CITY OF ANN ARBOR
ENGINEERING

IN COOPERATION WITH THE
UNIVERSITY OF MICHIGAN

2022 E. MEDICAL CENTER DRIVE BRIDGE
REHABILITATION AND WIDENING

CITY FILE NO. 2021-008
## ROADWAY NOT ITEMS

<table>
<thead>
<tr>
<th>CODE NO.</th>
<th>WORK ITEM</th>
<th>UNITS</th>
<th>CATG</th>
<th>QTY</th>
<th>000</th>
<th>TOTAL</th>
<th>AS-BUILT</th>
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<tbody>
<tr>
<td>8040021</td>
<td>Pavement</td>
<td>579.95</td>
<td>1</td>
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<td>Steel Sheet Piling, temp</td>
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<td>Substructure Horizontal Surface Sealer (STR 11065)</td>
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<td>8040021</td>
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<td>Sign, Portable, Changeable Message, Furn</td>
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<th>CATG</th>
<th>QTY</th>
<th>000</th>
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<td>8130020</td>
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## PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

### ROADWAY WIDENING QUANTITY SHEET

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<tr>
<th>CONTRACT</th>
<th>UNITS</th>
<th>CATG</th>
<th>QTY</th>
<th>000</th>
<th>TOTAL</th>
<th>AS-BUILT</th>
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<tr>
<td>2022 E. MEDICAL CENTER DRIVE BRIDGE REHABILITATION AND WIDENING QUANTITY SHEET</td>
<td>27</td>
<td>2022</td>
<td>1.00</td>
<td>27</td>
<td>27</td>
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</table>
EXISTING CONDITIONS (E MED CNTR DR)

BM#1
ELEV=790.619'
TOP OF SW TRAFFIC SIGNAL BASE BOLT AT THE SW CORNER OF THE INTERSECTION OF FULLER AVE AND MAIDEN AVENUE/E. MEDICAL CENTER DRIVE

BM#2
ELEV=806.437'
TOP OF NE LIGHT POLE BASE BOLT ON NORTH SIDE OF W MEDICAL CENTER DRIVE +/- 40' FROM THE INTERSECTION OF E. MEDICAL CENTER DRIVE

NOTE:
HORIZONTAL DATUM: MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE 2113, INTERNATIONAL FEET, NAD 83, 2011 ADJUSTMENT YEAR

UTILITIES SHOWN ARE BASED OFF MARKED LOCATIONS PROVIDED BY T2 UTILITY ENGINEERS AND PLAN INFORMATION RECEIVED FROM UTILITY OWNERS IN RESPONSE TO A MISS DIG TICKET. UTILITY INFORMATION SHOULD BE CONSIDERED APPROXIMATE AND WILL NEED TO BE VERIFIED PRIOR TO ANY CONSTRUCTION.

MISS DIG TICKET #: B13010469

NOTES
EXISTING CONDITIONS (FULLER RD.)

Scale

COORDINATES:

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the south side of the Amtrak tracks, EAST OF THE CONTROL POINT #: 8

S74D54'W 17.52' TO STOP SIGN
N76D05'E 5.95' TO CENTER OF TELEPHONE MANHOLE
N01D12'W 16.30' TO THE SOUTHERN AMTRAK RAIL

COORDINATES:

Set a 5/8" Diameter by 24" long rebar flush with the existing ground AT THE SW CORNER OF THE INTERSECTION OF EAST MEDICAL CENTER DRIVE AND WEST MEDICAL CENTER DRIVE, EASTERN EDGE OF THE STONE WALL AND 71 FT (21.6 M) SOUTHEASTERLY OF THE SOUTHERLY MOST POINT OF THE NORTHERLY BACK OF CURB OF FULLER ROAD, SAID STATION BEING IN THE SOUTHWEST 1/4 OF SECTION 22, ANN ARBOR TOWNSHIP IN THE CITY OF ANN ARBOR, MICHIGAN. THE STATION IS LOCATED 5 FT (1.5 M) EASTERLY OF THE GOVERNMENT CORNERS:

N57D44'W 14.52' TO DIRECTION ARROWS SIGN
N29D24'E 57.80' TO BRIDGE EXPANSION JOINT AT EDGE OF SIDEWALK
N22D02'W 34.24' TO REBAR CONTROL POINT 3
N79D44'E 50.75 to west side of northern pier of E Medical Center Drive Bridge.

COORDINATES:

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the north side of the Amtrak tracks.

N72D53'W 27.10' TO 36" TREE.
S62D59'E TO SW CORNER OF PARKING LOT.
S44D05'E 12.92' TO UTILITY POLE
N01D43'W 45.47' TO 6' HIGH CHAINLINK FENCE
N21D30'W 28.36' TO THE SE CORNER OF RETAINING WALL
S0D48'E 33.68' TO CENTER OF TELEPHONE HAND HOLE.
N22D02'W 34.24' TO REBAR CONTROL POINT 3
N79D44'E 50.75 to west side of northern pier of E Medical Center Drive Bridge.
EXISTING SECTION

STAGE 2

BRIDGE CONSTRUCTION STAGING DETAILS

NOTES:

STAGE 1 IS A PREPARATORY STAGE
PLACE LIMITED DEFLECTION TEMPORARY BARRIER ACCORDING TO STANDARD PLAN R-53 SERIES.

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

BRIDGE CONSTRUCTION STAGING DETAILS

DRAWING NO.

HOR. 1/4"=1'-0"

SCALE

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

REV. NO.

DESCRIPTION

ORIGINAL ISSUE

DR. BY

DATE

CH. BY

SHEET NO.

2021-008-

STAGE 2

(LOOKING UPSTATION)
STAGE 3

PROPOSED SECTION

(LOOKING UPSTATION)

EAST MEDICAL CENTER DRIVE

NOTES:
PLACE LIMITED DEFLECTION TEMPORARY BARRIER ACCORDING TO STANDARD PLAN R-53 SERIES.
AVOID FULLER RD & E. MED CENTER INT DURING HEAVY TRAFFIC

NOTE:
FOR TEMPORARY SIGNS, BARRICADES, DRUMS AND PORTABLE CHANGEABLE MESSAGE SIGN QUANITIES SEE SHEET
<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>PHASE</th>
<th>ADV</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>MAX COUNT</th>
<th>QUANTITY</th>
<th>NOTES</th>
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<td>Bankside Type B High Intensity, Double Sided, Lighted, Fun - Blk</td>
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**SIGNALS**

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<th>UNIT</th>
<th>PHASE</th>
<th>ADV</th>
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<td>1</td>
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</table>

**DESCRIPTION**

- **ORIGINAL ISSUE:**
- **DATE:**
- **CH.BY:**

**MAINTENANCE OF TRAFFIC PLAN**

( TOLL FREE )

800-482-7171

CALL MISS DIG

BEFORE YOU DIG

E. MEDICAL CENTER DRIVE

**M.O.T. QUANTITIES**

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**
Curb & Gutter Rem: 66 FT
Relocate Existing Stop Sign
Curb & Gutter Rem: 92 FT

Sign, Type III, Erect, Salvage: 1 EA

(11) Pavt Mrkg, Longit, 6 in or Less Width, Rem: 121 FT

Pavt Mrkg, Longit, 6 in or Less Width, Rem: 105 FT

Pavt Mrkg, Longit, 6 in or Less Width, Rem: 105 FT

Pavt Mrkg, Longit, 6 in or Less Width, Rem: 68 FT

Pavt Mrkg, Longit, 6 in or Less Width, Rem: 68 FT

Pavt Mrkg, Longit, 6 in or Less Width, Rem: 222 FT

Pavt Mrkg, Longit, Greater Than 6 in, Longit, Rem: 20 FT

Pavt Mrkg, Longit, Greater Than 6 in, Longit, Rem: 10 FT

MAINTENANCE OF TRAFFIC PLAN
E. MEDICAL CENTER DRIVE
PAVEMENT MARKING REMOVAL PLAN
STAGE I

LEGEND
REMOVE MARKING
REMOVE ITEM
WORK SPACE
REMOVE CURB & GUTTER
REMOVESidewalk

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

CALL MISS DIG BEFORE YOU DIG

2021-008-MOT9

E. MEDICAL CENTER DRIVE
MAINTENANCE OF TRAFFIC PLAN
PAVEMENT MARKING REMOVAL PLAN
STAGE I

DESCRIPTION
QUANTITY

Pavt Mrkg, Longit, 6 in or Less Width, Rem
1036 FT

Pavt Mrkg, Greater Than 6 in, Longit, Rem
30 FT

Rem Spec Mrkg
300 SFT

Sign, Type III, Erect, Salvage
1 EA
Sign, Type III, Erect, Salvage: 1 EA

Replace prior to Stage 3.

See Sheet 55 for Location

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

MAINTENANCE OF TRAFFIC PLAN

PAVEMENT MARKING REMOVAL PLAN

STAGE III

LEGEND
PREVIOUS TPO
PREVIOUS MARKING
PREVIOUS CURB & GUTTER
PREVIOUS SIDEWALK
WORK SPACE

ESTIMATED QUANTITIES THIS SHEET

DESCRIPTION

QUANTITY

Sign, Type III, Erect, Salvage
2 EA
NOTE:
EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.
NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
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PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES.
STAGE 1 CABLE DIAGRAM

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 PJ.
3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE: FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN.

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AID OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

SPAN CALCULATIONS NOT TO SCALE

SPAN #1 POCH: 34'-10"
SPAN #1 POCH: 37'-3"
**STAGE 2 REMOVAL PLAN**

**NOTE:**
- Plans have been prepared without the aid of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.
- Plans were not surveyed and are not marked on plans.
- Contractor to utilize DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.

**LIST OF MATERIAL**

<table>
<thead>
<tr>
<th>NO</th>
<th>ITEM</th>
<th>QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TS Mast Arm Mtd. Rem</td>
<td><em><strong>1 Ea</strong></em></td>
</tr>
</tbody>
</table>

**EXHIBITS**
- EX CONTROLLER AND CABINET
- EX WIRELESS VEHICLE DETECTION SYSTEM
- EX MICROWAVE VEHICLE DETECTION SYSTEM
- EX HEMISPHERICAL CAMERA SYSTEM
- EX PEDESTRIAN SIGNAL
- EX PUSHBUTTON AND SIGN
- EX PEDESTRIAN SIGN (PS #1)
- EX PEDESTRIAN SIGN (PS #2)
- EX PEDESTRIAN SIGN (PS #3)
- EX PEDESTRIAN SIGNAL (PS #4)
- EX PEDESTRIAN SIGNAL (PS #5)
- EX PEDESTRIAN SIGNAL (PS #6)
- EX PEDESTRIAN SIGNAL (PS #7)
- EX PEDESTRIAN SIGNAL (PS #8)

**EXHIBITS (TYP)**
- EX PEDESTRIAN SIGNAL
- EX MAST ARM AND FOUNDATION
- EX PEDESTRIAN SIGNAL
- EX PEDESTRIAN SIGNAL
- EX PEDESTRIAN SIGNAL
- EX PEDESTRIAN SIGNAL
- EX PEDESTRIAN SIGNAL
- EX PEDESTRIAN SIGNAL

**CONTRACTOR TO UTILIZE**
- DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.
- Signal was not surveyed and is not marked on plans.
- Time of removal of traffic signals to be as directed by the engineer.

**NOTE:**
- Plans have been prepared without the aid of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.
- Plans were not surveyed and are not marked on plans.
- Contractor to utilize DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.

**TIME OF REMOVAL**
- Due to traffic signals being as directed by the engineer.

**CONTRACTOR TO UTILIZE**
- DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.
- Signal was not surveyed and is not marked on plans.
- Time of removal of traffic signals to be as directed by the engineer.

**NOTE:**
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- Plans were not surveyed and are not marked on plans.
- Contractor to utilize DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.

**TIME OF REMOVAL**
- Due to traffic signals being as directed by the engineer.

**CONTRACTOR TO UTILIZE**
- DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.
- Signal was not surveyed and is not marked on plans.
- Time of removal of traffic signals to be as directed by the engineer.

**NOTE:**
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- Contractor to utilize DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.

**TIME OF REMOVAL**
- Due to traffic signals being as directed by the engineer.

**CONTRACTOR TO UTILIZE**
- DOT Typical 163-INT-LD-OUT for all signal work related to this intersection.
- Signal was not surveyed and is not marked on plans.
- Time of removal of traffic signals to be as directed by the engineer.
NOTE:
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CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

STEADY WATTS:
OPENINGS:
CYCLIC WATTS:

45
516
40

SIGNALS

EX PUSHBUTTON
EX PEDESTAL
EX MAST ARM

EX SPP RADIO
EX MICROWAVE
EX GPS MODULE
EX SPP RADIO
EX PS #5
EX PUSHBUTTON
EX HHI

EX MAST ARM
EX PUSHBUTTON
EX PEDESTAL
EX HHI

1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 PJ.
HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN.

STAGE 2 REMOVAL CABLE DIAGRAM
NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

- 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
- 1W-3C TRAFFIC SIGNALS WITH 12”/27” CASE SIGN CABLES ARE 7/C#16 PJ.
- HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

NOTE: FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLDS BUT SIZE AND ROUTING IS UNKNOWN.

STAGE 2 INSTALLATION CABLE DIAGRAM
STAGE 4 REMOVAL PLAN

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER RD AT E. MED. CENTER RD
STAGE 4

CONTRACTOR TO UTILIZE MOT TYPICAL 163-INT-LD-OUT FOR ALL SIGNAL WORK RELATED TO THIS INTERSECTION.

PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.
NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

STAGE 4 REMOVAL CABLE DIAGRAM

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE SOW40 PK.
2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE TCHPK PK.
3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5E 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN.
STAGE 4 INSTALLATION PLAN

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

CONTRACTOR TO UTILIZE MOT TYPICAL 163-INT-LD-OUT FOR ALL SIGNAL WORK RELATED TO THIS INTERSECTION.
NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

1. 1W-3C TRAFFIC SIGNAL CABLES ARE SORRY PJ.
2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE TCPP#4 PJ.
3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDBOLES BUT SIZE
AND ROUTING IS UNKNOWN.

STAGE 4 INSTALLATION CABLE DIAGRAM
**STAGE 1 REMOVAL PLAN**

**LIST OF MATERIAL**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantities</th>
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</thead>
<tbody>
<tr>
<td>Pedestal, Rem</td>
<td>1 Ea.</td>
</tr>
<tr>
<td>Pedestal, Ex</td>
<td>1 Ea.</td>
</tr>
<tr>
<td>Pushbuttons, Rem</td>
<td>24</td>
</tr>
<tr>
<td>Contact, Rem</td>
<td>12 Ft</td>
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</tbody>
</table>

**NOTE:**

Plans have been prepared without the aide of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.

Contractor to utilize Mot Typical A for installation of temporary signals prior to Stage 1.

Time of bagging and unbagging of traffic signals to be as directed by the engineer.

**CONTRACTOR TO UTILIZE MOT TYPICAL A FOR INSTALLATION OF TEMPORARY SIGNALS PRIOR TO STAGE 1.**

**TIME OF BAGGING AND UNBAGGING OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER.**

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**BENCH MARK**

**SURVEY**

**REV. NO.**

**DATE**

**CH. BY**

**Drawing No.**

2021-008-MOT34

(TOLL FREE)

800-482-7171

CALL MISS DIG BEFORE YOU DIG

**E. MEDICAL CENTER DRIVE**

**FULLER ED AT E. MED. CENTER RD**

**STAGE 1**
STAGE 1 REMOVAL CABLE DIAGRAM

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.
**NOTE:** PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.
CABLES TO BE USED UNLESS SPECIFIED OTHERWISE
1. TRAFFIC SIGNAL CABLES ARE 7/C#16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 4/C#16 PJ.
4. PUSH BUTTON CABLES ARE 2/C#16 SHIELDED PJ.

SPAN CALCULATIONS NOT TO SCALE
SPAN #1
POCH: 21'-5"
TENSION=1000
SPAN #1 POCH: 22'-0"
12'
SPAN #1 POCH: 22'-0"
28'
SPAN #2
POCH: 26'-0"
TENSION=1000
SPAN #2 POCH: 25'-2"
22"
SPAN #2 POCH: 25'-2"
19'
SPAN #3
POCH: 26'-8"
1W-3C
SPAN #3 POCH: 20-11"
1W-3C

shown stems length are suggested only

Plans have been prepared without the aide of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.

Traffic Signal Cables are 5/C#16 PJ.
24" x 30" L.E.D. Case signs are 4/C#16 PJ.
Pedestrian Signal Cables are 7/C#16 PJ.
Pushbutton Cables are 2/C#16 Shielded PJ.

Stage 2 Removal Cable Diagram

Note: Plans have been prepared without the aide of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.

Project Management - Public Services - City of Ann Arbor
CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

1. TRAFFIC SIGNAL CABLES ARE 5/C #16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C #16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C #16 PJ.
4. PUSHBUTTON CABLES ARE 2/C #16 SHIELDED PJ.

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

SPAN CALCULATIONS
NOT TO SCALE

STAGE 3 CABLE DIAGRAM

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.
CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

1. TRAFFIC SIGNAL CABLES ARE 2/C#16 PJ.
2. 24" X 59" L.E.D. CASE SIGNALS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

STAGE 3 REMOVAL CABLE DIAGRAM
**LIST OF MATERIAL**

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<th>QUANTITIES</th>
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<tr>
<td>2</td>
<td>Span Wire</td>
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<tr>
<td>3</td>
<td>Strut Guy</td>
<td>1 Ea.</td>
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<tr>
<td>4</td>
<td>TS Head, Temp</td>
<td>4 Ea.</td>
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<td>TS #1</td>
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<td>8</td>
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<tr>
<td>10</td>
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<td>45</td>
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<tr>
<td>17</td>
<td>EX WOOD POLE</td>
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<td>18</td>
<td>EX HEMISPHERICAL CAMERAS</td>
<td>3</td>
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<td>19</td>
<td>EX HEMISPHERICAL CABINET</td>
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<td>21</td>
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<td>22</td>
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<td>24</td>
<td>EX PEDESTRIAN SIGNAL (PS #4)</td>
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<tr>
<td>25</td>
<td>EX PEDESTRIAN SIGNAL (PS #5)</td>
<td>100</td>
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</tbody>
</table>

**NOTE:**
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**CONTRACTOR TO UTILIZE WORK ZONES AND NOT TYPE A-103-U-65C-0-C FOR INSTALLATION OF TRAFFIC SIGNALS PRIOR TO STAGE 3.**

**STAGE 3 INSTALLATION PLAN**

**PHASE DIAGRAM**

**BENCH MARK**

**MARK BOOK**

**SURVEY**

**DRAWING NO.** 2022-008-MOT44

**SCALE** 1" = 20'

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**CALL MISS DIG BEFORE YOU DIG**

TOLL FREE: 1-800-482-7171

**LIMIT SPEED**

**W**

**R**

**S**

**OF**
STAGE 3 INSTALLATION CABLE DIAGRAM

PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES.

CABLES TO BE USED UNLESS SPECIFIED OTHERWISE:

1. TRAFFIC SIGNAL CABLES ARE 5/C #16 PJ.
2. 30" X 30' L.E.D. CASE SIGNS ARE 4/H #14 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 4/H #14 PJ.
4. PUSHBUTTON CABLES ARE 2/H #16 SHIELDED PJ.

TRAFFIC SIGNAL CABLES ARE 5/C #16 PJ.
24" X 30" L.E.D. CASE SIGNS ARE 4/C #16 PJ.
PEDESTRIAN SIGNAL CABLES ARE 7/C #16 PJ.
PUSHBUTTON CABLES ARE 2/C #16 SHIELDED PJ.

SHOWN STEMS LENGTH ARE SUGGESTED ONLY

SPAN CALCULATIONS NOT TO SCALE

NOTE:

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

CALL MISS DIG BEFORE YOU DIG
( TOLL FREE ) 800-482-7171
### LIST OF MATERIAL

<table>
<thead>
<tr>
<th>NO.</th>
<th>ITEM</th>
<th>QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ex Pedestal and Foundation</td>
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</tr>
<tr>
<td></td>
<td>Ex Existing Pushbutton and Sign</td>
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<td>Ex Existing Pedestrian Signal (PS #1)</td>
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<td>Ex Existing Pedestrian Signal (PS #2)</td>
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<td>Ex Existing Pedestrian Signal (PS #5)</td>
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<td>Ex Existing SPP Radio</td>
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<td></td>
<td>Ex Existing Hemispherical Camera</td>
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<td>Ex 30' Wood Pole</td>
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<td>Ex 1W-3C Signal (TS #7)</td>
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### NOTE:

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Project Management - Public Services - City of Ann Arbor

**Final Removal Plan**

Contractor to utilize Mot TYPICAL 163-INT-LD-OUT for removal of Traffic Signals after completion of Stage 3.

Time of removal or adjustment of Traffic Signals to be as directed by the engineer.

**PHASE DIAGRAM**

**SIGNAL HEADS**

**FINAL REMOVAL PLAN**

**DRAWING NO.**

**SCALE**

**NOTE:**

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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**E. MED CENTER TRAFFIC SIGNAL PLANS FULLER RD. AT E. MED. CENTER RD FINAL REMOVAL**

**NOTE:**

Plans have been prepared without the aide of record drawings and are solely based on field observations. Conduit size is unknown. Contractor to verify any conduit and cable routing before ordering any material or making any changes.

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**E. MED CENTER TRAFFIC SIGNAL PLANS FULLER RD. AT E. MED. CENTER RD FINAL REMOVAL**

**NOTE:**

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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**E. MED CENTER TRAFFIC SIGNAL PLANS FULLER RD. AT E. MED. CENTER RD FINAL REMOVAL**

**NOTE:**

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CABLES TO BE USED UNLESS SPECIFIED OTHERWISE

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 50' X 30' E.LD. CASE SIGNS ARE 4/C#18 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.

EX PS #1
EX PS #2
EX PS #3

TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
24" X 30" L.E.D. CASE SIGNS ARE 4/C#18 PJ.
PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.

FINAL REMOVAL CABLE DIAGRAM

SPAN CALCULATIONS
NOT TO SCALE

SHOWN STEM LENGTH AND SUGGESTED ONLY.
Pavt Mrkg, Polyurea, LT
Turn Arrow Sym

Pavt Mrkg, Polyurea, LT
Turn Arrow Sym

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Yellow:
99 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Skip, White:
50 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Skip, Yellow:
23 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Skip, Yellow:
25 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Yellow:
92 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Yellow:
47 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Skip, Yellow:
12 FT

Pavt Mrkg, Sprayable Thermolpl, 4 inch, Yellow:
48 FT

Pavt Mrkg, Polyurea, 24 Inch, Stop Bar
11 FT

Pavt Mrkg, Sprayable Thermolpl, 4 Inch, White
50 FT

Pavt Mrkg, Sprayable Thermolpl, 4 Inch, Yellow
346 FT

Pavt Mrkg, Polyurea, LT Turn Arrow Sym
3 EA

Recessing Pavt Mrkg, Longitudinal
396 FT

Recessing Pavt Mrkg, Transverse
11 FT

UM PROPERTY ONLY
Sprayable Thermolpl on all lane lines
Polyurea on all symbols
NOTES

1. CONTRACTOR TO COORDINATE WITH AT&T FOR FINAL AT&T CONDUIT CONNECTIONS AT EACH END OF THE BRIDGE. FINAL AT&T CONDUIT CONNECTIONS TO BE COMPLETED BY OTHERS.

2. CONTRACTOR TO COORDINATE WITH CITY OF ANN ARBOR AND THE UNIVERSITY OF MICHIGAN TO ENSURE PROPER CONNECTIONS OF PROPOSED CONDUITS.

PROPOSED CITY OF ANN ARBOR STREET LIGHT CONDUIT IN SIDEWALK

PROPOSED UM TELECOMMUNICATIONS CONDUIT

EX. UM 

FIBER OPTIC TO BE CONSTRUCTED BY OTHERS.

CITY OF ANN ARBOR HH#1

CITY OF ANN ARBOR HH#2

CITY OF ANN ARBOR HH#3

UM HH#5

CITY OF ANN ARBOR HH#4

UM HH#6

CITY OF ANN ARBOR HH#8

CITY OF ANN ARBOR HH#7

CITY OF ANN ARBOR HH#9

CITY OF ANN ARBOR HH#10

PROPOSED HOSPITAL SIGN CONDUIT IN SIDEWALK

EX. UM MH #19,

ADJUST RIM GRADE

PROPOSED UM TELECOMMUNICATIONS CONDUIT UNDER BRIDGE DECK

W R S

OF

DRAWING NO.

1"=40'

SCALE

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

BENCH MARK

BOOK

SURVEY

REV. NO.

DATE

ORIGINAL ISSUE

DR.BY

CH.BY

SHEET NO.

2021-008-UT2

(TOLL FREE)

800-482-7171

CALL MISS DIG BEFORE YOU DIG

E. MEDICAL CENTER DRIVE

OVERALL UTILITY PLAN

ESTIMATED QUANTITIES THIS SHEET

DESCRIPTION

QUANTITY

Handhole, Adjust, Any Size

2 EA
CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM THE EAST EDGE OF PHASE 2 CONSTRUCTION TO THE EXISTING CITY OF ANN ARBOR TRAFFIC SIGNAL HANDHOLES NORTH AND SOUTH OF THE BRIDGE.

1. CONDUIT TO BE INSTALLED ON BRIDGE TO BE PAID FOR AS "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".

2. CONTRACTOR TO INSTALL HH#9 TO HH#10 TO THE EAST EDGE OF PHASE 2 CONSTRUCTION. CONDUITS TO BE ENCASED IN CONCRETE PER DETAIL.

3. CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM HH#9 TO NORTH END OF THE BRIDGE AND FROM HH#10 TO SOUTH END OF THE BRIDGE.

4. DUCT BINS SHALL BE SUPPORTED ON UNDISTURBED SOIL OR ON PUMPS EXTENDING DOWN TO UNDISTURBED SOIL.

5. DUCTS INSIDE DUCT BANKS SHALL BE MARKED WITH 12" HIGH位於 THAT READS "TRAFFIC SIGNAL" OR "STREET LIGHTING", BASED ON THEIR INTENDED USE. THE TOTAL DEPTH OF THE HANDHOLE SHALL BE 18 IN.

6. DUCT BANKS SHALL BE SUPPORTED ON UNDISTURBED SOIL OR ON PUMPS EXTENDING DOWN TO UNDISTURBED SOIL.

7. CONTRACTOR TO PROVIDE SCH. 80 PVC EXPANSION JOINT EVERY 100' UNDER THE BRIDGE DECK, AS WELL AS AT EACH END OF THE BRIDGE.

8. TRACER WIRE SHALL BE REQUIRED PER PACKAGE. A MINIMUM OF 60" OF TRACER WIRE SHALL EXTEND FROM THE ENDPOINT OF THE DUCT AND BE NEATLY COILED AT THE DUCT ENDWAY TERMINATION ENDPOINT. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".

9. COPPERHEAD™ COPPER COATED STEEL LOCATING WIRE, (#12 CCS EXTRA HIGH STRENGTH HARD DRAWN 1150# (SOLOSHOT)), OR EQUIVALENT, SHALL BE PLACED OUTSIDE THE DUCT BANKS OR OTHER MEANS TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch".

10. DUCT BANKS SHALL BE SUPPORTED ON UNDISTURBED SOIL OR ON PIERS EXTENDING DOWN TO UNDISTURBED SOIL.

11. CONDUIT EXPANSION COUPLINGS SHALL BE INSTALLED ON ALL CONDUITS AT EACH END OF THE BRIDGE.

12. DUCT BANKS SHALL BE SUPPORTED ON UNDISTURBED SOIL OR ON PIERS EXTENDING DOWN TO UNDISTURBED SOIL.

13. CRUSHED, FLATTENED, KINKED, OR OBSTRUCTED DUCTS OR CONDUITS, ADDITIONAL DUCTS OR CONDUITS SHALL BE PROVIDED. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch".

14. OPEN DUCT IN HAND HOLES SHALL BE PLACED IN REMOVABLE PLUG AFTER MANHOLE PROOFS TO PREVENT DIRT AND MOISTURE FROM ENTERING THE DUCTS TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch".

15. CONTRACTOR TO PROVIDE SCH. 80 PVC EXPANSION JOINT BODY TO COVER THE BRIDGE DECK, AS WELL AS AT EACH END OF THE BRIDGE. SEE SHEET 103 TO DETAIL TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch".

16. SHOVEL ACCESS ROADS TO ELIMINATE OUTFLOWS CAUSED BY EQUIPMENT AND CONSTRUCTION ACTIVITY.

NOTES:

- CITY OF ANN ARBOR TELECOMMS CONDUIT BANKS SHALL CONSIST OF 12" DIAMETER PVC CONDUIT. ENCASEDundra IS AT THICK MINIMUM CONCRETE COVER SHALL PROTECT DUCTS OVER THE ENTERM LENGTH AND WIDTH OF THE CONDUIT PIPING INSTALLATION OF WORK BY CONTRACTOR.

- CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM THE EAST EDGE OF PHASE 2 CONSTRUCTION TO THE EXISTING CITY OF ANN ARBOR TRAFFIC SIGNAL HANDHOLES NORTH AND SOUTH OF THE BRIDGE. DUCT BANKS ARE TO BE ENCASED IN CONCRETE PER DETAIL.

- CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM THE EAST EDGE OF PHASE 2 CONSTRUCTION TO THE EXISTING CITY OF ANN ARBOR TRAFFIC SIGNAL HANDHOLES NORTH AND SOUTH OF THE BRIDGE.
NOTES

CONDUIT CONNECTION ENCASEMENT DETAIL

TELECOMMUNICATIONS MANHOLE/HANDHOLE CONDUIT PENETRATIONS (4" TYP)
SURVEY CONTROL AND BENCHMARKS

SITUATION PLAN

PROFILE ALONG BRIDGE CENTERLINE

COORDINATES

COORDINATES PROVIDED ARE TO ESTABLISH THE GEOGRAPHIC LOCATION OF THE STRUCTURE, HOWEVER, THEY SHALL NOT TAKE PRECEDENCE OVER STRUCTURAL DIMENSIONS.

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THESE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.

THE EXISTING STRUCTURE IS A THREE SPAN STEEL MULTI-STRINGER STRUCTURE WITH A CLEAR ROADWAY WIDTH OF 47'-0", AN OUT-TO-OUT WIDTH OF 101'-1", AND AN OVERALL LENGTH OF 120'-2". THE STRUCTURE WAS ORIGINALLY BUILT IN 1982 AND DESIGNED FOR HS25 LOADING.

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THESE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THESE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

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MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THESE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL, AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED Replacement BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THESE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MANAGE EXIST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVISWAT DATUM.
EAST MEDICAL CENTER DRIVE CURVE DATA

A = 71.0039' (ER)
D = 44°40'59.60"
T = 06.51'
L = 030.97'
B = 422.97'
R = 824.97'

PG = 34.75  N = 288.946.74  E = 13,295,414.37
PT = 616.44  N = 288.686.92  E = 13,295,127.97
PT = 817.43  N = 287.128.46  E = 13,295,605.49
EXIST SUPER = 3%
PROF SUPER = 3%

COORDINATES

LOCATION: NORTH  EAST
REF PT A  286,963.50  13,295,113.75
REF PT 1  287,003.73  13,295,076.30
REF PT 2  287,044.14  13,295,040.91
REF PT B  287,091.74  13,295,020.96

COORDINATES PROVIDE ARE TO ESTABLISH THE GEOGRAPHIC LOCATION OF THE STRUCTURE HOWEVER SHALL NOT TAKE PRECEDENCE OVER STRUCTURAL DIMENSIONS.
### Soil Boring Data

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>Sand, Fine, Gray, Some Organic, Trace Silt, Saturated, Dense</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Clayey Silt, Brown, Slightly Moist, Hard</td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Silty Clay, Gray, Some Sand, Slightly Moist, Hard</td>
<td></td>
</tr>
<tr>
<td>9.3</td>
<td>Sand, Fine, Gray, Saturated, Medium Dense</td>
<td></td>
</tr>
</tbody>
</table>

Numbers in circles denote number of blow(s) required to drive a 2" O.D. x 1.5" I.D. Split Spoon Sampler 3 successive 8" increments using a 14 lb Hammer falling 30".

Water levels may be influenced by residual boring water.

The soil boring logs represent point information. Presentation of this information in no way implies that the subsurface conditions are the same at locations other than the exact location of the boring.

See general plan of site and structure sheets for soil boring locations.
THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

- PROPOSED WORK
- DENOTES REMOVAL PORTIONS

NOTES:
- REMOVE EXISTING RAILINGS, SIDEWALKS, STRUCTURE LIGHTING, AND DECK. CARE SHALL BE TAKEN TO SALVAGE EXISTING SHEAR DEVELOPERS. WHERE EXISTING SHEAR DEVELOPERS ARE DAMAGED, THEY SHALL BE REPLACED IN KIND. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

- SAW-CUT THE DECK ON BOTH THE TOP AND BOTTOM SURFACE PRIOR TO DECK REMOVAL PROCEDURES.

- EXISTING STRUCTURE NAME PLATES AND TRAFFIC SIGNS SHALL BE SALVAGED, CLEANED AND REINSTALLED ON PROPOSED STRUCTURE. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

- REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

- REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

- EXISTING BEAMS SHALL BE REMOVED AND PLACED ASIDE FOR REHABILITATION AND GALVANIZING. EXISTING DIAPHRAGMS AND CONNECTION PLATES SHALL BE REMOVED. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

- PLAN ELEVATIONS REFER TO NAVD88 DATUM.

- ELEVATION EQUATION:
  \[ \text{PROP ELEV.} = \text{EXIST. PLAN ELEV.} - 0.39 \text{ FT} \]
NOTES:

- REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST-CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."
- PLAN ELEVATIONS REFER TO NAVD88 DATUM.
- ELEVATION EQUATION:
  
  \[
  \text{PROP ELEV.} = \text{EXIST. PLAN ELEV.} - 0.39 \text{ FT}
  \]

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

- PROPOSED WORK
- DENOTES REMOVAL PORTIONS

EXISTING ABUTMENT A DETAILS

- REMOVAL
- SAWCUT
- ELEV 796.69

The drawing details the work to be done at East Medical Center Drive, including the removal of existing abutments and the proposed work to be done, which is identified using a legend. The plan elevations refer to NAVD88 datum, and the elevation equation provided is used to calculate the proposed elevation relative to the existing plan elevation.
THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

- PROPOSED WORK
- DENOTES REMOVAL PORTIONS

NOTES:

- REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLOST CLEANS, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS - INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)"

PLAN ELEVATIONS REFER TO NAVD88 DATUM.

ELEVATION EQUATION:

 propName = exist. plan elev. - 0.39 ft

EXISTING ABUTMENT A DETAILS

- REMOVAL
- SAWCUT ELEV 796.69

NOT AS-BUILT, WENT AVAILABLE 1980.

CITY OF ANN ARBOR
BRIDGE CROSSING MICHAEL STREET OVER THE CORRAL RAILROAD N ANN ARBOR

ABUTMENT A DETAILS

DESIGNED BY OLMSTED & BENSON CONSULTING ENGINEERS

APPROVED BY

Ri/01 81-1-19

ELEVATIONS REFER TO NAVD88 DATUM.

NOTES:

- REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLOST CLEANS, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS - INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)"

PLAN ELEVATIONS REFER TO NAVD88 DATUM.

ELEVATION EQUATION:

 propName = exist. plan elev. - 0.39 ft

EXISTING ABUTMENT A DETAILS

- REMOVAL
- SAWCUT ELEV 796.69

NOT AS-BUILT, WENT AVAILABLE 1980.

CITY OF ANN ARBOR
BRIDGE CROSSING MICHAEL STREET OVER THE CORRAL RAILROAD N ANN ARBOR

ABUTMENT A DETAILS

DESIGNED BY OLMSTED & BENSON CONSULTING ENGINEERS

APPROVED BY

Ri/01 81-1-19

ELEVATIONS REFER TO NAVD88 DATUM.
NOTES:

REMOVAL PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)."

PLAN ELEVATIONS REFER TO NAVD88 DATUM.
ELEVATION EQUATION:
PROP ELEV. = EXIST. PLAN ELEV. - 0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

- PROPOSED WORK
- DENOTES REMOVAL PORTIONS

EXISTING ABUTMENT B DETAILS

REMOVAL

1'-0" (MIN)
3'-6"±

SAWCUT
ELEV 788.90
THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

- PROPOSED WORK
- DENOTES REMOVAL PORTIONS

NOTES:
- REMOVE PORTIONS OF EXISTING ABUTMENTS - EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS - INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)"
- PLAN ELEVATIONS REFER TO NAVD88 DATUM
- ELEVATION EQUATION: PROP ELEV. = EXIST. PLAN ELEV. - 0.39 FT

NOT AS-RISET, BEST AVAILABLE INFO.

THE CITY OF ANN ARBOR
BRIDGE CROSSING MICHIGAN STREET OVER THE CORRAL BRIDGE IN ANN ARBOR

ABUTMENT W' DETAILS

DESIGNED BY CLING, RAY & SONS, INC.
CONSTRUCTION ENGINEERS

APPROVED BY

R1 OF 81-1-15

00225-BRD

EAST MEDICAL CENTER DRIVE
EXISTING ABUTMENT B DETAILS
REMOVAL

REV NO. DESCRIPTION DATE ISSUE

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

SCALE

0.0100 INCH = 1'-0"
NOTES:

REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)"

PLAN/ELEVATIONS REFER TO NAVD88 DATUM.

ELEVATION EQUATION:
PROP ELEV. = EXIST. PLAN ELEV. - 0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

EXISTING SHEET PILING TO BE CUT OFF AT BOTTOM OF FOOTING

EXISTING PIER 1 DETAILS

REMOVAL

6" (TYP)

1'-1"

EXISTING SHEET PILING TO BE CUT OFF AT BOTTOM OF FOOTING

HALF PLAN OF FOOTING & CRASH/WALL

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

SECTION I-I

SECTION J-J

SECTION K-K

SECTION L-L

SECTION M-M

SECTION N-N

SECTION O-O

SECTION P-P

SECTION Q-Q

SECTION R-R

SECTION S-S

SECTION T-T

SECTION U-U

SECTION V-V

SECTION W-W

SECTION X-X

SECTION Y-Y

SECTION Z-Z

DETAIL "A"

DETAIL "B"

PLAN OF CAP

DETAIL "C"
NOTES:

- REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL, SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)"

- PLAN/ELEVATIONS REFER TO NAVD88 DATUM.

- PROP ELEV = EXIST. PLAN ELEV - 0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW:

- PROPOSED WORK (light grey)
- EXISTING REMOVAL PORTIONS (dark grey)
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**BATTERED 3V:1H ABUT A VERTICAL MICROPILE ELEVATION**

**DATE**

**REV. NO.**

**DESCRIPTION**

**DEPARTME NTAL**

**ORIGINAL ISSUE**

**CALL MISS DIG BEFORE YOU DIG**

**DRAWING NO.**

**TOTAL LFT**

**LOCATION**

**PILE TYPE**

**NUMBER OF LIFTS**

**ESTIMATED LENGTH EACH LIFT**

**CUT-OFF ELEV.**

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<tr>
<th>LOCATION</th>
<th>PILE TYPE</th>
<th>NUMBER OF LIFTS</th>
<th>ESTIMATED LENGTH EACH LIFT</th>
<th>CUT-OFF ELEV.</th>
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<tbody>
<tr>
<td>ABUT A</td>
<td>VERTICAL</td>
<td>3</td>
<td>122</td>
<td>794.69</td>
</tr>
<tr>
<td>PIER 1</td>
<td>VERTICAL</td>
<td>2</td>
<td>116</td>
<td>794.69</td>
</tr>
<tr>
<td>PIER 2</td>
<td>VERTICAL</td>
<td>2</td>
<td>116</td>
<td>794.69</td>
</tr>
<tr>
<td>ABUT B</td>
<td>BATTERED</td>
<td>3</td>
<td>116</td>
<td>786.90</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>18</td>
<td>244</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

- **DENOTES BATTERED MICROPILE.**
- **DENOTES VERTICAL MICROPILE.**
- **DENOTES PROOF LOAD TEST MICROPILE, LRFD.**
- **DENOTES VERIFICATION LOAD TEST MICROPILE, LRFD.**

Factored nominal resistance of MicroPILE shall be 150 kip (ABUT A & B) or 91 kip (PIER 1 & 2).

Install all pipes to the pile tip elevation shown.

Install piles to meet construction tolerances established in special provision.

Engineer to observe pile installation to ensure adequate structural integrity. Replace any piles deemed damaged, as directed by the engineer.

Furnish 7" D.O. steel casing (NP-80) with a minimum 0.5" wall thickness with a minimum yield strength of 80 ksi.

Furnish #14 Williams ASTM A-615 grade 75 all-thread bar (or equivalent). Determine length of couple bar sections based on overhead clearances. Finish couplers and nuts manufactured specifically for the threaded bar used.

Furnish ASTM A527 grade 50 steel bearing plates and side stiffeners.

See special provision for further requirements.

**MICROPILE DETAILS:**

- **NEAT CEMENT GROUT**

**PERMANENT STEEL CASING**

**SIDE STIFFENER PLATE**

**MICROPILE/FOOTING/TREMIE CONNECTION DETAIL**

**SECTION A-A**

**SECTION B-B**

**MICROPILE SHAFT**

**BOTTOM OF FOOTING**

**TOP OF FOOTING**

**SHAFT WALL**

**STEEL CASING**

**BOTTOM M/P (TYP)**

**TOP M/P (TYP)**

**BATTERED MICROPILE**

**VERTICAL MICROPILE**

**MICROPILE ELEVATION (ABUTMENTS A & B)**

**MICROPILE ELEVATION (PIERS 1 & 2)**

**NOTE:**

1. Emco 150 kip (ABUT A & B) or 91 kip (PIER 1 & 2).
2. Use MICROPILE/FOOTING CONNECTION DETAIL (PER SHOWN, ABUTMENT SIMILAR).
ABUTMENT A DETAILS

NOT TO EXCEED 2'-0" (TYP)

HOR. 1/4"=1'-0"

AT MANUFACTURER'S INCH SCALE

C OF BEARING

EX & PROP

C OF BEARING

REF PT A

MATCH LINE

CONSTRUCTION STAGE 3

CONSTRUCTION STAGE 2

2'-9"

15'-2"

25'-8"

29'-6"

34'-10"

37'-6"

51'-2"

20'-2"

EAST MEDICAL CENTER DR

ELEVATION

HALF PLAN

SECTION B-B

SECTION C-C

CONSTRUCTION STAGE 2

CONSTRUCTION STAGE 3

39 SPA @ 1'-6" = 58'-6", ED060408  A  (IN LEDGE)

16 EA08 BARS (TOP)

POUR D

MATCH LINE

EX & PROP

CONSTRUCT. STAGE 2

CONSTRUCT. STAGE 3

C OF BEARING

EX & PROP

EL. 802.39

3'-0"

9'-4"

F

STEEL SHEET

32'-0"

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

3

EJWP

(2) ED060511

C OF BEARING

EX & PROP

19'-2"

EX VERTICAL #6 BARS

L

9'-0"

CH.BY

DR.BY

DATE

REV. NO.

DESCRIPTION

OF

ORIGINAL ISSUE

2021-008-BR20

ABUTMENT A DETAILS

EAST MEDICAL CENTER DRIVE

RECOMMENDATION

HOR. 1/4"=1'-0"

AT MANUFACTURER'S INCH SCALE

C OF BEARING

EX & PROP

EX VERT PILE TO REMAIN

5'-4" = 5'-4"

1'-0"

4 SPA @ 6'-4"

1'-0"

4 SPA @ 6'-4"

1'-0"

4 SPA @ 6'-4"

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4 SPA @ 6'-4"

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4 SPA @ 6'-4"

1'-0"

4 SPA @ 6'-4"

1'-0"

4 SPA @ 6'-4"

1'-0"

4 SPA @ 6'-4"

1'-0"
CONSTRUCTION JOINT DETAILS

NOTE: WHERE OPTIONAL CONSTRUCTION JOINTS ARE USED, THERE WILL BE NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING.

ABUTMENT B DETAILS

- **ELEVATION OF VERTICAL JOINT**
  - SHEET NO. 2021-008-BR22
  - DRAWING NO. 800-482-7171
  - SCALE 1/4" = 1' - 0"
  - Orientation: EAST MEDICAL CENTER DRIVE
  - Dimension: EL 790.39

- **SECTION F-F**
  - Description: DRAF أجل شرح
  - Details: كشف

- **ELEVATION**
  - Description: DRAF أجل شرح
  - Details: كشف

- **METAL BULKHEAD DETAILS**
  - Description: DRAF أجل شرح
  - Details: كشف

- **NOTES:**
  - **JOIN AND BULKHEAD DETAILS ARE FOR BOTH ABUTMENTS.**
  - **NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING.**

**CONSTRUCTION STAGE 3**

- **CONSTRUCTION STAGE 3**
  - Description: DRAF أجل شرح
  - Details: كشف

**Elevation**

**Notes:**

- **JWP**
  - Description: DRAF أجل شرح
  - Details: كشف

**Metal Bulkhead Details**

- **Metal Bulkhead**
  - Description: DRAF أجل شرح
  - Details: كشف

- **Notes:**
  - **Join and Bulkhead Details are for both Abutments.**
ABUTMENT DETAILS

TYPICAL ABUTMENT SECTION
(FULL REPLACEMENT)

TYPICAL ABUTMENT SECTION
(PARTIAL REPLACEMENT)

TYPICAL SLOPEWALL SECTION
ABUTMENT A (CONSTRUCTION STAGE 2)

TYPICAL SLOPEWALL SECTION
ABUTMENT B (CONSTRUCTION STAGE 2)

TYPICAL SLOPEWALL SECTION
ABUTMENT B (CONSTRUCTION STAGE 3)

NOTES
NS DENOTES NEAR SIDE.
FS DENOTES FAR SIDE.
ES DENOTES EACH SIDE.

JWP DENOTES JOINT WATERPROOFING.
EJWP DENOTES EXPANSION JOINT WATERPROOFING.

REPAIR AREAS CRACKS SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.
ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

CONSTRUCTION
A CRACK THAT EXTENDS BELOW THE GROUND LINE SHALL, WITH PRIOR APPROVAL OF THE ENGINEER, BE REPAIRED. ALL EXCAVATION, BACKFILL, WORK, AND MATERIAL REQUIRED SHALL BE INCLUDED IN PAYMENT FOR "STRUCTURAL CRACK, REPR."

REPAIR AREAS/CRACKS SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.
ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

HIGH TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FOR BEVEL AND MOLDING DETAILS, SEE MDOT STANDARD PLAN B-103-SERIES.

FOR MICROPILE QUANTITIES, LAYOUT, AND NOTES, SEE SHEETS 80 & 81 OF 153.

THE CONTRACTOR MAY ADHESIVE ANCHOR POSITION DOWELS IN HOLES DRILLED IN THE CONCRETE AT ABUTMENTS.

EJWP DENOTES EXPANSION JOINT WATERPROOFING.

INSTALL GALVANIC ANODES ON EXPOSED REBAR ALONG PERIMETER OF REPAIR, SPACED PER MANUFACTURERS RECOMMENDATIONS (6 INCH MAX).

A CRACK THAT EXTENDS BELOW THE GROUND LINE SHALL, WITH PRIOR APPROVAL OF THE ENGINEER, BE REPAIRED. ALL EXCAVATION, BACKFILL, WORK, AND MATERIAL REQUIRED SHALL BE INCLUDED IN PAYMENT FOR "STRUCTURAL CRACK, REPR."

FOR BEVEL AND MOLDING DETAILS, SEE MDOT STANDARD PLAN B-103-SERIES.

FOR MICROPILE QUANTITIES, LAYOUT, AND NOTES, SEE SHEETS 80 & 81 OF 153.

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LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.

ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

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ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

CONSTRUCTION
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REPAIR AREAS/CRACKS SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.
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FOR BEVEL AND MOLDING DETAILS, SEE MDOT STANDARD PLAN B-103-SERIES.

FOR MICROPILE QUANTITIES, LAYOUT, AND NOTES, SEE SHEETS 80 & 81 OF 153.

THE CONTRACTOR MAY ADHESIVE ANCHOR POSITION DOWELS IN HOLES DRILLED IN THE CONCRETE AT ABUTMENTS.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.

ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.
**NOTES:**

- **REPAIR AREAS/CRAKES SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.**
- **ABUTMENTS SHALL BE SOURCED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.**
- **PENETRATING WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE ABUTMENT REPAIR AREAS AS DIRECTED BY THE ENGINEER.**
- **FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2'-0" TO 4'-0" HIGH SECTIONS WITH THE TOP OF THE FORM NO MORE THAN 4'-0" ABOVE THE LEVEL OF CONCRETE AS THE FOUR-PROGRESS.**
- **PARTIAL GALVANIC ANODES ON EXPOSED REPAIR ALONG PERIMETER OF REPAIR, SPACED PER MANUFACTURER’S RECOMMENDATIONS (4 INCH MAX).**
- **A CRACK THAT EXTENDS BELOW THE GROUND LINE SHALL, WITH PRIOR APPROVAL OF THE ENGINEER, BE REPAIRED ALL EXCAVATION, BACKFILL, WORK, AND MATERIAL REQUIRED SHALL BE INCLUDED IN PAYMENT FOR STRUCTURAL CRACK REPAIR.**
- **APPLY SUBSTRUCTURE HORIZONTAL SURFACE SEALER TO THE TOP HORIZONTAL SURFACES OF PIER 1 & 2 AFTER THE ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE. CLEAN ACCIDENTALLY COATED VERTICAL SURFACES AT THE CONTRACTOR’S EXPRENSE.**
- **APPLY LOW TEMPERATURE PROTECTION OF CONCRETE ACCORDING TO SECTION 706.03J OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE IS INCLUDED IN THE RELATED ITEMS OF WORK.**
- **FOR MICROPA Quantities, Layout and Notes, see sheets 80 and 81 of 133.**

---

**Crashwall Metal Bulkhead Details**

**Notes:** Metal Bulkhead may be used as alternate construction joint at Contractor’s expense. Care is to be used in casting concrete around Bulkhead to prevent dislocation or misalignment of the Bulkhead.

- **Concrete:** 706.03J
- **Steel Reinforcement:**
  - EA05 Bar (Typ)
  - SPA W/ ED05 Bar (Typ.)
  - Double EK05 Bars
- **Plastic Edging:**
  - Polyvinyl Plastic Edging (To meet the approval of the Engineer.)
  - 3" Bevel

---

**Crashwall Details**

**Notes:**

- Metal Bulkhead may be used as alternate construction joint at Contractor’s expense. Care is to be used in casting concrete around Bulkhead to prevent dislocation or misalignment of the Bulkhead.
- Plastic Edging (To meet the approval of the Engineer.)
- Bevel (Front Face Only)

---

**Estimated Quantities This Sheet**

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<th>Description</th>
<th>Units</th>
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<td>Failure, Filling</td>
<td>CYD</td>
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<td>Adhesive Anchoring of horizontal bar, 3/4&quot; in</td>
<td>CYD</td>
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<td>Adhesive Anchoring of Vertical bar, 3/4&quot; in</td>
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<td>Reinforcement, Mechanical splice</td>
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**CAP Partial Metal Bulkhead Details**

**Notes:** Partial Metal Bulkhead may be used as alternate construction joint at Contractor’s expense. Care is to be used in casting concrete to prevent dislocation or misalignment of the Bulkhead.

- Bevel Key
- Plastic Edging (To meet the approval of the Engineer.)
- 3" Bevel

---

**Typical Cap End-Section**

**Notes:**

- Concrete pour progresses.
- Inspection that took place in October, 2021.
- Approval taken.

---

**Section Thru Pier Cap**

**Notes:**

- Typical cap end-section.
- Abutment repair areas as directed by the engineer.

---

**Crashwall Metal Bulkhead Details**

**Notes:**

- Metal Bulkhead may be used as alternate construction joint at Contractor’s expense. Care is to be used in casting concrete around Bulkhead to prevent dislocation or misalignment of the Bulkhead.
- Plastic Edging (To meet the approval of the Engineer.)
- 3" Bevel (Front Face Only)
NOTES:

- ES denotes each side.
- NS denotes near side.
- FS denotes far side.
- Contractor must verify all dimensions prior to steel fabrication.

- Connections shall be bolted with 1/2" high-strength bolts.
- Anchor bolt lengths shown are minimum. BOLTS LONGER THAN THOSE SHOWN MAY BE FURNISHED AT NO ADDITIONAL COST.
- The engineer will inspect the structural steel parts that have been blast cleaned for evidence of cracks or loss of section due to corrosion OR MORE THAN 25 PERCENT.
- Apply sealant around the connection of new structural steel member to existing structural steel member.
- The payment for proposed diaphragm, connection plates, steel support angles for Conduit hanger assemblies, and bolted beam end repairs shall be included in the pay items "structural steel, mixed, erect" AND "structural steel, mixed, far and FURN & FAB.

The payment for the Conduit hanger assembly will be included in the pay item "Conduit, Schedule B, 4 inch, structure."
EXISTING BEAMS B THRU L

EXISTING BEAM A

EXISTING BEAM M

SPAN 2 - SOLE PLATE TABULATED DIMENSIONS

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**Span 2 - Sole Plate**

Tabulated Dimensions:

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**Camber Diagram - Beam AA**

**Camber Diagram - Beam BB**

**Proposed Beam AA**

**Proposed Beam BB**

**Elevation**

**Plan**
SEEN STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.

* SEE STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.
SECTION C-C

WEST SIDEWALK SECTION
(LONGITUDINAL DECK STEEL NOT SHOWN)

EAST SIDEWALK SECTION
(LONGITUDINAL DECK STEEL NOT SHOWN)

MIN LAP
TABLE

NOTE:
FOR ADDITIONAL DETAILS OF RAILING, SEE MDOT STANDARD PLAN E-32-A ON SHEETS 133 - 144 OF 153.
BACK WALL ELEVATION ABUTMENT A - CONST STAGE 2

(LOOKING UP STATION)
* OPTIONAL CONSTRUCTION JOINT IF BACKWALL IS POURED WITH DECK.

BACK WALL ELEVATION ABUTMENT A - CONST STAGE 3

(LOOKING UP STATION)

TYPICAL BACKWALL SECTION
IF A CONSTRUCTION JOINT IS USED, CAST THE LOWER PORTION OF THE BACKWALL PRIOR TO PLACING DECK REINFORCEMENT; THERE WILL BE NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING.

BACKWALL CONDUIT INSTALLATION
BACKWALL ELEVATION ABUTMENT B - CONST STAGE 2

(LOOKING UP STATION)

- OPTIONAL CONSTRUCTION JOINT IF BACKWALL IS POURED WITH DECK.

BACKWALL ELEVATION ABUTMENT B - CONST STAGE 3

(LOOKING UP STATION)
CONDUIT EXPANSION JOINT

(APPLIES TO 4"Ø CONDUITS SUSPENDED BELOW THE DECK) (SEE NOTE 1) (8' MIN. TRAVEL)

CARBON EXP Fitting PART NO. 31440 OR APPROVED EQUIVALENT.

**CONDUIT DETAILS AT APPROACHES** (SEE NOTE 1)

SLEEVES, ADAPTERS, COUPLINGS, CONDUIT, PLUGS AND WATERPROOFING ARE INCLUDED IN THE BID ITEM "CONDUIT, SCHEDULE 40, 2 INCH" OR "CONDUIT, SCHEDULE 80, 4 INCH, STRUCTURE".

NOTE 1: SCHEDULE 80, 4 INCH, STRUCTURE" (EAST MEDICAL CENTER DRIVE)

NOTE 2: CONDUIT, SCHEDULE 40, 3 INCH" OR "CONDUIT, SCHEDULE 40, 2 INCH, STRUCTURE".

NOTE 3: BEFORE YOU DIG:

CALL MISS DIG (SEE NOTE 1)

NOTIFY THE UTILITY OWNER ONE WEEK PRIOR TO BEGINNING INSTALLATION OF DUCTS IN THE SIDEWALK.

SEE STANDARD PLAN B-25-K FOR ADDITIONAL RAILING DETAILS, INCLUDING BUMPOUT FOR LIGHT DECK SLAB.

NOTES

ES DENOTES EACH SIDE.

NS DENOTES NEAR SIDE.

FS DENOTES FAR SIDE.

TB DENOTES TOP AND BOTTOM.

FOR DETAILS OF NAME PLATES, MOLDINGS, AND BEVELS, SEE MDOT STANDARD PLAN S-103-SERIES.

FOR NAME PLATE LOCATION, SEE GENERAL PLAN OF STRUCTURE SHEET.

ALPHABETICAL DESIGNATION OF DECK POURS IS NOT TO BE CONSTRUED AS A POUR SEQUENCE.

APPLY LOW TEMPERATURE PROTECTION OF CONCRETE ACCORDING TO SECTION 706.03 J. OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.

NO PORTION OF DECK FRAMEWORK SHALL ENCROACH ON THE EXISTING AESTHETIC PARAPET TUBE.

THE CONTRACTOR MAY USE PERMANENT METAL DECK FORMS. IF USED, THE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE BID ITEMS.

NO BACKWALL INCLUDED IN THE POUR.

CONCRETE QUANTITIES

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* BACKWALL INCLUDED IN THE POUR.

Lighting conduit at transverse expansion joint

(See Note 1)

Notes:

Sleeves, adapters, couplings, conduit, plugs and waterproofing are included in the bid item "Conduit, Schedule 40, 2 Inch", "Conduit, Schedule 40, 4 Inch", or "Conduit, Schedule 80, 4 Inch, Structure".
NOTES:

1. PROVIDE AN EXPANSION JOINT DEVICE THAT MEETS A CONTINUOUS REQUIREMENT FOR ENCLOSED JOINTS ACROSS THE AREA. PLACE STIFFNESS NOTES AND THE COVER PLATE BELOW THAT MEET THE TOTAL MOVEMENT NOTED ON THE PLANS AND SPECIFICATIONS.

2. WHERE SHOWN OR REQUIRED.

DETAILS AT EDGES OR BARRIERS
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICES AT EDGES OR BARRIERS. VARIATIONS OF ALTERNATIVE SCHEDULING WILL NOT BE CONSIDERED AND MAY BE DISAPPROVED BY THE ENGINEER.

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**NOTES:**

1. SEE TABLE FOR EXAMINATION TOTAL MUSTLING OPTION DETAILS.

2. SEE SPECIFICATIONS FOR EXPANSION JOINT COVER PLATE MODIFIED FOR ADDITIONAL INFORMATION.
NOTES:
- NS denotes near side.
- FS denotes far side.

FOR BEVEL AND MOLDING DETAILS, SEE MDOT STANDARD PLAN 8-102 SERIES.

VERTICAL SURFACES OF THE CONCRETE WALL ENCASEMENT SHALL BE FORMED AND CAST VERTICAL AND CENTERED ON THE STEEL SHEET PILING, AFTER BACKFILLING, AS NOTED ABOVE.

SHEAR DEVELOPERS SHALL BE 3 4" DIAMETER HEADED STUDS AND 3 INCHES IN LENGTH, AND SHALL BE WELDED ALL-AROUND TO THE STEEL SHEET PILING.

ALL PERMANENT STEEL SHEET PILING SHALL BE AZ 48. WHERE ALLOWED BY THE ENGINEER, SELECT ALTERNATE HOT ROLLED SHEET PILING WITH A NOMINAL SECTION MODULUS OF AT LEAST 89.3 IN³/FT.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE BID ITEM "CONC, GRADE 4500".

SHOES SHALL BE REQUIRED FOR PROP SHEET PILING DUE TO THE ANTICIPATED PRESENCE OF COBBLES/BOULDERS DURING DRIVING.
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NOTE:
REINFORCEMENT IS TO BE SHOP CUT AS SHOWN. THE EPOXY COATING SHALL BE REPAIRED ACCORDING TO SECTION 79A.33E.8 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
GENERAL PLAN OF SLOPE STABILIZATION

DRAWING NO.

HOR. 1/8" = 1'-0"

SCALE

0 INCH

1

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

REV. NO.

DESCRIPTION

ORIGINAL   ISSUE

DR.BY

DATE

CH.BY

SHEET NO.

2021-008-BR59

EAST MEDICAL CENTER DRIVE

NOTE:

SOIL NAILS FOR SLOPE STABILIZATION SHALL BE DESIGNED AND CONSTRUCTED BY THE CONTRACTOR PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION AND THE REQUIREMENTS IN THE SPECIAL PROVISIONS 813 SOIL NAILS FOR SLOPE STABILIZATION.

CONSTRUCTION TO STABILIZE THE REQUIRED PORTION OF SLOPE SHALL BE CONSTRUCTED SO AS TO NOT DISTURB OR IMPACT THE PERFORMANCE OF EXISTING UTILITIES, EXISTING STRUCTURAL ELEMENTS, PROPOSED STRUCTURAL ELEMENTS, AND THE EXISTING RAILROAD.

COBBLES AND BOULDERS WERE ENCOUNTERED IN THE SUBSURFACE EXPLORATIONS FOR THE SITE. THE CONTRACTOR SHALL SELECT APPROPRIATE MEANS AND METHODS FOR INSTALLATION THROUGH COBBLES AND BOULDERS. THIS WORK SHALL INCLUDE OFFSETTING AND REDRILLING FOR OBSTRUCTIONS, INCLUDING ASSOCIATED ENGINEERING, FOR AN ADDITIONAL QUANTITY EQUIVALENT TO 10 PERCENT OF THE TOTAL NAILS ESTIMATED.

PROVIDE THE FINISH GRADE SHOWN ON THE PLANS. ANY BACKFILL REQUIRED TO ACHIEVE THE FINISH GRADE SHALL BE STRUCTURAL, BACKFILL, C.I.P. AND IS CONSIDERED INCIDENTAL TO THE WORK.

ESTIMATED QUANTITIES THIS SHEET

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GENERAL NOTES
1. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
2. ALL UTILITIES AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
3. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
4. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
5. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
6. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
7. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
8. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
9. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
10. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
11. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ABOVE GROUND UTILITY AND SUBSURFACE "HARD" OUT PRIOR TO BEGINNING THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING UPS BY USING A SURVEY DIAL BEFORE CONSTRUCTION STARTS.
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TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

EAST MEDICAL CENTER DRIVE
### ADVANCED TIMING PARAMETERS FORM

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### TRAFFIC SIGNAL TIMING PERMITS

**Approach:**
- E. Medical Center Drive
  - Left Turn
  - Right Turn
- Southbound

**Description:**
- Original Issue:
- Date: 2021-08-31
- Sheet Number: 2
- Rev. No.: 3
- Bench Mark: Survey

**Survey:**
- Dr. B. By
- Sheet 2021-08-TSTP2

**Legend:**
- Sheet 1 of 2

**Project Management - Public Services - City of Ann Arbor**

**Traffic Signal Timing Permits**

**E. Medical Center Drive**

**Advanced Timing Parameters Form**

**System Information:**
- LEDGER
- EXCEL

**Traffic Phase:**
- Left Turn
- Right Turn

**Location:**
- Left Turn
- Right Turn

**Traffic Signal:**
- Timer
- Detector
- Phasing

**Approach:**
- E. Medical Center Drive

**Description:**
- Original Issue: 2021-08-31
- Sheet: 2
- Rev. No.: 3
- Bench Mark: Survey

**Legend:**
- Sheet 1 of 2
## Traffic Signal Timing Permit

### Description

TRAFFIC SIGNAL TIMING PERMIT

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### Advanced Timing Parameters Form

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**Legend**

- **Phase 1:** Green
- **Phase 2:** Yellow
- **Phase 3:** Red
- **Phase 4:** Red

**E. Medical Center Drive**

**TRAFFIC SIGNAL TIMING PERMITS**

**Prepared By:**

**Reviewed:**

**Drawn:**

**Sheet No.:** 2021-08-TSTP3

**Revision:** 1

**Date:** 2021-08-16

**Scale:** 1" = 200'
### Traffic Signal Timing Permit

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#### Traffic Signal Parameters

- **Traffic Signal Timing Parameters:**
  - **System:** Left & Right
  - **Phase Description:**
    -LEFT LANE
    -RIGHT LANE

#### Traffic Signal Timing

- **Traffic Signal Timing Diagram:**
  - **E. Medical Center Drive**
  - **Z. Location**

---

#### Legend

- **Legend:**
  - **Traffic Signal Timing Diagram:**
    - **Phase 1:**
    - **Phase 2:**
    - **Phase 3:**
    - **Phase 4:**
  - **Traffic Signal Timing Parameters:**
    - **System:** Left & Right
    - **Phase Description:**
      - **LEFT LANE**
      - **RIGHT LANE**
  - **Traffic Signal Timing Diagram:**
    - **E. Medical Center Drive**
    - **Z. Location**
## TRAFFIC SIGNAL TIMING PERMIT

### APPROACH

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### TIMING METHODS

- Time: 120s
- Green: 20s
- Green: 20s
- Green: 20s
- Green: 20s
- Green: 20s
- Green: 20s
- Green: 20s
- Total: 120s

### ADVANCED TIMING PARAMETERS FORM

#### SYSTEM INFORMATION

- Project: E. Medical Center Drive

#### TIME INTERVAL PROJECTION DETECTION

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### CLEAR PAGE 2

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**E. MEDICAL CENTER DRIVE**

TRAFFIC SIGNAL TIMING PERMITS

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**
## TRAFFIC SIGNAL TIMING PERMIT

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### TRAFFIC SIGNAL TIMING PERMITS

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**LEGEND**

- DRAWN BY: Dr. John
- ISSUE DATE: 08/20/2021
- SHEET NO.: 2
### Traffic Signal Timing Permit

**Approach**

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**Traffic Control
d details**

- **System Name:** TRAFFIC SIGNAL TIMING PERMIT
- **Location:** E. MEDICAL CENTER DRIVE
- **Date:** 2021-08-TSTP8

#### Advanced Timing Parameters Form

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**Sheet No.:** 2021-08-TSTP8

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*Legend*

- **Black** = Code of Practice
- **Red** = Code of Practice
- **Blue** = Code of Practice
- **Green** = Code of Practice

*Project Management - Public Services - City of Ann Arbor*

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*Page 2 of 2*

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*CLEAR PAGE 2*