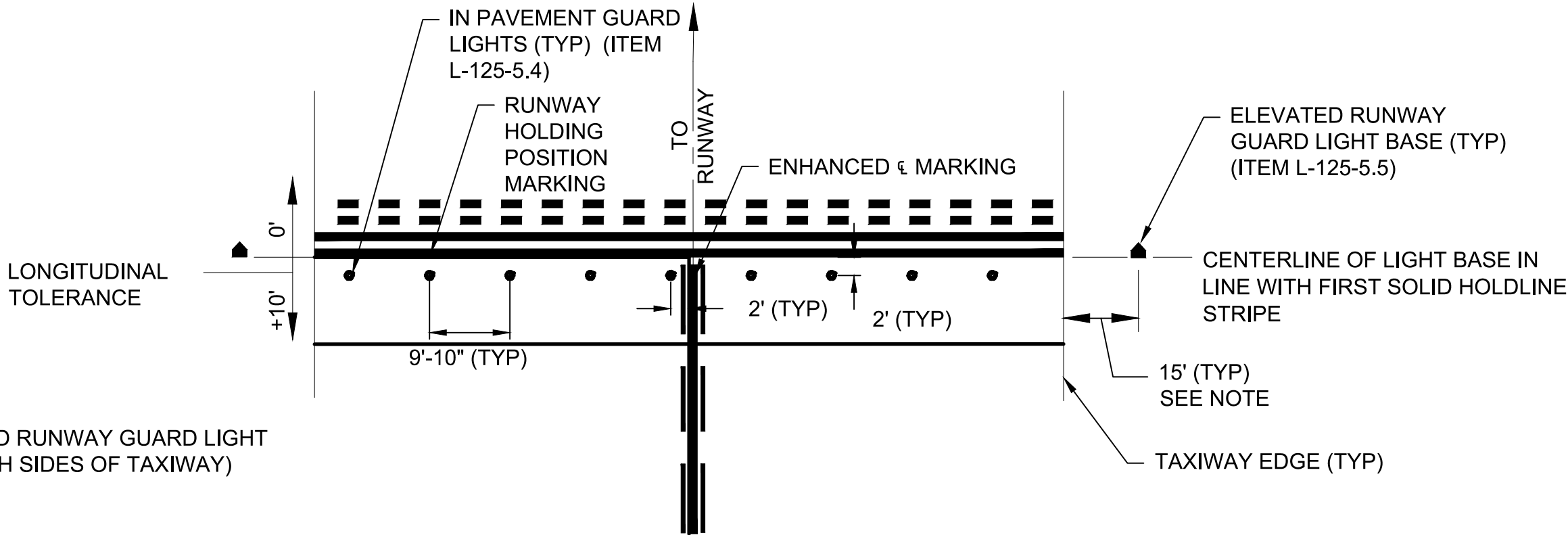


#### STEP 1

- CONSTRUCT PAVEMENT SECTION UP TO P-209 BASE COURSE ELEVATION.
- EXCAVATE FOR LIGHT BASE FOUNDATION AND CONDUIT.

#### STEP 2

- INSTALL NEW L-868 TYPE 1A, 12" DIA. BASE ALONG WITH REQUIRED CONDUIT AND DRAIN CONNECTIONS AND INSTALL TEMP. PAVING COVER.
- PROVIDE CONDUIT SPACER EVERY 5'-0" TO MAINTAIN SEPARATION.
- INSTALL GROUND ROD FOR EACH BASE CAN FOR GROUNDING AND COUNTERPOISE REQUIREMENTS.
- CONSTRUCT CONCRETE FOUNDATION AND CONDUIT ENCASEMENT AS SHOWN ON CAN DETAIL.
- BACKFILL AND COMPACT IN ACCORDANCE WITH P-154 AND P-209 SPECIFICATIONS AS APPLICABLE



**NOTE:**  
THE PROPOSED OFFSET OF THE ELEVATED RUNWAY GUARD LIGHT BASE HAS A LATERAL TOLERANCE OF -5' TO +2' FROM TAXIWAY EDGE. THE LOCATION OF THE ELEVATED RUNWAY GUARD LIGHT BASE MUST BE LOCATED SO AS TO NOT INTERFERE WITH THE READABILITY OF THE RUNWAY HOLDING POSITION SIGNS. THE FINAL LOCATION OF THE ELEVATED RUNWAY GUARD LIGHT BASE SHALL BE APPROVED BY THE RPR BEFORE THE CONTRACTOR COMMENCES ANY WORK.

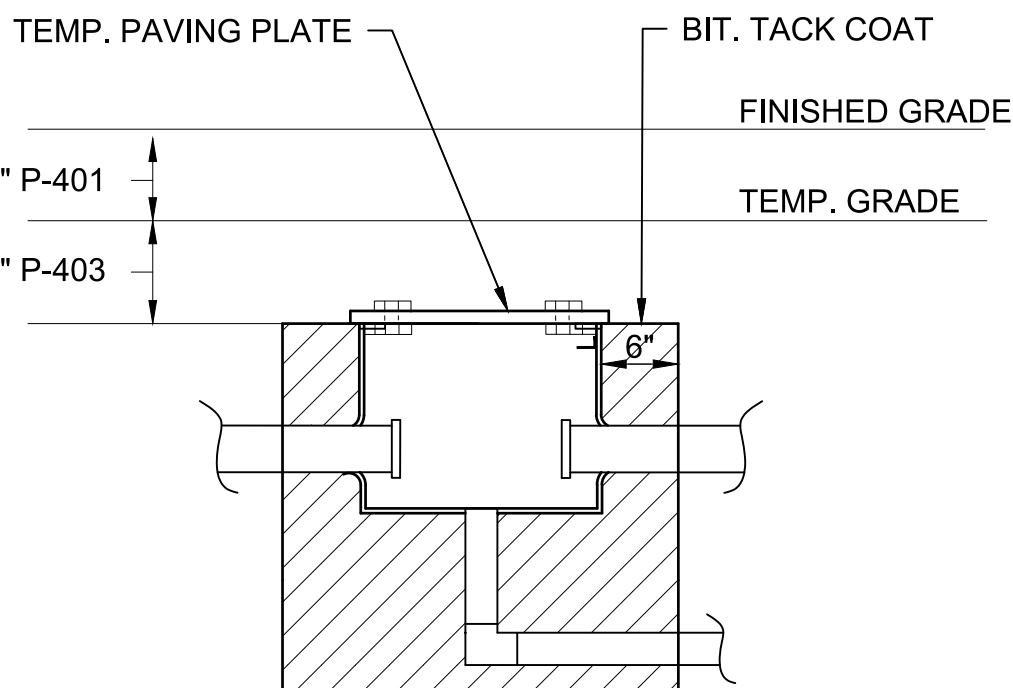
### RUNWAY GUARD LIGHT BASE LAYOUT

NOT TO SCALE  
(ITEM L-125-5.4 & 5.5)

- THE LIGHT BASE CAN SHALL HAVE AN INTEGRAL ANCHOR RING TO DISSIPATE AIRCRAFT/LARGE VEHICULAR WHEEL LOADS.
- END OF SNOW PLOW RING MUST BE SET  $7/16$ " BELOW PAVEMENT IN ALL DIRECTIONS. SEE DETAIL 'A'
- UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW RING FITS FLUSH IN ALL DIRECTIONS
- SURVEY LOCATION OF L-868 BASE CAN & INSTALL TEMP STEEL PAVING COVER. INSTALL P-401 AND P-403.
- DRAIN CONDUIT ONLY REQUIRED FOR LATERAL TO UNDERDRAIN. SEE LAYOUT SHEETS FOR LOCATIONS. CORE DEPTH FOR CANS WITHOUT DRAIN CONDUITS CAN BE REDUCED TO 28".
- REFER TO SHEET EP-05 FOR IN PAVEMENT GUARD LIGHT ELECTRICAL COMPONENTS

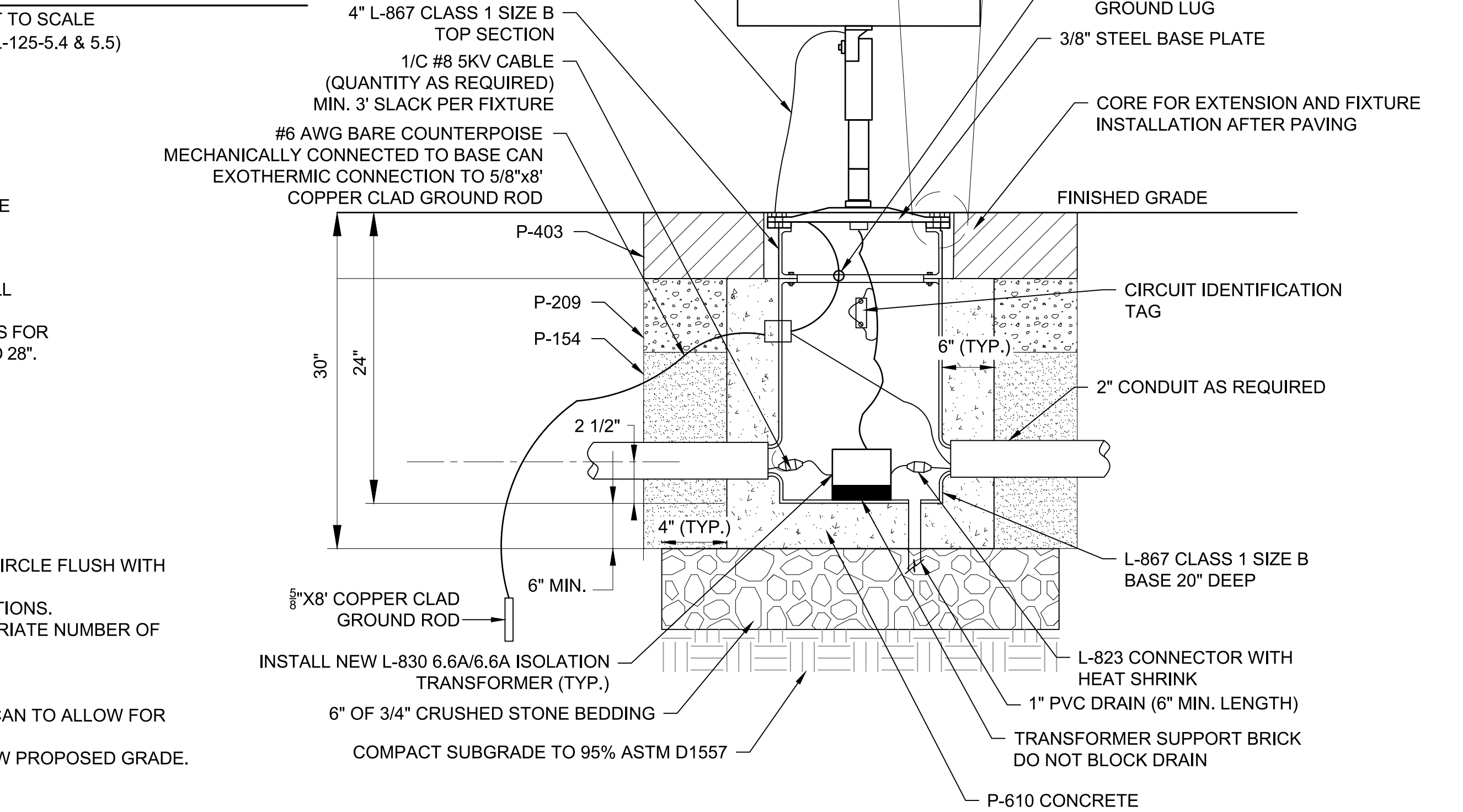
#### ELEVATED RUNWAY GUARD LIGHT INSTALLATION PROCEDURES:

- INSTALL L-867 TYPE 1A 12" DIA. 24" DEEP BASE WITH 10 1/4" BOLT CIRCLE FLUSH WITH EXISTING GRADE.
- SEAL THE PERIMETER OF ALL LIGHT BASE AND TRENCH INSTALLATIONS.
- CONTRACTOR SHALL ORDER ALL LIGHT BASES WITH THE APPROPRIATE NUMBER OF HUBS FOR EACH LOCATION.
- INSTALL TRANSFORMER AND FIXTURE AS SHOWN.
- FOR LOCATION AND AIMING REFER TO THIS SHEET
- SUFFICIENT CABLE SLACK (MIN. 3') SHALL BE LEFT IN EACH BASE CAN TO ALLOW FOR THE RUNWAY GUARD LIGHT TO BE REMOVED AND WORKED ON.
- GUARD LIGHTS SHALL BE SET FLUSH TO A MAXIMUM OF 3/4" BELOW PROPOSED GRADE.



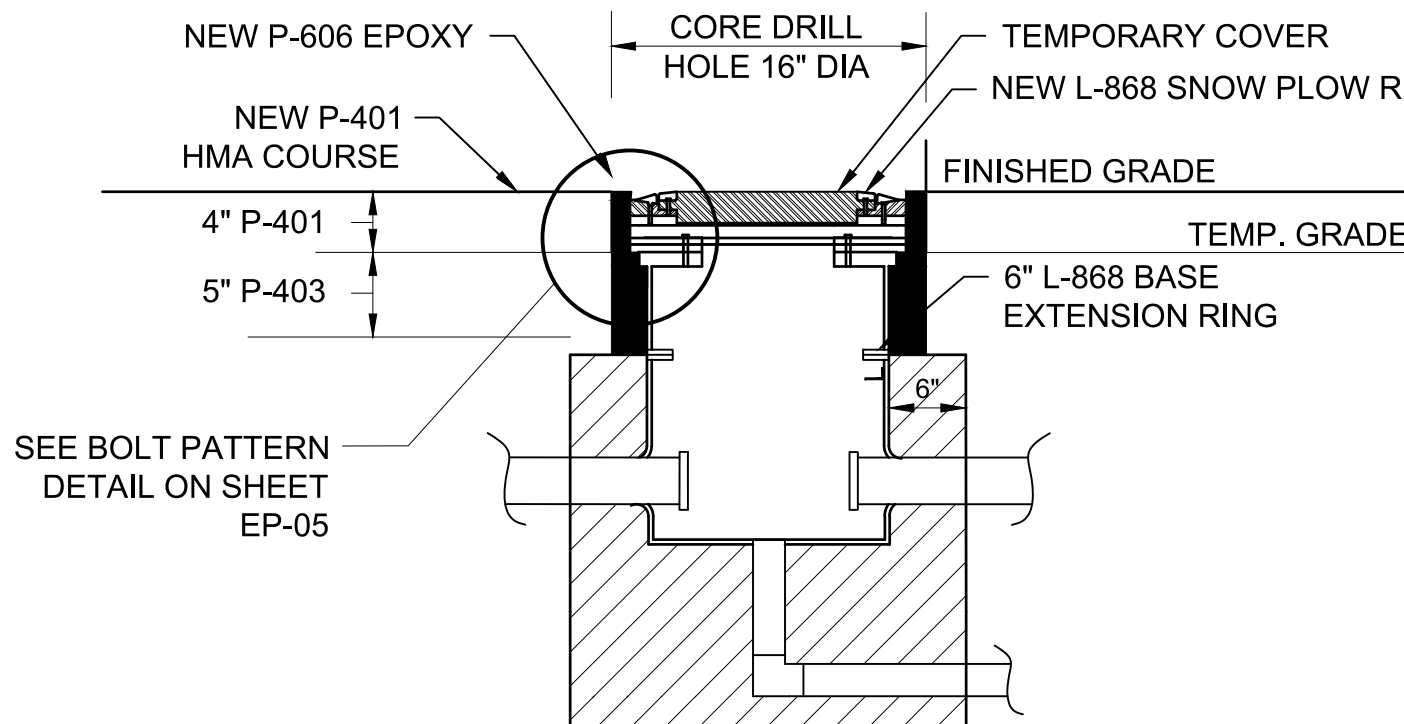
#### STEP 3

- SURVEY LOCATION OF INSTALLED L-868 BASE WITH TEMP. PAVING COVER APPLY BIT. TACK COAT AND INSTALL P-401 AND P-403 HMA COURSES.



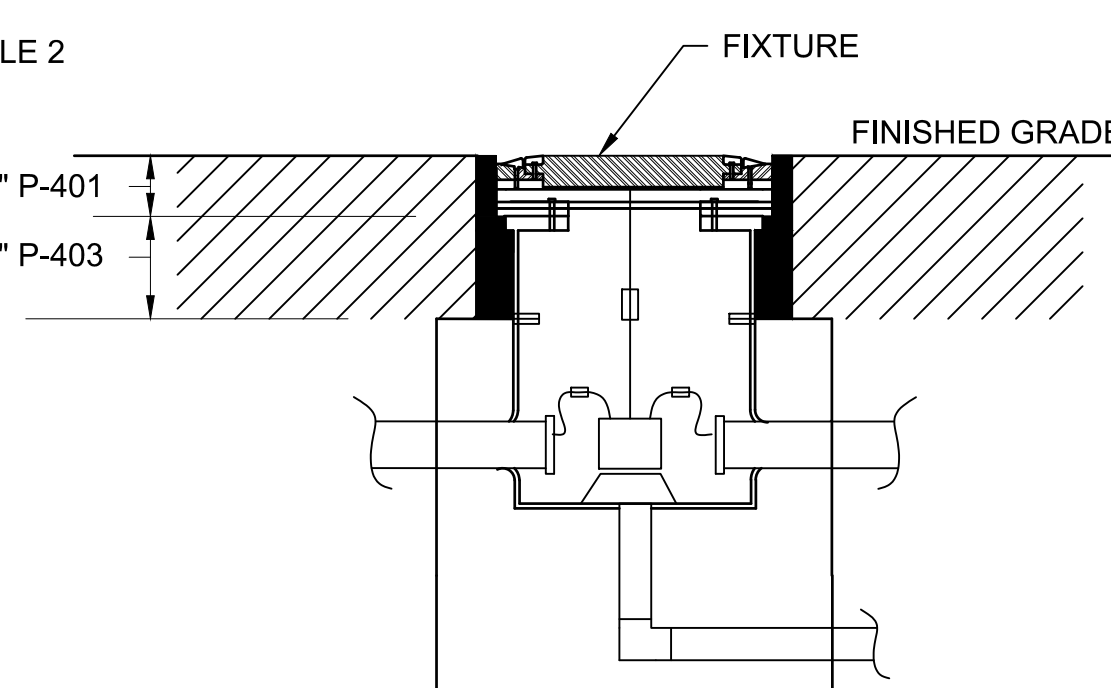
### L-804(L) ELEVATED RUNWAY GUARD LIGHT

NOT TO SCALE  
(ITEM L-125-5.5)



#### STEP 4

- CORE DRILL 2" DIA. PILOT HOLE TO LOCATE L-868 BASE BENEATH NEW P-401 HMA COURSE.
- CORE DRILL 16" DIA. HOLE, EXCAVATE MATERIAL, REMOVE TEMP. PAVING PLATE. INSTALL EXTENSION RING SECTION OF L-868 AND SPACERS AS REQUIRED.



#### STEP 5

- INSTALL ELECTRICAL COMPONENTS (SEE SEMI FLUSH LIGHT FIXTURE DETAIL, SHEET EP-05)

ENGINEER'S SEAL

PROJECT DESIGNER

McFarland Johnson

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

ELECTRICAL DETAILS (1 OF 5)

REV. NO.

DATE

DESCRIPTION

BY

M/J PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

EP-04

SHEET 40 OF 60

REV

CHECKED BY: BMB

DRAWN BY: RHL

DESIGNED BY: SSS

DATE: MARCH 2021

N.T.S.

SCALE:

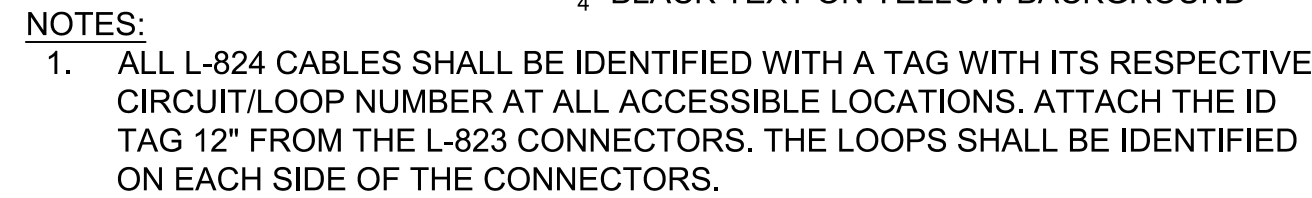






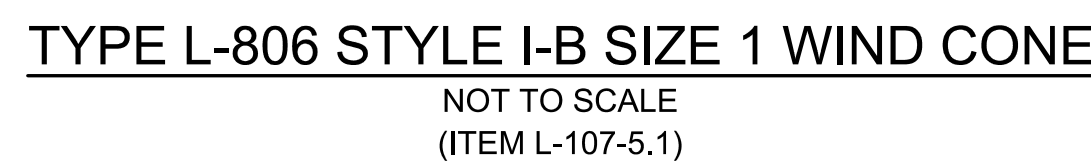
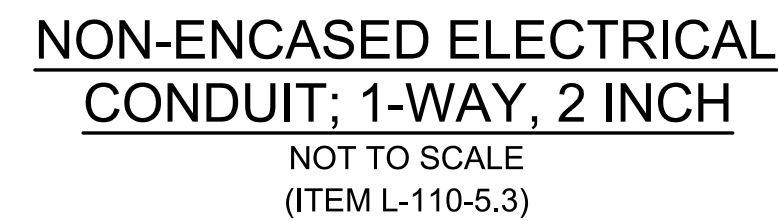
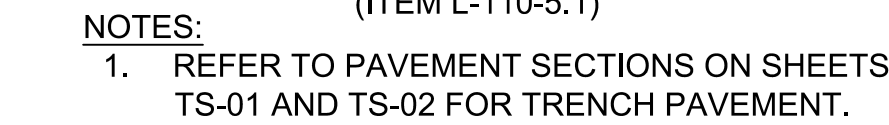






**CONCRETE ENCASED ELECTRICAL CONDUIT;**  
**1-WAY, 2 INCH IN NEW PAVEMENT**

NOT TO SCALE  
(ITEM L-110-5.1)



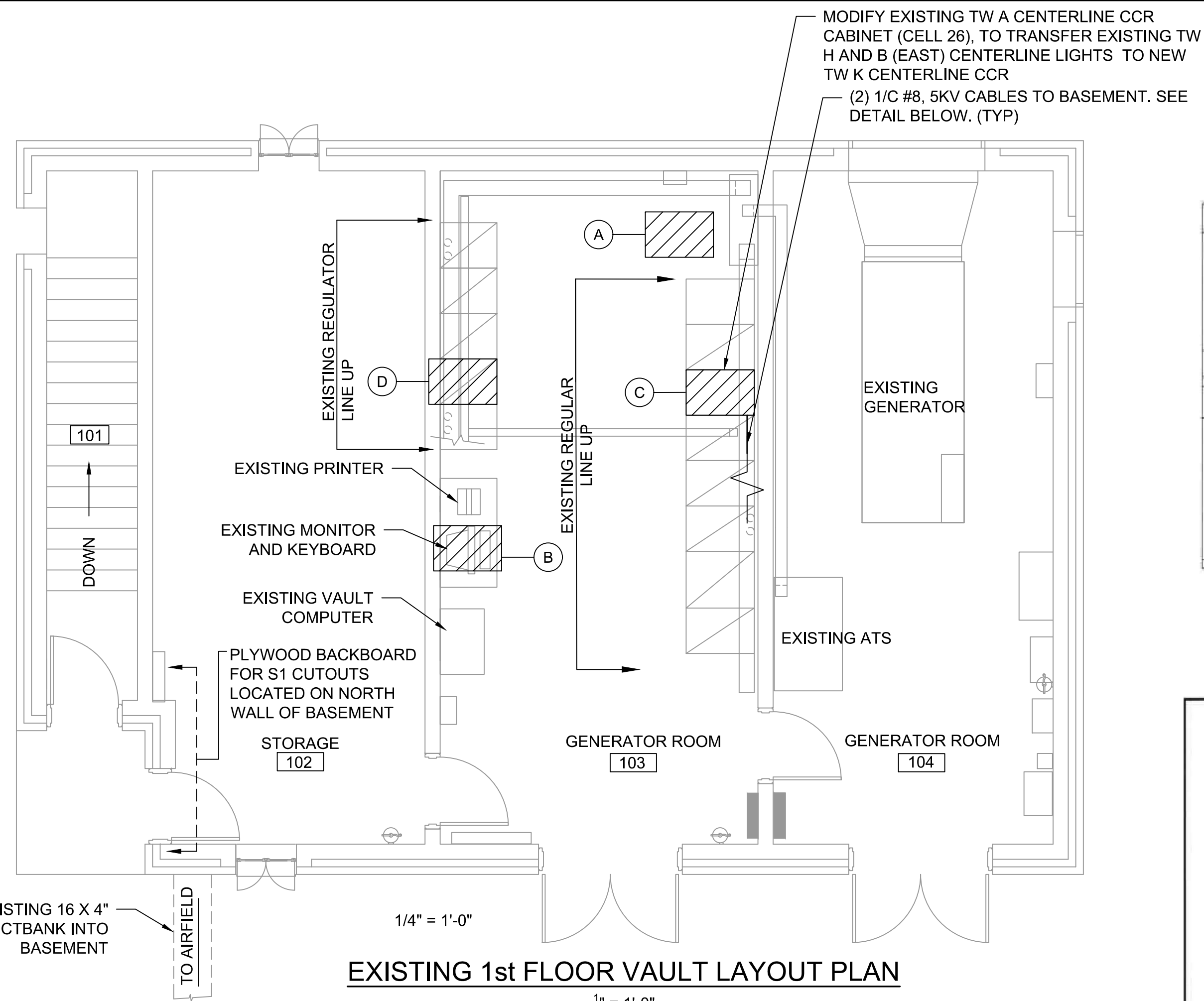
**ELECTRIC HANDHOLE NOTES:**

1. CONTRACTOR TO PROVIDE SHOP DRAWING OF PRECAST CONCRETE STRUCTURE, FRAME AND COVER TO ENGINEER FOR APPROVAL.
2. PRECAST CONCRETE HAND HOLE STRUCTURES SHALL BE DESIGNED TO SUPPORT A MINIMUM OF 100,000LB DUAL WHEEL LOADING. DESIGN CALCULATION SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER AND RPR, STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. STEEL REINFORCEMENT SHALL MEET REQUIREMENTS OF ASTM 615 WITH 1" MIN COVER. CONCRETE SHALL BE 5,000 LB COMPRESSIVE STRENGTH
3. PRECAST STRUCTURE SHALL HAVE A DRY WELL OR SUMP. AS WELL AS A 3" KNOCKOUT LOCATED ON THE SIDE OF THE HANDHOLE FOR DRAINAGE.
4. LOW VOLTAGE (600V) AND HIGH VOLTAGE (5000V) CONDUCTORS SHALL BE PLACED ON OPPOSITE SIDES OF THE MANHOLE STRUCTURE.
5. CONDUCTORS CABLES SHALL BE PROVIDED WITH SUFFICIENT SLACK TO REMOVE CABLES ABOVE GRADE FOR WORKING ON THE CABLES. CABLES SHALL BE BUNDLED, AND TIED TOGETHER FOR ORGANIZATION.
6. CONDUCTOR CABLES SHALL BE SUPPLIED WITH INDUSTRIAL CABLE TAGS TO IDENTIFY THE ELECTRICAL CIRCUIT. A MINIMUM OF TWO CABLE MARKERS ARE REQUIRED ON EACH CONDUCTOR SIDE OF SPLICE.
7. PROVIDE A PULLEY ON EACH WALL



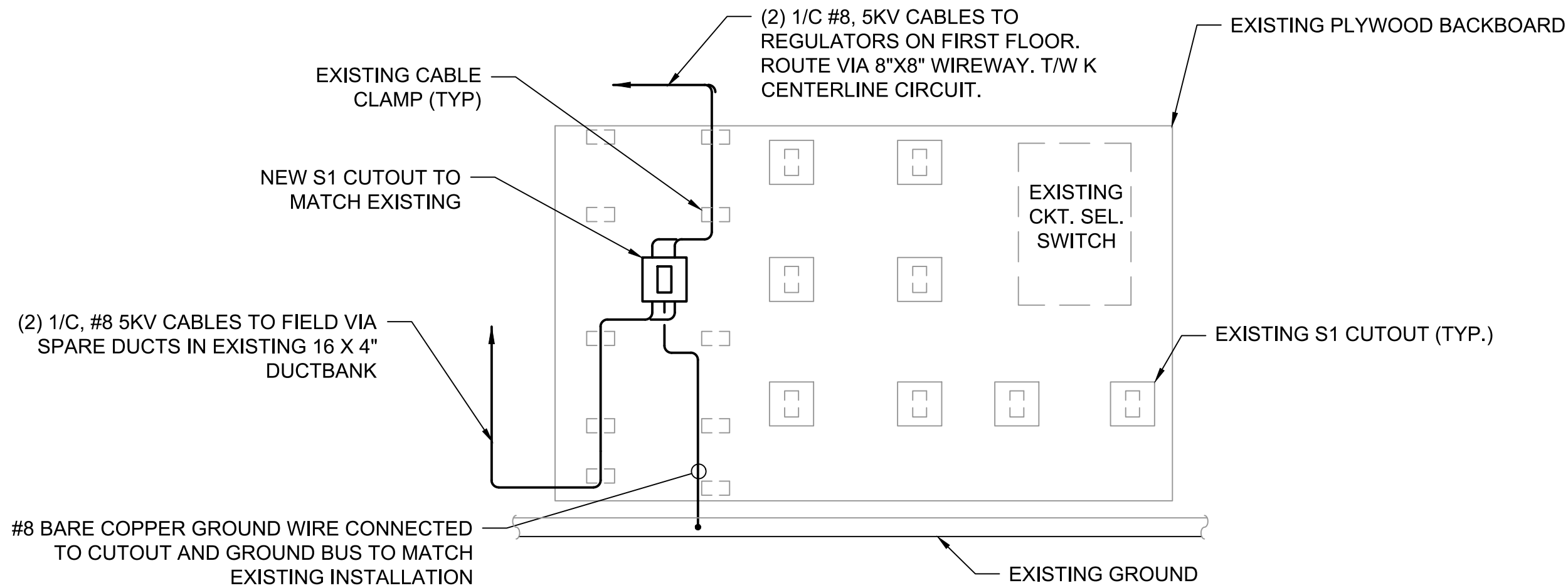
**ELECTRICAL HANDHOLE DETAIL**  
NOT TO SCALE  
(ITEM L-115-5.4)





EXISTING 1st FLOOR VAULT LAYOUT PLAN

1/4" = 1'-0"

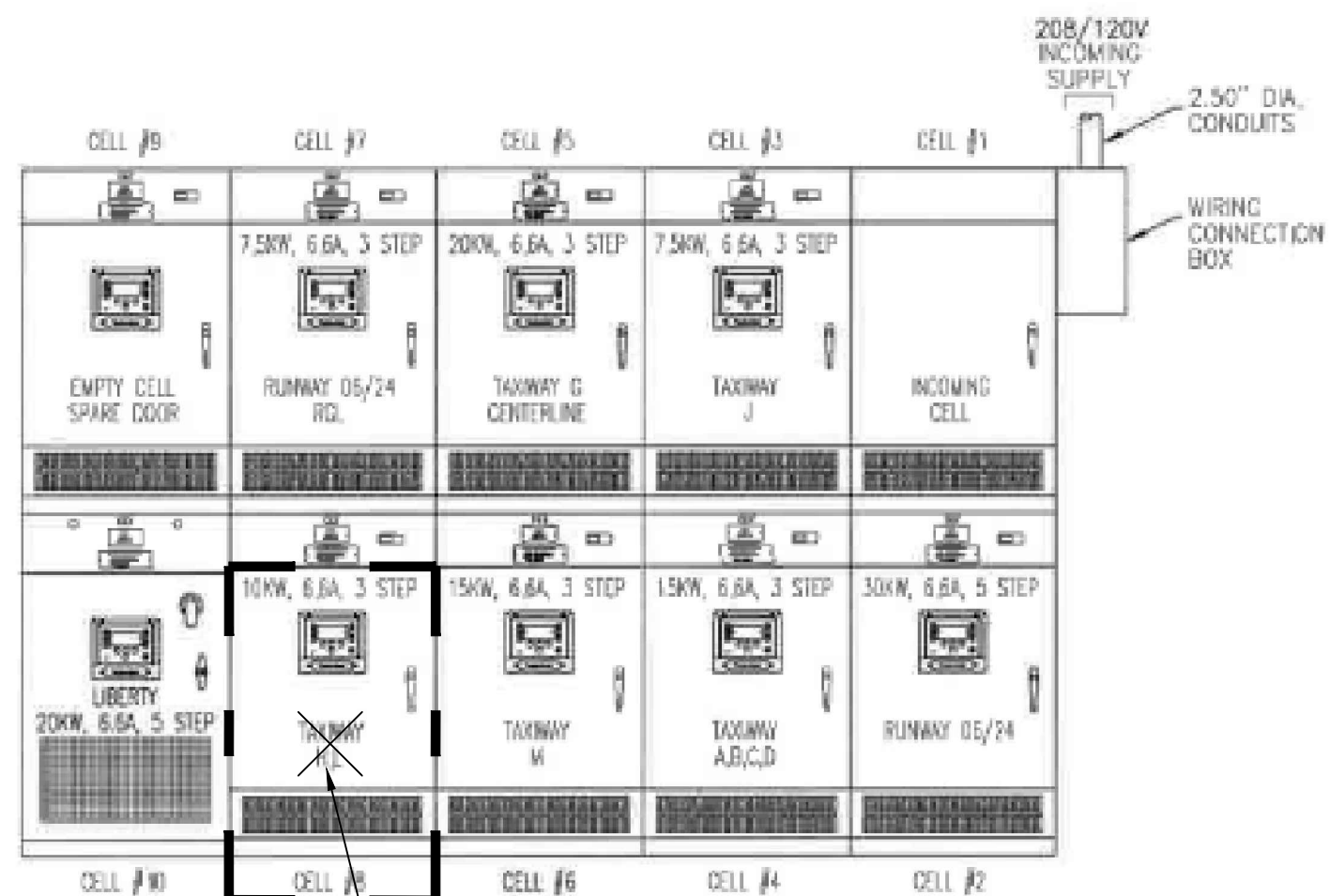


EXISTING S1 CUTOUT MOUNTING BOARD IN BASEMENT

NOT TO SCALE

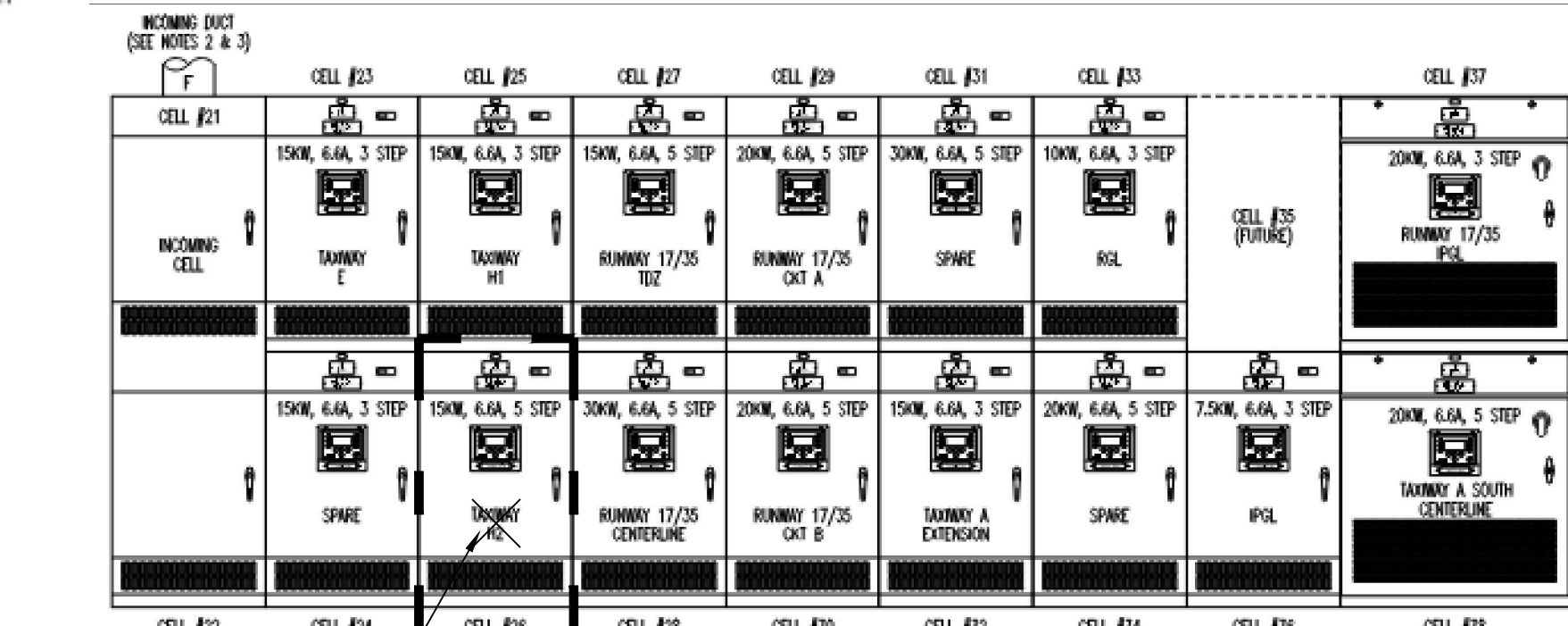
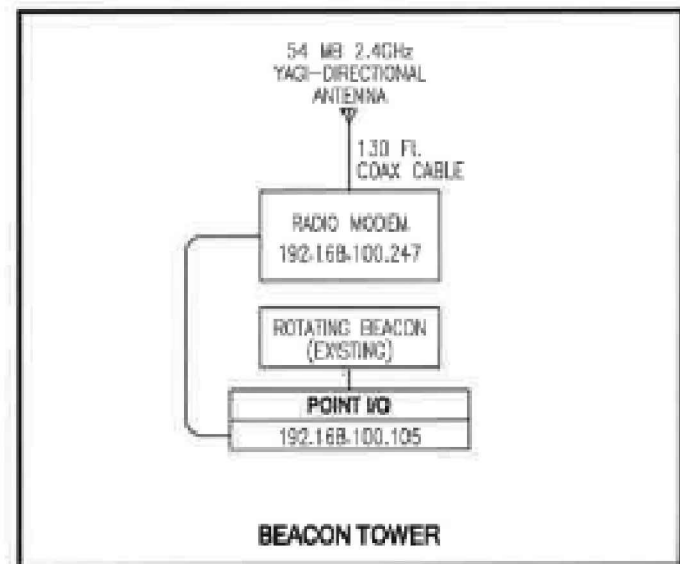
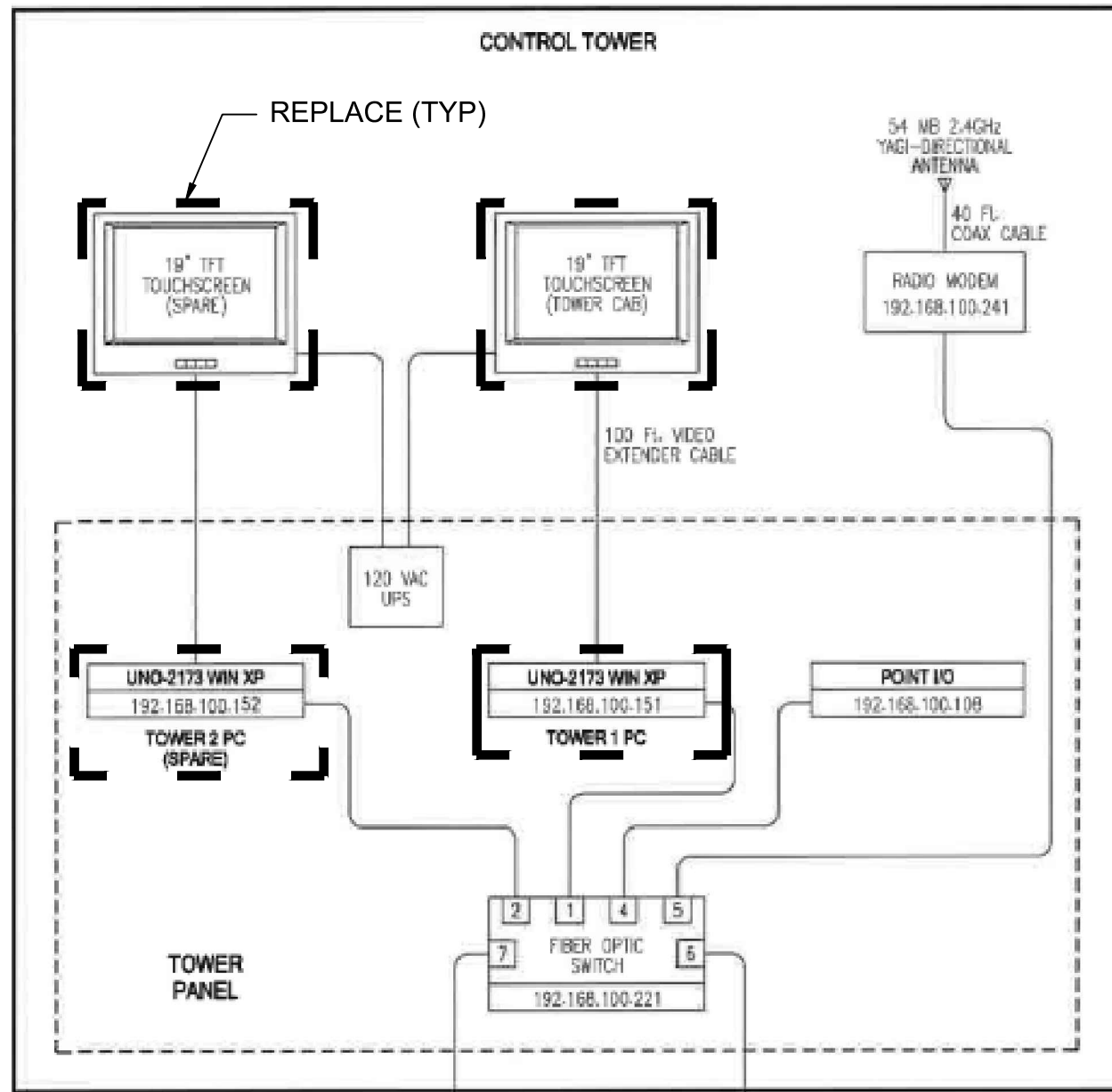
KEYNOTES:

- (A.) REFERENCE ITEM L-109 TECHNICAL SPECIFICATION. NEW TW K CENTERLINE CIRCUIT SHALL BE SERVED BY ONE SINGLE CCR (CELL TBD). THE CCR IN CELL 26 (SERVING TW A CENTERLINE LIGHTS) SHALL HAVE THE EXISTING TW H AND B (EAST) CENTERLINE LIGHTS TRANSFER CONNECTION TO THE TW K NEW CENTERLINE CIRCUIT. CCR SHALL BE PREPARED TO THE FOLLOWING SPECS:
1. NEW L-829 15KW SIZE
  2. 6.6A OUTPUT
  3. PROGRAM TO BE 5 BRIGHTNESS STEPS
  4. FERRORESONANT STLYE CCR
  5. PROVIDE CONTROLS BACK TO EXISTING ALCMS
  6. PROVIDE CCR CIRCUIT BREAKER AS REQ'D. BY SWITCHGEAR VENDOR.
- (B.) REFERENCE ITEM L-109 AND M-300 TECHNICAL SPECIFICATIONS. EXISTING ALCMS SHALL BE PROGRAMMED BY ADB-SAFEGATE TO MODIFY THE SYSTEM TO ADD THE NEW TAXIWAY K CENTERLINE LIGHTS AND MODIFY THE RUNWAY GUARD LIGHTS AND TW K (FORMERLY TW H-L) EDGE LIGHTS INTO THE GRAPHICS AND CONTROLS OF THE ALCMS.
- (C.) MODIFY EXISTING CCR TO TRANSFER EXISTING TW H AND TW B CENTERLINE LIGHTS TO NEW CCR SPECIFIED IN KEYNOTE A. WORK INCLUDED FOR PAYMENT AS PART OF KEYNOTE A.
- (D.) SUPPLY NEW CCR FOR EXISTING TW H-L CELL TO NEW TW K EDGE LIGHTS.
1. NEW L-829 10KW SIZE
  2. 6.6A OUTPUT
  3. PROGRAM TO BE 3 BRIGHTNESS STEPS
  4. FERRORESONANT STLYE CCR
  5. PROVIDE CONTROLS BACK TO EXISTING ALCMS
  6. PROVIDE CCR CIRCUIT BREAKER AS REQ'D BY SWITCHGEAR VENDORS
- NOTE: NEW HOME RUN CABLING FOR TW K EDGE LIGHT CIRCUIT TO CONNECT TO EXISTING CUT OUT FOR EXISTING TW H-L EDGE LIGHT CIRCUIT.



FRONT ELEVATION

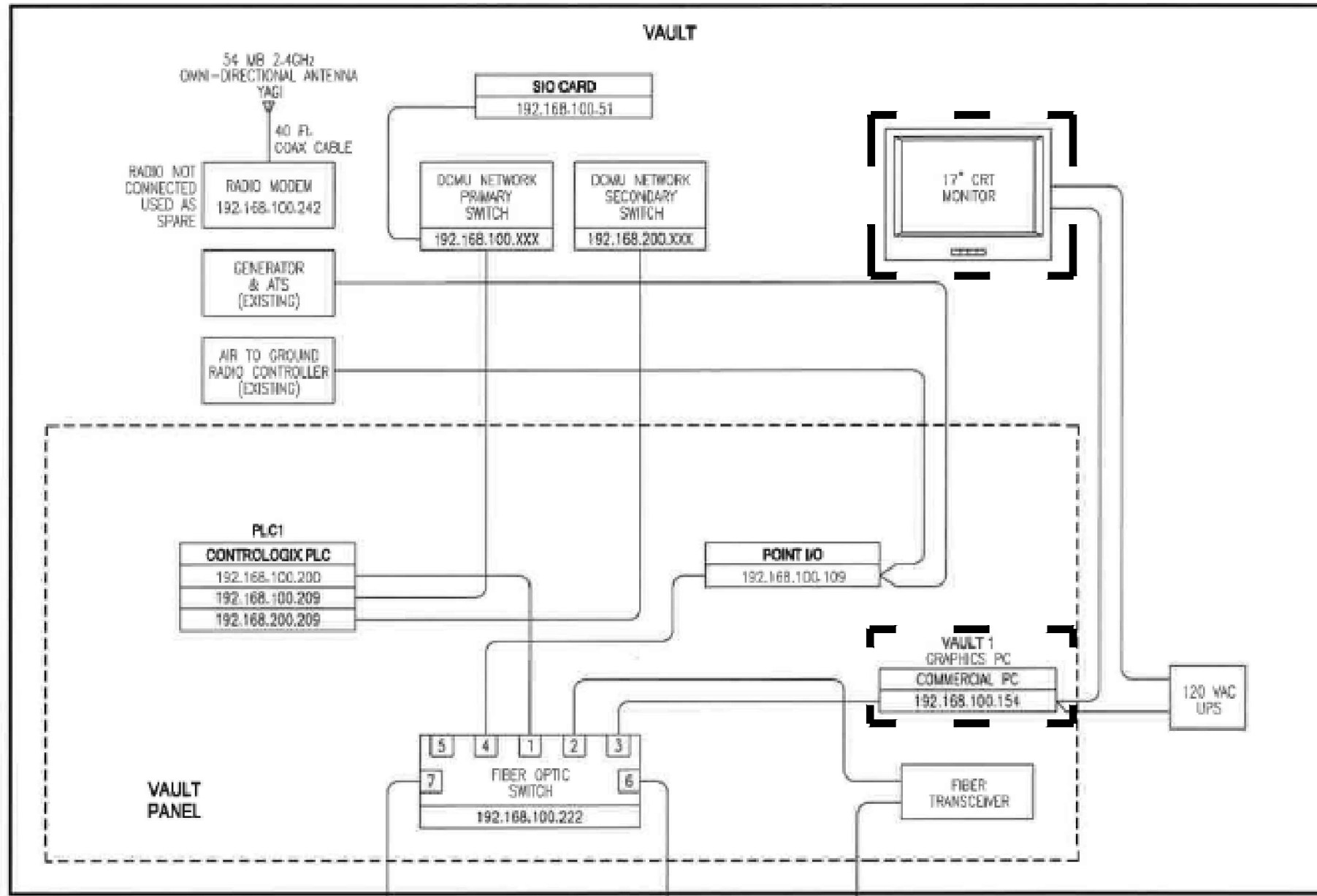
CCR TO BE REPLACED WITH NEW 10KW, 6.6 AMP 3 STEP FERRORESONANT CCR, EXISTING CCR TO BECOME A SPARE IF NEW CCR CAN NOT FIT IN THE SPACE.



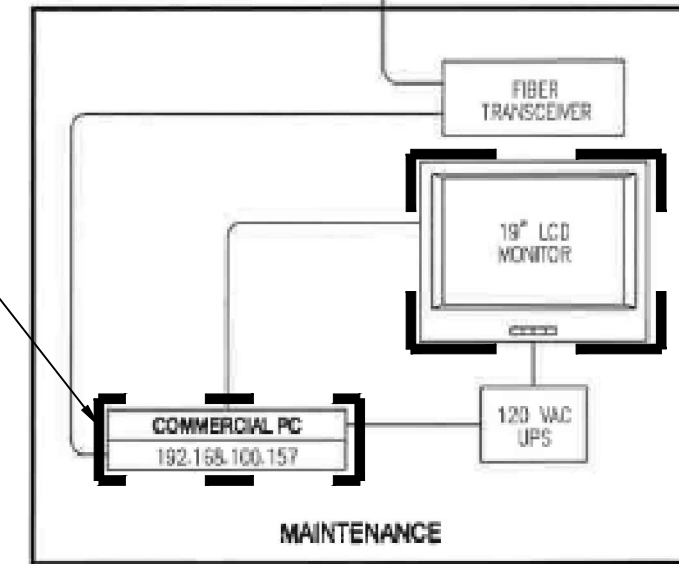
FRONT ELEVATION

ACTUALLY TW A CENTERLINE

TRANSFER TW H AND TW B (EAST) CENTERLINE LIGHT LOAD TO NEW TW K CENTERLINE CCR



PROVIDE NEW REMOTE ACCESS FOR MANUFACTURER WITH NEW INTERNET ACCESS MODEM



NOTE:  
FOR P. 11A

PROPOSED AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS) MODIFICATIONS

NOT TO SCALE

NOTES:

1. REPLACE TOWER PC (AT ALL 4 NODES).
2. REPLACE 19" TFT TOUCH SCREEN AT ATCT AND REPLACE MONITORS AT VAULT AND MAINTENANCE/OPERATIONS BUILDING WITH NEW EQUIPMENT.
3. PROVIDE NEW REMOTE ACCESS MODEM AT MAINTENANCE/OPERATIONS BUILDING COMPUTER.
4. UPGRADE SOFTWARE FOR EXISTING ALCMS SYSTEM TO REPLACE OBSOLETE PROGRAMMING.
5. ALL GRAPHIC AND CONTROL MODIFICATIONS RELATING TO THIS PROJECT SHALL BE PERFORMED.
6. ALL ALCMS EQUIPMENT AND PROGRAMMING MODIFICATIONS TO BE PERFORMED UNDER AN AGREEMENT BETWEEN MHT AND THE VENDOR (ADB-SAFEGATE), BUT PAID AS PART OF AN ALLOWANCE IN THE CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE FINAL INSTALLATION OF ALL MODIFICATIONS WITH THE ALCMS VENDOR.
7. REFER TO M-300 TECHNICAL SPECIFICATION.



PROJECT DESIGNER  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5002  
PH: 603-225-2978 FAX: 603-225-0095

DRAWN BY: RHL  
CHECKED BY: BMB  
DESIGNED BY: SSS



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

ELECTRICAL DETAILS (5 OF 5)

SCALE: N.T.S. DATE: MARCH 2021

REVISIONS		DESCRIPTION	BY
REV. NO.	DATE		

MJ PROJ. No.: 18700.01  
FILE NAME:  
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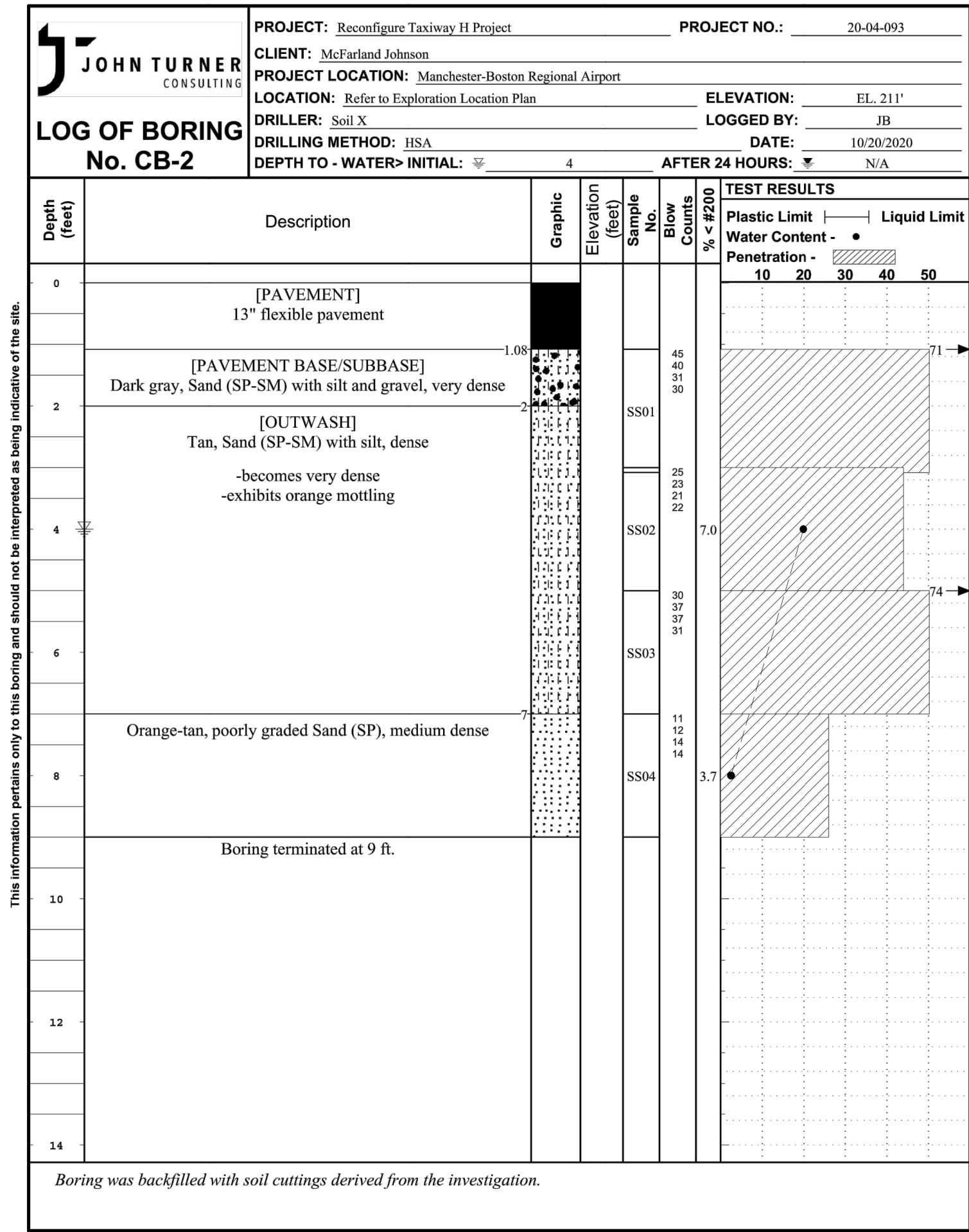
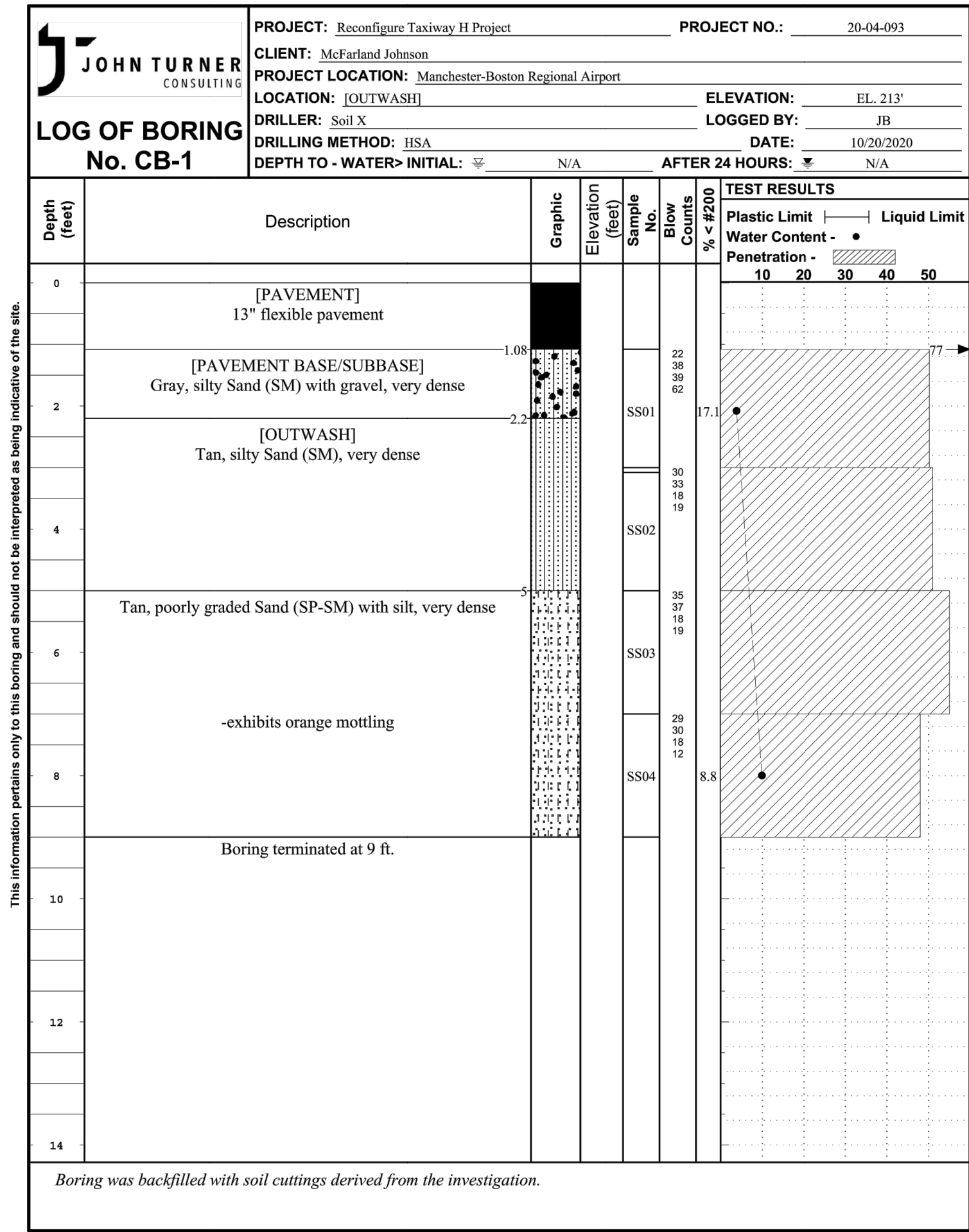
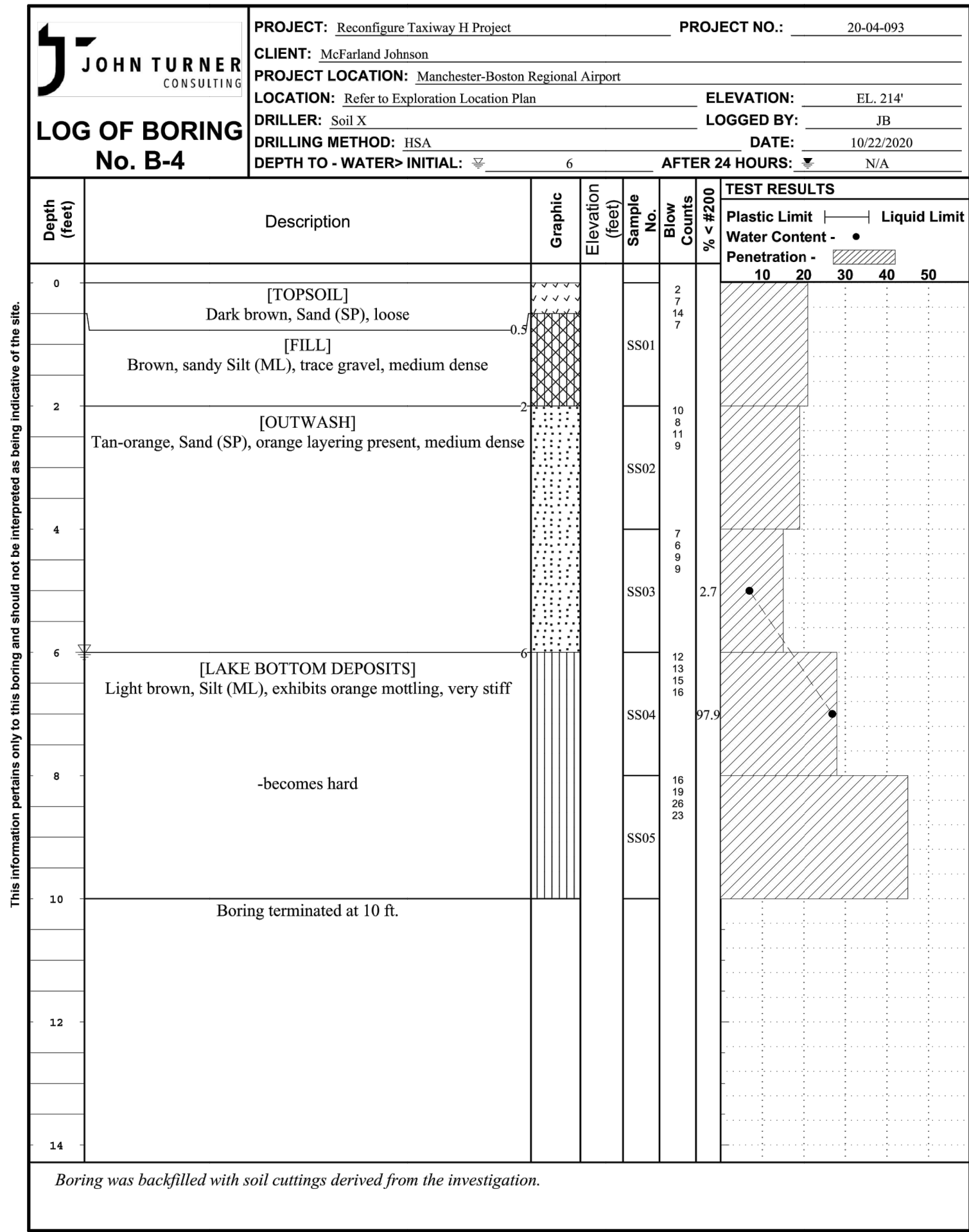
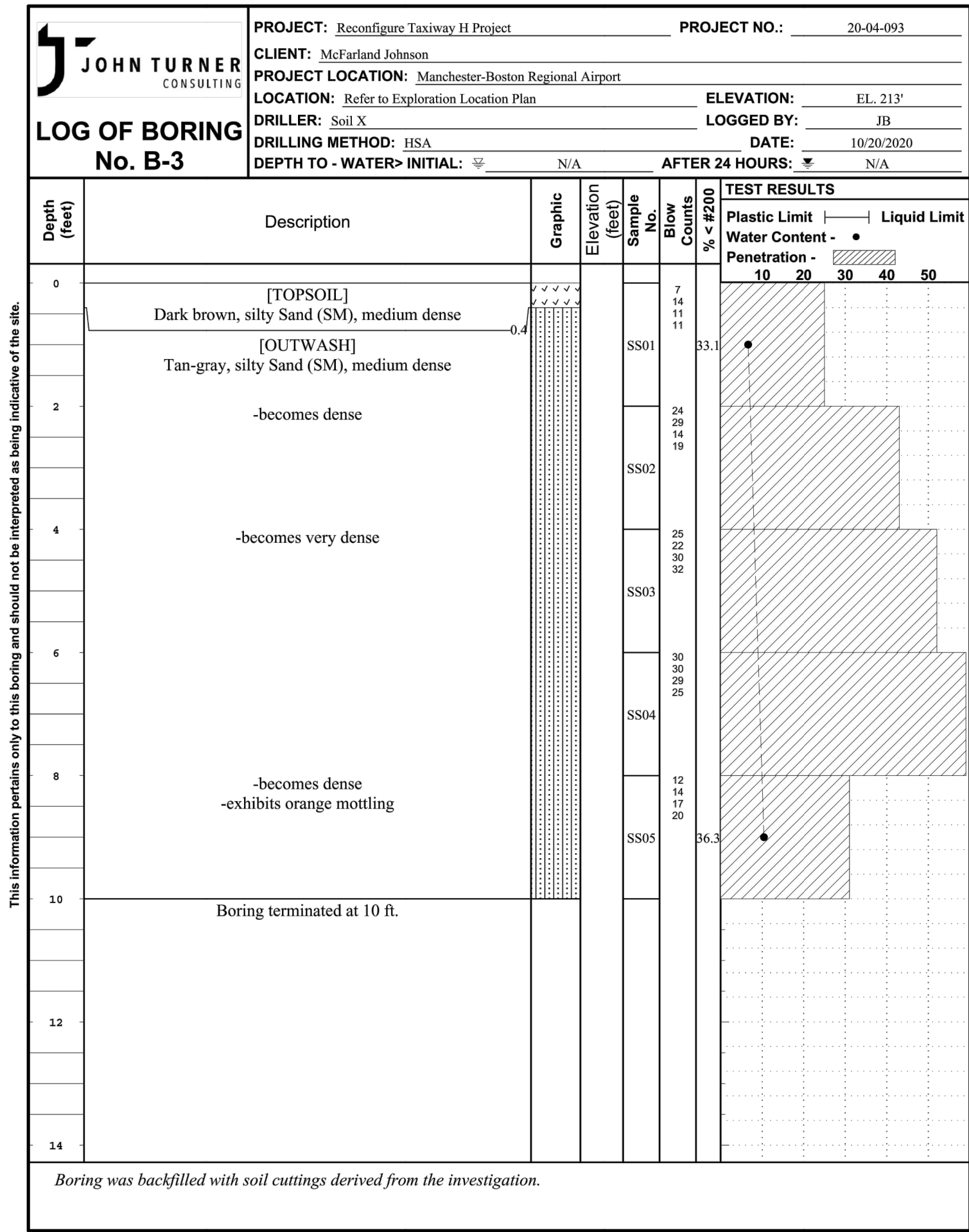
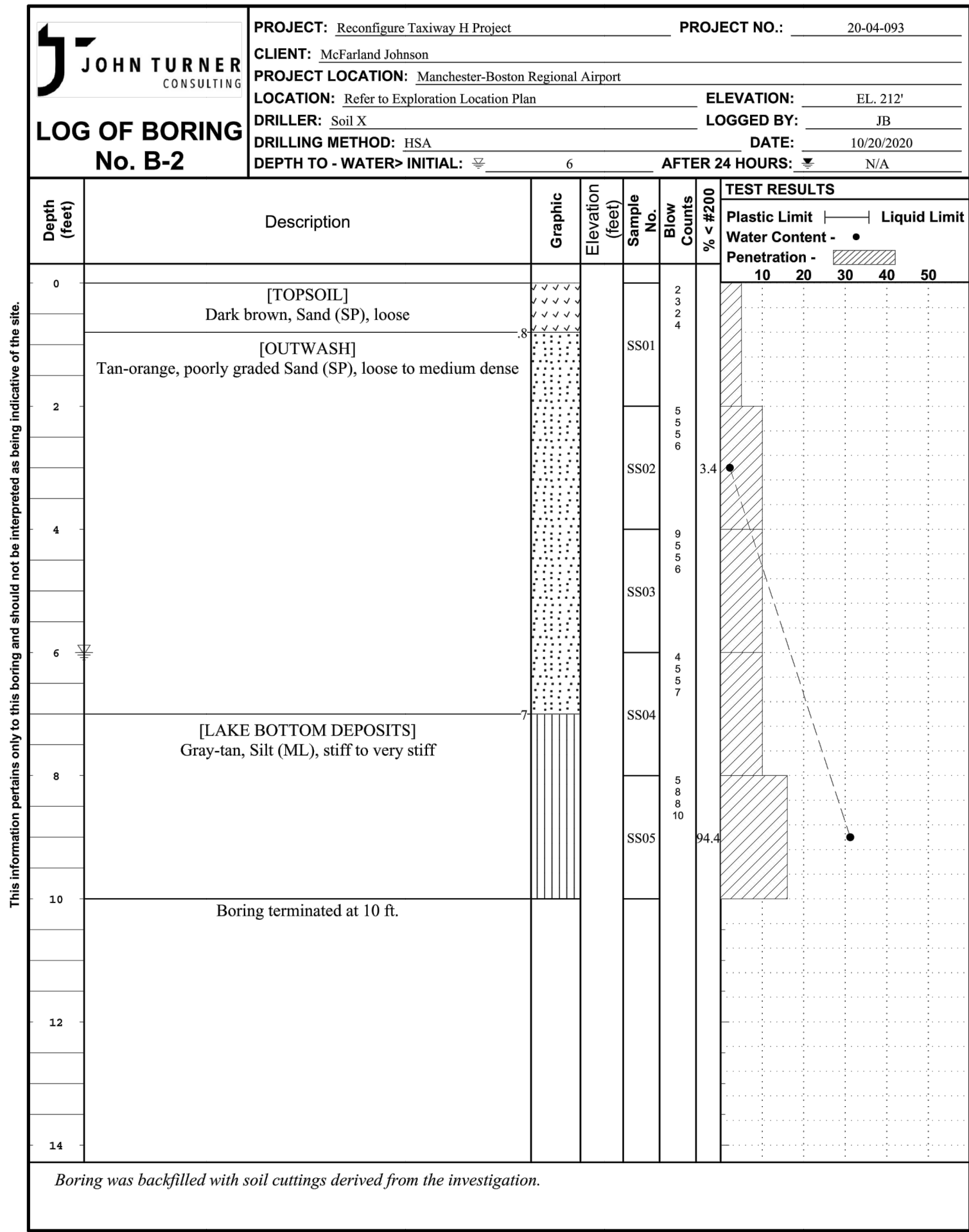
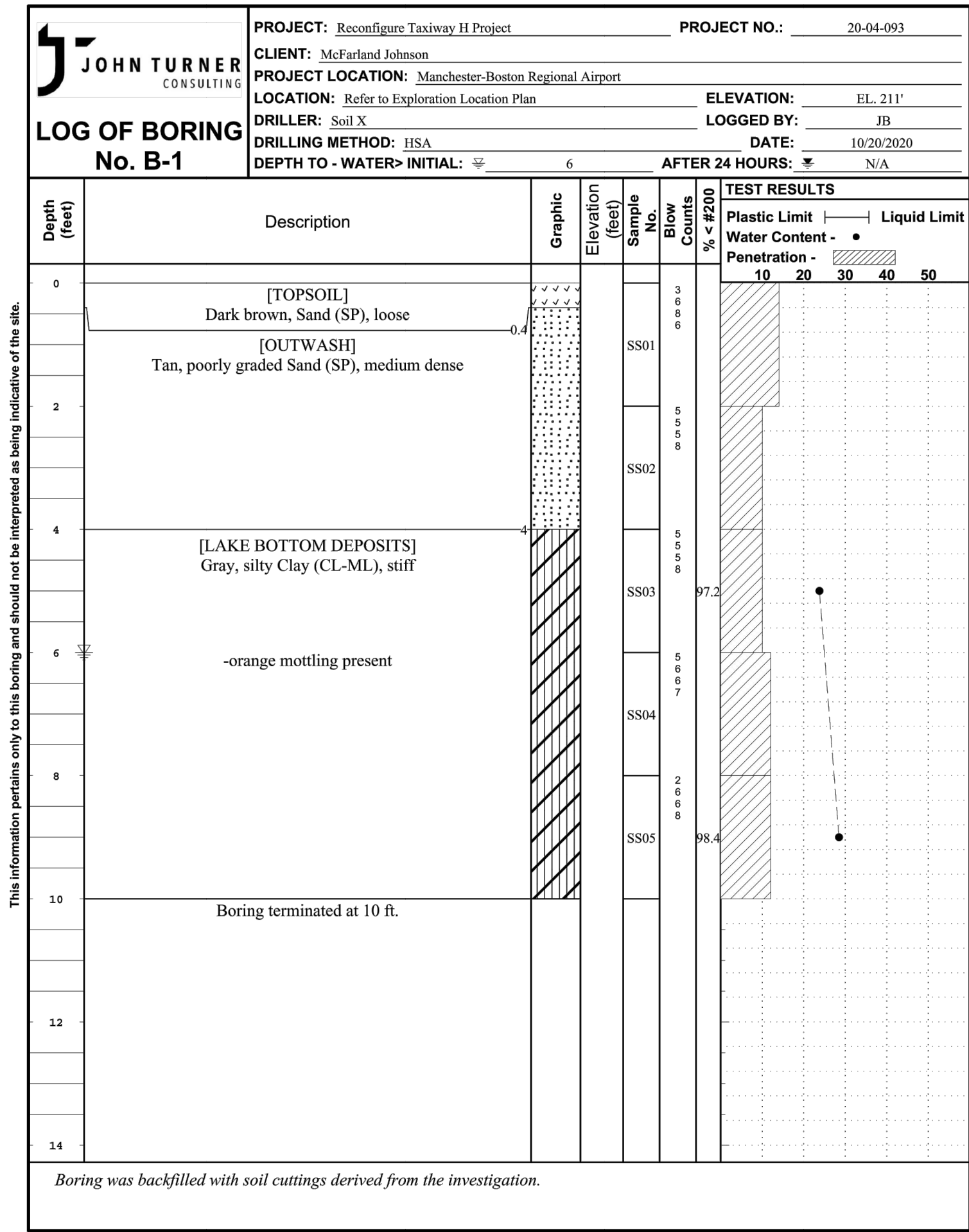
DRAWING NO.  
**EP-08**

SHEET 44 OF 60









- NOTES:
- FOR BORING / CORING / TESTING LOCATIONS SEE SHEETS EX-01 TO EX-03.
  - GEOTECHNICAL INVESTIGATION PERFORMED BY JOHN TURNER CONSULTING FROM 10/20/2020 TO 10/22/2020.
  - REFER TO SPECIFICATIONS FOR COMPLETE GEOTECHNICAL REPORT.

ENGINEER'S SEAL

PROJECT DESIGNER

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

McFarland Johnson

53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

BORING LOGS (1 OF 2)

DATE: MARCH 2021

SCALE: N.T.S.

REV. NO.

DATE

DESCRIPTION

BY

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

BL-01

SHEET 46 OF 60

REV



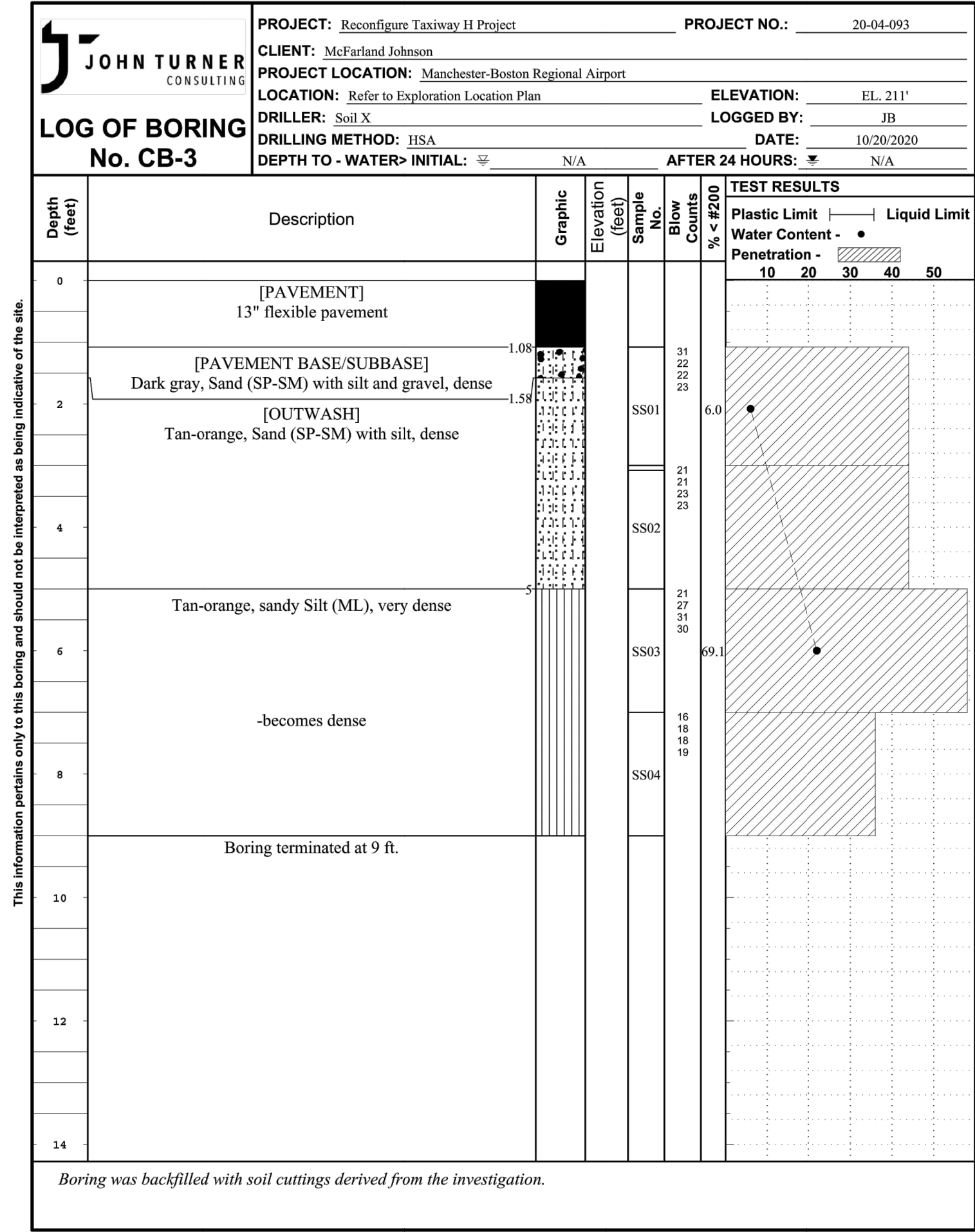


Figure PAGE 1 of 1

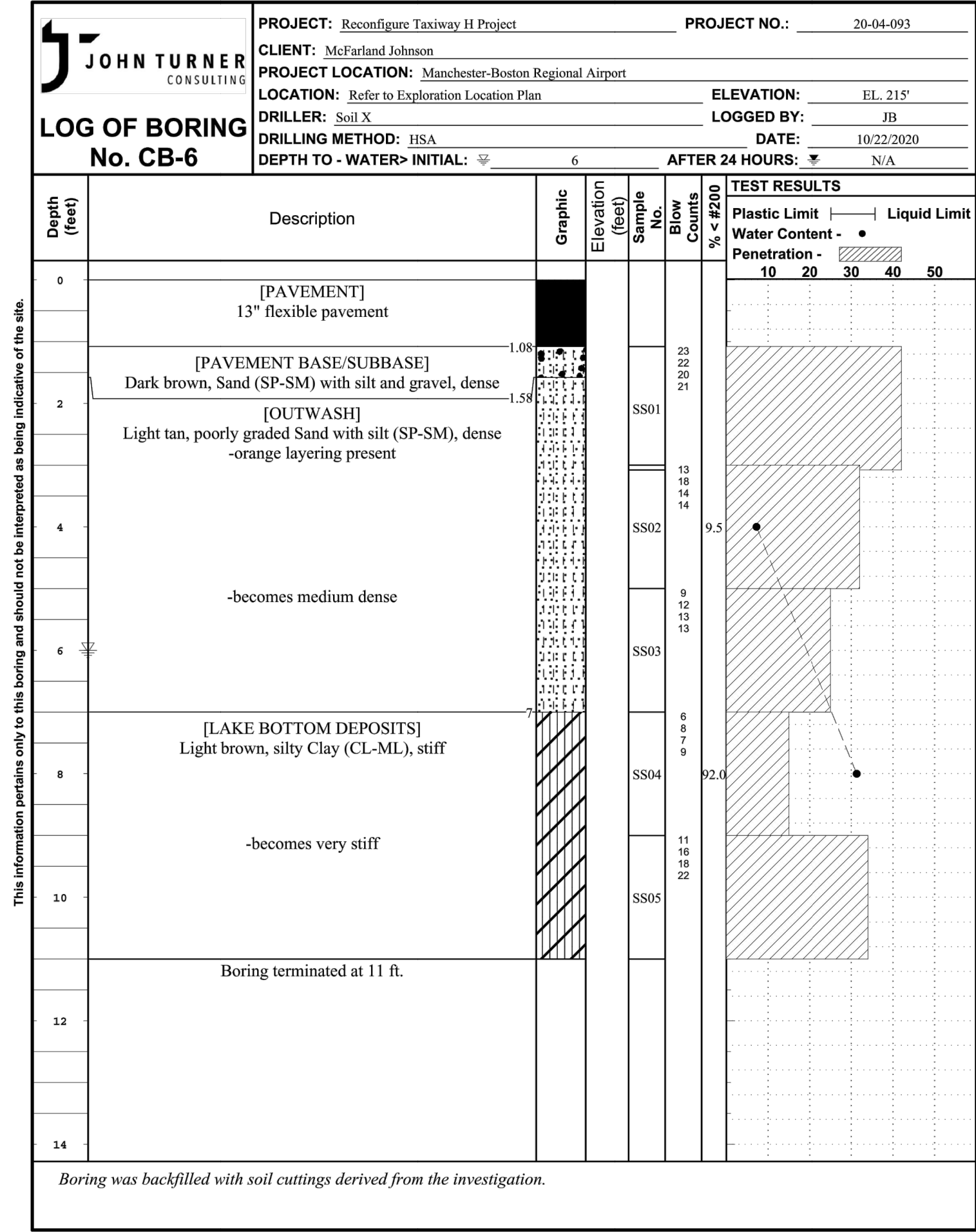


Figure PAGE 1 of 1

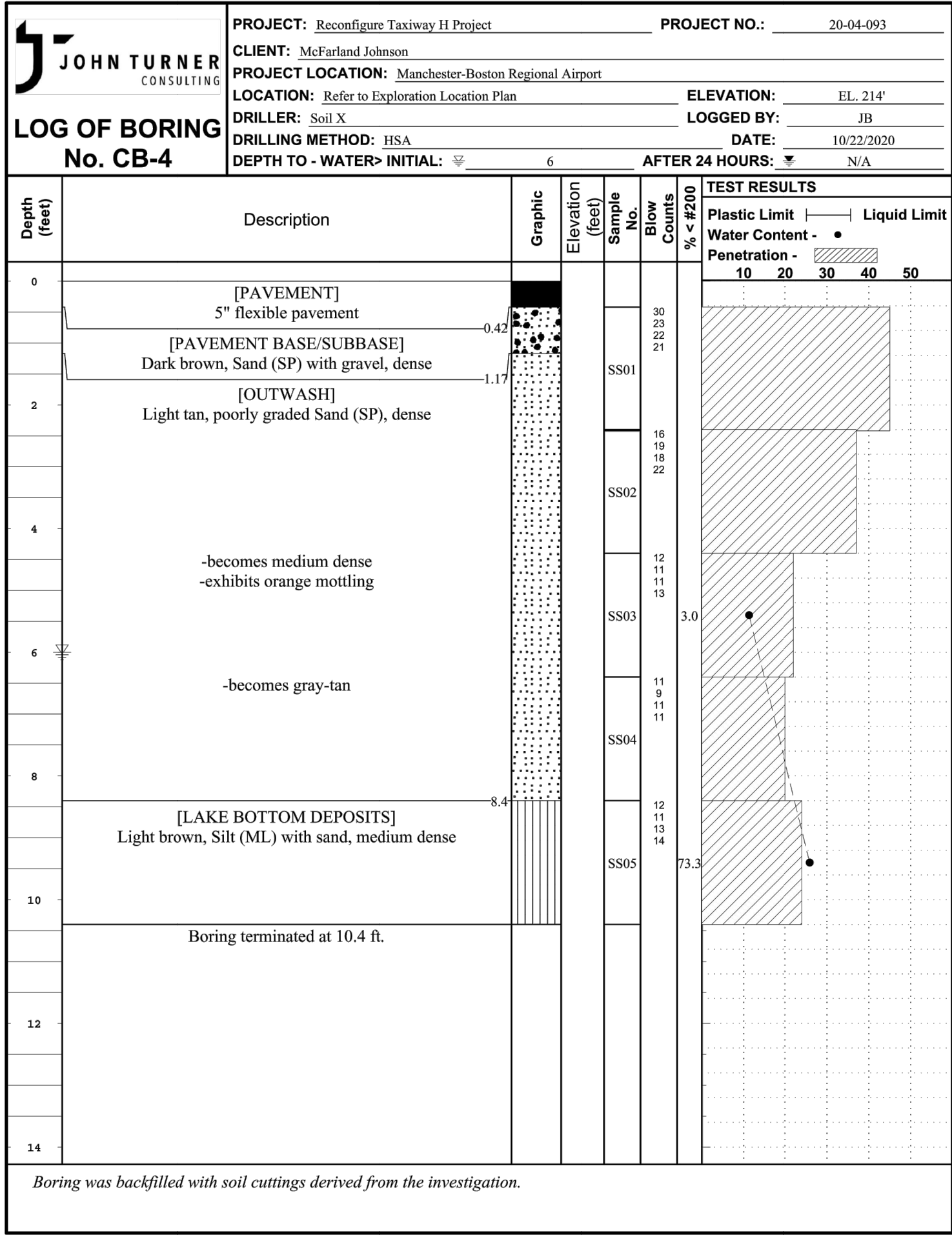


Figure PAGE 1 of 1

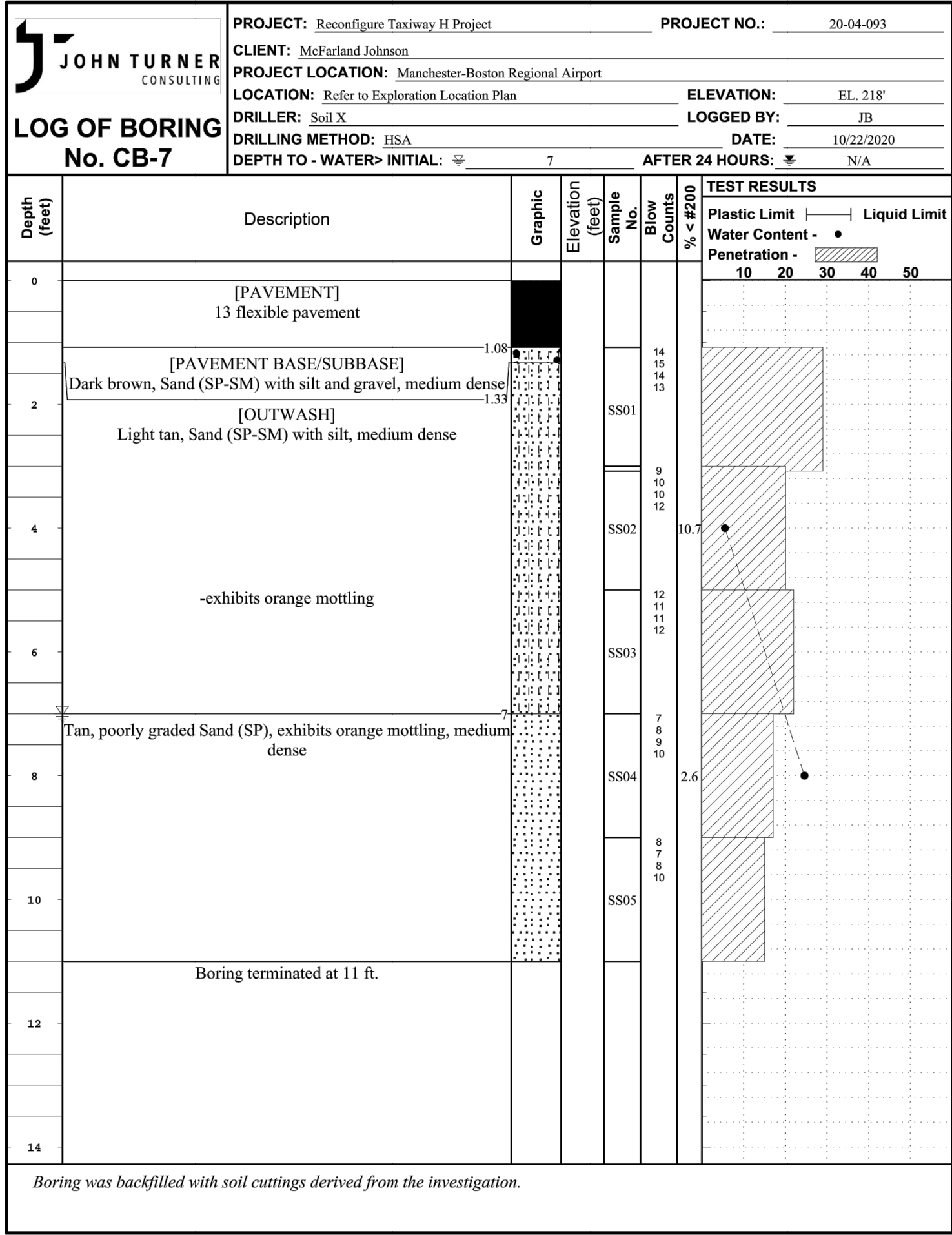


Figure PAGE 1 of 1

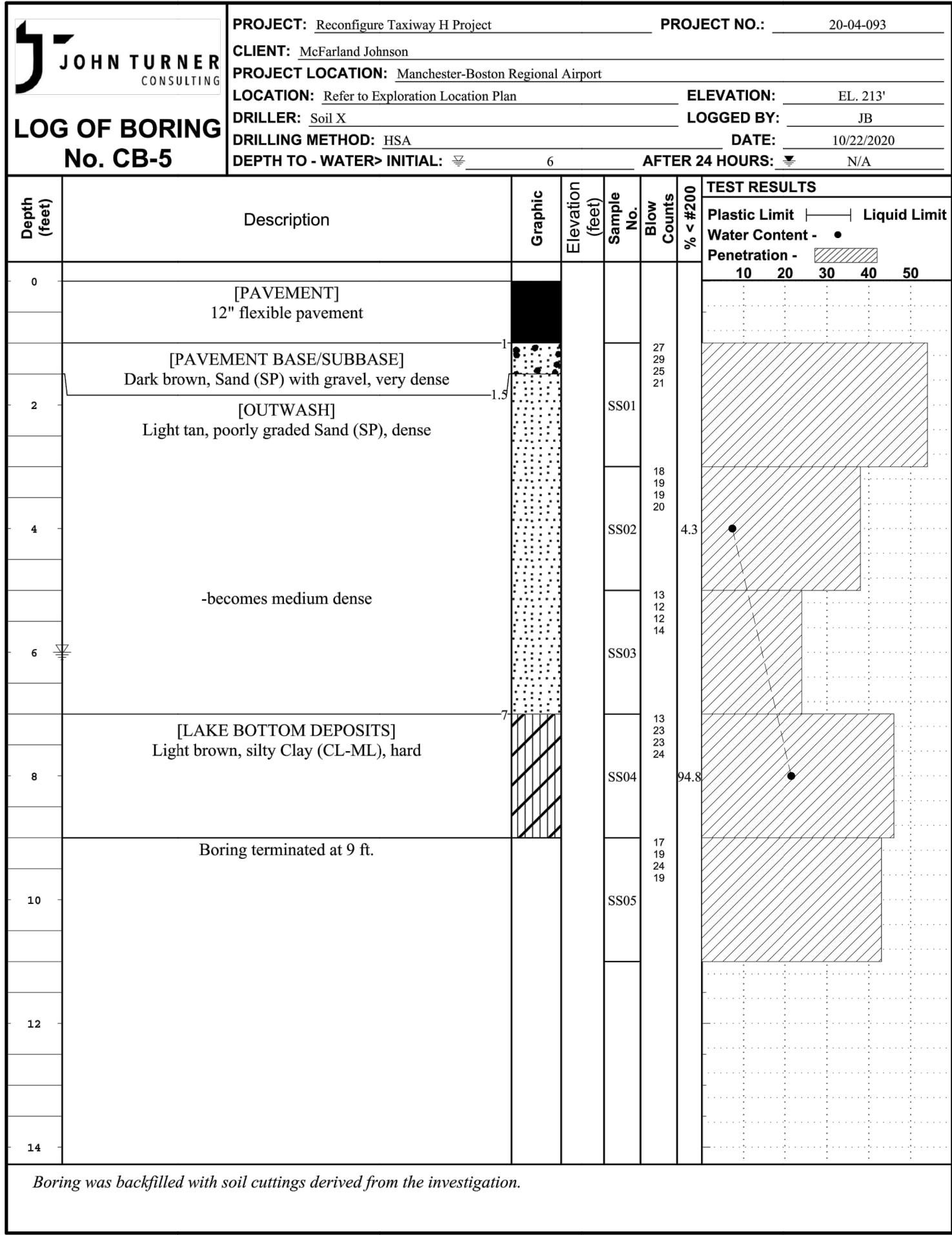
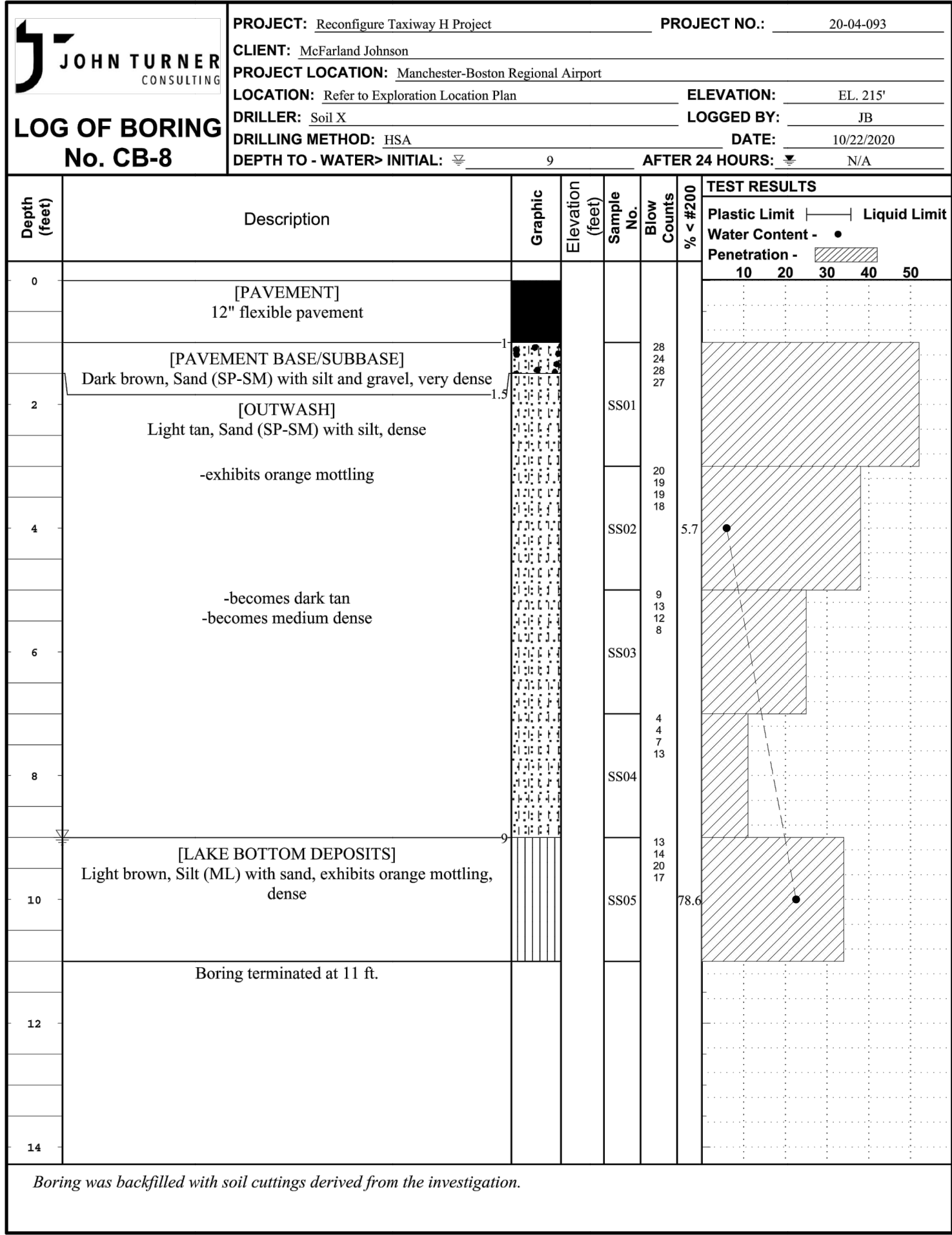
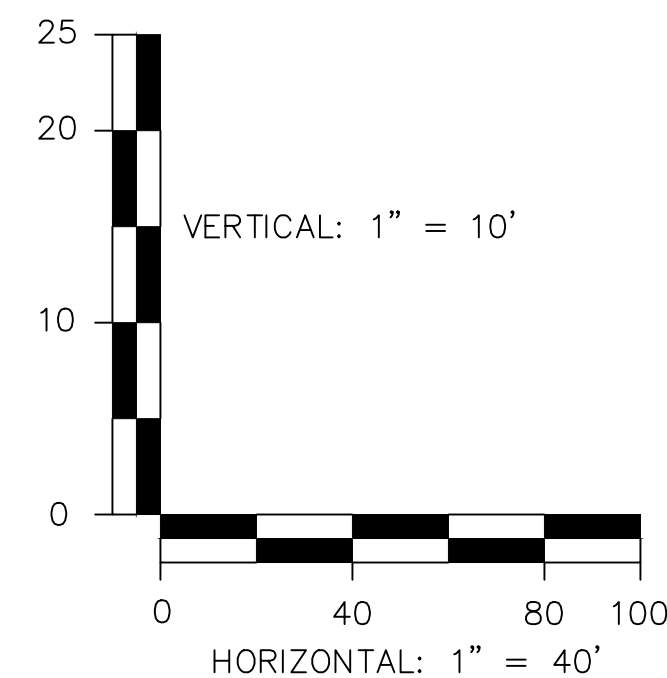


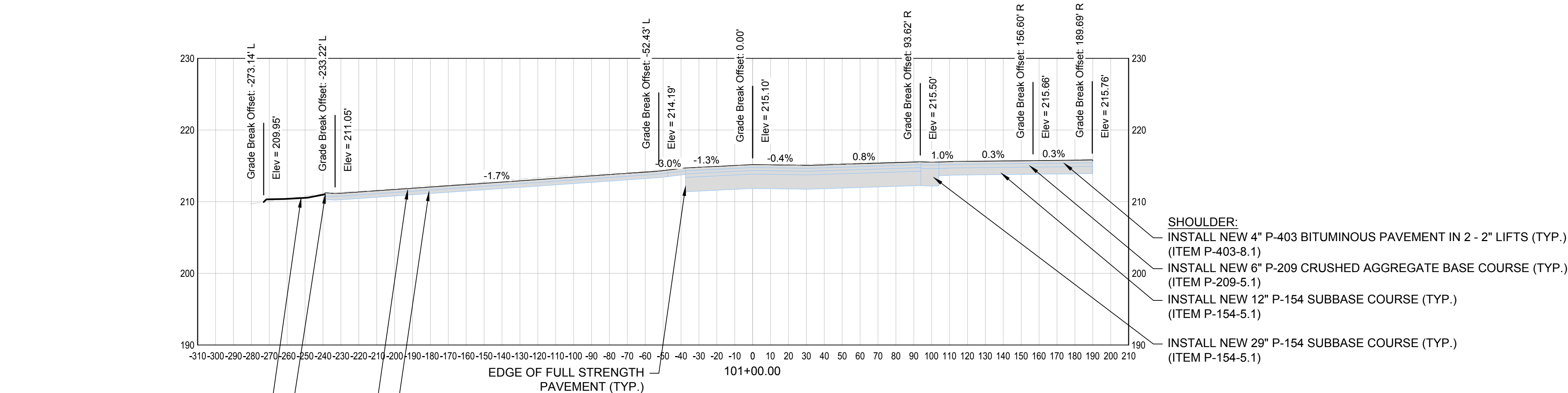
Figure PAGE 1 of 1







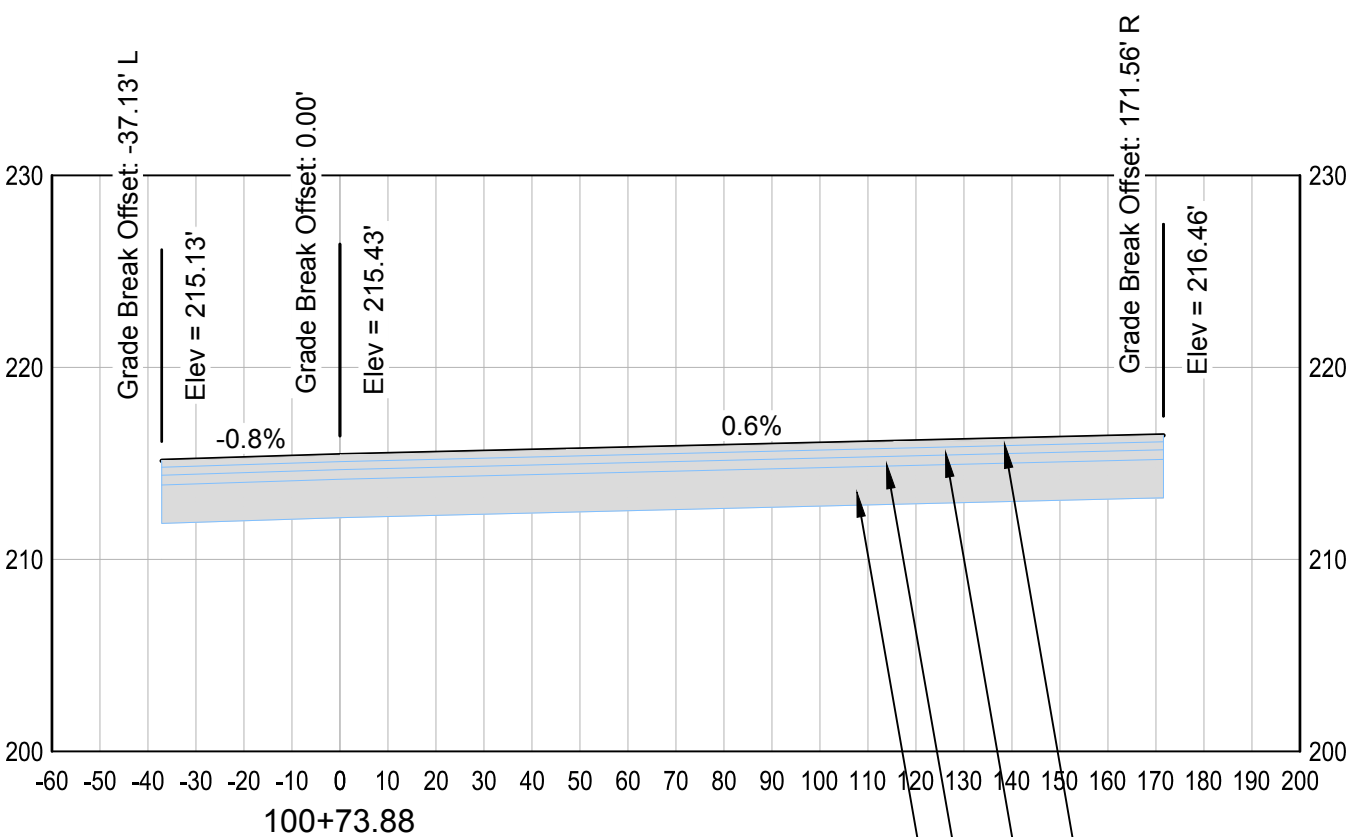
NOTES:  
1. FOR TYPICAL SECTION AND PAVEMENT DETAILS SEE SHEETS TS-01 AND TS-02.



INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)  
CONSTRUCT NO GREATER THAN 1-1/2"  
DROP AT EDGE OF PAVEMENT (TYP.)

SHOULDER:  
INSTALL NEW 4" P-403 BITUMINOUS  
PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED  
AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)

SHOULDER:  
INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)  
INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)



TAXIWAY K1  
SECTION C-C

FULL STRENGTH:  
INSTALL NEW 4" P-401 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-401-8.1)  
INSTALL NEW 5" P-403 BITUMINOUS PAVEMENT IN 2 - 2-1/2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 24" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

ENGINEER'S SEAL

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CROSS SECTIONS (1 OF 13)  
SCALE: 1"=40'  
DATE: MARCH 2021

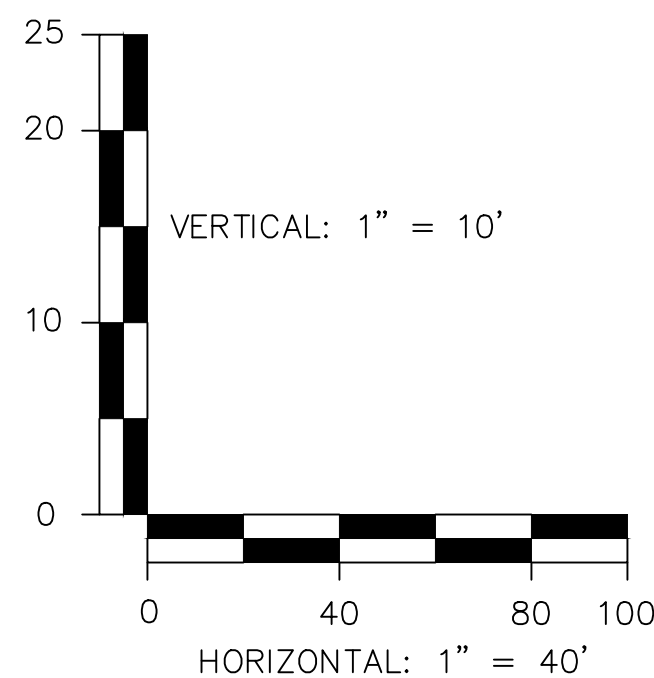
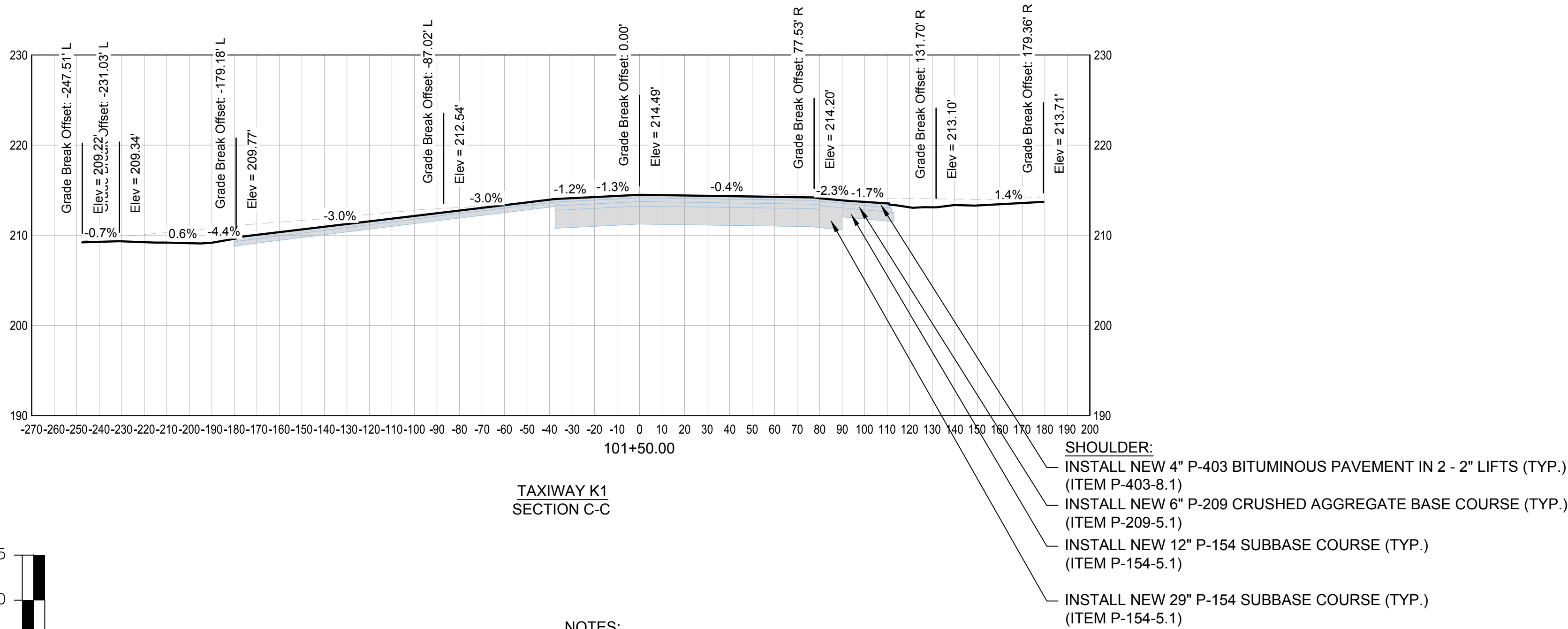
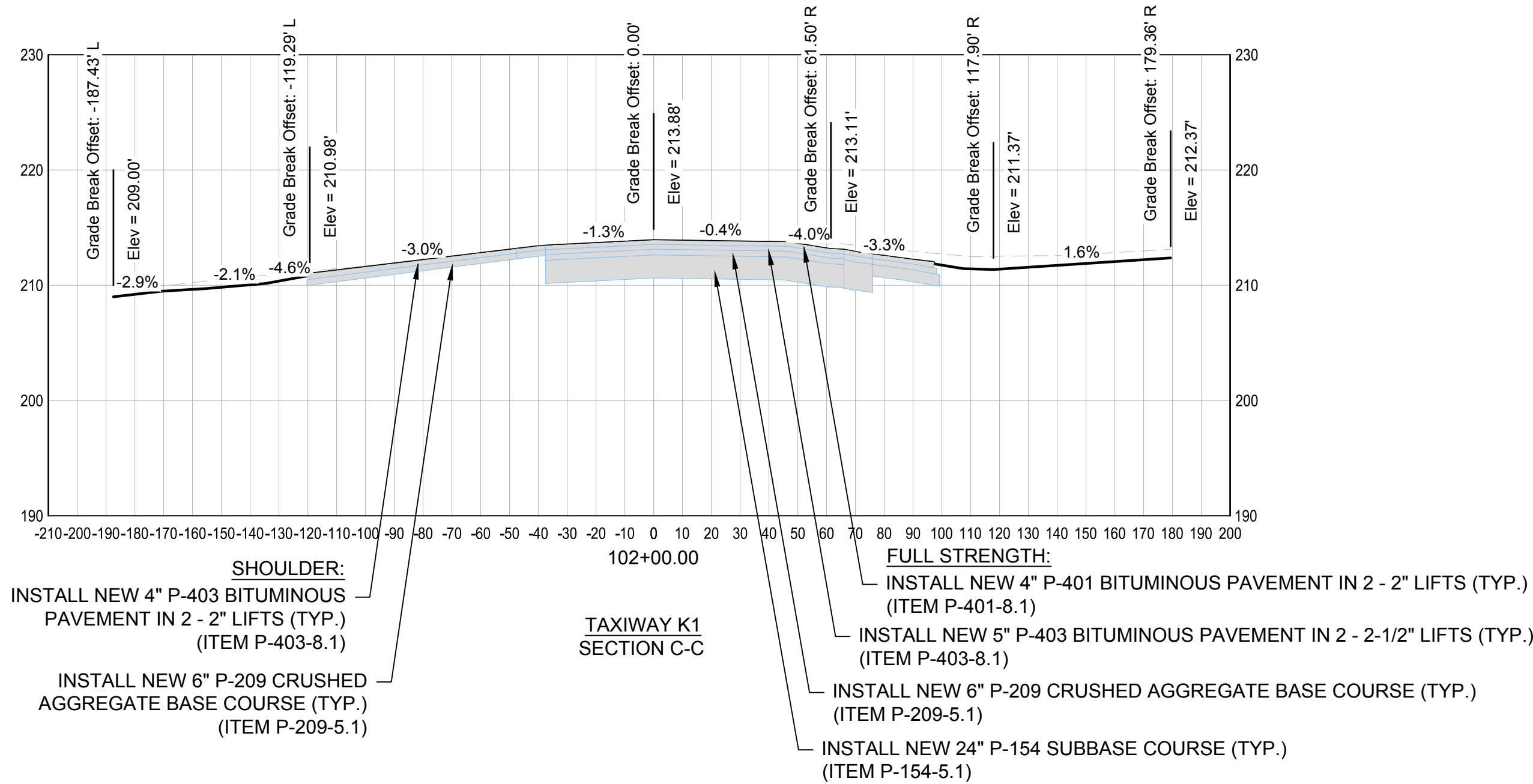
REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

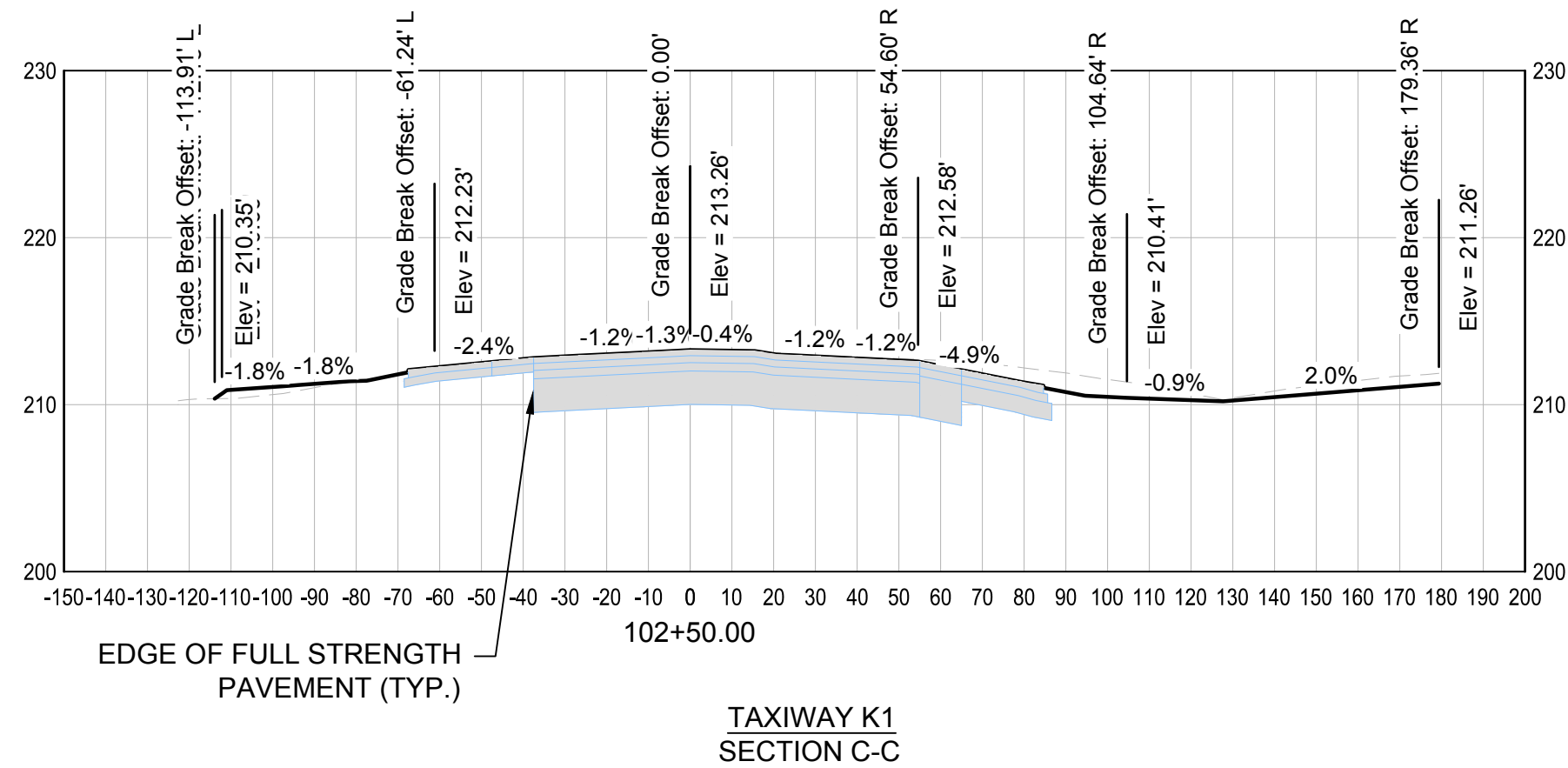
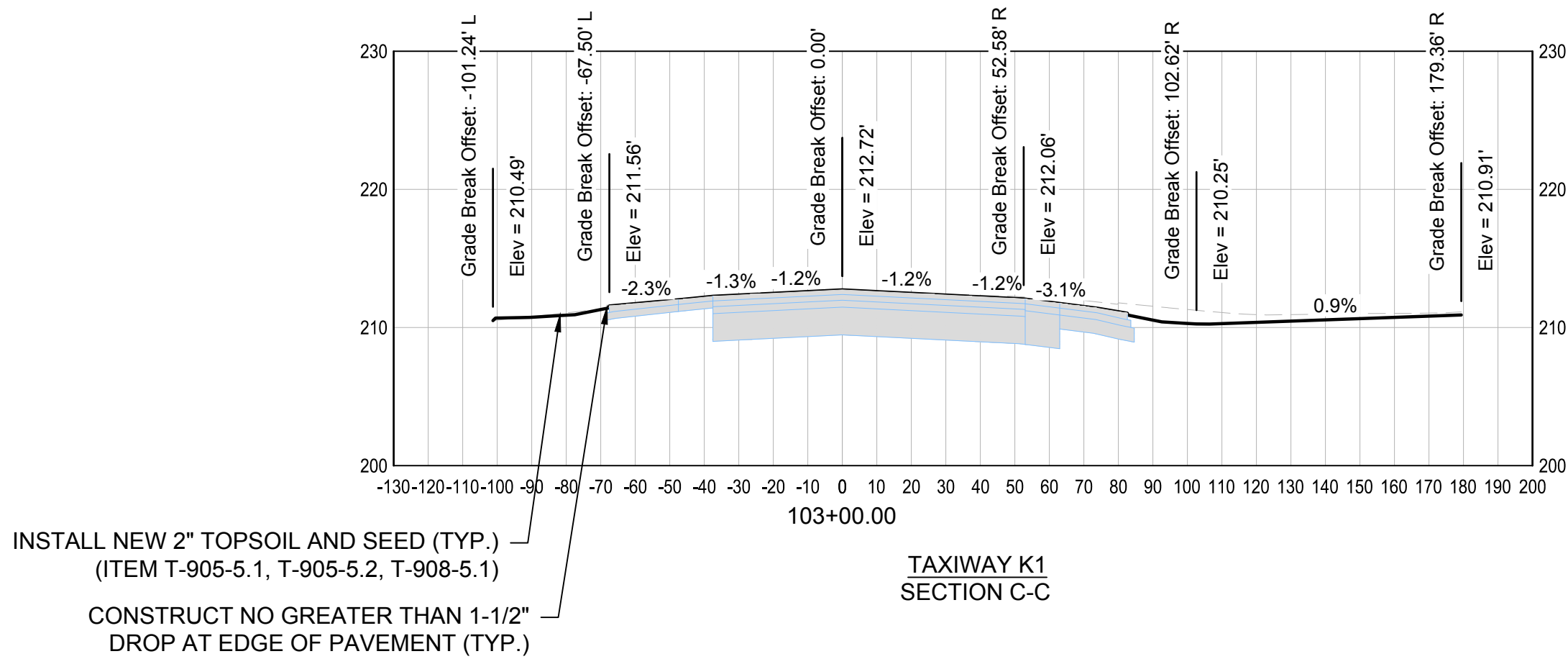
DRAWING NO.  
  
XS-01

SHEET 48 OF 60





NOTES:  
1. SEE SHEET XS-01.



ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (2 OF 13)

REV. NO.	DATE	DESCRIPTION	BY

M/J PROJ. No.: 18700.01

FILE NAME:

A/P No.: 3-33-0011-XXX-2021

DRAWING NO.

XS-02

SHEET 49 OF 60

REV

DESIGNED BY  
SSS

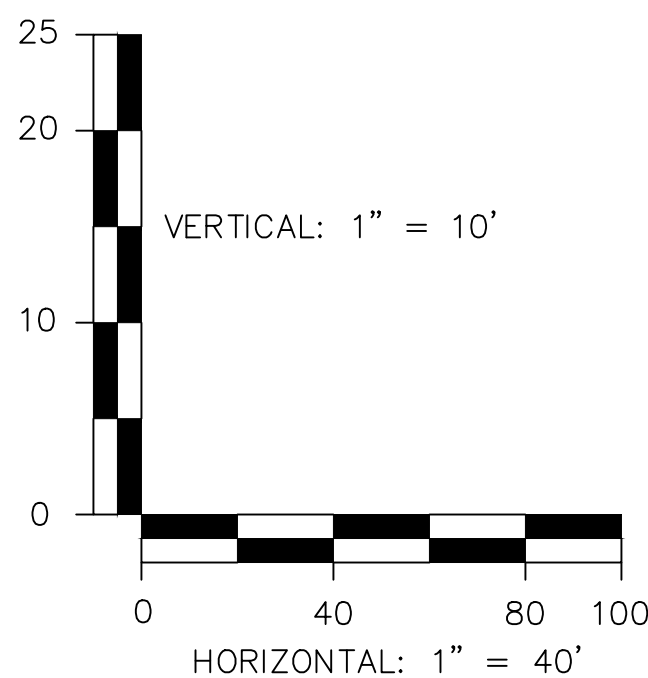
DRAWN BY  
RHL

CHECKED BY  
BMB

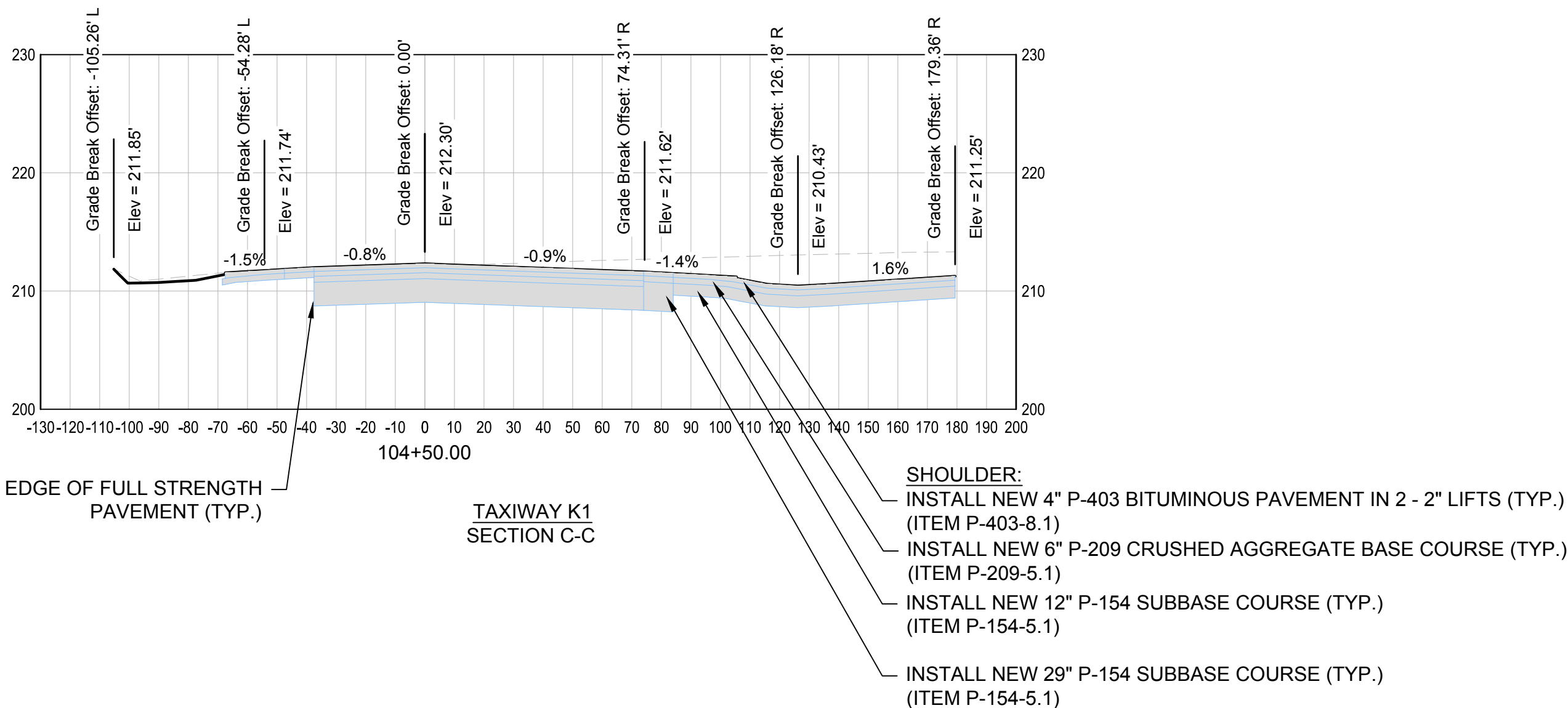
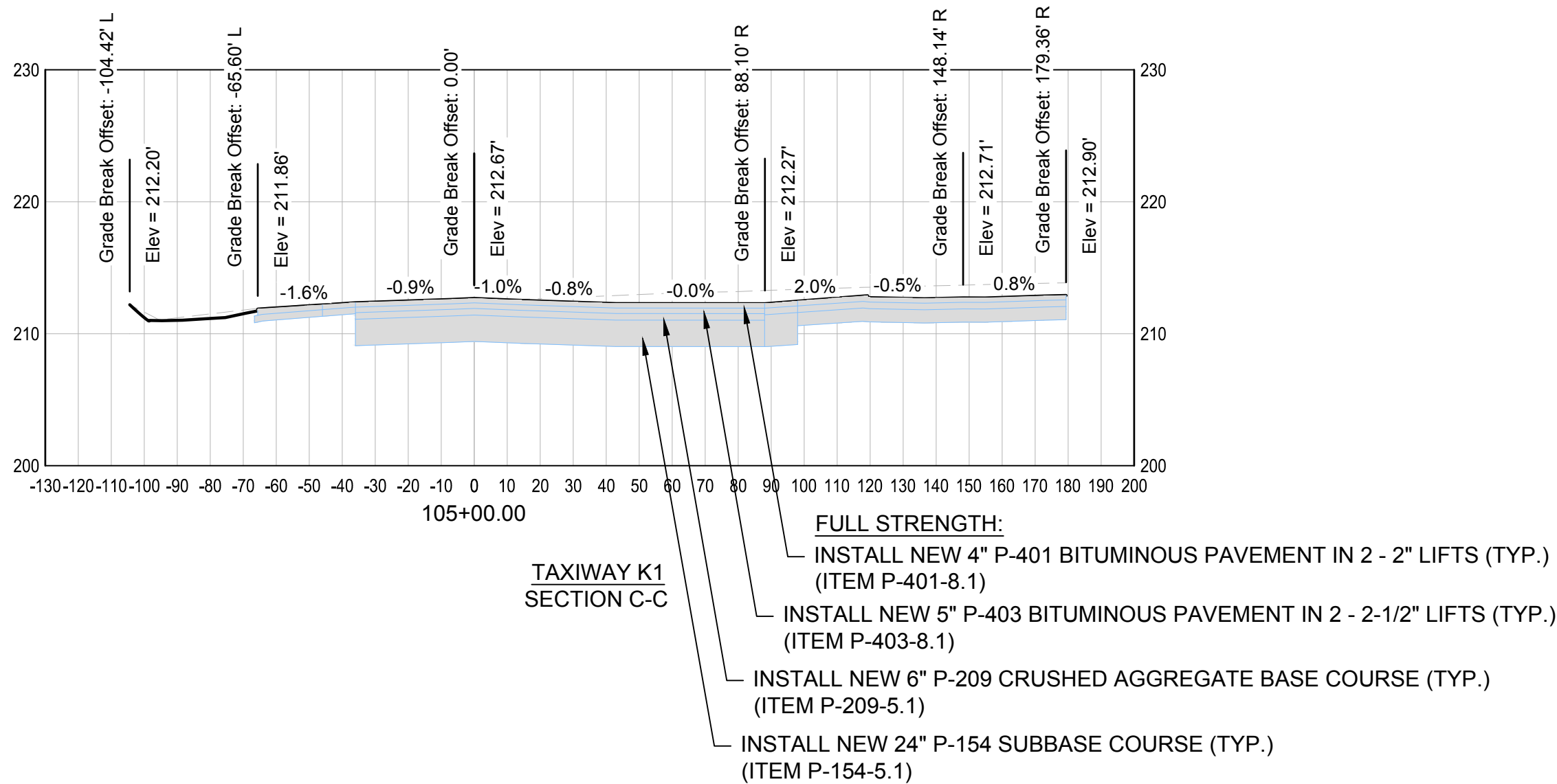
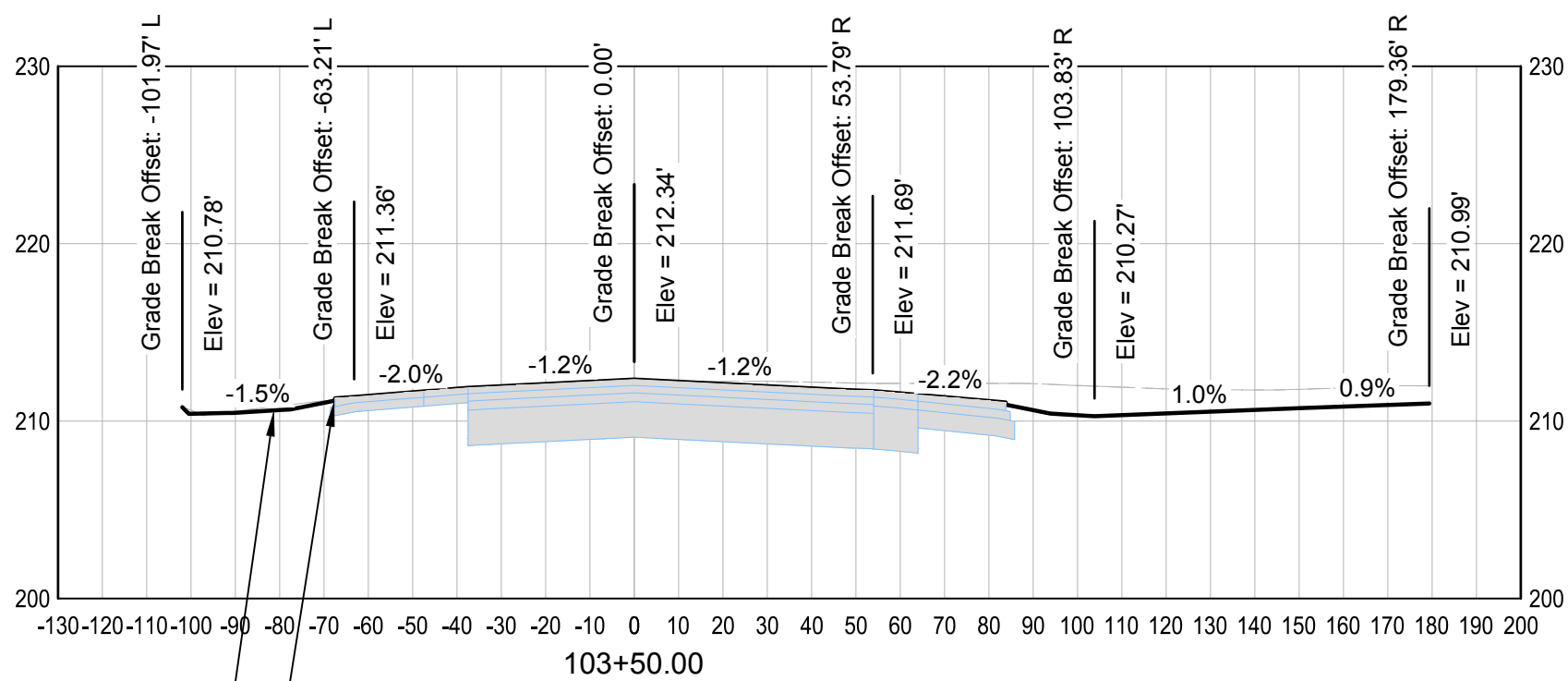
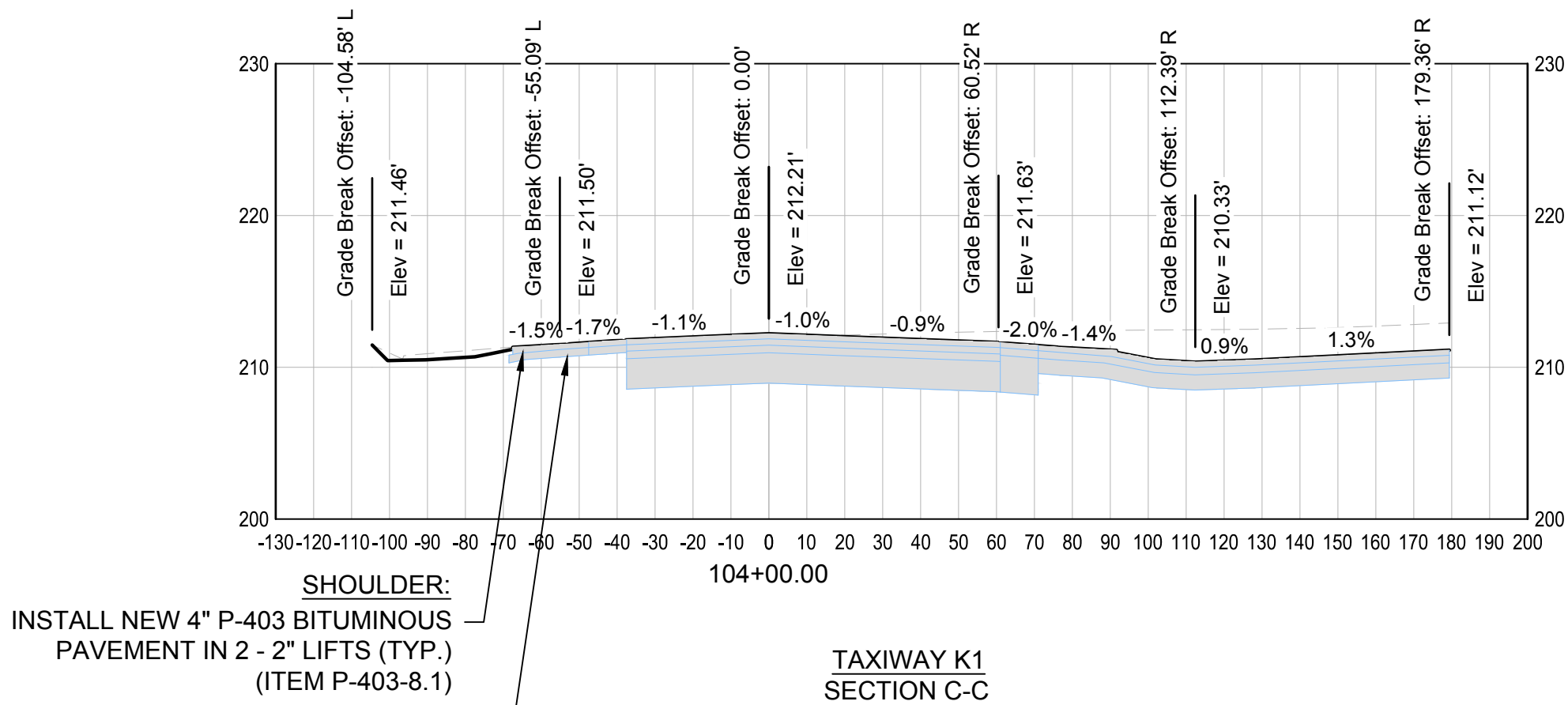
DATE: MARCH 2021

SCALE: 1"=40'





NOTES:  
1. SEE SHEET XS-01.



ENGINEER'S SEAL  
  
DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CROSS SECTIONS (3 OF 13)  
SCALE: 1"=40'  
DATE: MARCH 2021

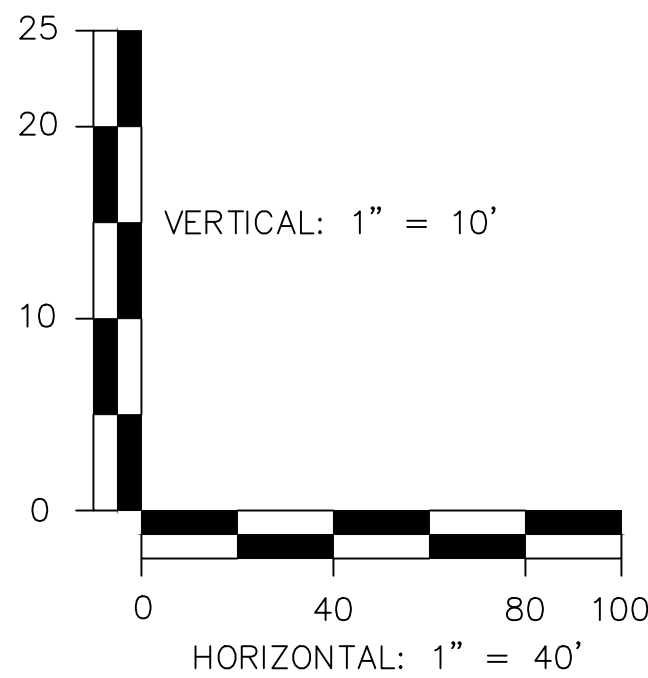
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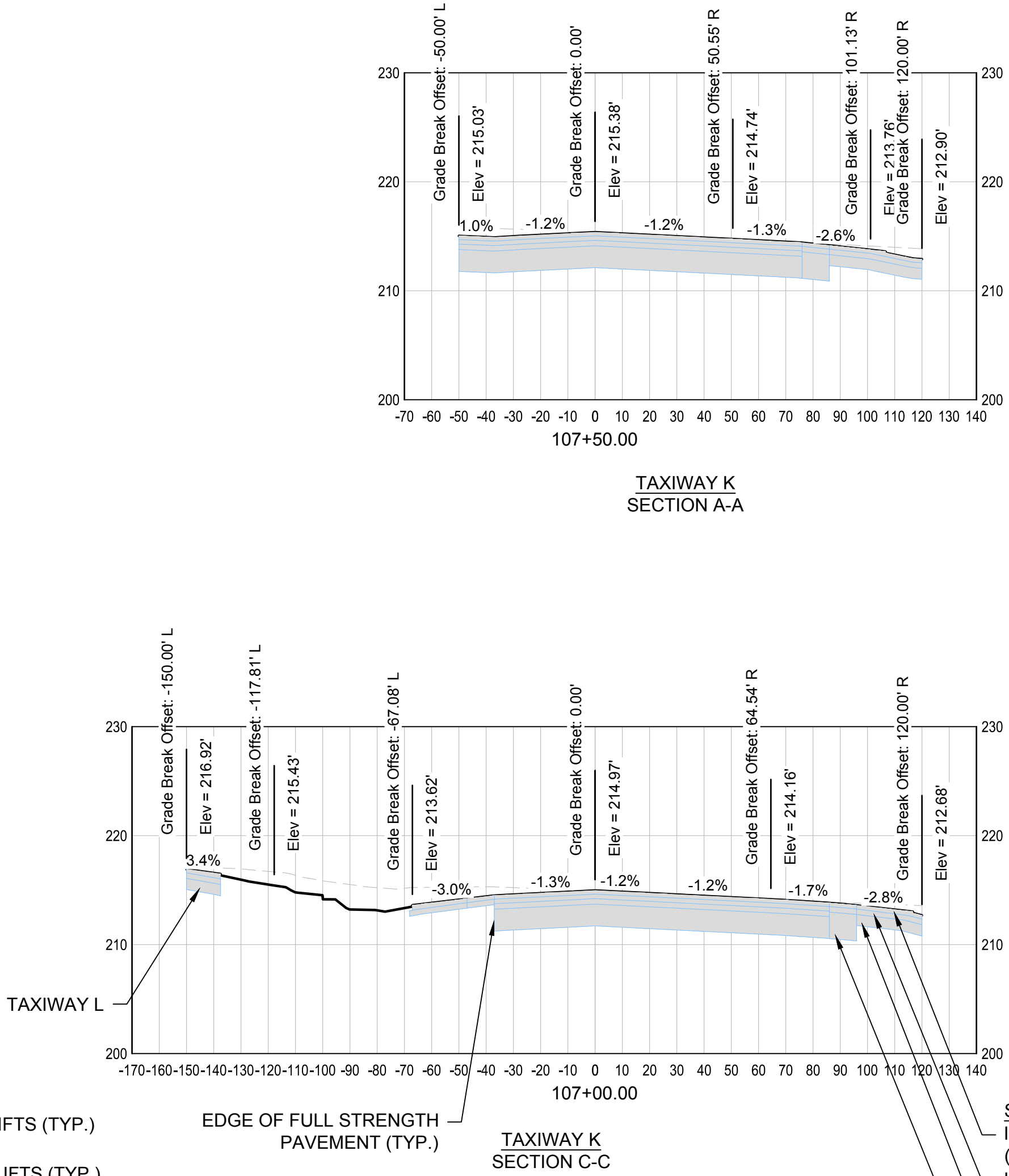
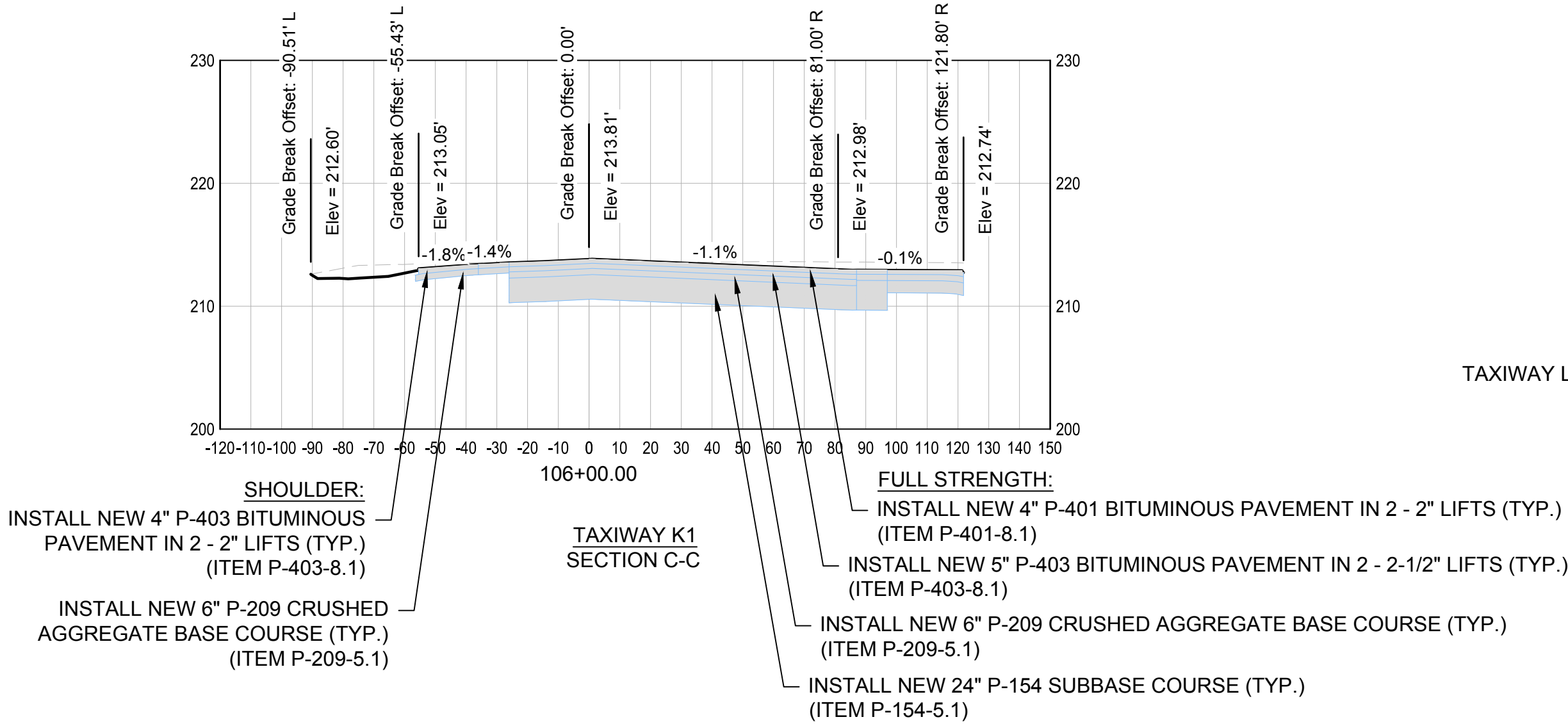
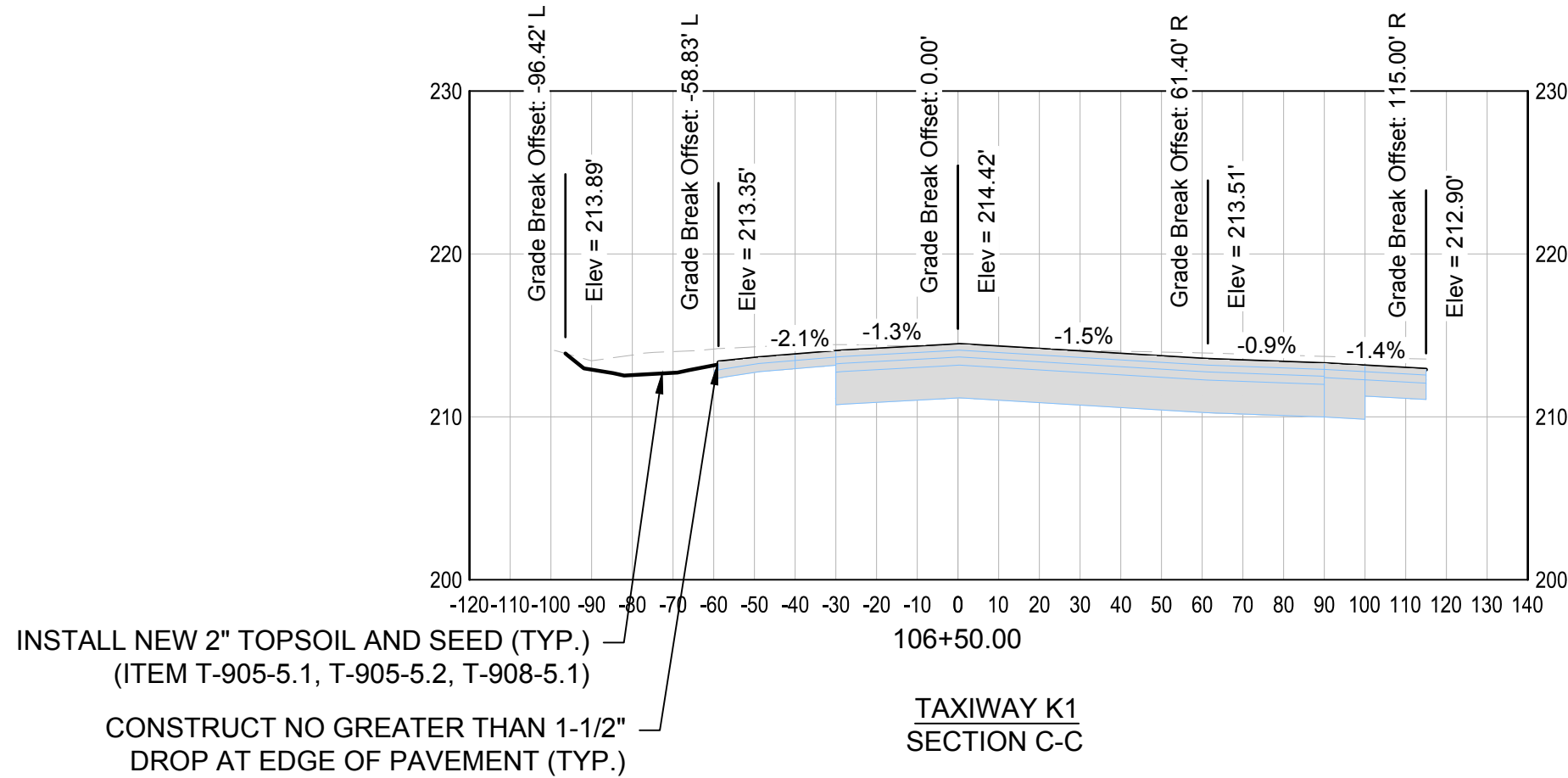
DRAWING NO.  
  
XS-03

SHEET 50 OF 60







NOTES:  
1. SEE SHEET XS-01.



ENGINEER'S SEAL




PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (4 OF 13)

SCALE: 1"=40'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01

FILE NAME:

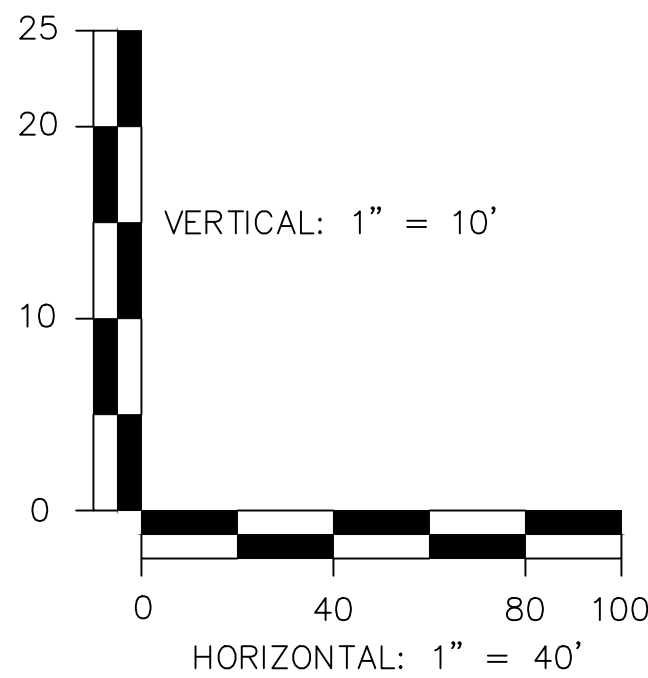
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DRAWING NO.  
  
XS-04

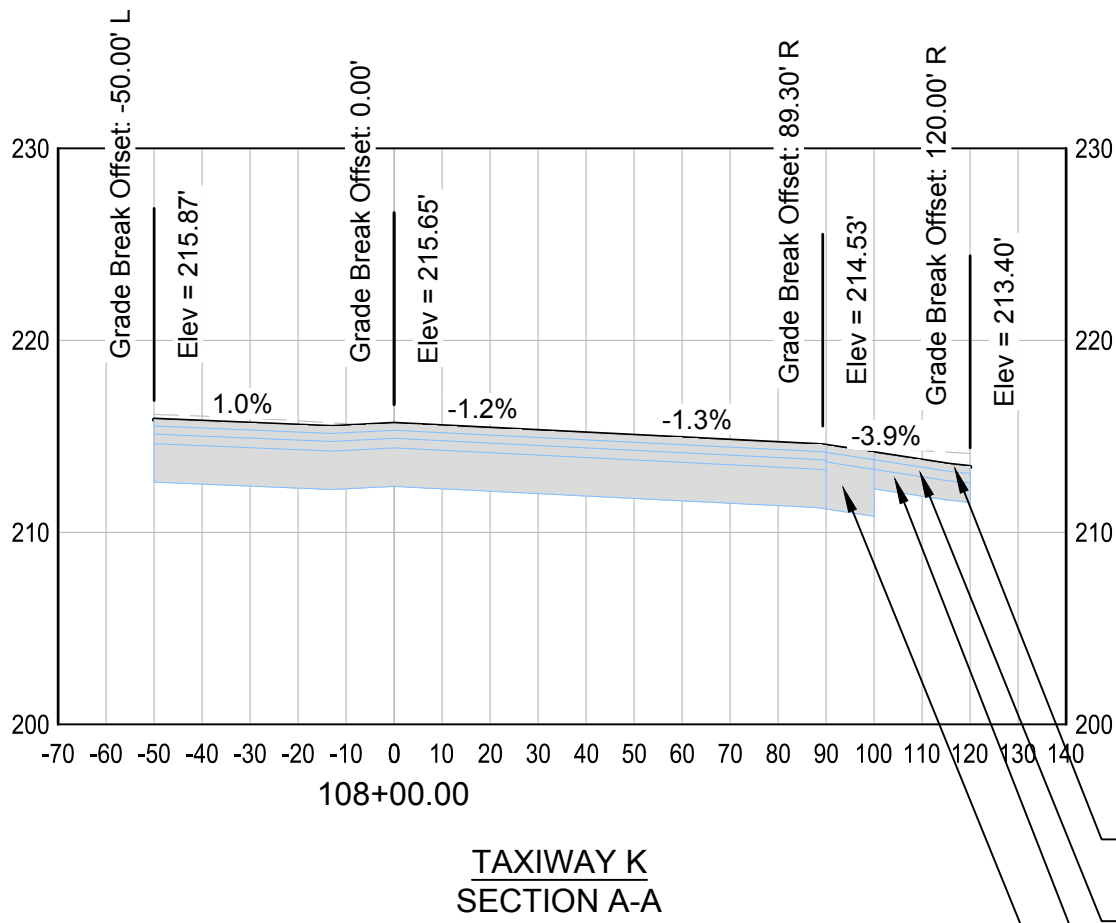
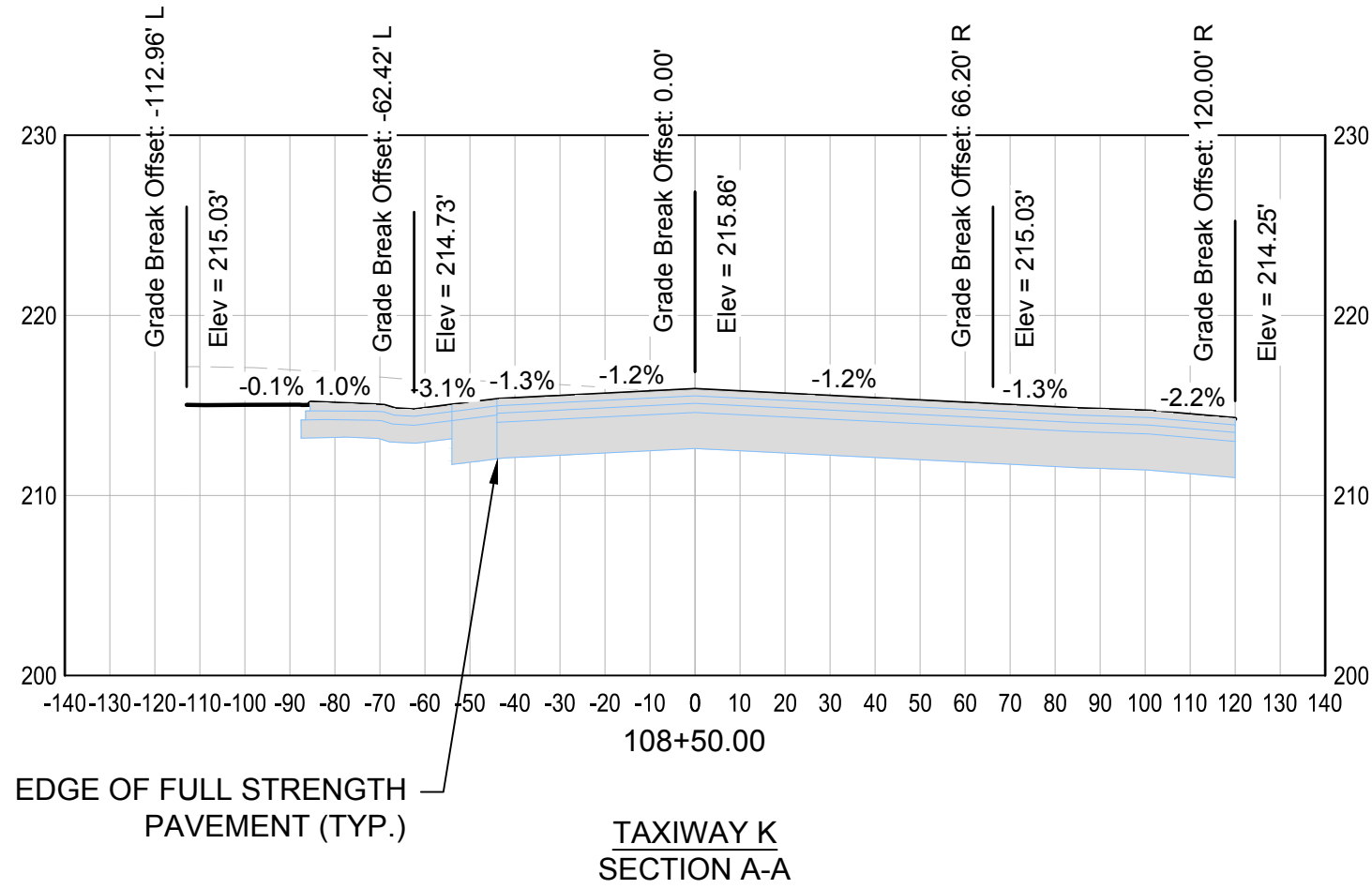
SHEET 51 OF 60

REV



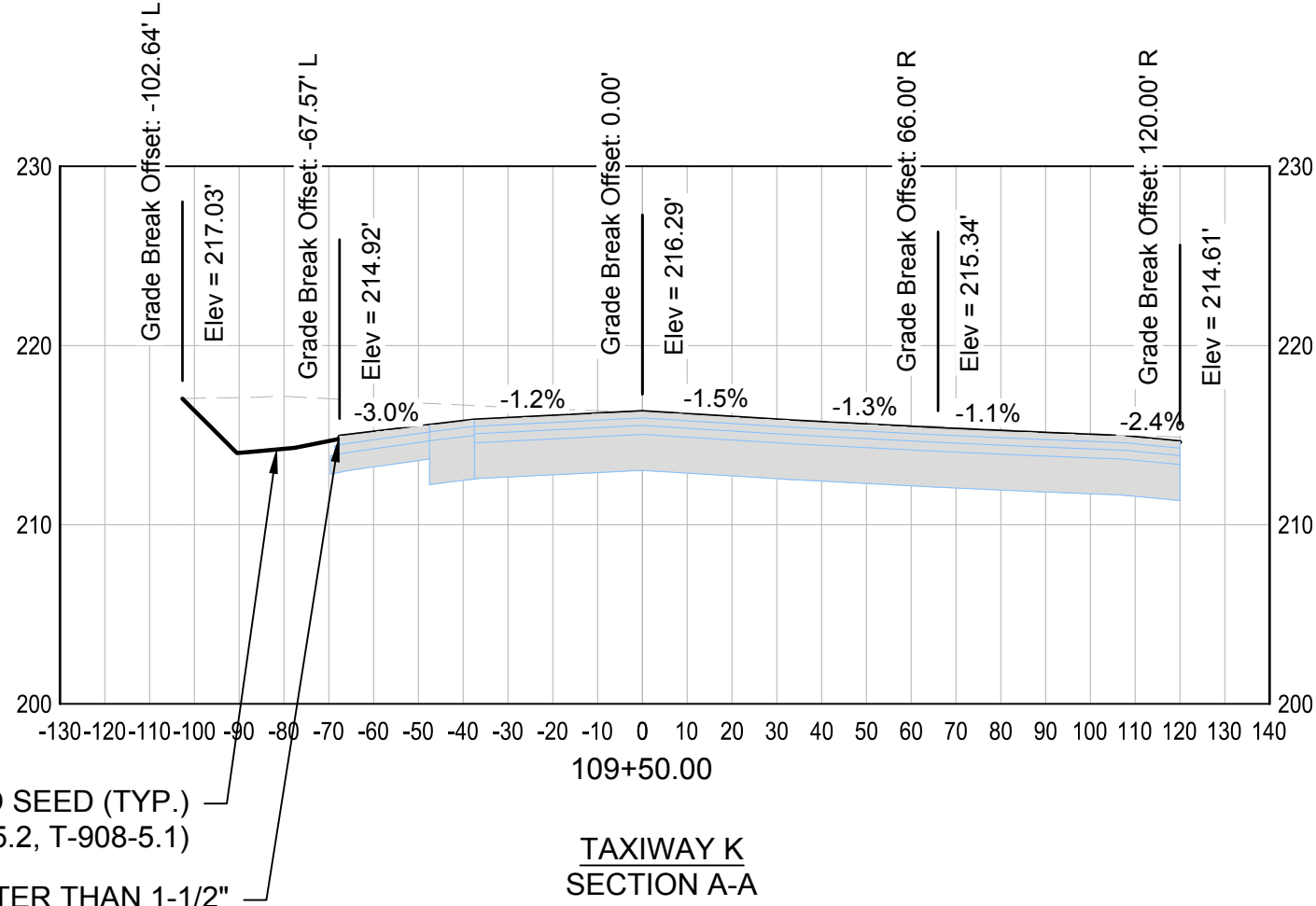


NOTES:  
1. SEE SHEET XS-01.

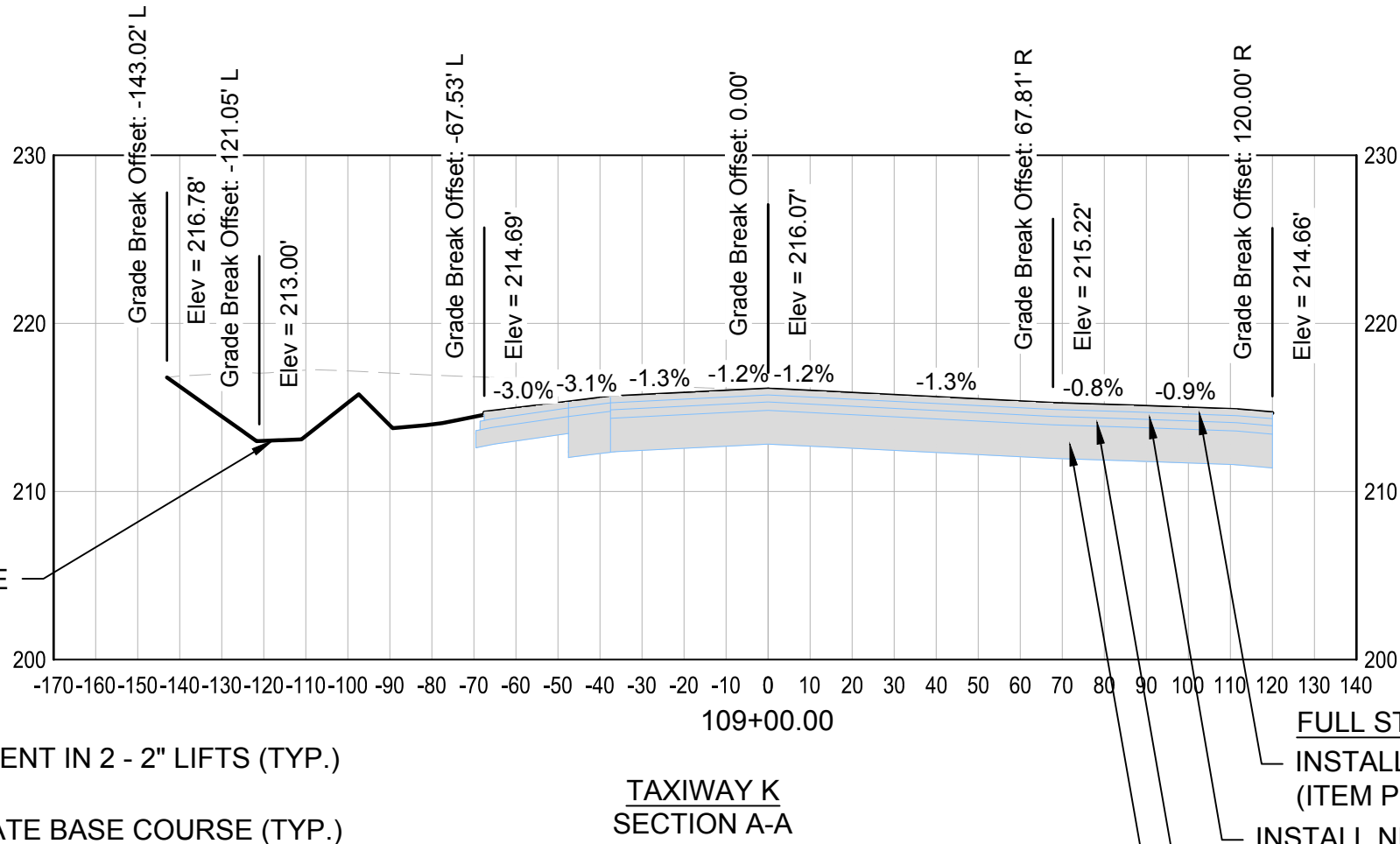


SHOULDER:  
INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)  
INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)  
CONSTRUCT NO GREATER THAN 1-1/2" DROP AT EDGE OF PAVEMENT (TYP.)

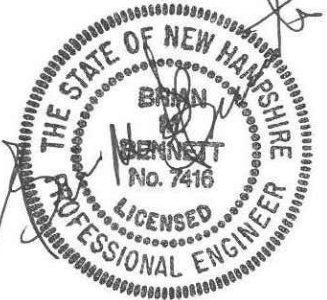


PROPOSED TREATMENT SWALE




FULL STRENGTH:  
INSTALL NEW 4" P-401 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-401-8.1)  
INSTALL NEW 5" P-403 BITUMINOUS PAVEMENT IN 2 - 2-1/2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 24" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

ENGINEER'S SEAL




PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (5 OF 13)

SCALE: 1"=40'  
DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

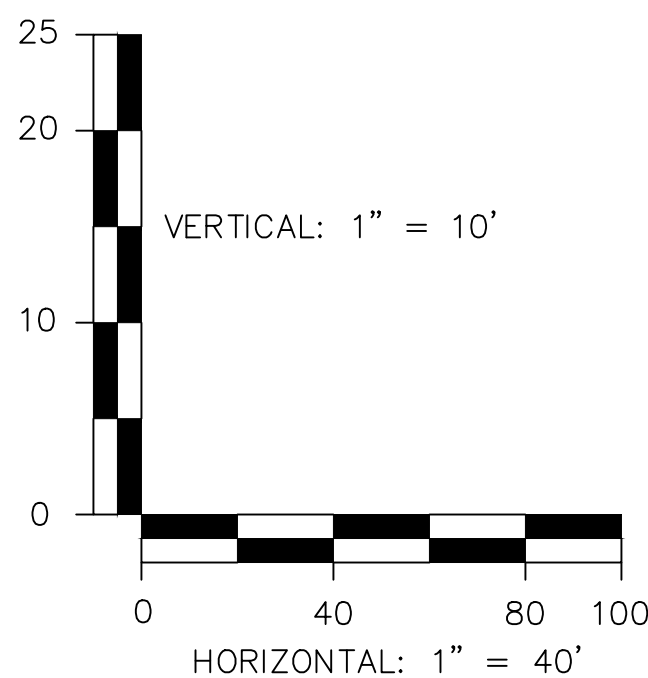
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FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
XS-05

SHEET 52 OF 60

REV

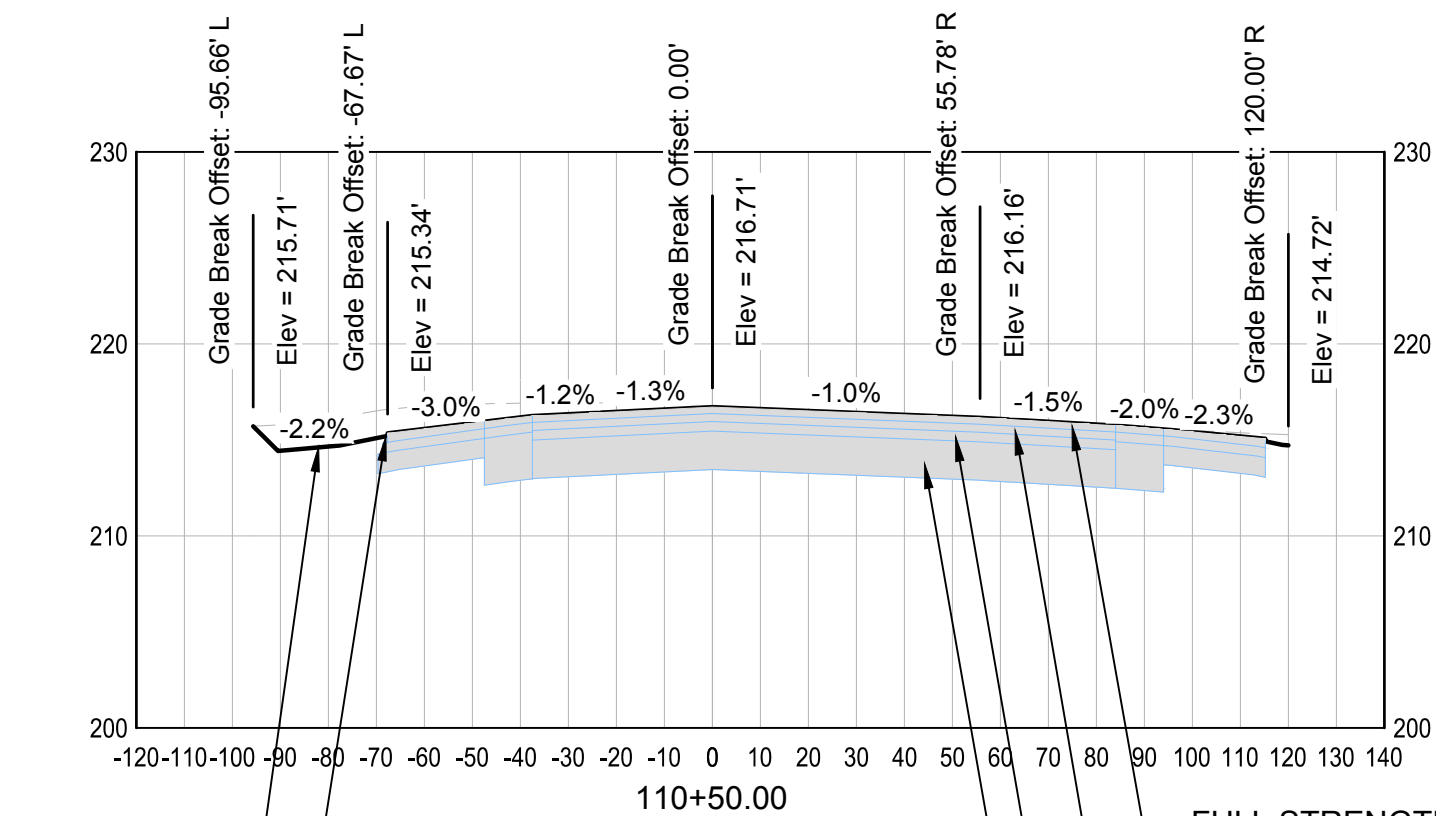




NOTES:  
1. SEE SHEET XS-01.

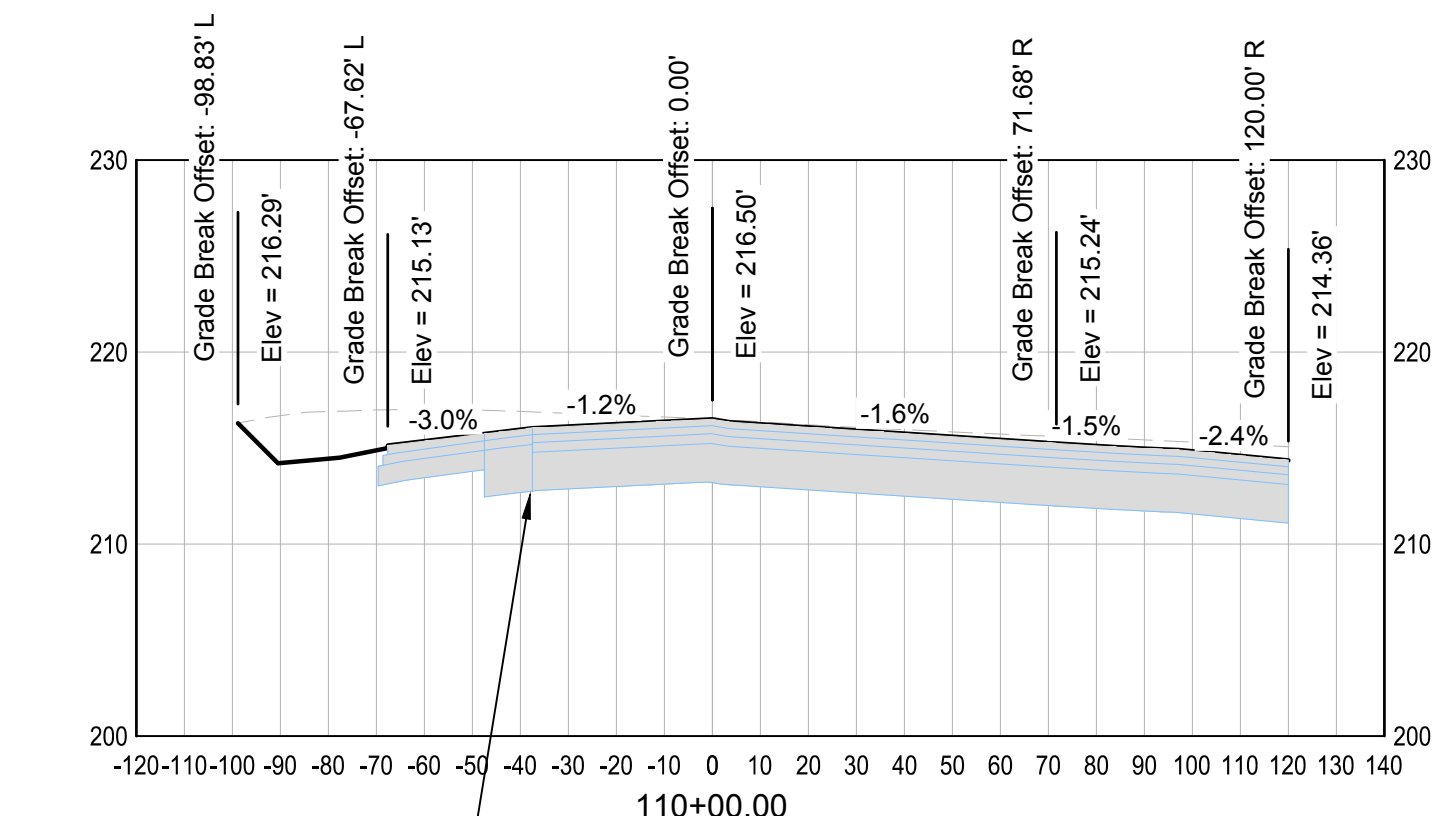
INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)

CONSTRUCT NO GREATER THAN 1-1/2"  
DROP AT EDGE OF PAVEMENT (TYP.)



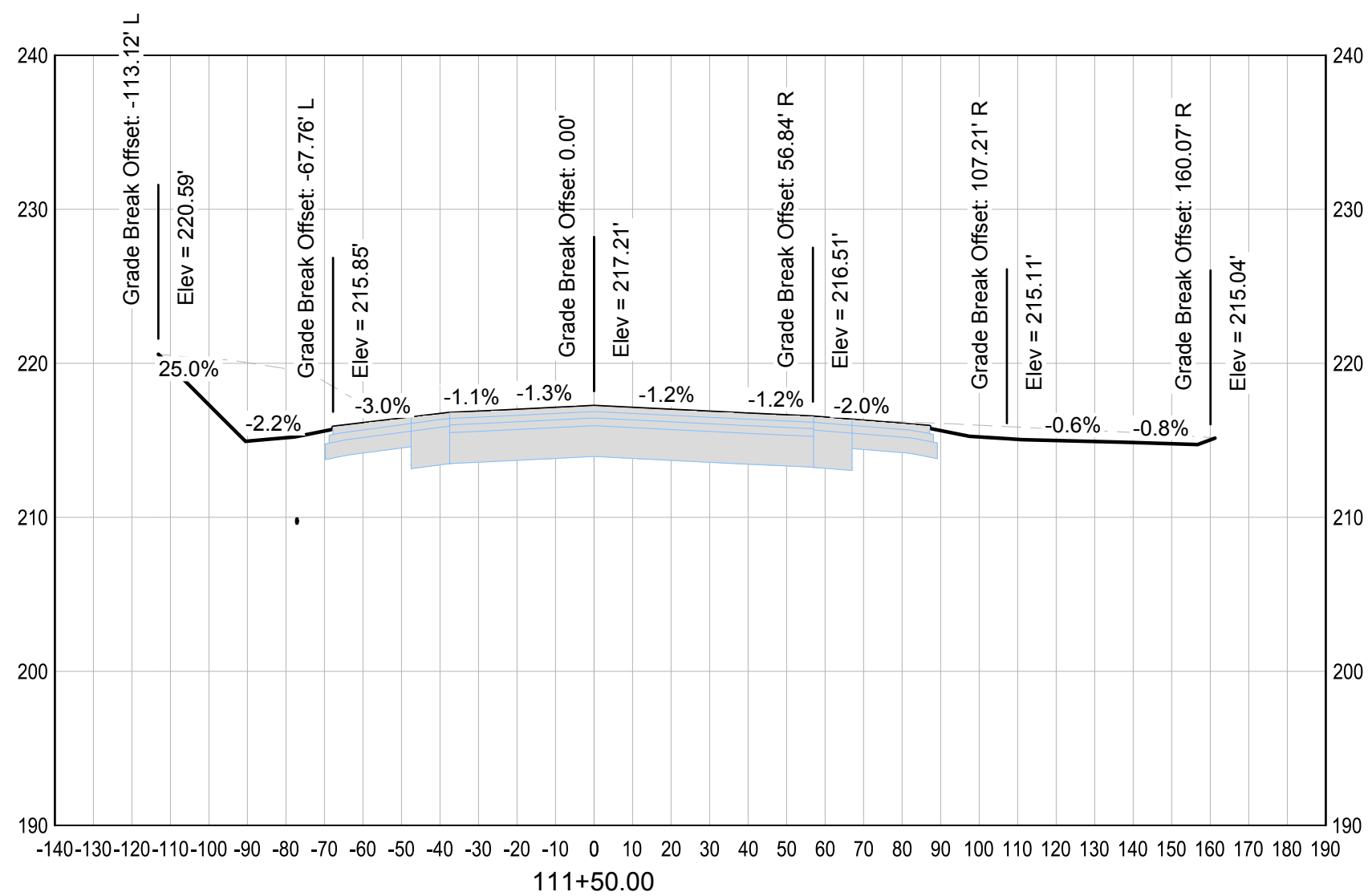
TAXIWAY K  
SECTION A-A

**FULL STRENGTH:**  
INSTALL NEW 4" P-401 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-401-8.1)  
INSTALL NEW 5" P-403 BITUMINOUS PAVEMENT IN 2 - 2-1/2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 24" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

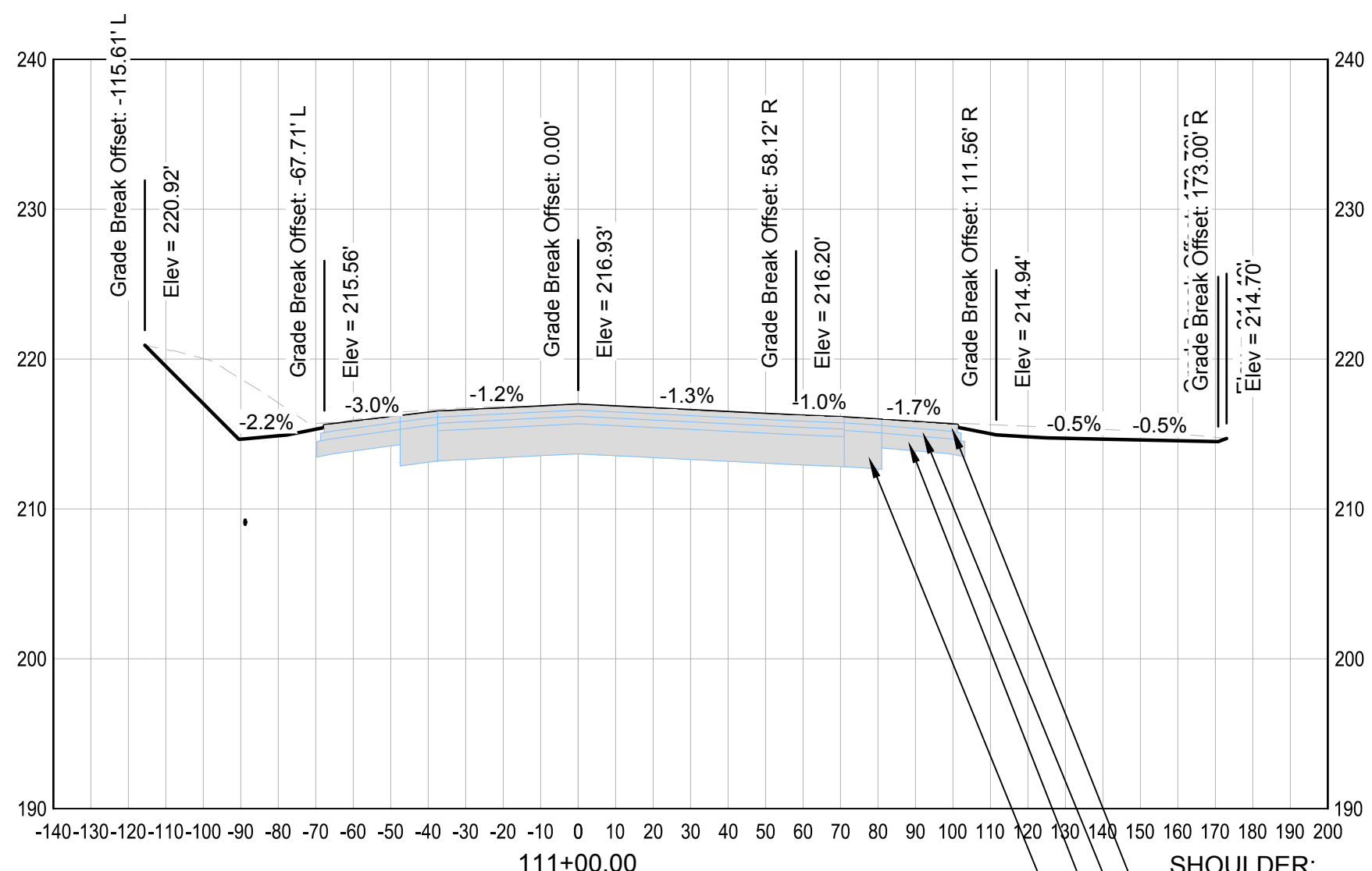


EDGE OF FULL STRENGTH  
PAVEMENT (TYP.)

TAXIWAY K  
SECTION A-A



TAXIWAY K  
SECTION A-A



TAXIWAY K  
SECTION A-A

**SHOULDER:**  
INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)  
INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

ENGINEER'S SEAL

PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (6 OF 13)

REV. NO.	DATE	DESCRIPTION	BY

SCALE: 1"=40'

DATE: MARCH 2021

MJ PROJ. No.: 18700.01

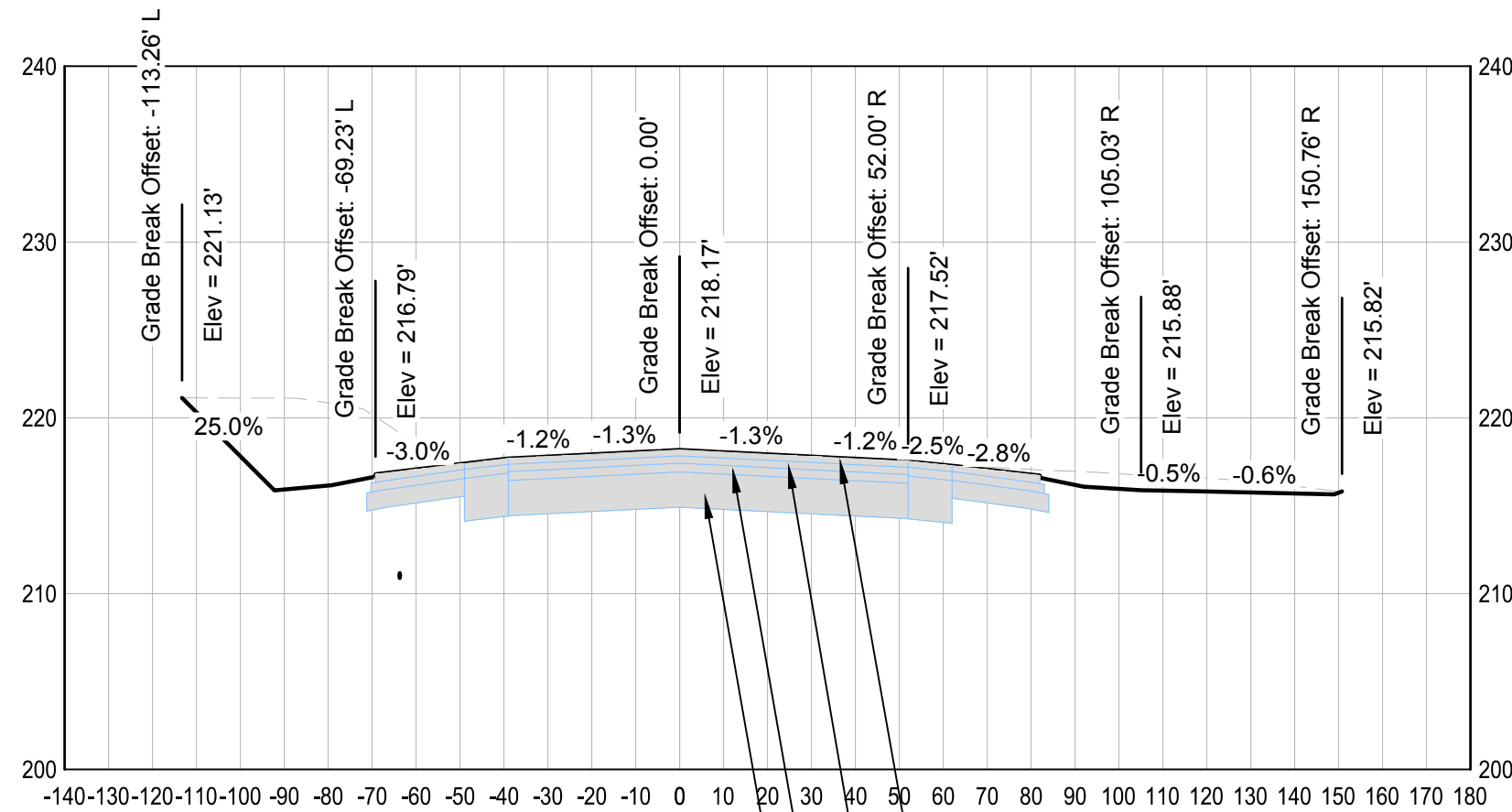
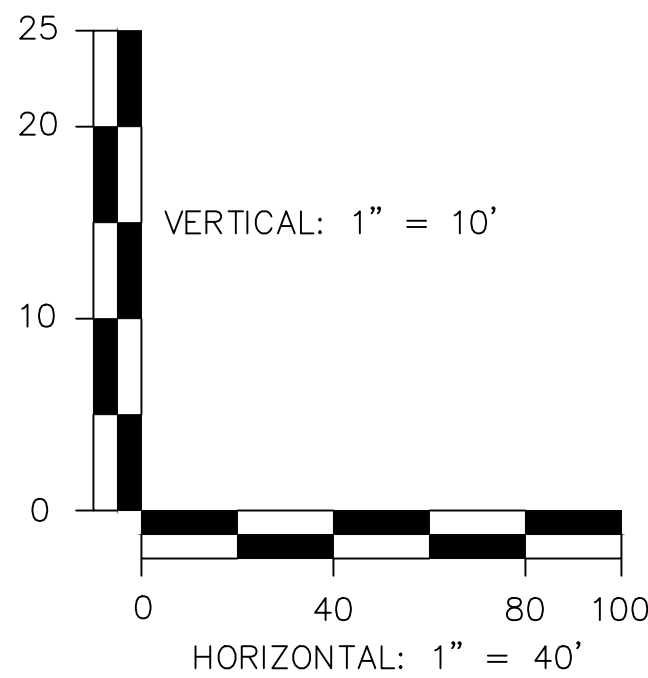
FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
XS-06

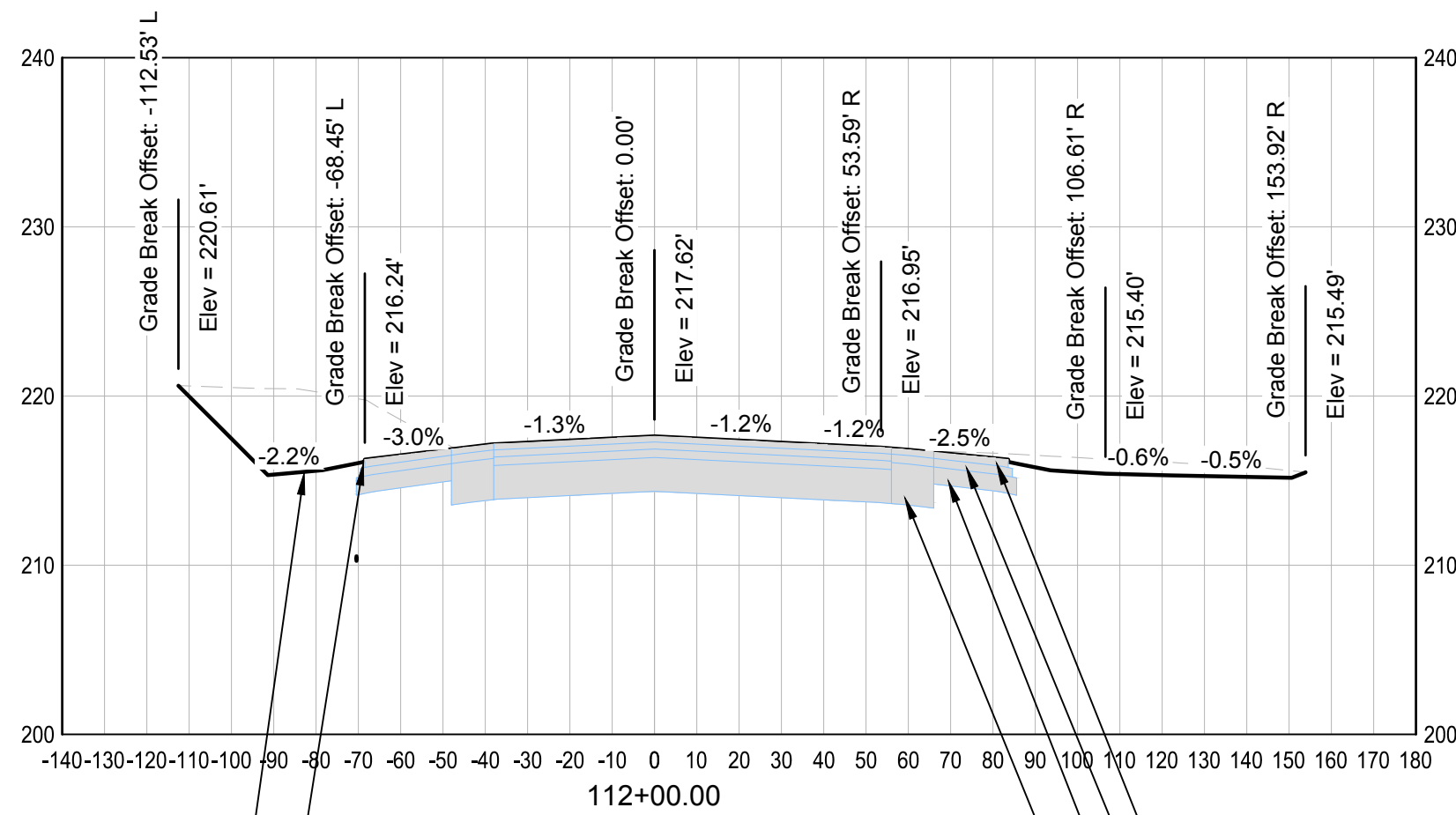
SHEET 53 OF 60





TAXIWAY K  
SECTION A-A

- FULL STRENGTH:  
INSTALL NEW 4" P-401 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-401-8.1)  
INSTALL NEW 5" P-403 BITUMINOUS PAVEMENT IN 2 - 2-1/2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 24" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

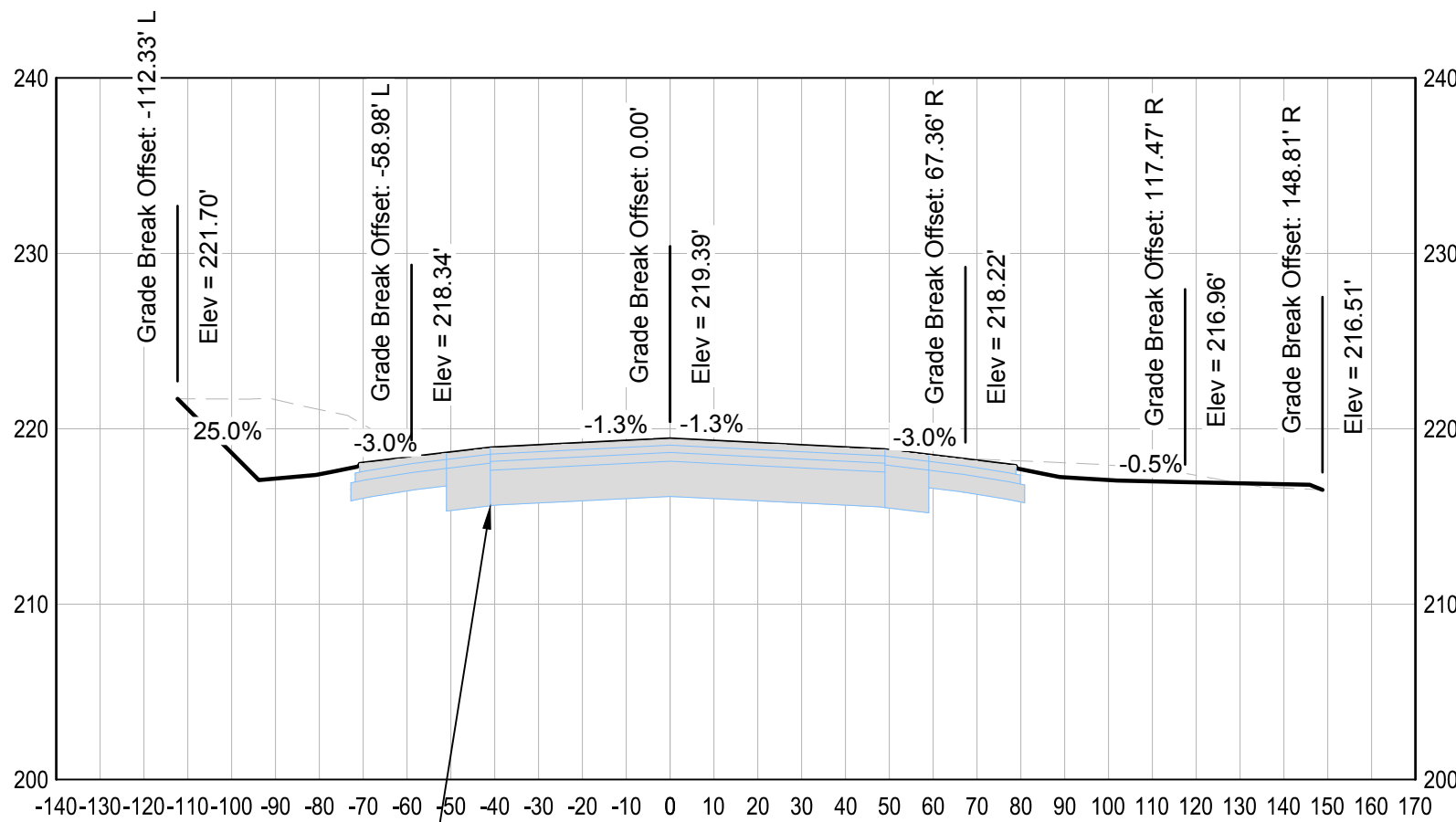


TAXIWAY K  
SECTION A-A

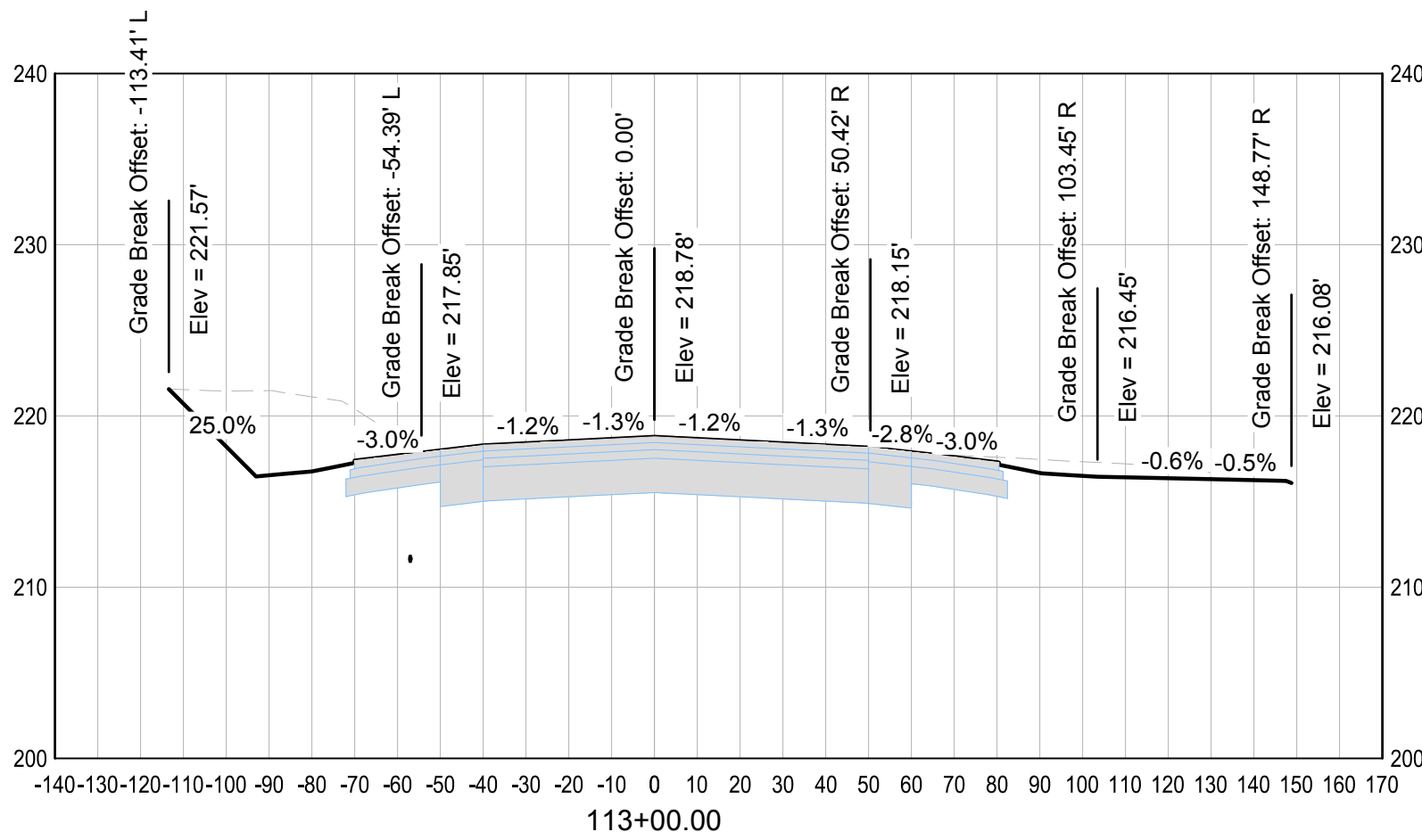
- INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)  
CONSTRUCT NO GREATER THAN 1-1/2"  
DROP AT EDGE OF PAVEMENT (TYP.)

- SHOULDER:  
INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)  
INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

NOTES:  
1. SEE SHEET XS-01.




TAXIWAY K  
SECTION A-A




TAXIWAY K  
SECTION A-A


ENGINEER'S SEAL



PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS ( 7 OF 13)

REV. NO.

DATE

DESCRIPTION

BY

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

XS-07

SHEET 54 OF 60

REV

DESIGNED BY  
SSS

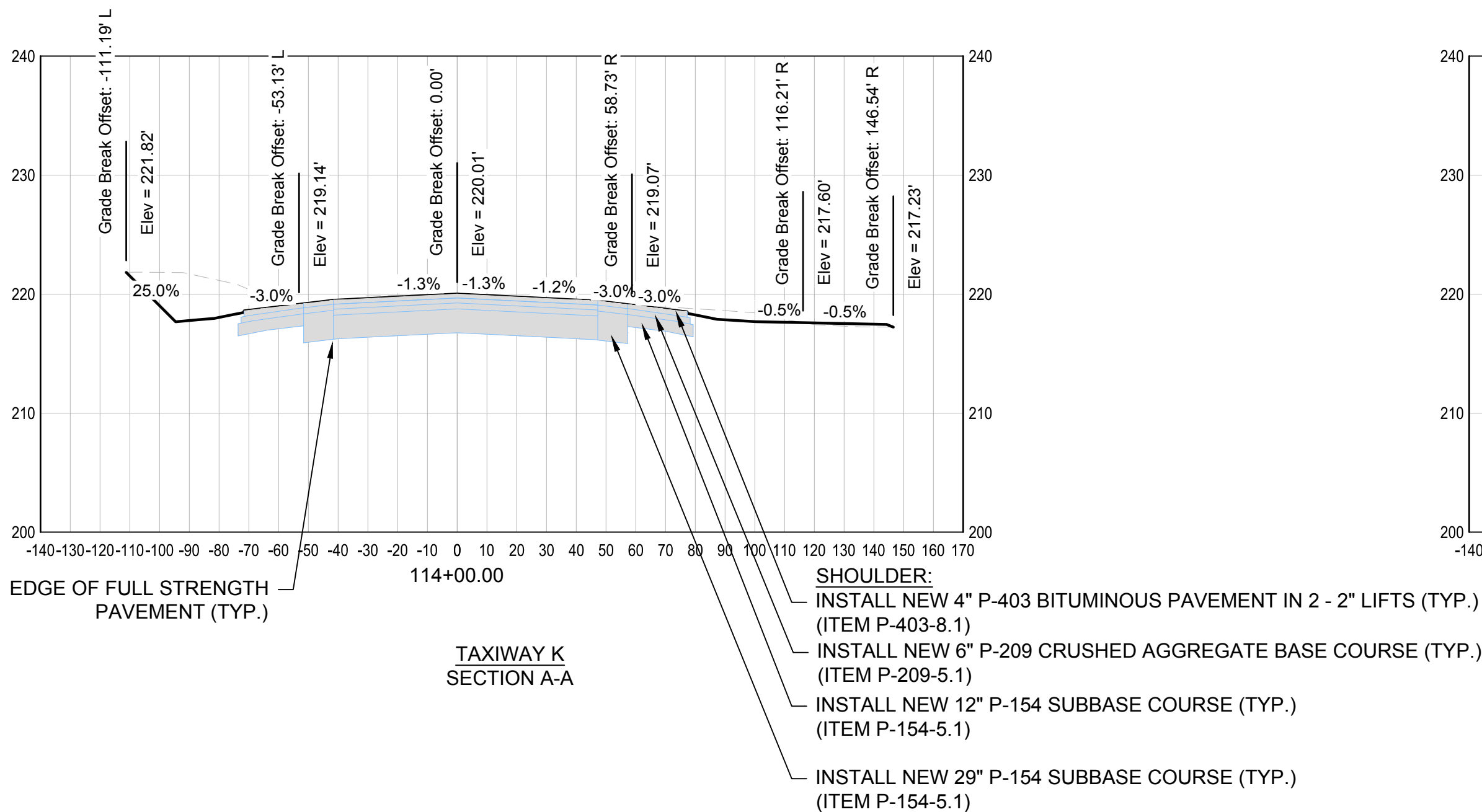
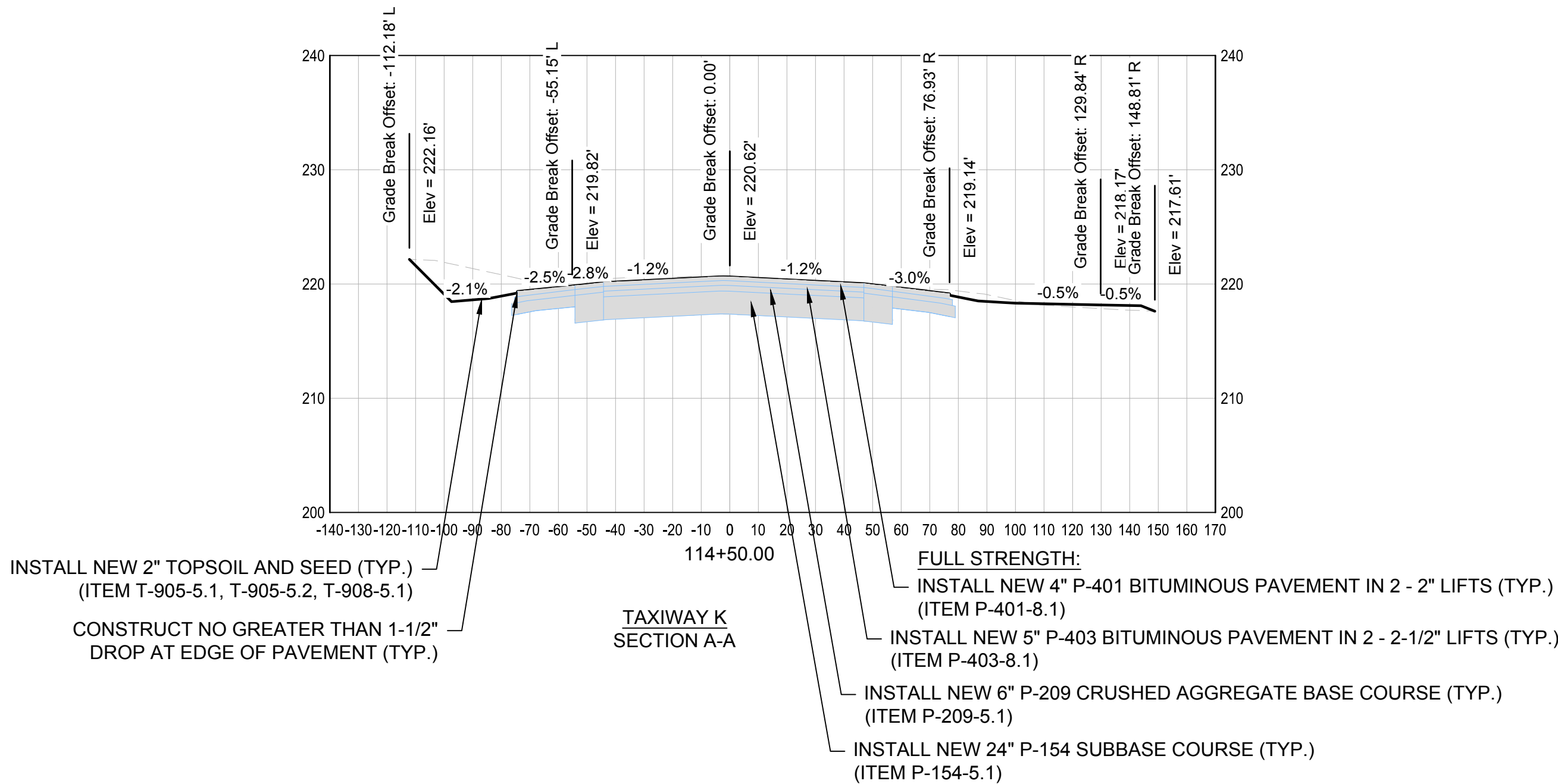
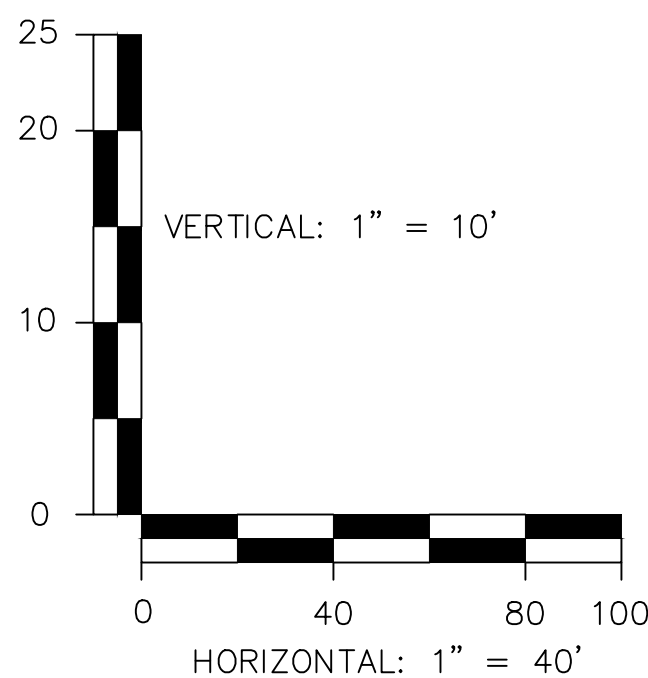
DRAWN BY  
RHL

CHECKED BY  
BMB

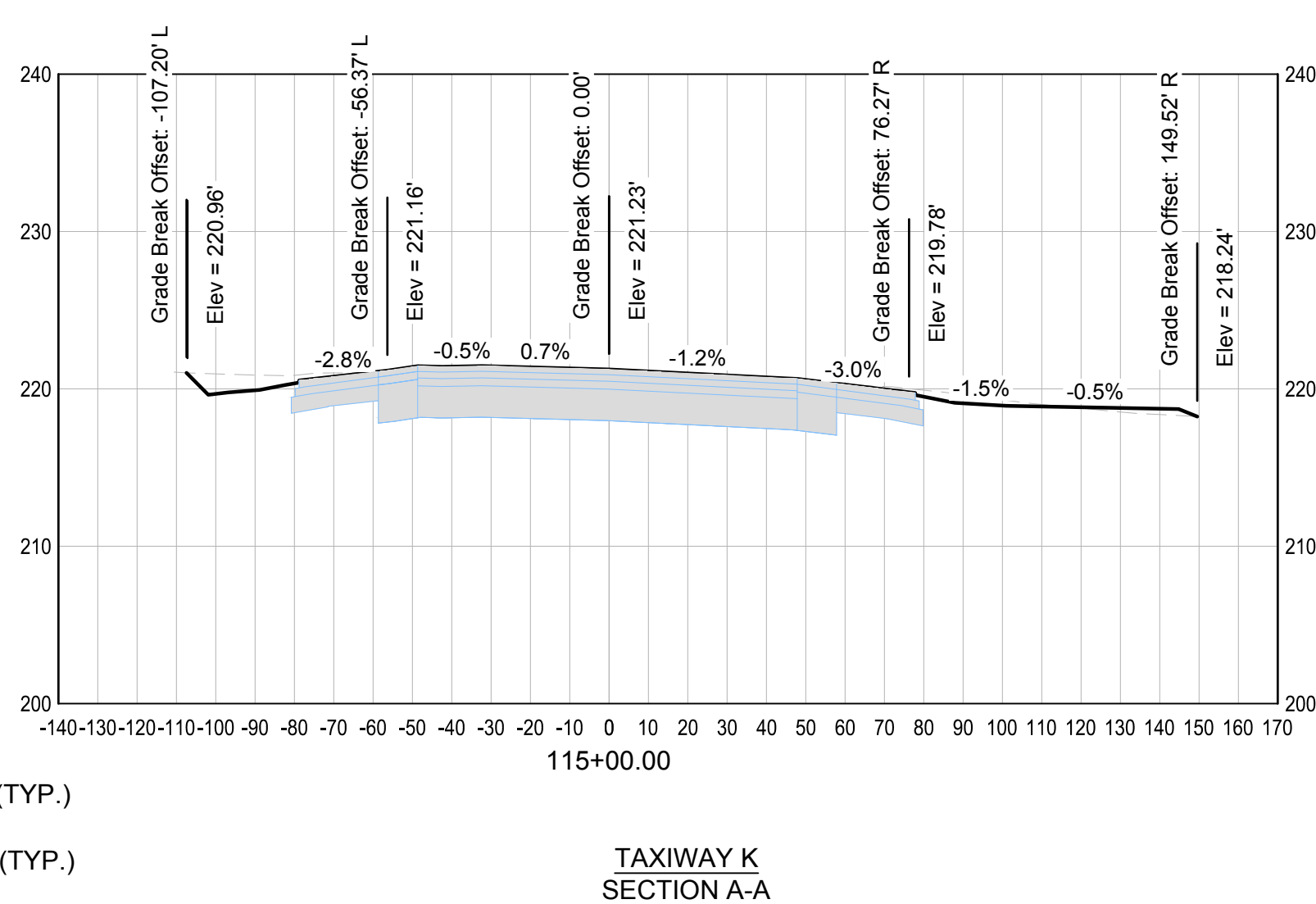
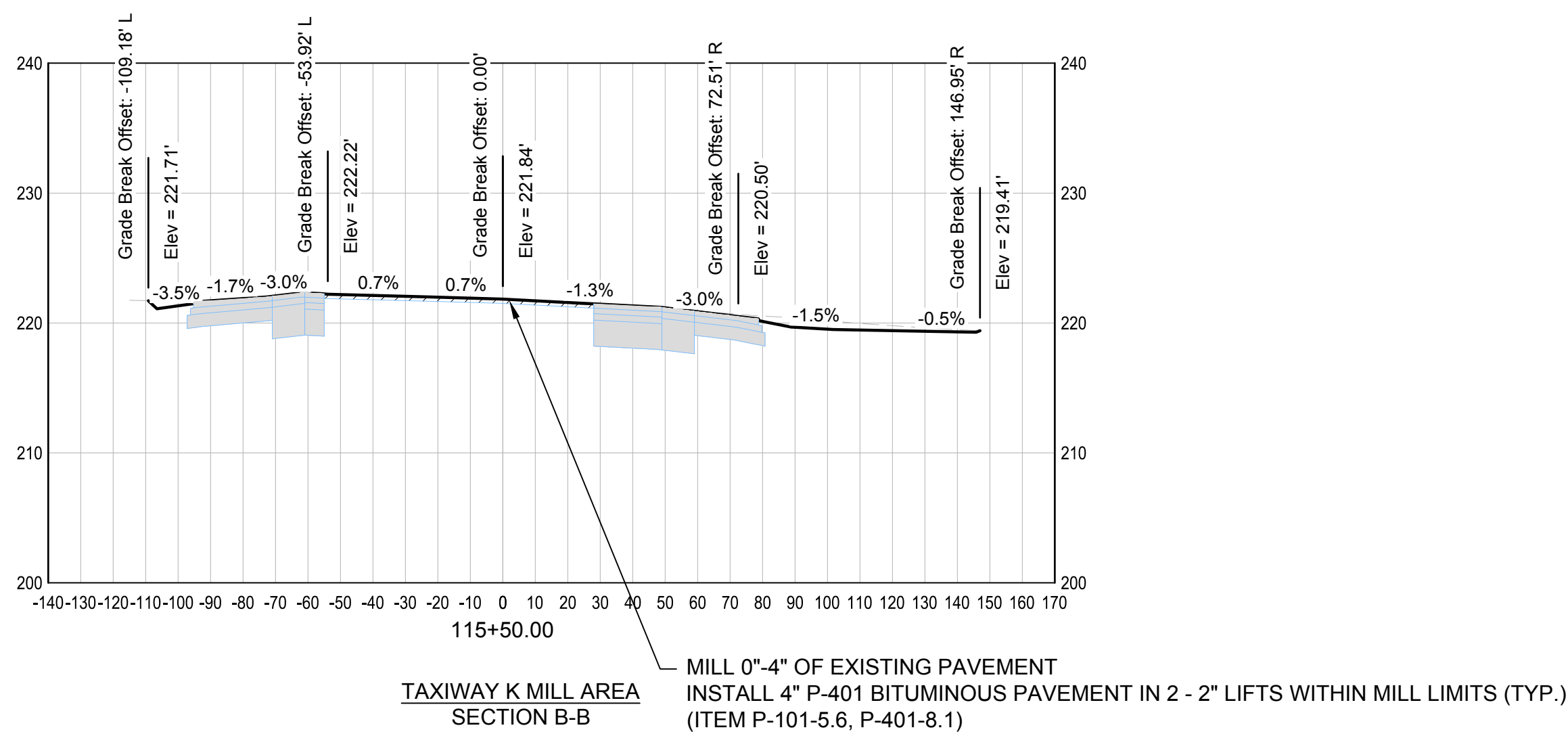
SCALE: 1"=40'

DATE: MARCH 2021

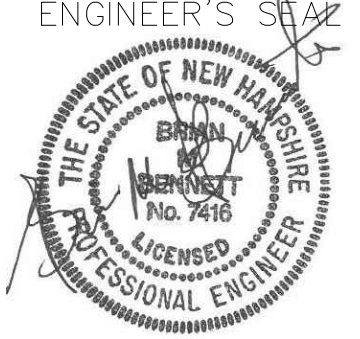





NOTES:  
1. SEE SHEET XS-01.




ENGINEER'S SEAL



PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



DESIGNED BY  
SSS

DRAWN BY  
RHL

CHECKED BY  
BMB

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (8 OF 13)

SCALE: 1"=40' DATE: MARCH 2021

REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01

FILE NAME:

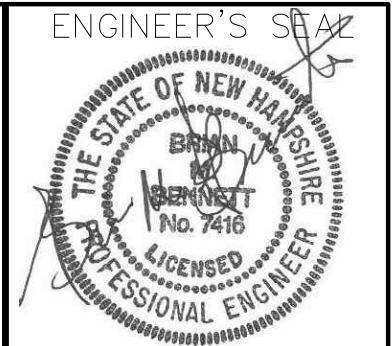
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
XS-08


SHEET 55 OF 60

REV





PROJECT DESIGNER

**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

CHECKED BY: BMB  
DRAWN BY: RHL  
DESIGNED BY: SSS

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

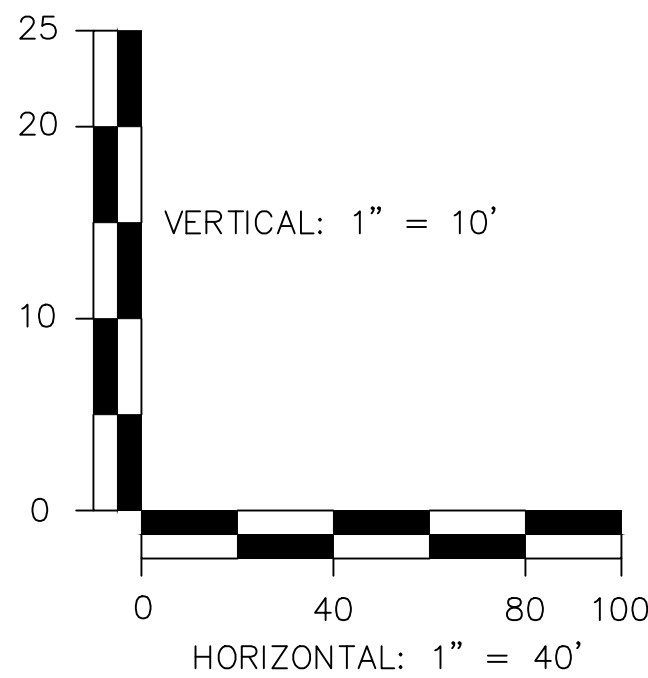
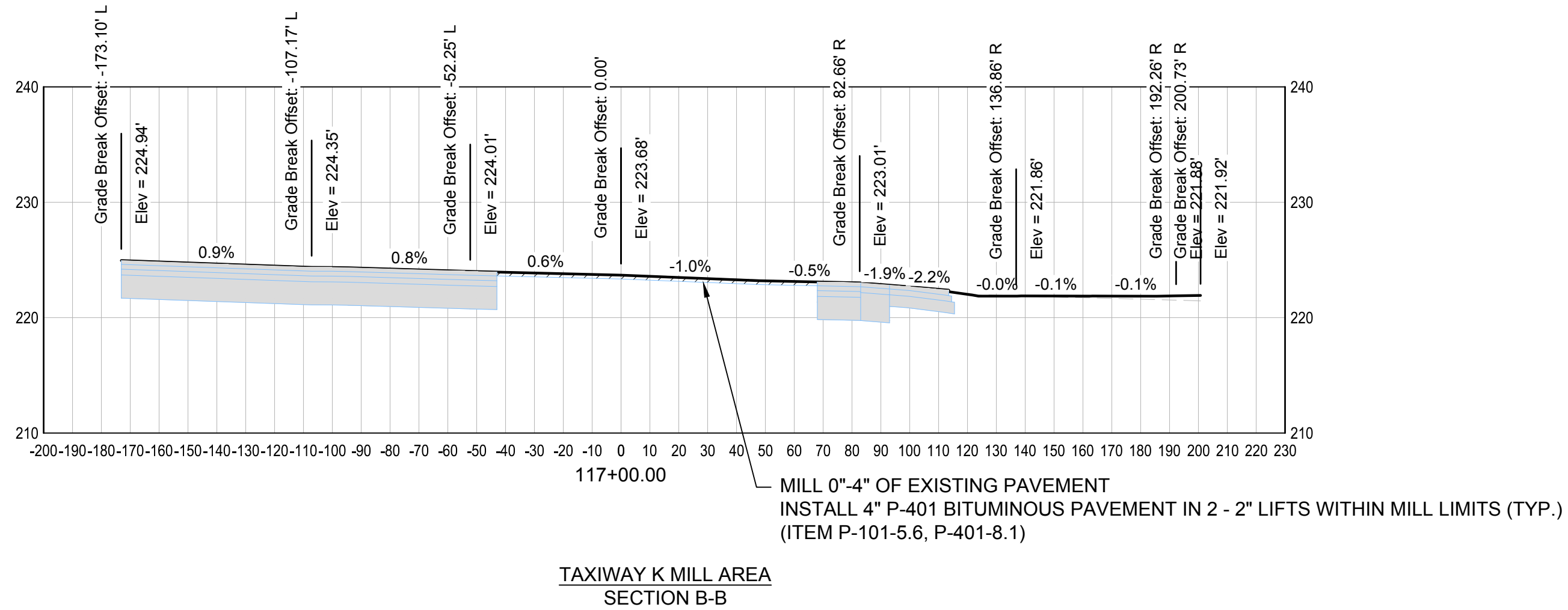
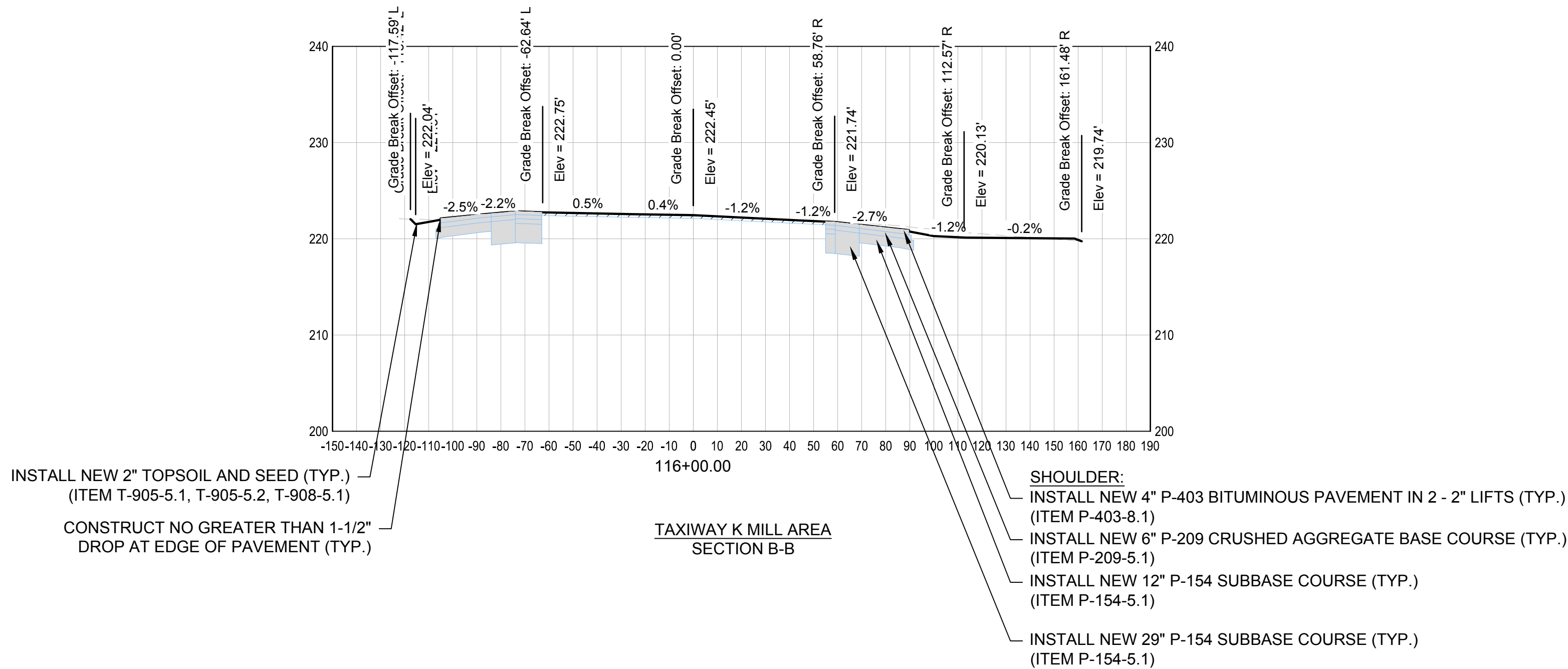
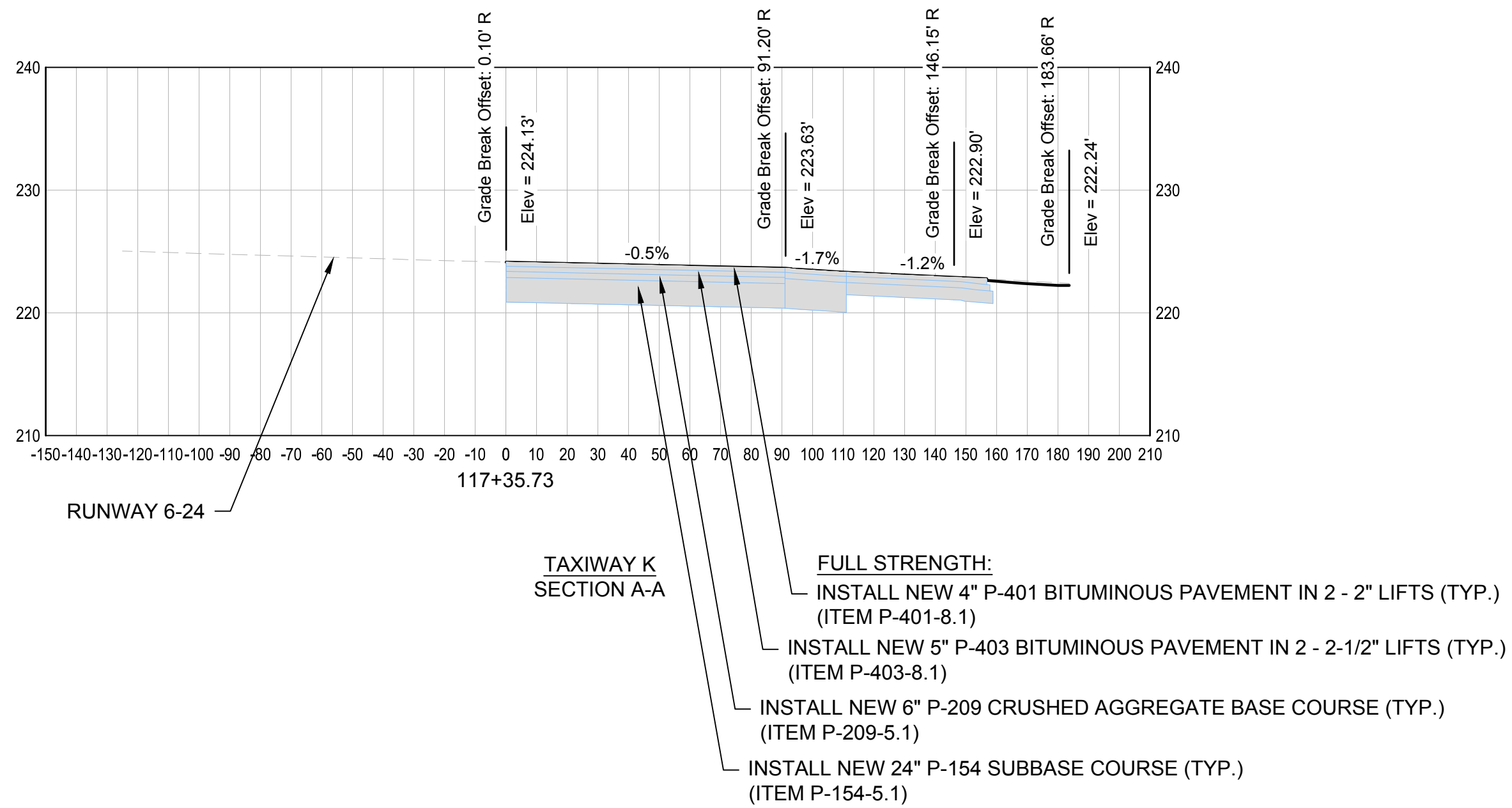
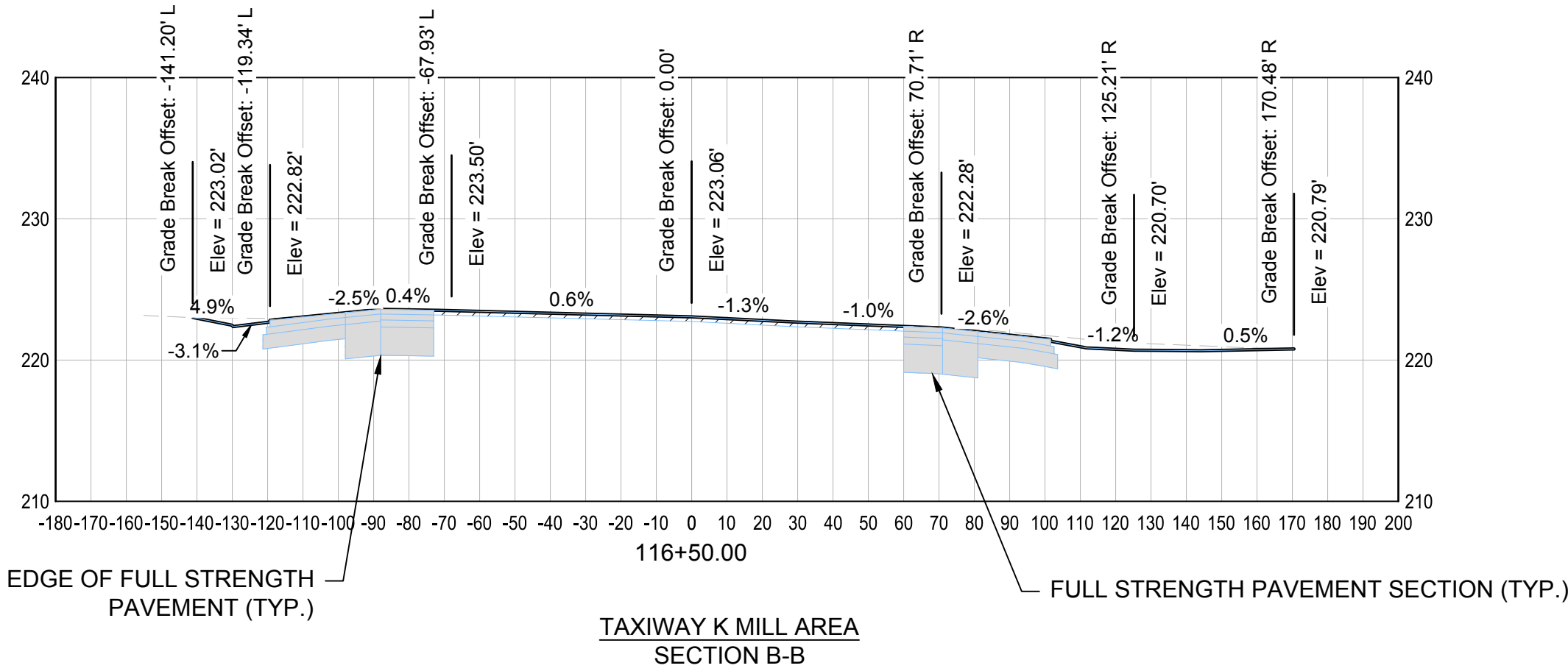


MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (9 OF 13)

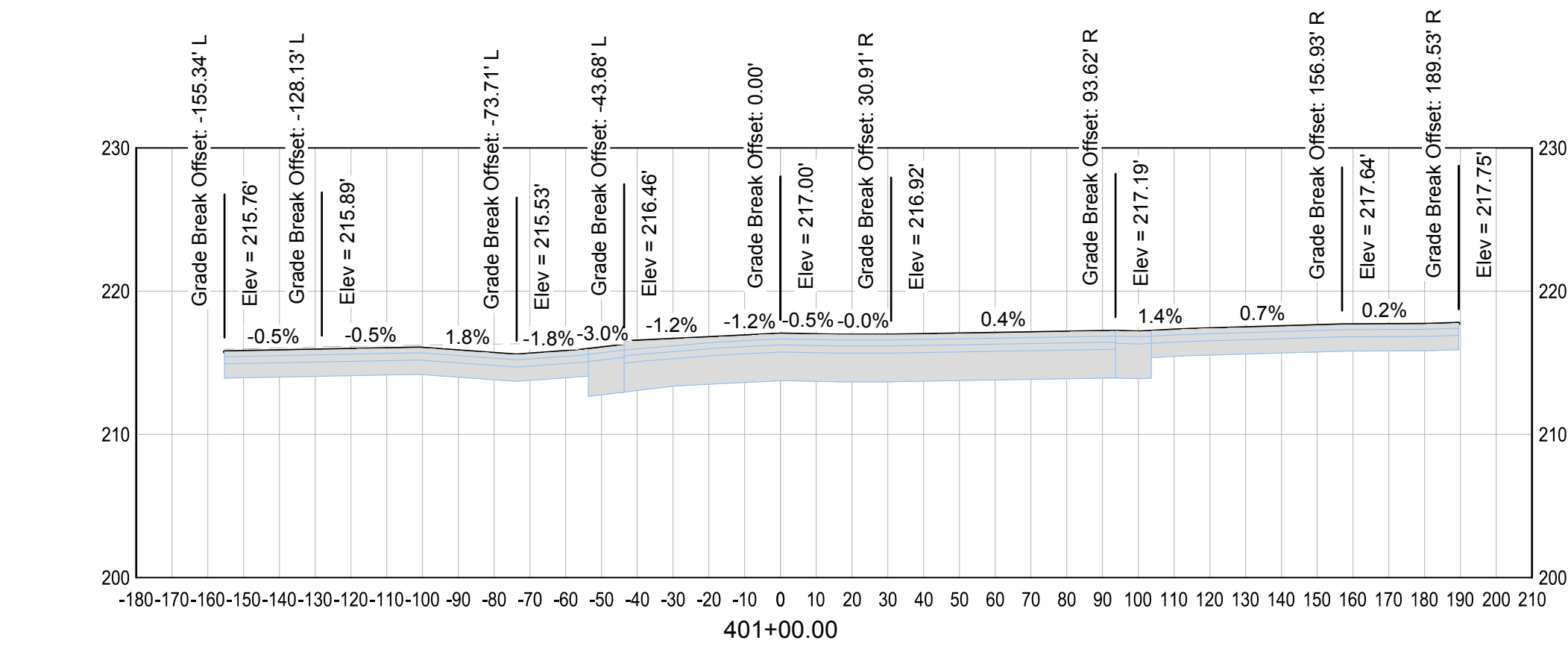
SCALE: 1"=40'  
DATE: MARCH 2021

REVISIONS		BY
REV. NO.	DESCRIPTION	DATE
M/J PROJ. No.: 18700.01		
FILE NAME:		
A/P No.: 3-33-0011-XXX-2021		
DRAWING NO.		
XS-09		
SHEET 56 OF 60		REV

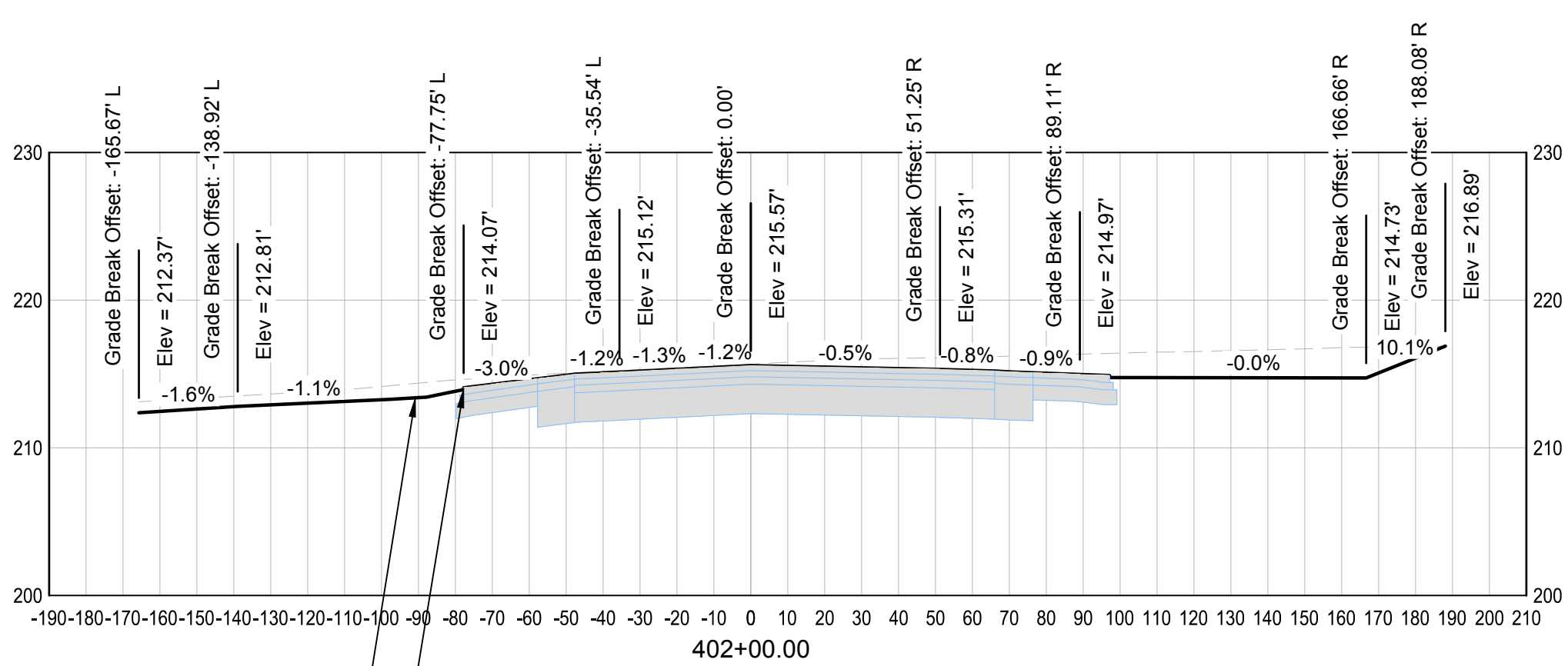


NOTES:  
1. SEE SHEET XS-01.

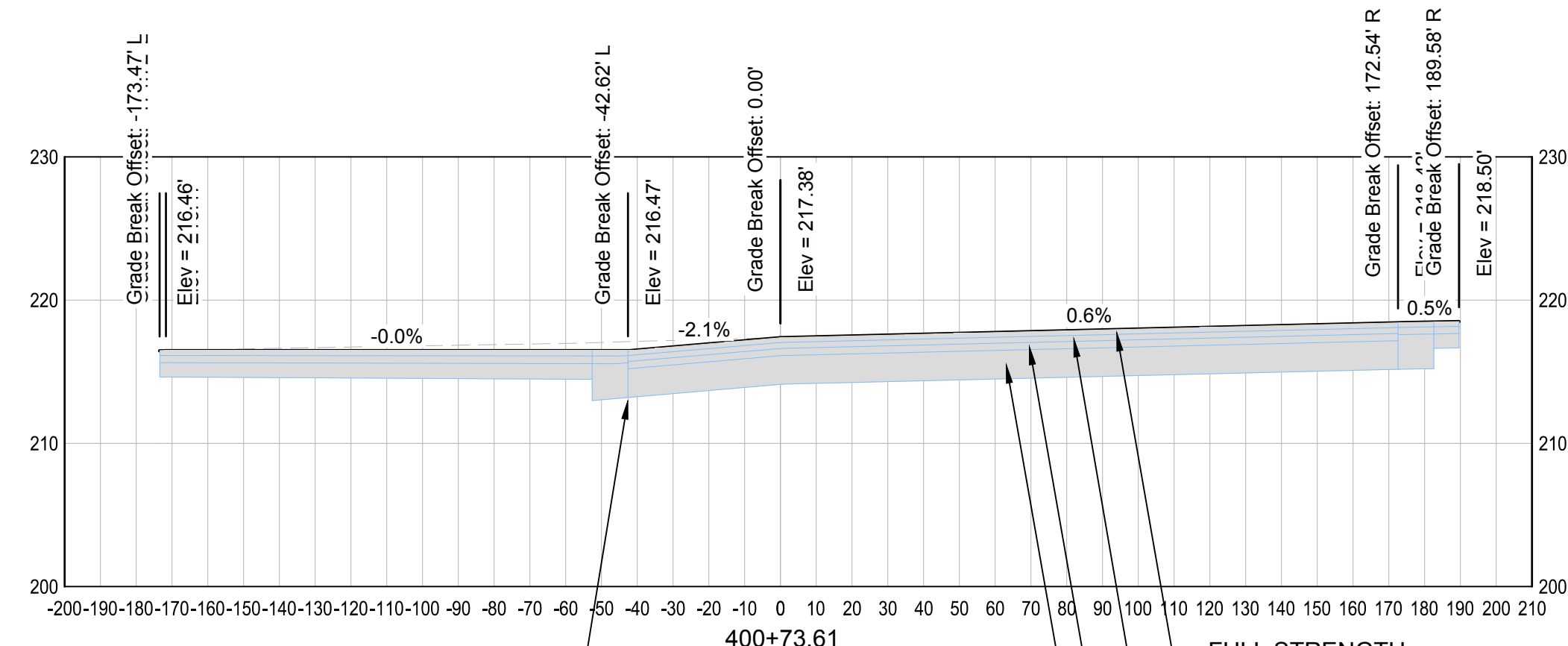




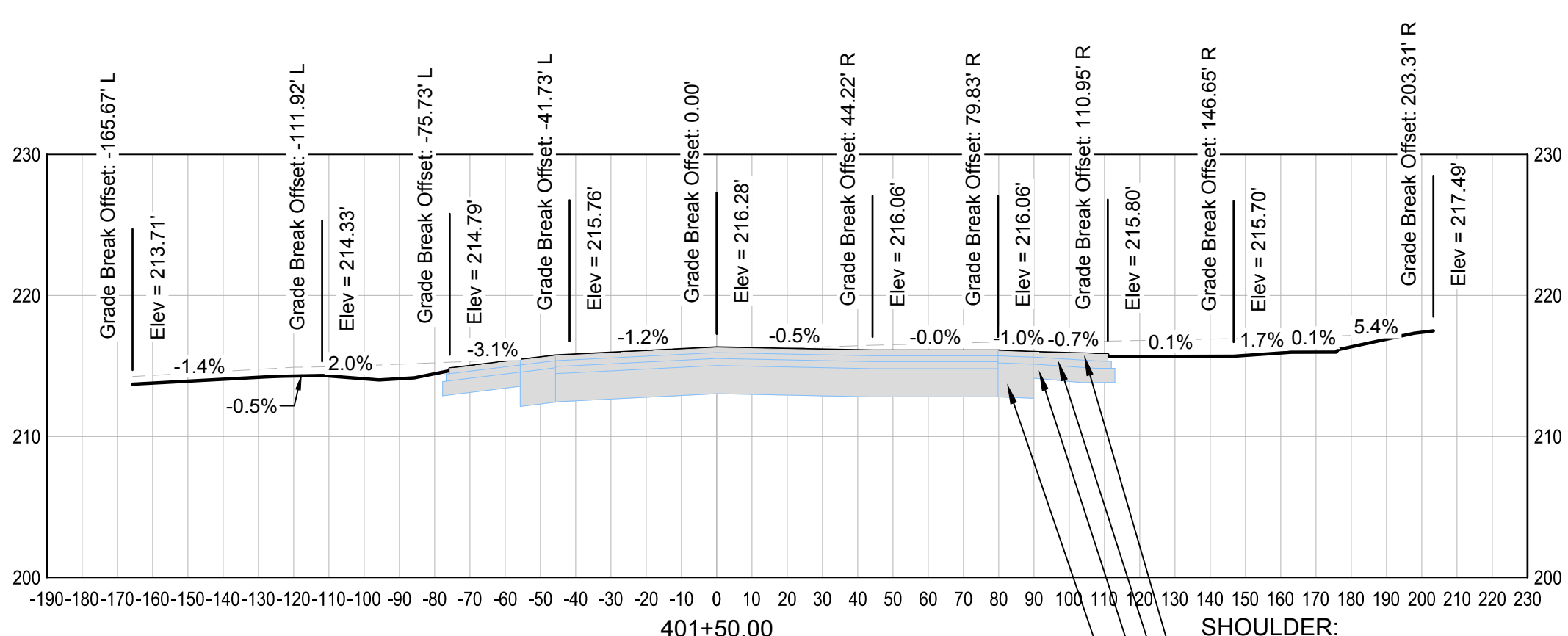
TAXIWAY K2  
SECTION A-A



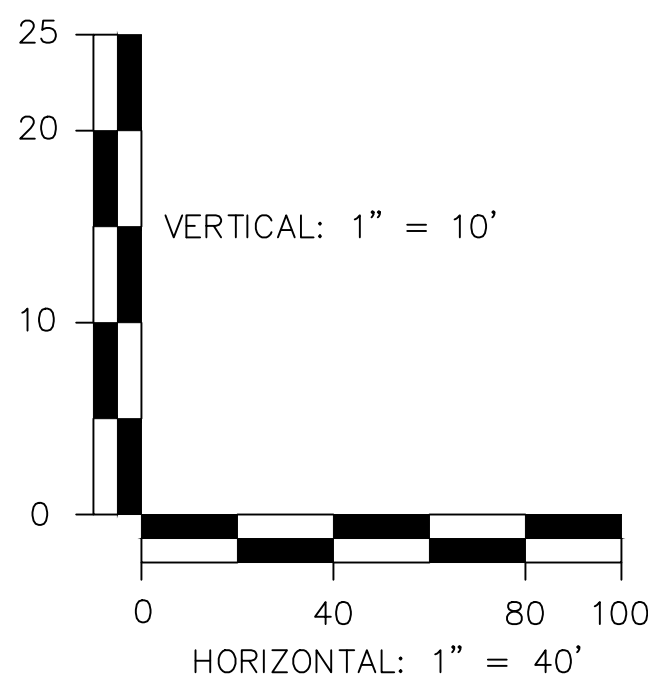
TAXIWAY K2  
SECTION A-A



TAXIWAY K2  
SECTION A-A



TAXIWAY K2  
SECTION A-A



NOTES:

1. SEE SHEET XS-01.

INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)

CONSTRUCT NO GREATER THAN 1-1/2"  
DROP AT EDGE OF PAVEMENT (TYP.)

- SHOULDER:  
INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)  
INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)  
INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)  
INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

ENGINEER'S SEAL

PROJECT DESIGNER  
  
**McFarland Johnson**  
53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095  
DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE

MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K  
CROSS SECTIONS (10 OF 13)  
DATE: MARCH 2021  
SCALE: 1"=40'

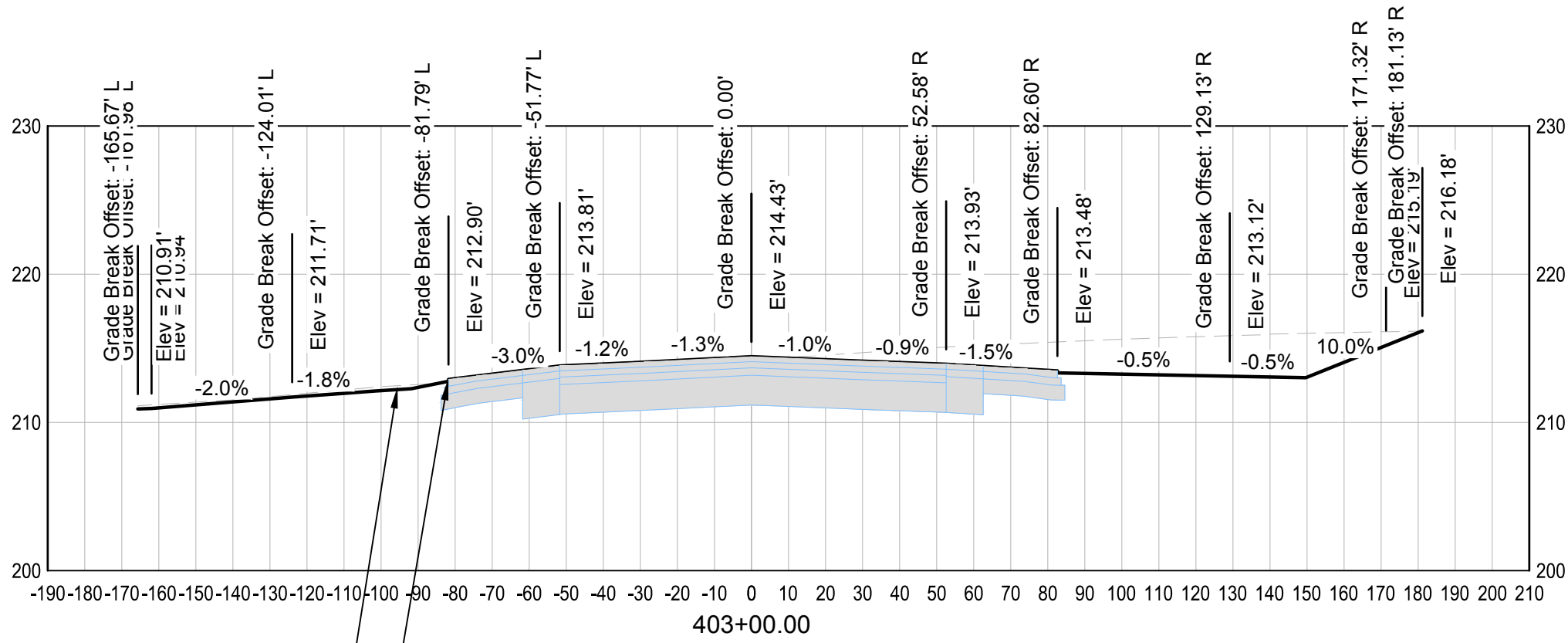
REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
  
XS-10

SHEET 57 OF 60

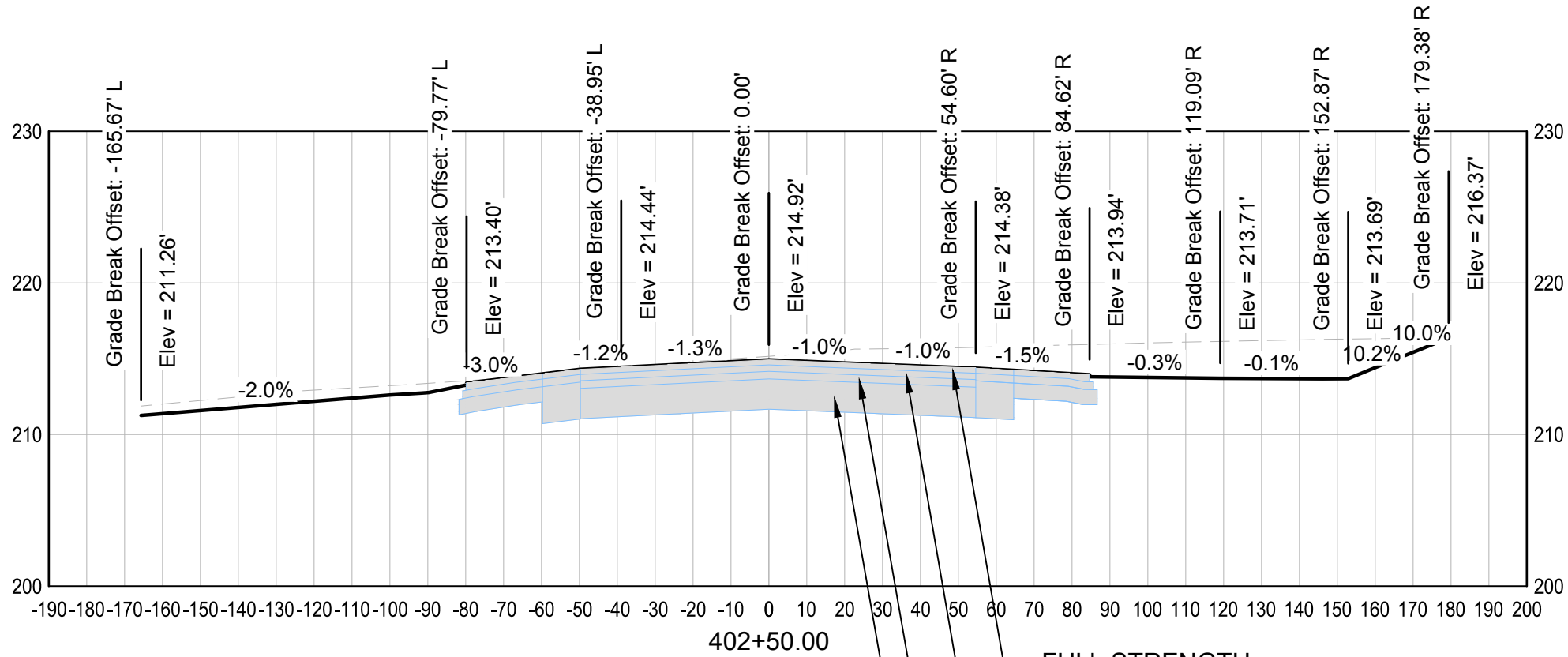




INSTALL NEW 2" TOPSOIL AND SEED (TYP.)  
(ITEM T-905-5.1, T-905-5.2, T-908-5.1)

CONSTRUCT NO GREATER THAN 1-1/2"  
DROP AT EDGE OF PAVEMENT (TYP.)

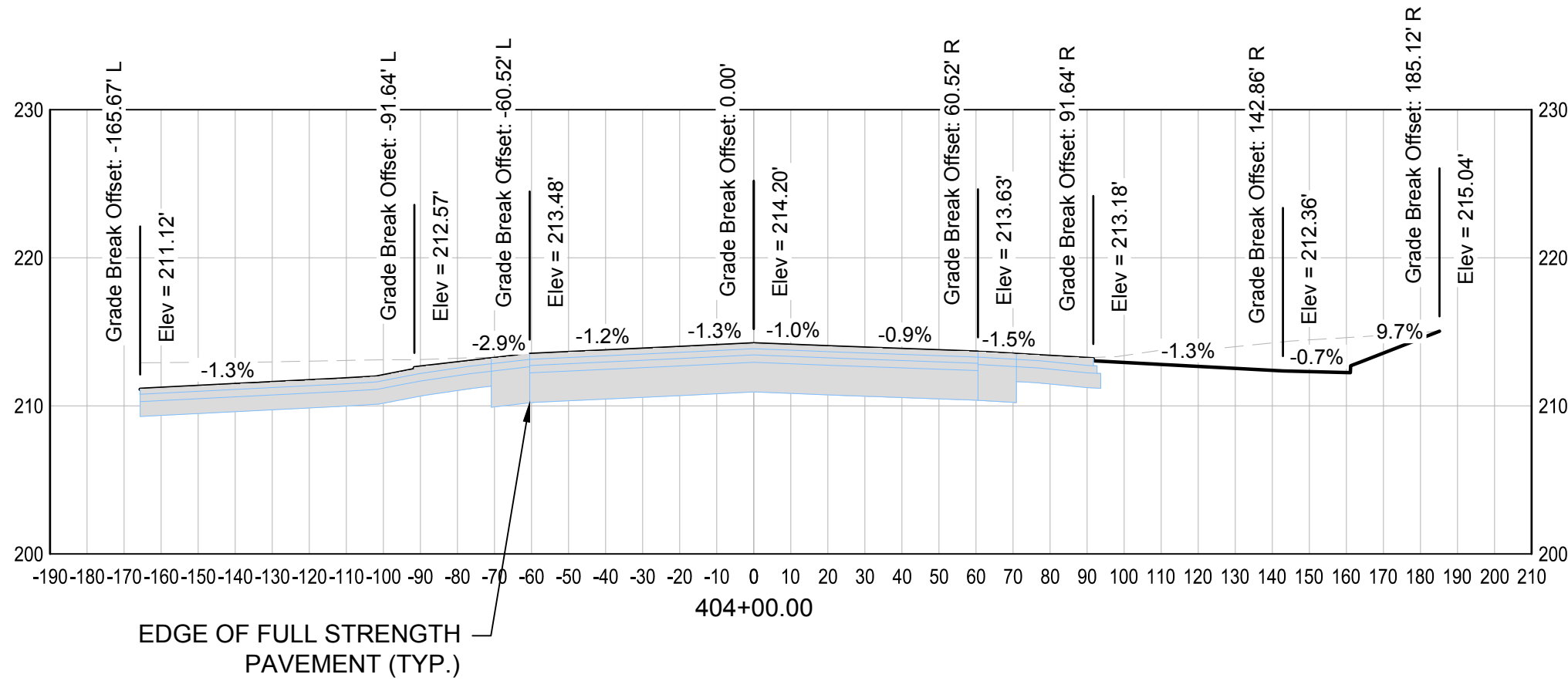
TAXIWAY K2  
SECTION A-A



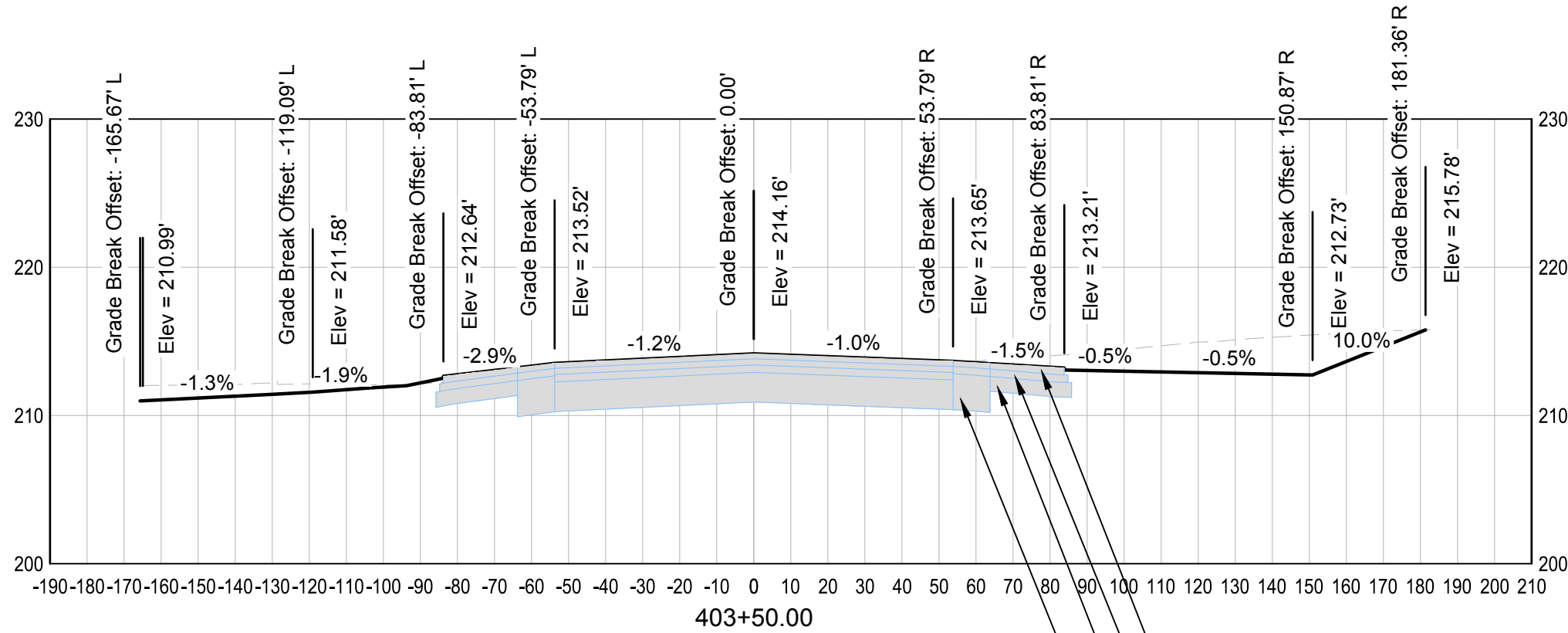
TAXIWAY K2  
SECTION A-A

**FULL STRENGTH:**

- INSTALL NEW 4" P-401 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-401-8.1)
- INSTALL NEW 5" P-403 BITUMINOUS PAVEMENT IN 2 - 2-1/2" LIFTS (TYP.)  
(ITEM P-403-8.1)
- INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)
- INSTALL NEW 24" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)

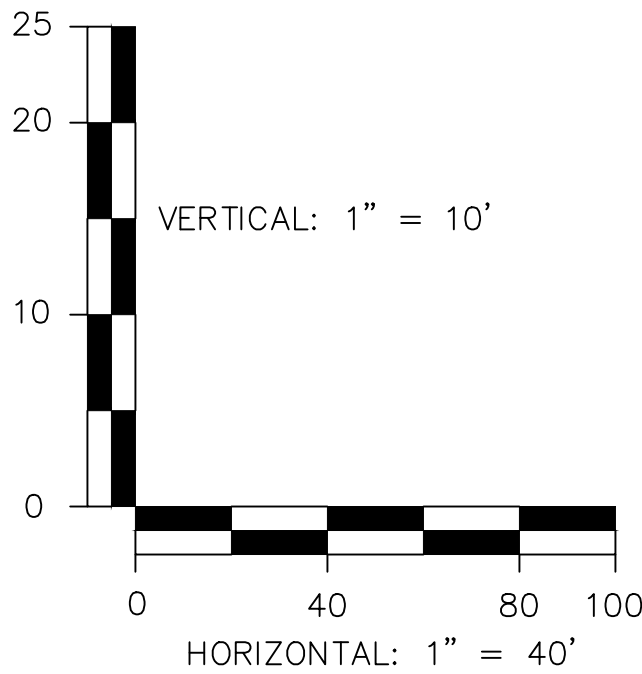


TAXIWAY K2  
SECTION A-A



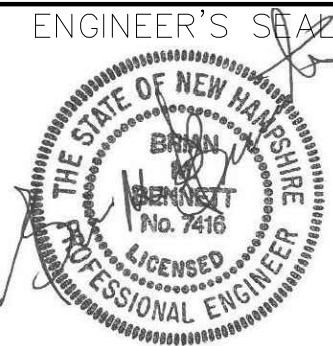
TAXIWAY K2  
SECTION A-A

- SHOULDER:**
- INSTALL NEW 4" P-403 BITUMINOUS PAVEMENT IN 2 - 2" LIFTS (TYP.)  
(ITEM P-403-8.1)
  - INSTALL NEW 6" P-209 CRUSHED AGGREGATE BASE COURSE (TYP.)  
(ITEM P-209-5.1)
  - INSTALL NEW 12" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)
  - INSTALL NEW 29" P-154 SUBBASE COURSE (TYP.)  
(ITEM P-154-5.1)



**NOTES:**

- SEE SHEET XS-01.



PROJECT DESIGNER

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DESIGNED BY: SSS  
DRAWN BY: RHL  
CHECKED BY: BMB



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS (11 OF 13)

SCALE: 1"=40' DATE: MARCH 2021

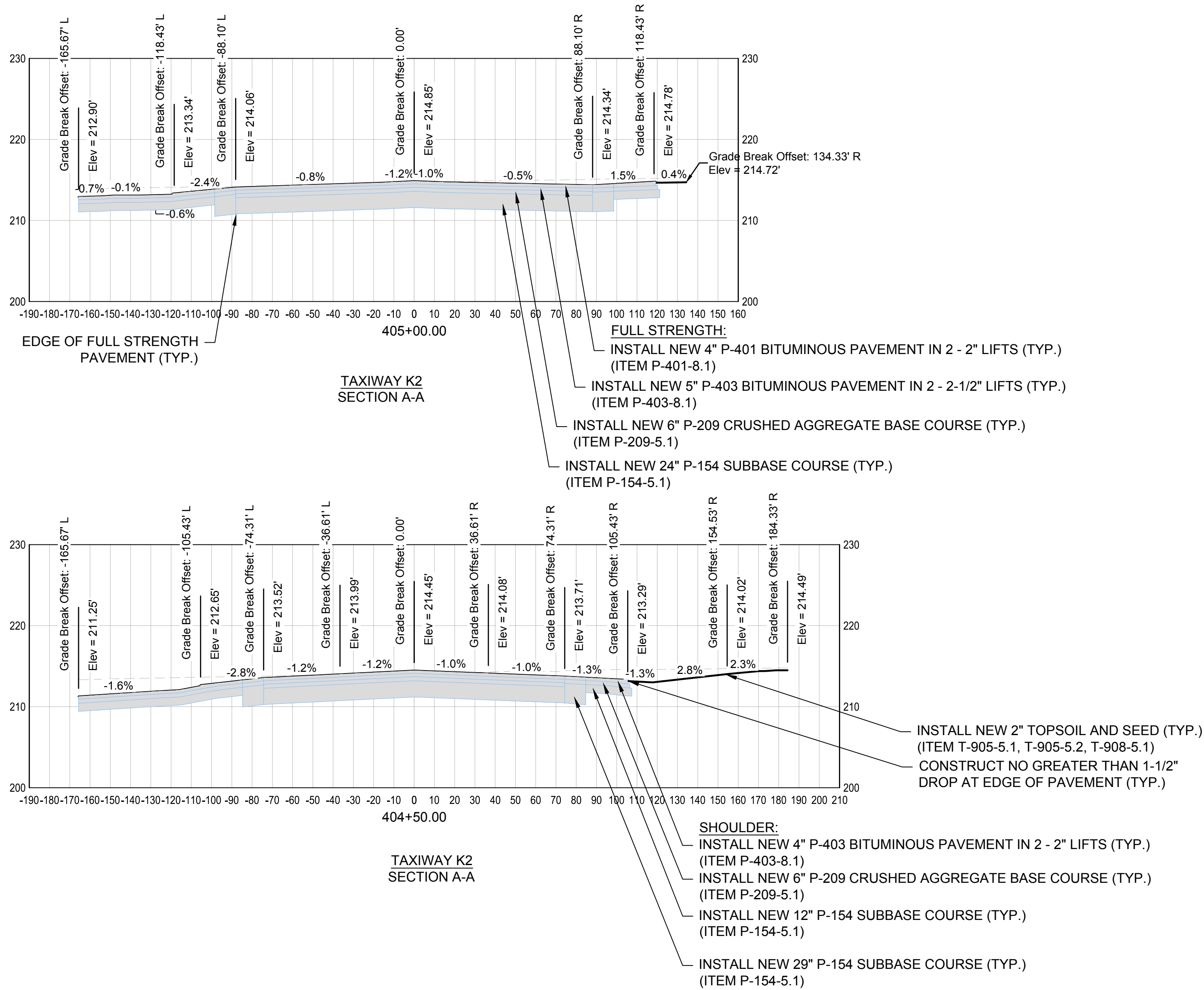
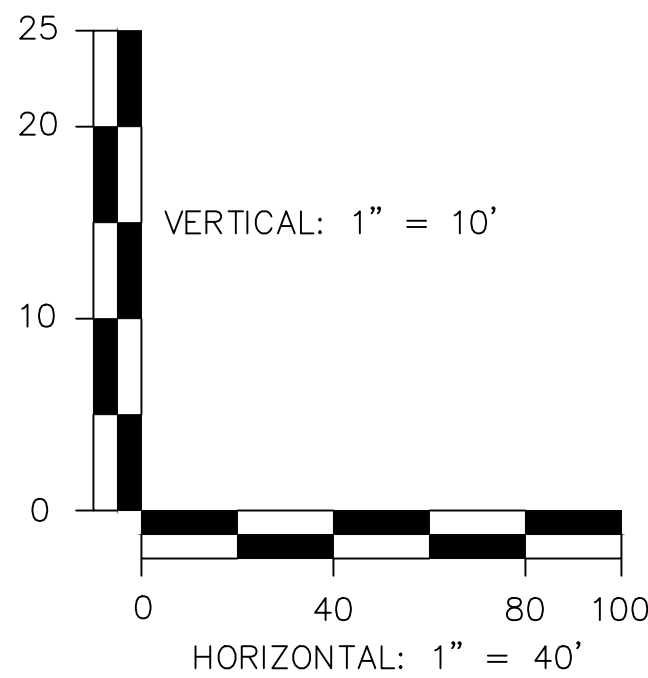
REV. NO.	DATE	DESCRIPTION	BY

MJ PROJ. No.: 18700.01  
FILE NAME:  
AIP No.: 3-33-0011-XXX-2021

DRAWING NO.  
**XS-11**

SHEET 58 OF 60

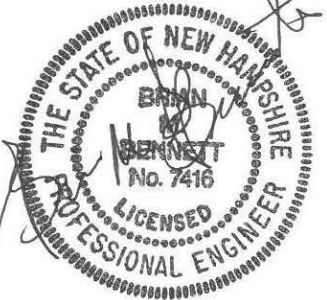





NOTES:

1. SEE SHEET XS-01.

ENGINEER'S SEAL



PROJECT DESIGNER

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53 REGIONAL DRIVE, CONCORD, NH 03301-5022  
PH: 603-225-2978 FAX: 603-225-0095

DESIGNED BY

SSS


DRAWN BY

RHL

CHECKED BY

BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS ( 12 OF 13 )

REV. NO.	DATE	DESCRIPTION	BY

M/J PROJ. No.: 18700.01

FILE NAME:

A/P No.: 3-33-0011-XXX-2021

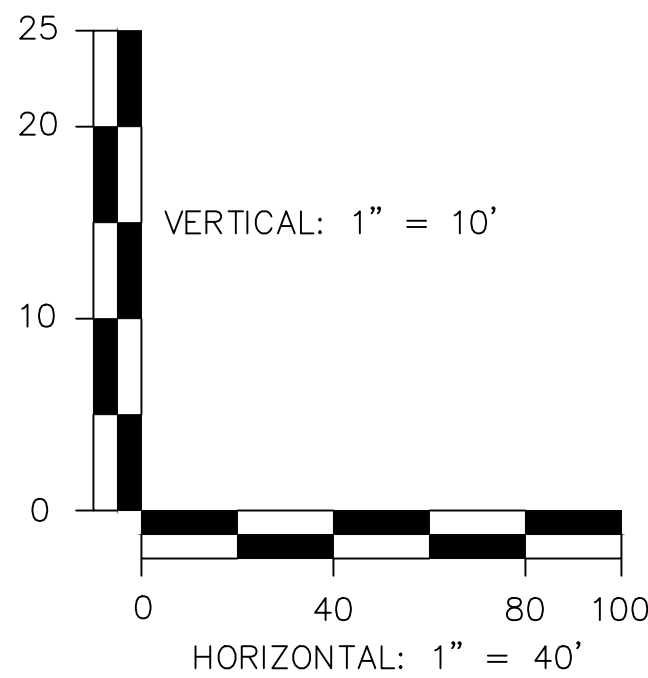
DRAWING NO.

XS-12

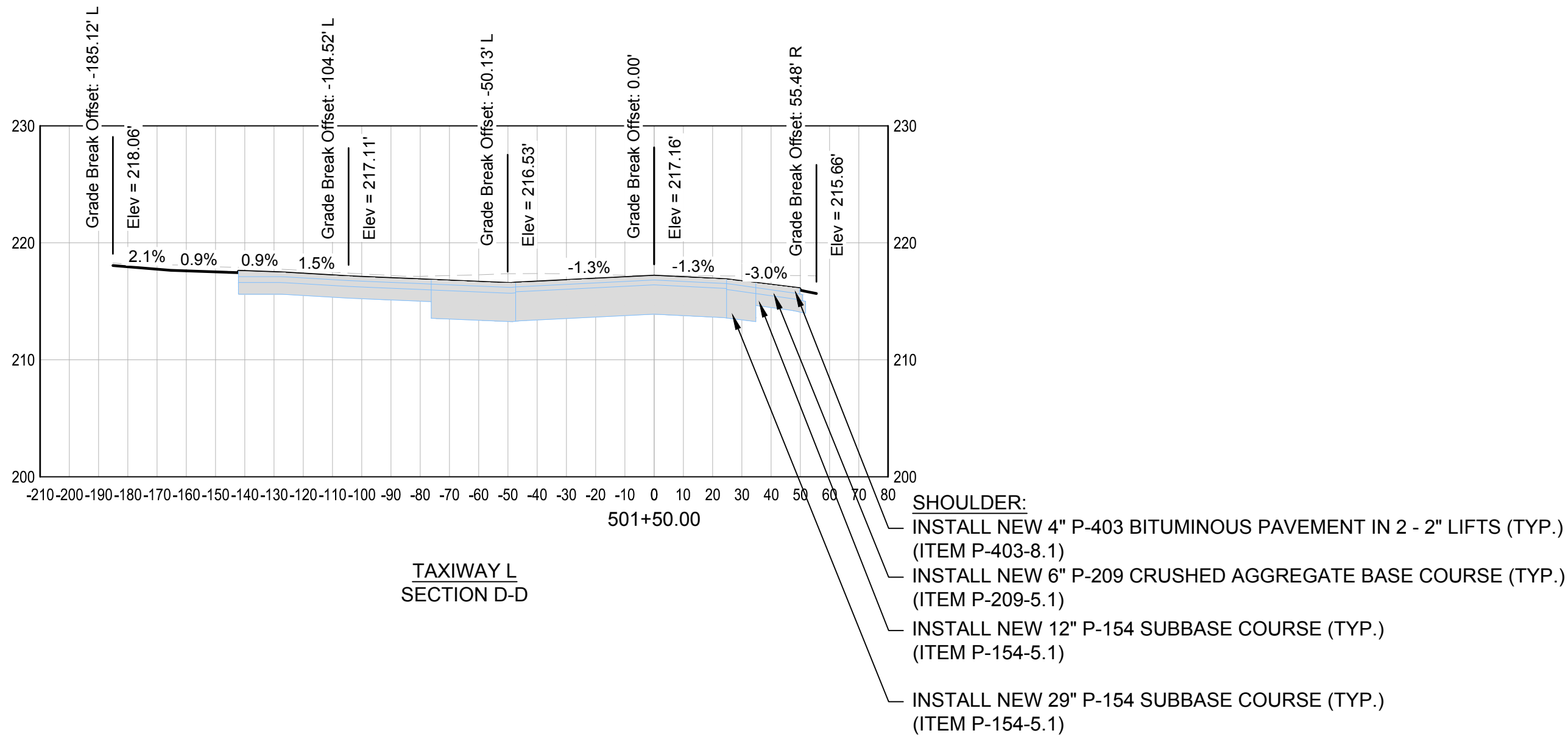
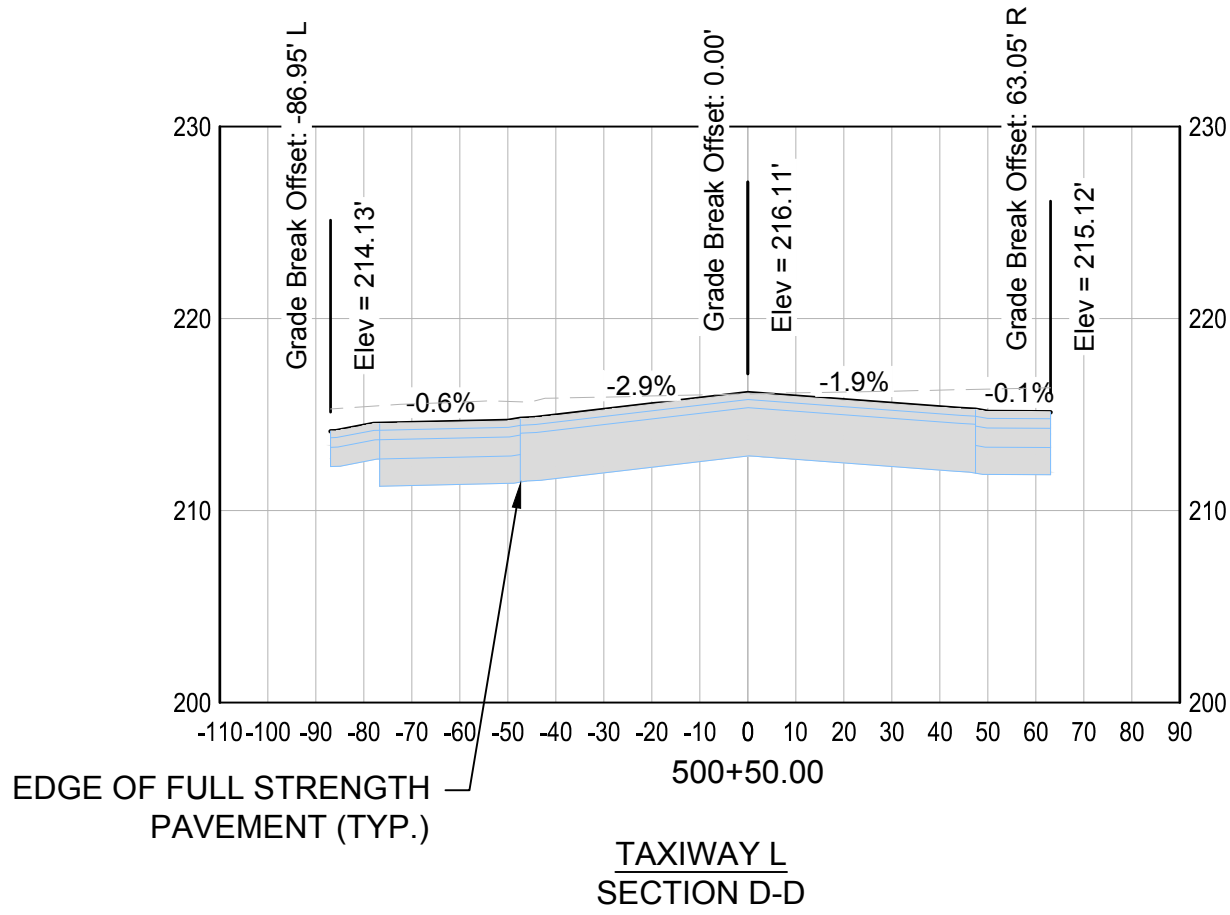
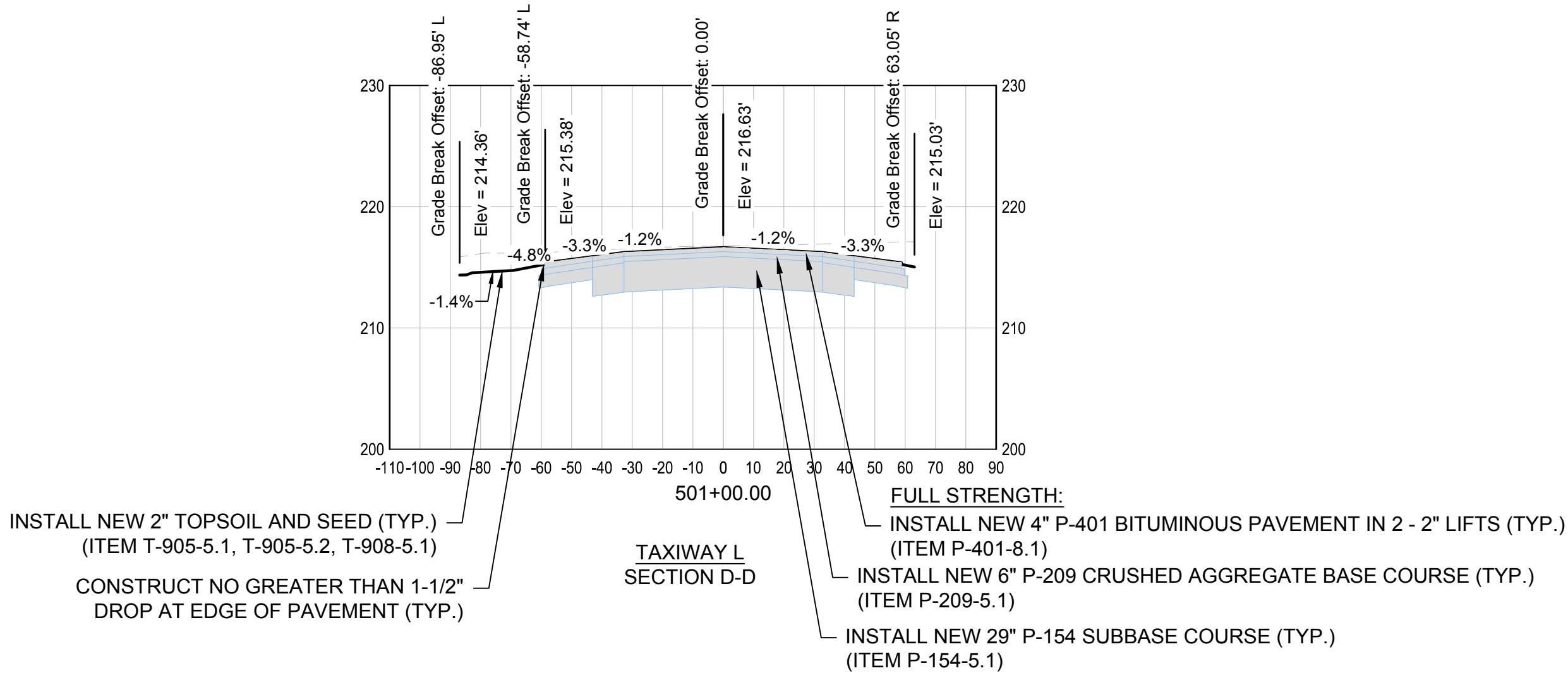
SHEET 59 OF 60

REV

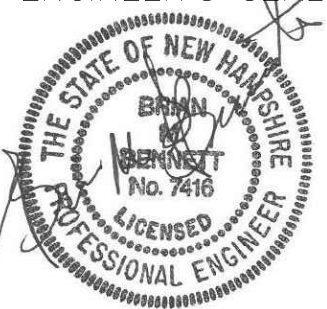





NOTES:  
1. SEE SHEET XS-01.



ENGINEER'S SEAL



PROJECT DESIGNER

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DESIGNED BY

SSS


DRAWN BY

RHL

CHECKED BY

BMB

CITY OF MANCHESTER  
DEPARTMENT OF AVIATION  
MANCHESTER, NEW HAMPSHIRE



MANCHESTER BOSTON REGIONAL AIRPORT  
TAXIWAY H RECONFIGURATION TO TAXIWAY K

CROSS SECTIONS ( 13 OF 13 )

REV. NO.	DATE	DESCRIPTION	BY

SCALE: 1"=40'

DATE: MARCH 2021

MJ PROJ. No.: 18700.01

FILE NAME:

AIP No.: 3-33-0011-XXX-2021

DRAWING NO.

XS-13

SHEET 60 OF 60

REV