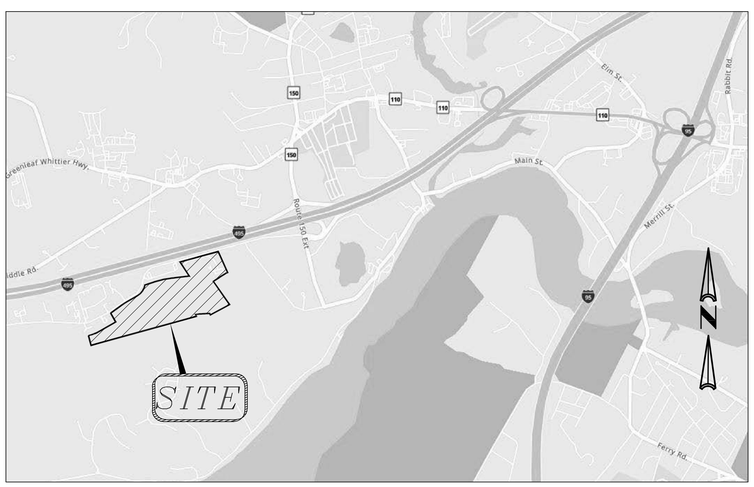
# SITE DEVELOPMENT PLANS

FOR

## 24 SOUTH HUNT ROAD
## AMESBURY, MA

DECEMBER 9, 2022

| SHEET INDEX | | | | | | | |
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| SHEET No. | DESCRIPTION | LATEST REVISED DATE | CONSTRUCTION REVISIONS | | | | |
| 1 | TITLE SHEET | 11/29/23 | | | | | |
| 2 | OVERALL LAYOUT PLAN | 11/29/23 | | | | | |
| 3 | EXISTING CONDITIONS PLAN (PART 1) | 11/29/23 | | | | | |
| 4 | EXISTING CONDITIONS PLAN (PART 2) | 11/29/23 | | | | | |
| 5 | EXISTING CONDITIONS PLAN (PART 3) | 11/29/23 | | | | | |
| 6 | OVERALL PREPARATION PLAN | 11/29/23 | | | | | |
| 7 | LAYOUT PLAN (PART 1) | 11/29/23 | | | | | |
| 8 | LAYOUT PLAN (PART 2) | 11/29/23 | | | | | |
| 9 | LAYOUT PLAN (PART 3) | 11/29/23 | | | | | |
| 10 | GRADING PLAN (PART 1) | 11/29/23 | | | | | |
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| 12 | GRADING PLAN (PART 3) | 11/29/23 | | | | | |
| 13 | SEWER & DRAINAGE PLAN (PART 1) | 11/29/23 | | | | | |
| 14 | SEWER & DRAINAGE PLAN (PART 2) | 11/29/23 | | | | | |
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| 16 | UTILITY PLAN (PART 1) | 11/29/23 | | | | | |
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| 19 | DETAIL SHEET | 11/29/23 | | | | | |
| 20 | DETAIL SHEET | 11/29/23 | | | | | |
| 21 | DETAIL SHEET | 11/29/23 | | | | | |
| 22 | DETAIL SHEET | 11/29/23 | | | | | |
| 23 | DETAIL SHEET | 11/29/23 | | | | | |
| L-100 | LANDSCAPE PLAN: BY COPLEYWOLFF | 08/04/23 | | | | | |
| L-101 | LANDSCAPE PLAN: BY COPLEYWOLFF | 08/04/23 | | | | | |
| L-102 | LANDSCAPE PLAN: BY COPLEYWOLFF | 08/04/23 | | | | | |
| L-200 | LANDSCAPE DETAILS: BY COPLEYWOLFF | 08/04/23 | | | | | |
| L-201 | LANDSCAPE DETAILS: BY COPLEYWOLFF | 08/04/23 | | | | | |
| 1 OF 1 | LIGHTING PLAN: BY APEX LIGHTING | 11/06/23 | | | | | |




LOCATION MAP

### OWNER: (24 S HUNT)
ATLANTIC SPORTS VENTURES LLC
80 FIRST STREET
BRIDGEWATER MA 02324

### APPLICANT:
GLOBAL PROPERTY DEVELOPERS CORP.
80 FIRST STREET
BRIDGEWATER MA 02324

### APPLICANT:
MCP IV 24 SOUTH HUNT OWNER LLC
201WASHINGTON STREET, SUITE 2100
BOSTON MA 02108

### CIVIL ENGINEERS:
KELLY ENGINEERING GROUP, INC.
0 CAMPANELLI DRIVE
BRAINTREE, MA 02184

### TRANSPORTATION:
MDM TRANSPORTATION CONSULTANTS, INC.
28 LORD ROAD, SUITE 280
MARLBOROUGH, MA 01752

### LANDSCAPE ARCHITECT:
COPLEY WOLFF DESIGN GROUP, INC.
10 POST OFFICE SQUARE, SUITE 1315
BOSTON, MA 02109

### WETLAND SCIENTIST:
ECOTEC, INC.
102 GROVE STREET
WORCESTER, MA 01605

Brandon Li
2023.11.30
08:58:15
-05'00'

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COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| SCALE NA | JOB # F:\P\2021-194 |
| DATE 12/09/22 | DRAWN BY CJL |
| SHEET 1 of 23 | CHKD BY GSH |
| FILE # TS10 | APPD BY DNK |

24 SOUTH HUNT ROAD
AMESBURY, MA

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 1

## LOTA S. HUNT RD. - ZONE: INDUSTRIAL

| | | REQUIRED | PROVIDED | COMPLIANCE |
|---|---|---|---|---|
| MIN LOT AREA | | 40,000 S.F. | 418,650 S.F.+/- | YES |
| MIN. FRONTAGE | | 125' | 780'+/- | YES |
| MIN YARD | FRONT | 25' | 162'+/- | YES |
| | SIDE | 20' | 86'+/- | YES |
| | REAR | 40' | 63'+/- | YES |
| MIN OPEN SPACE | | 40% | 42.8% | YES |
| MAX. BLDG. COVERAGE | | 50% | 20.6% | YES |

## LOTB S. HUNT RD. - ZONE: INDUSTRIAL

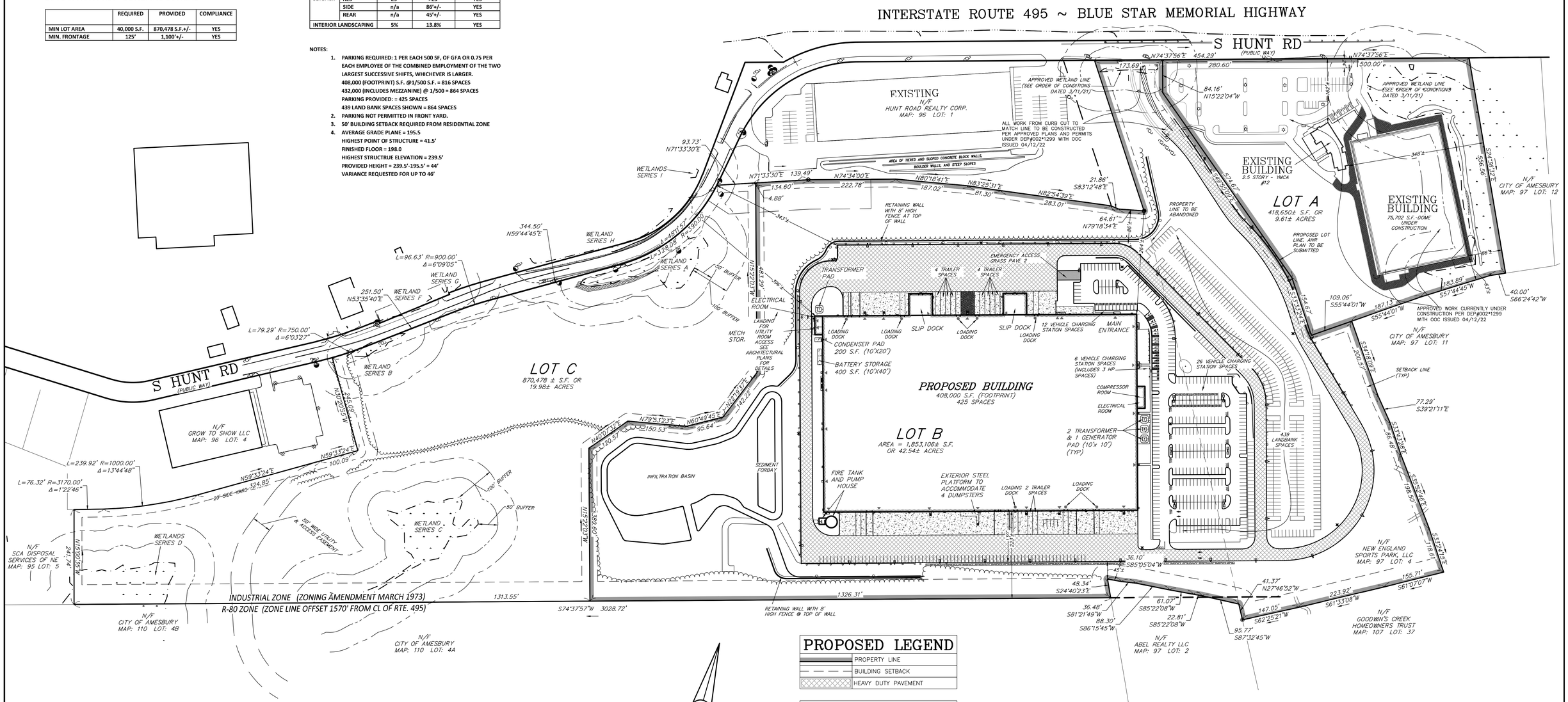
| | | REQUIRED | PROVIDED | COMPLIANCE |
|---|---|---|---|---|
| MIN LOT AREA | | 40,000 S.F. | 1,853,106 S.F. | YES |
| MIN. FRONTAGE | | 125' | 174'+/- | YES |
| MIN YARD | FRONT | 25' | 390'+/- | YES |
| | SIDE | 20' (3) | 264'+/- | YES |
| | REAR | 40' (3) | 223'+/- | YES |
| MAX STORIES | | 4 | <4 | YES |
| MAX HEIGHT | | 40' | 46' (4) | VARIANCE |
| MIN OPEN SPACE | | 40% | 50.0% | YES |
| MAX. BLDG. COVERAGE | | 50% | 22.0% | YES |
| PARKING | TOTAL | 864 (1) | 425 | WAIVER |
| | SIZE | 9' x 18' | 9' x 18' | YES |
| | AISLE | 24' | 24' | YES |
| | HANDICAP | 9 | 9 | YES |
| PARKING SETBACK | FRONT | 25' (2) | 343'+/- | YES |
| | RES | 25' | >25' | YES |
| | SIDE | n/a | 86'+/- | YES |
| | REAR | n/a | 45'+/- | YES |
| INTERIOR LANDSCAPING | | 5% | 13.8% | YES |

## LOTC S. HUNT RD. - ZONE: INDUSTRIAL

| | REQUIRED | PROVIDED | COMPLIANCE |
|---|---|---|---|
| MIN LOT AREA | 40,000 S.F. | 870,478 S.F.+/- | YES |
| MIN. FRONTAGE | 125' | 1,100'+/- | YES |

NOTES:

1. PARKING REQUIRED: 1 PER EACH 500 SF, OF GFA OR 0.75 PER EACH EMPLOYEE OF THE COMBINED EMPLOYMENT OF THE TWO LARGEST SUCCESSIVE SHIFTS, WHICHEVER IS LARGER.
   408,000 (FOOTPRINT) S.F. @1/500 S.F. = 816 SPACES
   432,000 (INCLUDES MEZZANINE) @ 1/500 = 864 SPACES
   PARKING PROVIDED: = 425 SPACES
   439 LAND BANK SPACES SHOWN = 864 SPACES
2. PARKING NOT PERMITTED IN FRONT YARD.
3. 50' BUILDING SETBACK REQUIRED FROM RESIDENTIAL ZONE
4. AVERAGE GRADE PLANE = 195.5
   HIGHEST POINT OF STRUCTURE = 41.5'
   FINISHED FLOOR = 198.0
   HIGHEST STRUCTRUE ELEVATION = 239.5'
   PROVIDED HEIGHT = 239.5'-195.5' = 44'
   VARIANCE REQUESTED FOR UP TO 46'




## PROPOSED LEGEND

| | |
|---|---|
| | PROPERTY LINE |
| | BUILDING SETBACK |
| | HEAVY DUTY PAVEMENT |

## EXISTING LEGEND

| | |
|---|---|
| | EDGE OF WETLANDS |
| | WETLANDS |
| | 50' BUFFER ZONE |
| | 100' BUFFER ZONE |
| | EASEMENT |

GRAPHIC SCALE

100 0 50 100 200 400

( IN FEET )
1 inch = 100 ft.

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| REV | DATE | REVISION | BY |
|---|---|---|---|
| 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS | |
| 9. | 10/25/23 | MINOR MODIFICATION PEER REVIEW | |
| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 100'
DATE 12/09/22
SHEET 2 of 23
FILE # LA10
JOB # F:\P\2021-194
DRAWN BY GJL
CHKD BY GSH
APPD BY DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
OVERALL LAYOUT PLAN

COMMONWEALTH OF MASSACHUSETTS
STEVEN M. HORSFALL
No. 41608
PROFESSIONAL ENGINEER AND SURVEYOR

Steven M. Horsfall
Digitally signed by Steven M. Horsfall
Date: 2023.11.30 09:49:19 -05'00'

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon L
2023.11.30
09:00:03
-05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
2

## LEGEND

| | | | |
|---|---|---|---|
| ■ | CATCH BASIN | | WETLAND |
| Ⓓ | DRAIN MANHOLE | | RECORD EDGE OF WETLANDS |
| Ⓢ | SEWER MANHOLE | | TREE LINE |
| ☼ | LIGHT POLE | ♿ | HANDICAP PARKING |
| ⋈ | GAS VALVE | Ⓜ | MANHOLE |
| (R.) | RECORD LOCATION/INFORMATION | □ | BOUND |
| ⋈ | WATER VALVE | ○ | IRON ROD/PIPE |
| ⋈ | HYDRANT | ⟞ | SIGN |
| ◑ | GUY POLE | Ⓣ | TELEPHONE/COMM. MANHOLE |
| | GUY WIRE | | GUARD RAIL |
| | UTILITY POLE | 50 | DRAIN LINE |
| OHE | OVERHEAD ELECTRIC | SS | SEWER LINE |
| VGC | VERTICAL GRANITE CURB | W | WATER LINE |
| CCB | CAPE COD BERM | G | GAS LINE |
| LS | LANDSCAPED | 100 | MAJOR CONTOUR |
| | | 102 | MINOR CONTOUR |

S. HUNT ROAD (PUBLIC WAY)

MATCH LINE SEE SHEET 4

INDUSTRIAL ZONE (ZONING AMENDMENT MARCH 1973)
R-80 ZONE (ZONE LINE OFFSET 1570' FROM CL OF RTE. 495)

N/F
CITY OF AMESBURY
MAP: 110 LOT: 4A

### NOTES:

1.) UNDERGROUND FEATURES HAVE BEEN COMPILED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. THIS INFORMATION IS TO BE CONSIDERED APPROXIMATE AND KELLY ENGINEERING GROUP, INC. DOES NOT TAKE RESPONSIBILITY FOR SUBSEQUENT ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS PLAN AS A RESULT. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO KELLY ENGINEERING GROUP, INC. THE SIZE, LOCATION, AND EXISTENCE OF ALL SUCH FEATURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.

2.) THE LOCATION OF ALL UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED USING ASCE 38-02 (STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA) QUALITY LEVEL C AND LEVEL D.

3.) WETLAND FLAGGING PERFORMED BY ECOTEC, INC. ON NOVEMBER 30, 2022.

4.) THE VERTICAL DATUM SHOWN HEREON IS BASED ON NAVD88 (NORTH AMERICAN VERTICAL DATUM OF 1988), ESTABLISHED VIA GPS.

5.) BOUNDARY LINES SHOWN HEREON ARE DERIVED FROM SURVEYS BY DANA F. PERKINS, INC. KELLY ENGINEERING GROUP HAS CONFIRMED THE BOUNDARY.

6.) ELEVATIONS SHOWN ARE BASED ON PLANS PROVIDED TO KELLY ENGINEERING GROUP BY THE OWNER. KELLY ENGINEERING GROUP HAS PERFORMED CHECKS OF THE DATA PROVIDED.

7.) RECORD INFORMATION SHOWN IN S. HUNT ROAD IS DERIVED FROM PLANS ENTITLED, "TRANSPORTATION IMPROVEMENT PROJECT – PLAN AND PROFILE OF SOUTH HUNT ROAD IN THE CITY OF AMESBURY – BID SET", DATED 01/06/2021, PREPARED BY TEC, INC. (THE ENGINEERING CORP.), 146 DASCOMB ROAD, ANDOVER, MA.

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

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| 10. | 11/29/23 | NO CHANGE | |
| 9. | 10/25/23 | NO CHANGE | |
| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | UPDATE FIELD SURVEY | |
| 4. | 05/05/23 | NO CHANGE | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | NO CHANGE | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 40'
DATE 12/09/22
SHEET 3 of 23
FILE # EX00
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY SMH
APPD BY SMH

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
EXISTING CONDITIONS PLAN
(PART 1)

COMMONWEALTH OF MASSACHUSETTS — STEVEN M. HORSFALL No. 41608 — REGISTERED PROFESSIONAL LAND SURVEYOR

Steven M. Horsfall — Digitally signed by Steven M. Horsfall Date: 2023.11.30 09:48:54 -05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 3

SEE SHEET 5
MATCH LINE

SEE SHEET 3
MATCH LINE

S1°12'48"E
95'

S3°02'24"E
237.10'

S8°37'24"E
237.13'

S28°48'47"E
239.12'

S7°16'52"E
240.35'

S24°18'19"E
88.58'

S61°07'
155.

S55°44'01"W
187.13'

S24°40'23"E
48.34'

S85°05'04"W
36.10'

S81°21'49"W
36:48'

S85°22'08"W
83.88'

S6°17'45"W
88.30'

S20°32'45"W
95.77'

S62°25'21"W
147.05'

S2°46'52"W
41.37'

DRAIN (FOUND)

DRAINAGE CHANNEL (TYP)

IRON PIPE (FOUND)

REMAINS OF WOOD TRACK LIFT

REMAINS OF WOOD RAMP W/ CONVEYOR BELT LIFT

"EARTHEN MOUND (TYP)

N/F
ATLANTIC SPORTS VENTURES LLC
MAP: 95
LOT: 5B

TEMPORARY STORMWATER MANAGEMENT POND

RIP-RAP SWALE

RIP-RAP SWALE

CONCRETE EDGING (TYP.)

CONC PAD

DMH
RIM= 107.5

DMH
RIM= 105.51

12" HDPE (R.)
12" HDPE (R.)

CB
RIM= 105.33

CB
RIM= 105.07

N/F
CITY OF AMESBUR
MAP: 97 LO

EXISTING SLEDDING HILLS

APPROXIMATE EDGE OF SLEDDING HILL

TALL GRASS

UTILITY POLE W/ BREAKER BOX

IRON PIPE (FOUND)

IRON PIPE (FOUND)

3-0 POST & RAIL FENCE (TYP.)

N/F
NEW ENGLAND SPORTS PARK, LLC
MAP: 97 LOT: 4

UTILITY POLE W/ FLOOD LIGHT

UTILITY POLE W/ FLOOD LIGHT

UTILITY POLE W/ FLOOD LIGHT

CONC BLOCK W/ TOW ROPE PULLEY

6-FT TO 8-FT WIDE DIRT PATH

DRILL HOLE (FOUND)

REBARS 10-25-23

REBARS 10-25-23

REBARS 10-25-23

REBARS 10-25-23

ZONE LINE

ZONE LINE

N/F
CITY OF AMESBURY
MAP: 110 LOT: 4A

N/F
ABEL REALTY LLC
MAP: 97 LOT: 2

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )

1 inch = 40 ft.

NOTE: SEE SHEET 3 FOR NOTES & SYMBOL LEGEND

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SCALE 1"= 40'
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SHEET 4 of 23
FILE # EX00
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY SMH
APPD BY SMH

# MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
## EXISTING CONDITIONS PLAN (PART 2)

COMMONWEALTH OF MASSACHUSETTS
STEVEN M. HORSFALL
No. 41608
PROFESSIONAL LAND SURVEYOR

Steven M. Horsfall
Digitally signed by Steven M. Horsfall
Date: 2023.11.30 09:44:12 -05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
4

INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

S. HUNT ROAD
(PUBLIC WAY)

NOTE: SOUTH HUNT ROAD CURRENTLY UNDER CONSTRUCTION (PLANS BY OTHERS)

EXISTING BUILDING
1 STORY - WAREHOUSE
#16-18

EXISTING BUILDING
2 STORY - OFFICE
#24

EXISTING SPORTS FIELD

SITE CURRENTLY UNDER CONSTRUCTION PER APPROVED PLANS

EXISTING SLEDDING HILLS

BENCHMARK: BONNET BOLT ON HYDRANT - EL.= 105.45

BENCHMARK: BONNET BOLT ON HYDRANT - EL.= 107.06

APPROX. GAS STUB(R)
APPROX. WATER STUB(R)
APPROVED WETLAND LINE (SEE ORDER OF CONDITIONS DATED 3/11/21)

N/F HUNT ROAD REALTY CORP. MAP: 96 LOT: 1

N/F AMESBURY SPORTS VENTURES, LLC MAP: 97 LOT: 5

N/F ATLANTIC SPORTS VENTURES LLC MAP: 95 LOT: 98

N/F CITY OF AMESBURY MAP: 97 LOT: 11

N/F NEW ENGLAND SPORTS PARK, LLC

AREA OF TIERED AND SLOPED CONCRETE BLOCK WALLS, BOULDER WALLS, AND STEEP SLOPES

TEMPORARY STORMWATER MANAGEMENT POND

DRAINAGE CHANNEL (TYP.)

REMAINS OF WOOD TRACK LIFT

REMAINS OF WOOD RAMP W/ CONVEYOR BELT LIFT

IRON PIPE (FOUND)

DRILL HOLE (FOUND)

IRON PIPE (FOUND)

UTILITY POLE W/ BREAKER BOX

4.00' POST & RAIL FENCE (TYP.)

TALL GRASS

MATCH LINE
SEE SHEET 4

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

NOTE: SEE SHEET 3 FOR NOTES & SYMBOL LEGEND

| REV | DATE | REVISION | BY |
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# MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
## EXISTING CONDITIONS PLAN (PART 3)

COMMONWEALTH OF MASSACHUSETTS
STEVEN M. HORSFALL
No. 41608
REGISTERED PROFESSIONAL LAND SURVEYOR

Steven M. Horsfall
Digitally signed by Steven M. Horsfall
Date: 2023.11.30 09:43:34 -05'00'

KELLY ENGINEERING GROUP
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0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 5

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INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

S. HUNT ROAD

S HUNT RD

EXISTING BUILDING
1 STORY - WAREHOUSE
#16-18

EXISTING BUILDING
1 STORY - OFFICE/ WAREHOUSE

EXISTING BUILDING
200 FT FOOTPRINT
2 STORY - YMCA

EXISTING BUILDING
75,702 S.F. DOME
CONSTRUCTION

MOBILIZATION TRAILER, PORTABLE TOILETS & WASHDOWN AREA

CONSTRUCTION TRACKING PAD AT ENTRANCE. FENCE & GATE TO BE INSTALLED AT ALL AREAS WITH POTENTIAL PUBLIC ACCESS

TEMPORARY SEDIMENT BASIN #2
ELEVATION 104 TO 106
1.7 ACRES
6,200 FT³ PROVIDED

TEMPORARY ROUTE FOR INITIAL SITE MOBILIZATION

SILT SOCK & CONSTRUCTION FENCE

TEMPORARY SEDIMENT BASIN #3
ELEVATION 104 TO 106
11.4 ACRES
42,000 FT³ PROVIDED

EROSION CONTROL/ LIMIT OF WORK LINE

PERMANENT SITE ACCESS

AT LOCATIONS WERE CONVEYANCE SWALE INTERCEPTS ROADWAY PROVIDE PIPE CONVEYANCE UNDERNEATH ROADWAY. (TYP)

TEMPORARY SOIL STOCK PILE

TEMPORARY ROUTE FOR INITIAL SITE MOBILIZATION

CONVEYANCE SWALE WITH STONE CHECKDAMS EVERY 100' TO BE LOCATED AS NEEDED IN LOCATIONS THROUGHOUT SITE. SUBJECT TO SITE SPECIFIC CONDITIONS. (TYP)

SILT FENCE & SOCK TO BE INSTALLED AROUND BASE OF PILE (TYP)

APPROXIMATE LIMIT OF WORK/ LIMIT OF CLEARING

EXISTING TREE LINE (TYP)

TEMPORARY SEDIMENT BASIN #1
ELEVATION 177 TO 179
20.7 ACRES
149,000 FT³ PROVIDED

TEMPORARY SEDIMENT BASIN WATERSHED LINE

TEMPORARY SOIL STOCK PILE

TEMPORARY SOIL STOCK PILE

PERMANENT TRAILER, PORTABLE TOILETS & SPILL KIT AREA

STUMP & WOOD CHIP PILE. TO BE DISPOSED OF PER ALL APPLICABLE LOCATIONS

PERMANENT SITE ACCESS

VEHICLE MAINTENANCE, FUELING & WASHDOWN AREA

EROSION CONTROL/ LIMIT OF WORK LINE

EROSION CONTROL/ LIMIT OF WORK LINE

START EROSION CONTROL/ LIMIT OF WORK LINE

WASTE CONTAINERS

LIMIT OF WORK LINE

SILT FENCE TO BE INSTALLED AROUND BASE OF PILE (TYP)

STOP EROSION CONTROL/ LIMIT OF WORK LINE

EROSION CONTROL/ LIMIT OF WORK LINE

EXISTING TREE LINE (TYP)

EROSION CONTROL/ LIMIT OF WORK LINE

EROSION CONTROL/ LIMIT OF WORK LINE

100' BUFFER

50' BUFFER

100' BUFFER

WETLAND LINE FLAGGED BY ECOTEC, INC.

WETLAND LINE FLAGGED BY ECOTEC, INC.

STONE BOUNDS W/DRILL HOLES (MHB - FOUND)

(HELD) STONE BOUNDS W/DRILL HOLES (MHB - FOUND)

(HELD) STONE BOUND W/DRILL HOLE (MHB - FOUND)

STONE BOUND W/DRILL HOLE (MHB - FOUND) TIPPED

IRON PIPE (FOUND)

DRILL HOLE (FOUND)

DRILL HOLE (FOUND)

AREA OF TIERED AND SLOPED CONCRETE LOCK WALL/ BOULDER WALLS AND STEEP SLOPES

DRAINAGE EASEMENT

SLOPE EASEMENT

INDUSTRIAL ZONE (ZONING AMENDMENT MARCH 1973)

R-80 ZONE (ZONE LINE OFFSET 150' FROM CL OF RTE 495)

## PROPOSED LEGEND

| | |
|---|---|
| | EROSION CONTROL LINE/ LIMIT OF WORK |
| | LIMIT OF WORK |

GRAPHIC SCALE
80 0 40 80 160 320
( IN FEET )
1 inch = 80 ft.

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| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | N/A | |
| 4. | 05/05/23 | N/A | |
| 3. | 02/08/23 | N/A | |
| 2. | 01/17/23 | N/A | |
| 1. | 12/21/22 | N/A | |

SCALE 1"= 80'
DATE 12/09/22
SHEET 6 of 23
FILE # 0V-PREP-10
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY BGH
APPD BY DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
OVERALL PREPARATION PLAN

BRANDON G. LI CIVIL No. 57736 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

Brandon L
2023.11.30
09:00:30
-05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
6

## PROPOSED LEGEND

| | |
|---|---|
| VGC | VERTICAL GRANITE CURB |
| CC | CONCRETE CURB |
| CAR | HANDICAP SPACE |
| VAN | VAN HANDICAP SPACE |
| | HANDICAP RAMP |
| | CURB STOP |
| | SAW CUT/ MATCH PAVEMENT LINE |
| | HEAVY DUTY PAVEMENT |
| | TRAFFIC FLOW |
| | SIGN |
| | WOOD POST GUARDRAIL |
| | SNOW STORAGE |
| | LIGHT POLES |
| | WALL MOUNTED LIGHT |
| | TREE LINE |
| | DOOR LOCATION |

S HUNT RD
(PUBLIC WAY)

50' BUFFER
100' BUFFER

LOT C

50' BUFFER
100' BUFFER

H 1973)
TE. 495)

N/F
CITY OF AMESBURY
MAP: 110 LOT: 4A

INFILTRATION BASIN

15' WIDE ACCESS BENCH

SEDIMENT FORBAY

START RETAINING WALL WITH 8' HIGH FENCE

EXISTING TREE LINE

GUARDRAIL

OPENING IN GUARDRAIL FOR HYDRANT

GRAVEL ACCESS TURNAROUND

15' WIDE GRAVEL ACCESS FOR STORMWATER MAINTENANCE

END RETAINING WALL

15' WIDE OPENING IN GUARDRAIL FOR ACCESS

RETAINING WALL WITH 8' HIGH FENCE @ TOP OF WALL

L & S

RETAINING WALL WITH 8' HIGH FENCE AT TOP OF WALL

GUARDRAIL

PROPOSED HYDRANT (TYP)

R=10'

R=80'

R=50'

R=30'

TRANSFORMER PAD

L & S

START CC

LANDING FOR UTILITY ROOM ACCESS SEE ARCHITECTURAL PLANS FOR DETAILS

PROPOSED TREE LINE

ELECTRICAL ROOM

MECHANICAL STORAGE ROOM

LOADING DOCK

DRIVE IN RAMP

CONDENSER PAD
200 S.F. (10'X20')

BATTERY STORAGE
400 S.F. (10'X40')

WALL MOUNTED LIGHT FIXTURE (TYP)

HEAVY DUTY PAVEMENT

4 TRAILER SPACES

SLIP DOCK

MATCH LINE
SEE SHEET 8

LOT B

**PROPOSED BUILDING**
408,000 S.F. (FOOTPRINT)
425 SPACES

FIRE TANK AND PUMP HOUSE

END CC

TRAILER SPACE

EXTERIOR STEEL PLATFORM TO ACCOMMODATE 4 DUMPSTERS

800'

82 SPACES

675'

HEAVY DUTY PAVEMENT

5' WIDE 6" DEEP RIP-RAP SWALE, BOTTOM WIDTH =2' WITH 3:1 SLOPE SWALE B=8

LIGHT POLE (TYP)

START RETAINING WALL

END GUARDRAIL

PROPOSED TREE LINE

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| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 40'
DATE 12/09/22
SHEET 7 of 23
FILE # LA10
JOB # F:\P\2021-194
DRAWN BY GJL
CHKD BY GSH
APPD BY BNK

**MCP IV 24 SOUTH HUNT OWNER LLC**
**24 SOUTH HUNT ROAD**
**AMESBURY, MASSACHUSETTS**

**LAYOUT PLAN (PART 1)**

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.3 0 09:09:08 -05'00'


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SHEET NO. 7

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.


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SEE SHEET 9
MATCH LINE

SEE SHEET 7
MATCH LINE

LOT B

PROPOSED BUILDING
408,000 S.F. (FOOTPRINT)
425 SPACES

RETAINING WALL WITH 8' HIGH FENCE AT TOP OF WALL

GUARDRAIL

PROPOSED HYDRANT (TYP)

HEAVY DUTY PAVEMENT

24' WIDE GRASS PAVER EMERGENCY ACCESS DRIVE

4 TRAILER SPACES

SLIP DOCK

TRANSFORMER PAD

ELECTRICAL ROOM

MECHANICAL STORAGE ROOM

CONDENSER PAD 200 S.F. (10'X20')

BATTERY STORAGE 400 S.F. (10'X40')

WALL MOUNTED LIGHT FIXTURE (TYP)

LOADING DOCK

DRIVE IN RAMP

RETAINING WALL

# PATIO

COORDINATE WITH ARCHITECT & LANDSCAPE ARCHITECT FOR PATIO WALL DETAILS

VEHICLE CHARGING STATION (TYP)

MAIN ENTRANCE

HANDICAP BOLLARD SIGN (TYP)

HANDICAP SIGN (TYP)

START CC END ICC- FLUSH

START ICC- FLUSH END CC

11 SPACES

5 SPACES

7 SPACES

12 SPACES (12 CHARGING SPACES)

16 SPACES

17 SPACES (INCLUDES 3 CHARGING SPACES)

6 SPACES (INCLUDES 3 CHARGING SPACES)

12 HP SPACES

LANDSCAPE AREA WITH FLAG POLE

SNOW STORAGE (TYP)

LIGHT POLE (TYP)

13 SPACES (INCLUDES 12 CHARGING SPACES)

15 SPACES (INCLUDES 14 CHARGING SPACES)

15 SPACES

PROPERTY LINE TO BE ABANDONED

RETAINING WALL W/ 4' HIGH ORNAMENTAL FENCE

4' HIGH ORNAMENTAL FENCE

SETBACK LINE (TYP)

END GUARDRAIL

START GUARDRAIL

PROPOSED LOT LINE, ANR PLAN TO BE SUBMITTED

COMPRESSOR ROOM

ELECTRICAL ROOM

2 TRANSFORMER & 1 GENERATOR PAD (10'x 10') (TYP)

8' HIGH SCREENING FENCE

WALL MOUNTED LIGHT FIXTURE (TYP)

FIRE TANK AND PUMP HOUSE

TRAILER SPACE

EXTERIOR STEEL PLATFORM TO ACCOMMODATE 4 DUMPSTERS

4 SPACES

75 SPACES

HEAVY DUTY PAVEMENT

5' WIDE 6" DEEP RIP-RAP SWALE, BOTTOM WIDTH =2' WITH 3:1 SLOPE SWALE B-B

RETAINING WALL WITH 8' HIGH FENCE @ TOP OF WALL

LIGHT POLE (TYP)

START RETAINING WALL

END GUARDRAIL

PROPOSED TREE LINE

PROPOSED HYDRANT (TYP)

N/F
NEW ENGLAND SPORTS PARK, LLC
MAP: 97 LOT: 4

N/F
ABEL REALTY LLC
MAP: 97 LOT: 2

L & S

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

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| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 40'
DATE 12/09/22
SHEET 8 of 23
FILE # LA10
JOB # F:\P\2021-194
DRAWN BY GJL
CHKD BY GSH
APPD BY DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

LAYOUT PLAN
(PART 2)

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COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.3 0 09:09:30 -05'00'

SHEET NO.
8

INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

STRIPING TO BE COMPLETED PER MASSWORKS PLANS. COORDINATE WITH MDM TRANSPORTATION CONSULTANTS AND CITY

S HUNT RD
(PUBLIC WAY)

PROPOSED UTILITY POLE

N74°37'56"E 454.29'

N74°37'56"E

STOP

500.00'

LIGHT POLE CURRENTLY BEING RELOCATED PER APPROVED PLANS (TYP)

UNDER CONSTRUCTION PER APPROVED PLANS PREPARED BY WESTON & SAMPSON REVISED 5/16/22 (REFER TO SHEETS C101, C105, C201, L102, C500, C504)

APPROVED WETLAND LINE (SEE ORDER OF CONDITIONS DATED 3/11/21)

50' BUFFER

100' BUFFER

PROPOSED SIGN PER APPROVED PLANS

STRIPING TO BE COMPLETED PER INTERSECTION PLANS BY MDM TRANSPORTATION CONSULTANTS

160± SPACES

N/F
HUNT ROAD REALTY CORP.
MAP: 96 LOT: 1

EXISTING BUILDING
1 STORY - WAREHOUSE
#16-18

TIERED AND SLOPED CONCRETE BLOCK WALLS,
BOULDER WALLS, AND STEEP SLOPES

START CC CONFORM TO EXIST.

END CC CONFORM TO EXIST.

PROPOSED UTILITY POLE

START GUARDRAIL

R=2,630'±

POLE MOUNTED ELECTRICAL EQUIPMENT

PROPOSED TREE LINE

START RETAINING WALL

R=300'

LIGHT POLE (TYP)

SNOW STORAGE (TYP)

EXISTING BUILDING
2.5 STORY
#12

APPROVED WETLAND LINE (SEE ORDER OF CONDITIONS DATED 3/11/21)

NOTE: WORK SHOWN ON LOT 12- 14 SOUTH HUNT ROAD PERMITTED SEPARATELY UNDER EARTHWORK SPECIAL PERMIT FILED FOR 12- 14 HUNT ROAD

LOT A

EXISTING BUILDING
75,702 S.F.-DOME
UNDER CONSTRUCTION

50' BUFFER

100' BUFFER

556.59'

S47°15'23"E

MATCH LINE
SEE SHEET 8

RETAINING WALL WITH 8' HIGH FENCE AT TOP OF WALL

R=270'

R=300'

PROPOSED LOT LINE ANR PLAN TO BE SUBMITTED

R=530'

R=500'

GUARDRAIL

183.89'
S57°44'45"W

40.00'
S66°24'42"W

187.13'
S55°44'01"W

R=170'

R=200'

S34°18'09"E
200.51'

SETBACK LINE (TYP)

END GUARDRAIL

APPROVED WORK CURRENTLY UNDER CONSTRUCTION PER DEP#002*1299 WITH OOC ISSUED 04/12/22

N/F
CITY OF AMESBURY
MAP: 97 LOT: 11

HEAVY DUTY PAVEMENT

24' WIDE GRASS PAVER EMERGENCY ACCESS DRIVE

4 TRAILER SPACES

4 TRAILER SPACES

SLIP DOCK

SLIP DOCK

LOADING DOCK

LOADING DOCK

COORDINATE WITH ARCHITECT & LANDSCAPE ARCHITECT FOR PATIO WALL DETAILS

4 PATIO

VEHICLE CHARGING STATION (TYP)

MAIN ENTRANCE

HANDICAP BOLLARD SIGN (TYP)

HANDICAP SIGN (TYP)

11 SPACES

5 SPACES

7 SPACES

6 SPACES

16 SPACES

12 SPACES
(12 CHARGING SPACES)

4' HIGH ORNAMENTAL FENCE

RETAINING WALL

GUARDRAIL

START CC END ICC- FLUSH

17 SPACES
(INCLUDES 1 CHARGING SPACES)

LANDSCAPE AREA WITH FLAG POLE

SNOW STORAGE (TYP)

RETAINING WALL

16 SPACES

13 SPACES
(INCLUDES 12 CHARGING SPACES)

LIGHT POLE (TYP)

GUARDRAIL

15 SPACES
(INCLUDES 14 CHARGING SPACES)

15 SPACES

15 SPACES

PROPERTY LINE TO BE ABANDONED

17 SPACES

20 SPACES

RETAINING WALL W/ 4' HIGH ORNAMENTAL FENCE

START ICC- FLUSH END CC

COMPRESSOR ROOM

ELECTRICAL ROOM

500'

180'

2 TRANSFORMER & 1 GENERATOR PAD (10'x 10') (TYP)

PROPOSED BUILDING
408,000 S.F. (FOOTPRINT)
425 SPACES

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

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| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

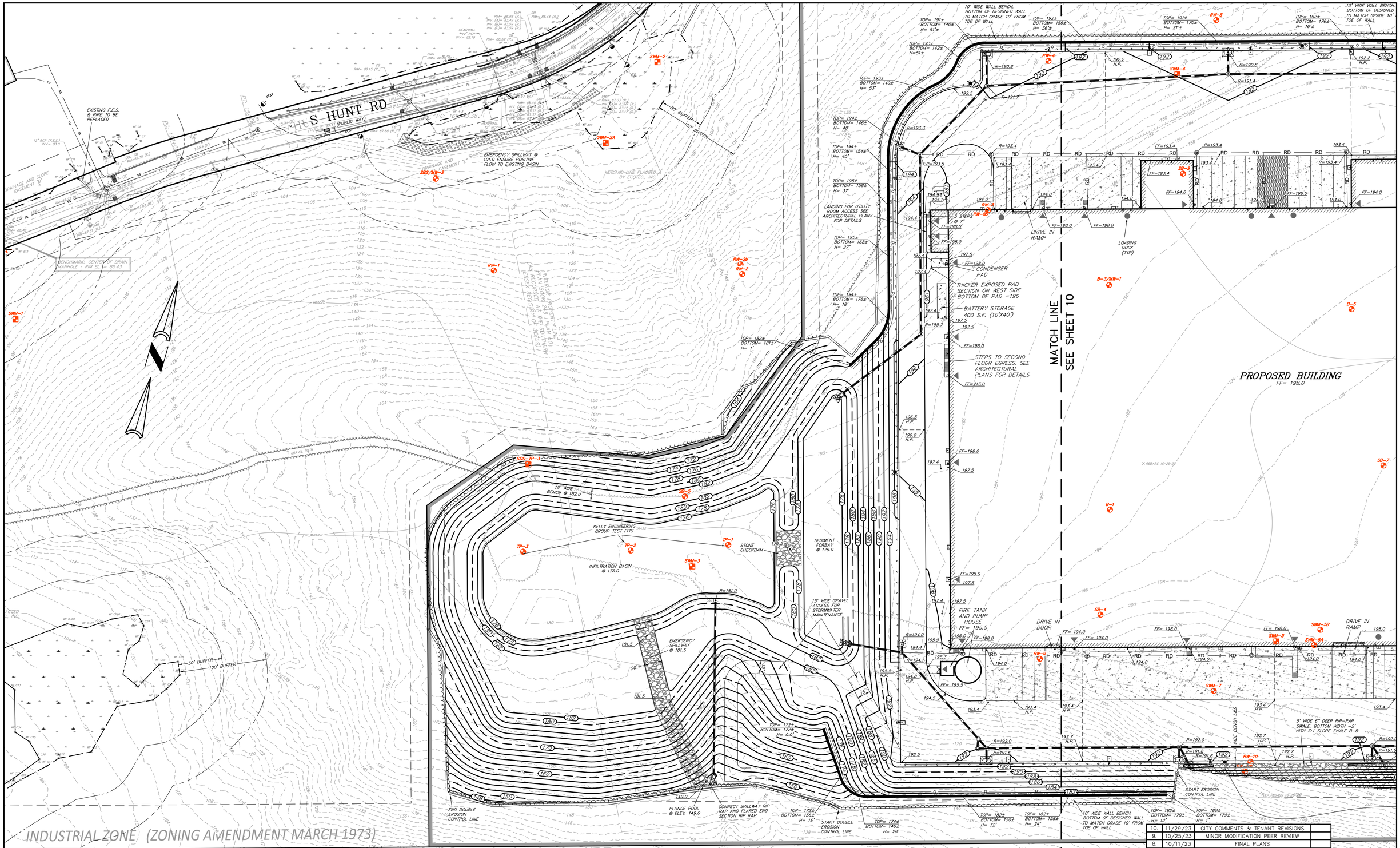
SCALE 1"= 40'
DATE 12/09/22
SHEET 9 of 23
FILE # LA10
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY GSH
APPD BY DNK

# MCP IV 24 SOUTH HUNT OWNER LLC
## 24 SOUTH HUNT ROAD
## AMESBURY, MASSACHUSETTS
## LAYOUT PLAN (PART 3)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.3 0 09:09:59 -05'00'

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Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
9




GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

FOR SYMBOL LEGEND SEE SHEET 11

## TEST PIT/ BORING LEGEND

| | |
|---|---|
| ENV-2 | ENVIRONMENTAL BORING DESIGNATION |
| GEO-1 | GEOTECHNICAL BORING DESIGNATION |
| TP-1 | TEST PIT DESIGNATION |
| SB-1 | SOIL EVALUATION BORING |
| SB/MW-1 | SOIL BORING/ GROUNDWATER MONITORING WELL |
| SGS-TP-1 | TEST PIT DESIGNATION |

TEST PITS PERFORMED ON 7/11/23 BY GARRETT HORSFALL SE# 13863

### TEST PIT LOG TP# 1

| Depth From Surface (In) | Soil Horizon | Soil Texture (USDA) |
|---|---|---|
| 0–8" | A | LOAMY SAND |
| 8"–36" | B | LOAM |
| 36"–96" | C | SILT LOAM |

SURFACE ELEVATION @ 176.0
MOTTLING @ 5'
WEEPING @ 4'
ESHGW @ 171'

### TEST PIT LOG TP# 2

| Depth From Surface (In) | Soil Horizon | Soil Texture (USDA) |
|---|---|---|
| 0–12" | A | LOAMY SAND |
| 12"–36" | B | LOAMY SAND |
| 36"–108" | C | SILT LOAM |

SURFACE ELEVATION @ 176.0
MOTTLING @ 5'
NO WEEPING OBSERVED
ESHGW @ 171

### TEST PIT LOG TP# 3

| Depth From Surface (In) | Soil Horizon | Soil Texture (USDA) |
|---|---|---|
| 0–12" | A | LOAMY SAND |
| 12"–36" | B | LOAMY SAND |
| 36"–108" | C | SILT LOAM |

SURFACE ELEVATION @ 176.0
MOTTLING @ 5'
NO WEEPING OBSERVED
ESHGW @ 171

| REV | DATE | REVISION | BY |
|---|---|---|---|
| 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS | |
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| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 40'
DATE 12/09/22
SHEET 10of 23
FILE # GD10
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY GSH
APPD BY DNK

# MCP IV 24 SOUTH HUNT OWNER LLC
## 24 SOUTH HUNT ROAD
## AMESBURY, MASSACHUSETTS
## GRADING PLAN (PART 1)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.30 09:10:53 -05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 10

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SEE SHEET 12
MATCH LINE

SEE SHEET 10
MATCH LINE

PROPOSED BUILDING
FF= 198.0

ZONE LINE

ZONE LINE

10' WIDE WALL BENCH. BOTTOM OF DESIGNED WALL TO MATCH GRADE 10' FROM TOE OF WALL

10' WIDE WALL BENCH. BOTTOM OF DESIGNED WALL TO MATCH GRADE 10' FROM TOE OF WALL

5' WIDE BENCH L&S

DRIVE IN RAMP

DRIVE IN DOOR

DRIVE IN RAMP

LOADING DOCK (TYP)

LOADING DOCK

MAIN ENTRANCE

PATIO

COORDINATE WITH ARCHITECT & LANDSCAPE ARCHITECT FOR PATIO WALL DETAILS

CONDENSER PAD

THICKER EXPOSED PAD SECTION ON WEST SIDE BOTTOM OF PAD =196

BATTERY STORAGE 400 S.F. (10'X40')

STEPS TO SECOND FLOOR EGRESS. SEE ARCHITECTURAL PLANS FOR DETAILS

FIRE TANK AND PUMP HOUSE FF= 195.5

5 STEPS

1 STEP

UTILITY SEE PLANS LS

START EROSION CONTROL LINE

END EROSION CONTROL LINE

END EROSION CONTROL LINE

EROSION CONTROL LINE

STONE CHECKDAMS EVERY 100' (TYP.)

CREATE SHALLOW SWALE TO GUIDE RUNOFF TO CB.

CREATE SHALLOW SWALE TO GUIDE RUNOFF TO CB.

4.5' WIDE 6" DEEP RIP-RAP CHANNEL DIRECTED TO INLETS IN BENCH SWALE A-A

5' WIDE 6" DEEP RIP-RAP SWALE. BOTTOM WIDTH =2' WITH 3:1 SLOPE SWALE B-B

FOR SLOPE GREATER THAN 1.5:1 RIP-RAP SLOPE, REFER TO GOETECHNICAL DESIGN FOR SLOPE DETAILS

1.5:1 RIP-RAP SLOPE, REFER TO GOETECHNICAL DESIGN FOR SLOPE DETAILS

JUTE MESH SLOPE STABILIZATION TO BE INSTALLED IN HATCHED AREAS

TALL GRASS

IRON PIPE FOUND

DRILL HOLE (GROUND)

CONCRETE EDGING (TYP.)

CONC. PAD

CITY OF AMESBURY MAP: 117 LOT: 4A

N/F ABEL REALTY LLC MAP: 97 LOT: 2

FOR SYMBOL LEGEND SEE SHEET 11

## TEST PIT/ BORING LEGEND

| | |
|---|---|
| ENV-2 | ENVIRONMENTAL BORING DESIGNATION |
| GEO-1 | GEOTECHNICAL BORING DESIGNATION |
| TP-1 | TEST PIT DESIGNATION |
| SB-1 | SOIL EVALUATION BORING |
| SB/MW-1 | SOIL BORING/ GROUNDWATER MONITORING WELL |
| SGS-TP-1 | TEST PIT DESIGNATION |

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

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SHEET 11 of 23
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DRAWN BY CJL
CHKD BY GSH
APPD BY DNK

# MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
## GRADING PLAN (PART 2)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57735
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.30 09:11:31 -05'00'

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SHEET NO. 11

# INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

## PROPOSED LEGEND

| | |
|---|---|
| | RIP RAP |
| | FLARED END SECTION |
| | CATCH BASIN |
| | DOUBLE CATCH BASIN |
| | TRENCH DRAIN |
| | DRAIN MANHOLE |
| | INSPECTION PORT |
| | DRAIN LINE |
| RD | ROOF DRAIN LINE |
| UD | UNDERDRAIN LINE |
| rd | FOUNDATION DRAIN LINE |
| | SEWER MANHOLE |
| ss | SEWER LINE |
| 100 | CONTOUR LINE (MAJOR) |
| 98 | CONTOUR LINE (MINOR) |
| 100.3 | SPOT GRADE |
| M.E. | MATCH EXISTING |
| H.P. | HIGH POINT |
| | HIGH POINT LINE |
| | EROSION CONTROL LINE |
| | SILT SACK |
| | DRAIN RIP-RAP |

NOTE: FOR EXISTING SYMBOL LEGEND SEE SHEET 03

## TEST PIT/ BORING LEGEND

| | |
|---|---|
| ENV-2 | ENVIRONMENTAL BORING DESIGNATION |
| GEO-1 | GEOTECHNICAL BORING DESIGNATION |
| TP-1 | TEST PIT DESIGNATION |
| SB-1 | SOIL EVALUATION BORING |
| SB/MW-1 | SOIL BORING/ GROUNDWATER MONITORING WELL |
| SGS-TP-1 | TEST PIT DESIGNATION |

S HUNT RD (PUBLIC WAY)

WETLAND PREVIOUSLY FILLED AND REPLICATED PER OOC ISSUED 03/11/2021

NOTE: SOUTH HUNT ROAD CURRENTLY UNDER CONSTRUCTION (PLANS BY OTHERS)

BENCHMARK: BONNET BOLT ON HYDRANT - EL= 105.45

BENCHMARK: BONNET BOLT ON HYDRANT - EL= 107.06

PARKING LOT AND INTERSECTION APPROVED UNDER CONSTRUCTION. DRAINAGE AND GRADES TO BE BUILT PER APPROVED PLANS PREPARED BY WESTON & SAMPSON LAST REVISED 5/16/22 (REFER TO SHEETS C102, C205, C500, C504)

START EROSION CONTROL LINE

END EROSION CONTROL LINE

N/F 16 HUNT ROAD (REALTY CORP. II) MAP: 96 LOT: 1

AREA OF TIERED AND SLOPED CONCRETE BLOCK WALLS, BOULDER WALLS, AND STEEP SLOPES

DRILL HOLE (TYP.)

10' WIDE WALL BENCH. BOTTOM OF DESIGNED WALL TO MATCH GRADE 10' FROM TOE OF WALL

SITE CURRENTLY UNDER CONSTRUCTION PER APPROVED PLANS

NOTE: WORK SHOWN ON LOT 12- 14 SOUTH HUNT ROAD PERMITTED SEPARATELY UNDER EARTHWORK SPECIAL PERMIT FILED FOR 12- 14 HUNT ROAD

APPROVED WETLAND LINE (SEE ORDER OF CONDITIONS DATED 3/1/21)

100' BUFFER

50' BUFFER

MATCH LINE SEE SHEET 11

N/F AMESBURY SQUARE VENTURES LLC MAP: 97 LOT: 11

CITY OF AMESBURY

STONE CHECKDAMS EVERY 100' (TYP.)

CREATE SHALLOW SWALE TO GUIDE RUNOFF TO CB

4.5' WIDE 6" DEEP RIP RAP CHANNEL DIRECTED TO INLETS IN BENCH SWALE A-A

PROPOSED BUILDING FF= 198.0

PATIO

LOADING DOCK

MAIN ENTRANCE

COORDINATE WITH ARCHITECT & LANDSCAPE ARCHITECT FOR PATIO WALL DETAILS

SWITCH PEAD CONCRETE PAD

1 STEP @ 5"

GRAPHIC SCALE

( IN FEET )
1 inch = 40 ft.

| | | | |
|---|---|---|---|
| SCALE | 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS |
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| JOB # | 2. | 01/17/23 | REVISE LOT |
| F:\JP\2021-194 | 1. | 12/21/22 | NOTICE OF INTENT |
| DRAWN BY | REV | DATE | REVISION BY |
| CJL | | | |
| CHKD BY | | | |
| DSH | | | |
| APPD BY | | | |
| DNK | | | |

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

GRADING PLAN
(PART 3)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30
09:11:59 -05'00'

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SHEET NO.
12

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S HUNT RD
(PUBLIC WAY)

50' BUFFER
100' BUFFER

## PROPOSED LEGEND

| | |
|---|---|
| | RIP RAP |
| | FLARED END SECTION |
| | CATCH BASIN |
| | DOUBLE CATCH BASIN |
| | TRENCH DRAIN |
| D | DRAIN MANHOLE |
| IP | INSPECTION PORT |
| W.Q.D. | WATER QUALITY DEVICE |
| | DRAIN LINE |
| RD | ROOF DRAIN LINE |
| FD | FOUNDATION DRAIN LINE |
| UD | UNDERDRAIN LINE |
| S | SEWER MANHOLE |
| SS | SEWER LINE |

NOTES:
1. ALL STRUCTURE INVERTS ARE LISTED WITH OUTLET FIRST THEN CLOCKWISE AROUND STRUCTURE.
2. FOR EXISTING SYMBOL LEGEND SEE SHEET 03

PROP. DBL CB #A3A
RIM= 190.8
INV= 187.3

PROP. DBL CB #A4A
GRANITE THROAT STONE INLET
RIM= 190.8
INV= 187.3

UNDERDRAIN BEHIND WALL. VERIFY LOCATION AND DEPTH WITH FINAL SHOP DRAWINGS. DAYLIGHT ONTO SLOPE.

33' 18" HDPE @ 1.0%

20' 18" HDPE @ 1.0%

271' 24" HDPE @ 0.5%

313' 18" HDPE @ 0.5%

PROP. DMH #A4
RIM= 191.4
INV= 181.8 (24" OUT)
INV= 187.1 (18" IN)
INV= 182.4 (18" IN)

PROP. DMH #A3/ WQD #1
HYDRO WORKS HD4
RIM= 191.7
INV= 180.X(24" OUT)
INV= 187.0 (18" IN)
INV= 180.4 (24" IN)

PROP. DMH #B1
RIM= 193.4
INV= 183.0 (30" OUT)
INV= 183.6 (24" IN)
INV= 190.4 (12" IN)

PROP. DMH #B2
RIM= 193.4
INV= 186.3 (24" OUT)
INV= 186.4 (24" IN)
INV= 190.4 (12" IN)

PROP. DMH
RIM= 193.4
INV= 188.1
INV= 188.7
INV= 190.4

PROP. CB #A2A/ WQD #2
HYDRO WORKS HS4
RIM= 193.3
INV= 190.3

105' 24" HDPE @ 0.5%

230' 24" HDPE @ 1.2%

166' 24" HDPE @ 1.0%

20' 12" HDPE @ 2.0%

78' 30" HDPE @ 0.7%

60' 12" PVC @ 1.0% (TYP)

PROP. DMH #A2 (6' DIA)
RIM= 193.5
INV= 178.6 (36" OUT)
INV= 189.9 (12" IN)
INV= 179.8 (24" IN)
INV= 182.5 (30" IN- RD)

RD INV= 191.0

DRIVE IN RAMP

INTERNAL TRENCH DRAIN (SEE PLUMBING PLANS) (TYP)

200' 36" HDPE @ 0.5%

PROP. DMH #A1
RIM= 195.7
INV= 177.5 (36" OUT)
INV= 177.6 (36" IN)

F.E.S. #2- W/ RIP-RAP
APRON #2- 20' x 23'
INV= 177.0
(WITH SECURITY GRATE)

108' 36" HDPE @ 0.5%

MATCH LINE
SEE SHEET 14

*PROPOSED BUILDING*
FF= 198.0

SEDIMENT FORBAY

INFILTRATION BASIN

OUTLET CONTROL STRUCTURE #1
RIM = 181.0
INV = 170.8 (30" OUT)
2 EACH 10" ORIFICE @ 176.5
45 DEG. V-NOTCH WEIR @ 177.5

EMERGENCY SPILLWAY @ 181.5

59' 30" HDPE @ 0.7%

50' 30" HDPE @ 0.7%

75' 30" HDPE @ 0.7%

PROP. DMH OCS#1
RIM= 177.0
INV= 160.4 (30" OUT)
INV= 170.4 (30" IN)

PROP. DMH OCS#2
RIM= 166.0
INV= 150.5 (30" OUT)
INV= 160.0 (30" IN)

F.E.S.#3 W/ RIP-RAP
APRON #3 16'Lx 19'W
INV= 150.0
(WITH SECURITY GRATE)

F.E.S.#1 W/ RIP-RAP
APRON #1 24'x 27'
INV= 176.98
(WITH SECURITY GRATE)

PROP. CB #01A/ WQD #3
HYDRO WORKS HS4
RIM= 194.0
INV= 190.0

58' 36" HDPE @ 0.72%

4' 12" HDPE @ 4.0%

PROP. DMH #C2
RIM= 193.9
INV= 186.1 (24" OUT)
INV= 190.8 (12" IN)
INV= 186.2 (18" IN)

FOUNDATION DRAIN LINE TO BE CONNECTED TO ROOF DRAIN. COORDINATE WITH STRUCTURAL & GEOTECH.

PROP. DMH #C1
RIM= 193.9
INV= 184.2 (30" OUT)
INV= 190.8 (12" IN)
INV= 187.0 (IN- FD)
INV= 184.8 (24" IN)

RD INV= 191.0

207' 30" HDPE @ 0.7%

8' 12" PVC @ 2.0% (TYP)

183' 24" HDPE @ 0.7%

202' 24" @ 0.7%

FIRE TANK

PUMP HOUSE

DRIVE IN RAMP

PROP. DMH #D1 (6' DIA)
RIM= 194.1
INV= 177.4 (36" OUT)
INV= 189.4 (12" IN)
INV= 182.7 (30" IN- RD)
INV= 177.5 (36" IN)

PROP. DMH #D2
BY PASS MANHOLE WITH WEIR
RIM= 192.0
BY PASS WEIR @ 180.7
INV= 178.3 (36" OUT)
INV= 178.8 (30" IN)
INV= 187.8 (12" IN)
INV= 178.8 (18" OUT)

128' 36" HDPE @ 0.5%

10' 36" HDPE @ 0.5%

PROP. DMH D1A
RIM= 192.1
INV= 178.15 (36" OUT)
INV= 178.25 (36" IN)
INV= 178.6 (18" IN)

6' 18" HDPE @ 1.7%

10' 12" HDPE @ 3.0%

PROP. DMH WQD#4
OFFLINE HYDRO WORKS HS6
RIM= 192.0
INV= 178.7 (18" OUT)
INV= 178.7 (18" IN)

6' 18" HDPE @ 1.7%

PROP. DBL CB #D2A
RIM= 191.6
INV= 188.1

216' 30" HDPE @ 0.5%

PROP. DMH #D3
RIM= 192.0
INV= 180.0 (30" OUT)
INV= 180.1 (30" IN)
INV= 185.77 (12" IN)
INV= 187.8 (12" IN)

21' 12" HDPE @ 1.1%

10' 12" HDPE @ 3.0%

PROP. AD #D3B
RIM= 191.6
INV= 186.0

PROP. DBL CB #D3A
RIM= 191.6
INV= 188.1

PROP. DBL
RIM= 191.
INV= 188.

NOTE: SHOP DRAWINGS TO BE PROVIDED AND COORDINATED WITH CONTECH AND ENGINEER FOR WQD AND BY PASS MANHOLE

UNDERDRAIN BEHIND WALL. VERIFY LOCATION AND DEPTH WITH FINAL SHOP DRAWINGS. DAYLIGHT ONTO SLOPE.

50' BUFFER
100' BUFFER

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

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SHEET 13of 23
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JOB # F:\P\2021-194
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APPD BY DNK

# MCP IV 24 SOUTH HUNT OWNER LLC
## 24 SOUTH HUNT ROAD
## AMESBURY, MASSACHUSETTS
## SEWER & DRAINAGE PLAN (PART 1)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.30 09:12:50 -05'00'


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Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 13

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GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

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SHEET 14of 23
FILE # SD10
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DRAWN BY CJL
CHKD BY BGL
APPD BY DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

# SEWER & DRAINAGE PLAN (PART 2)

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civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon L
2023.11.30
09:14:29
-05'00'

SHEET NO.
14

INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

S HUNT RD
(PUBLIC WAY)

APPROVED APPROACH INTERSECTION UNDER CONSTRUCTION. DRAINAGE AND GRADES TO BE BUILT PER APPROVED PLANS. PREPARED BY WESTON & SAMPSON DATED 5/16/22 (REFER TO SHEETS C102, 71, C104, C205, C501, & C502)

50' BUFFER

100' BUFFER

EXIST. SMH
RIM= 104.6
INV= 96.85±- VERIFY (8" OUT)
INV= 96.85±- VERIFY (8" IN)

STOP

EXIST. CB
RIM= 103.87
INV= 100.92 (EXIST-12" OUT-TO BE REMOVED)
INV= 100.62 (NEW 15" OUT)

EXIST. DMH-PROVIDE NEW 5' DIAMETER DMH IF NEEDED FOR CLOCK ANGLES
RIM= 105.1±
INV= 99.56 (15" OUT-EXIST-TO BE REMOVED)
INV= 99.61 (24" OUT- NEW)
INV= 99.65 (12" IN-EXIST TO BE REMOVED)
INV= 99.84 (15" IN-NEW)
INV= 100.22 (12" IN-EXIST)
INV= 100.23 (12" IN- EXIST)

156' 15" HDPE @ 0.5%

EXIST. DMH
RIM= 105.51
INV= 98.91 (EXIST-30" OUT)
INV= 99.01 (EXIST- 18" IN)
INV= 98.91 (EXIST- 30" IN)
INV= 99.61 (EXIST- 15" IN TO BE REMOVED)
INV= 99.41 (NEW 24" IN)

42' 24" HDPE @ 0.5%

PROP. CB #E2A
RIM= 105.7
INV= 102.2
(SEE NOTE 1)

117' 8" PVC @ 2.9%

NOTE: VERIFY EXISTING SEWER STUB INVERT PRIOR TO ANY WORK ON SEWER.

PROP. SMH #1
RIM= 105.6
INV= 100.3 (8" OUT)
INV= 100.4 (8" IN)

3' 12" HDPE @ 6.0%

EXIST. DMH #E1
RIM= 106.0
INV= 99.4 (30" OUT- VERIFY)
INV= 100.6 (18" IN- NEW)

PROP. CB #E2B
RIM= 105.7
INV= 102.7
(SEE NOTE 1)

10' 18" HDPE @ 1.0%

5' 12" HDPE @ 2.0%

PROP. DMH #E2A
RIM= 106.0
INV= 102.4 (12" OUT)
INV= 102.5 (12" IN)
INV= 102.5 (12" IN)

6' 12" HDPE @ 6.7%

PROP. AD #E2C
RIM= 106.0
INV= 103.0

28' 12" HDPE @ 1.0%

161' 8" PVC @ 2.0%

PROP. DMH #E2-WQD 6
HYDRO WORKS H05
RIM= 105.8
INV= 100.7 (18" OUT)
INV= 100.8 (18" IN)
INV= 102.1 (12" IN)
INV= 102.0 (12" IN)

216' 18" HDPE @ 1.3%

SS x SD XING
SD INV= 102.3 (12")
SS INV= 100.8 (8")

NOTE 1:CURB STONE GUTTER INLET CASCADE GRATE

PROP SMH #2
RIM= 114.0
(INSIDE DROP)
INV= 103.6 (8" OUT)
INV= 108.3 (8" IN)

NOTE: WORK SHOWN ON LOT 12- 14 SOUTH HUNT ROAD PERMITTED SEPARATELY UNDER EARTHWORK SPECIAL PERMIT FILED FOR 12- 14 HUNT ROAD

UNDERDRAIN BEHIND WALL. VERIFY LOCATION AND DEPTH WITH FINAL SHOP DRAWINGS. DAYLIGHT ONTO SLOPE

PROP. DMH #E3
RIM= 119.0
INV= 103.6 (18" OUT)
INV= 115.6 (12" IN)
INV= 114.0 (18" IN)
INV= 115.4 (12" IN)

5' 12" HDPE @ 2.0%

PROP. CB #E3A
RIM= 119.2
INV= 115.7
(SEE NOTE 1)

RETAINING WALL

15' 12" HDPE @ 2.0%

PROP. CB #E3B
RIM= 119.2
INV= 115.7
(SEE NOTE 1)

SS x SD XING
SD INV= 115.7 (12")
SS INV= 111.4 (8")

148' 18" HDPE @ 1.4%

EXISTING BUILDING
2.5 STORY
#12 WADE

EXISTING BUILDING
75,702 S.F.-DOME
UNDER CONSTRUCTION

50' BUFFER

100' BUFFER

PROP. DMH #F2
RIM= 105.0
INV= 100.6 (18" OUT)
INV= 101.3 (18" IN)
INV= 101.3 (18" IN)

EXIST DMH #F1
RIM= 104.7
INV= 100.5 (24" OUT EXIST- VERIFY)
INV= 100.5 (12" IN EXIST- VERIFY)
INV= 100.5 (24" IN NEW)
INV= 100.6 (12" IN EXIST- VERIFY)

PROP. AD #F2A
RIM= 106.2
INV= 102.7

MATCH LINE
SEE SHEET 14

PROP. DBL CB #A4A
GRANITE THROAT STONE INLET
RIM= 190.8
INV= 187.3

PROP. DMH #A5
RIM= 190.2
INV= 184.0 (18" OUT)
INV= 184.5 (12" IN)
INV= 185.5 (12" IN)

PROP. DBL CB #A5A
RIM= 189.0
INV= 185.0

20' 18" HDPE @ 1.0%

30' 12" HDPE @ 1.7%

30' 12" HDPE @ 4.0%

PROP. DMH #A4
RIM= 191.4
INV= 181.8 (24" OUT)
INV= 182.1 (18" IN)
INV= 182.4 (18" IN)

313' 18" HDPE @ 0.5%

PROP. DMH #B4
RIM= 195.5
INV= 190.0 (18" OUT)
INV= 190.9 (12" IN)
INV= 190.9 (12" IN)

PROP. CB #A5B
RIM= 193.4
INV= 186.7

PROP. DMH #B2
RIM= 193.4
INV= 186.3 (24" OUT)
INV= 186.4 (24" IN)
INV= 190.4 (12" IN)

166' 24" HDPE @ 1.0%

PROP. DMH #B3
RIM= 193.4
INV= 188.1 (24" OUT)
INV= 188.7 (18" IN)
INV= 190.4 (12" IN)

186' 18" HDPE @ 0.7%

RETAINING WALL

108' 12" HDPE @ 2.7%

PROP. DMH #B5
RIM= 197.2
INV= 193.8 (12" OUT)
INV= 193.9 (12" IN)

61' 12" PVC @ 1.0%

60' 12" PVC @ 1.0% (TYP)

17' 12" PVC @ 2.0%

RD
RD INV= 191.0
RD INV= 191.0
RD INV= 191.0
RD INV= 191.0
RD INV= 191.4
RD INV= 194.2

UNDERDRAIN BEHIND WALL. VERIFY LOCATION AND DEPTH WITH FINAL SHOP DRAWINGS. CONNECT TO SITE DRAINAGE

FOUNDATION DRAIN LINE TO BE CONNECTED TO SITE DRAINAGE. COORDINATE WITH STRUCTURAL & GEOTECH.

PROPOSED BUILDING
FF= 198.0

PROP. AD #E7C
RIM= 149.0
INV= 146.0

296' 8" PVC @ 4.5%

PROP. DMH #E4
RIM= 130.5
INV= 116.1 (18" OUT)
INV= 125.5 (18" IN)

196' 12" HDPE @ 0.5%

PROP SMH #3
(INSIDE DROP)
RIM= 136.5
INV= 121.6 (8" OUT)
INV= 130.8 (8" IN)

147' 18" HDPE @ 1.4%

PROP. DMH #E5
RIM= 141.5
INV= 127.5 (18" OUT)
INV= 137.8 (12" IN)
INV= 136.5 (18" IN)
INV= 137.8 (12" IN)

PROP. AD #E7B
RIM= 149.0
INV= 144.9
INV= 145.0

222' 8" PVC @ 4.5%

12' 12" HDPE @ 5.0%

PROP. CB #E4A
RIM= 141.5
INV= 138.0
(SEE NOTE 1)

100' 18" HDPE @ 2.0%

PROP. DMH #F3
RIM= 109.5
INV= 104.7 (18" OUT)
INV= 106.0 (18" IN)

PROP. CB #E9B
RIM= 183.0
INV= 179.5 (OUT)
INV= 180.0 (IN- UD)

PROP. AD #E7A
RIM= 149.0
INV= 143.8
INV= 143.7

111' 12" HDPE @ 1.0%

12' 12" HDPE @ 1.0%

SS x SD XING
SD INV= 138.0 (12")
SS INV= 133.8 (8")

PROP. CB #E4B
RIM= 141.5
INV= 138.0
(SEE NOTE 1)

PROP. DMH #E7B
RIM= 149.5
INV= 143.3 (18" OUT)
INV= 143.5 (12" IN)
INV= 143.3 (12" IN)

77' 18" HDPE @ 1.4%

34' 18" HDPE @ 2.0%

PROP. DMH #F4
RIM= 125.0
INV= 108.1 (18" OUT)
INV= 121.5 (18" IN)

PROP. DMH #E7A
DROP MANHOLE 5' DIA
RIM= 157.0
INV= 144.0 (12" OUT)
INV= 155.3 (12" IN)

40' 12" HDPE @ 1.0%

PROP. DMH #F5
RIM= 138.0
INV= 122.3 (18" OUT)
INV= 134.5 (18" IN)

PROP. DMH #F6
RIM= 147.5
INV= 137.6 (18" OUT)
INV= 142.7 (18" IN)

208' 12" HDPE @ 0.5%

PROP. DMH #E9
DROP MANHOLE 5' DIA
RIM= 183.1
INV= 168.0 (18" OUT)
INV= 179.1 (12" IN)
INV= 180.0 (IN- UD)
INV= 180.0 (IN- UD)
INV= 178.5 (12" IN)

PROP. DMH #E8
DROP MANHOLE 5' DIA
RIM= 171.0
INV= 156.0 (12" OUT)
INV= 167.2 (12" IN)

28' 12" HDPE @ 5.0%

36' 18" HDPE @ 1.4%

52' 18" HDPE @ 2.2%

SS x SD XING
SD INV= 142.9 (18")
SS INV= 137.4 (8")

PROP. DMH #F6
RIM= 151.0
INV= 135.8 (18" OUT)
INV= 147.0 (12" IN)
INV= 146.3 (12" IN)

47' 12" HDPE @ 1.5%

PROP. AD #E6A
RIM= 150.0
INV= 146.5

SS x SD XING
SD INV= 146.4 (12")
SS INV= 139.5 (8")

40' 12" HDPE @ 1.5%

28' 12" HDPE @ 1.0%

PROP SMH #4
(INSIDE DROP)
RIM= 153.0
INV= 140.8 (8" OUT)
INV= 147.3 (8" IN)

PROP. CB DBL #D8A
RIM= 191.0
INV= 187.5

6' 12" HDPE @ 3.0%

PROP. DBL CB #E9A
RIM= 183.0
INV= 179.3

72' 8" PVC @ 4.5%

PROP SMH #5
(INSIDE DROP)
RIM= 173.0
INV= 150.5 (8" OUT)
INV= 163.7 (8" IN)

164' 12" HDPE @ 3.0%

41' 18" HDPE @ 0.5%

30' 18" HDPE @ 0.7%

10' 12" HDPE @ 2.0%

PROP. DMH #D8
RIM= 191.4
INV= 187.2 (18" OUT)
INV= 187.3 (18" IN)
INV= 187.3 (18" IN)

63' 8" PVC @ 4.5%

PROP. DMH #F7-WQD #5
HYDRO WORKS H05
RIM= 163.9
INV= 152.1 (12" OUT)
INV= 160.2 (12" IN)
INV= 160.2 (12" IN)
INV= 160.2 (12" IN)

PROP. CB #F7A
RIM= 163.9
INV= 160.4
(SEE NOTE 1)

PROP. CB DBL #D8B
RIM= 191.0
INV= 187.5

PROP. SMH #6
(INSIDE DROP)
RIM= 184.1
INV= 166.5 (8" OUT)
INV= 176.4 (8" IN)

12' 12" HDPE @ 2.0%

PROP. CB #F7B
RIM= 163.9
INV= 160.4
(SEE NOTE 1)

NOTE 1:CURB STONE GUTTER INLET CASCADE GRATE

138' 12" HDPE @ 1.4%

UNDERDRAIN BEHIND WALL. VERIFY LOCATION AND DEPTH WITH FINAL SHOP DRAWINGS. CONNECT TO SITE DRAINAGE

SS x SD XING
SD INV= 186.6 (18")
SS INV= 180.1 (8")

229' 18" HDPE @ 0.4%

127' 8" PVC @ 2.0%

PROP MDC TRAP
RIM= 197.8
INV= 184.83 (4" OUT)
INV= 185.16 (4" IN)

GRAPHIC SCALE
40 0 20 40 80 160
( IN FEET )
1 inch = 40 ft.

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| | | | |
|---|---|---|---|
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| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |
| REV. | DATE | REVISION | BY |

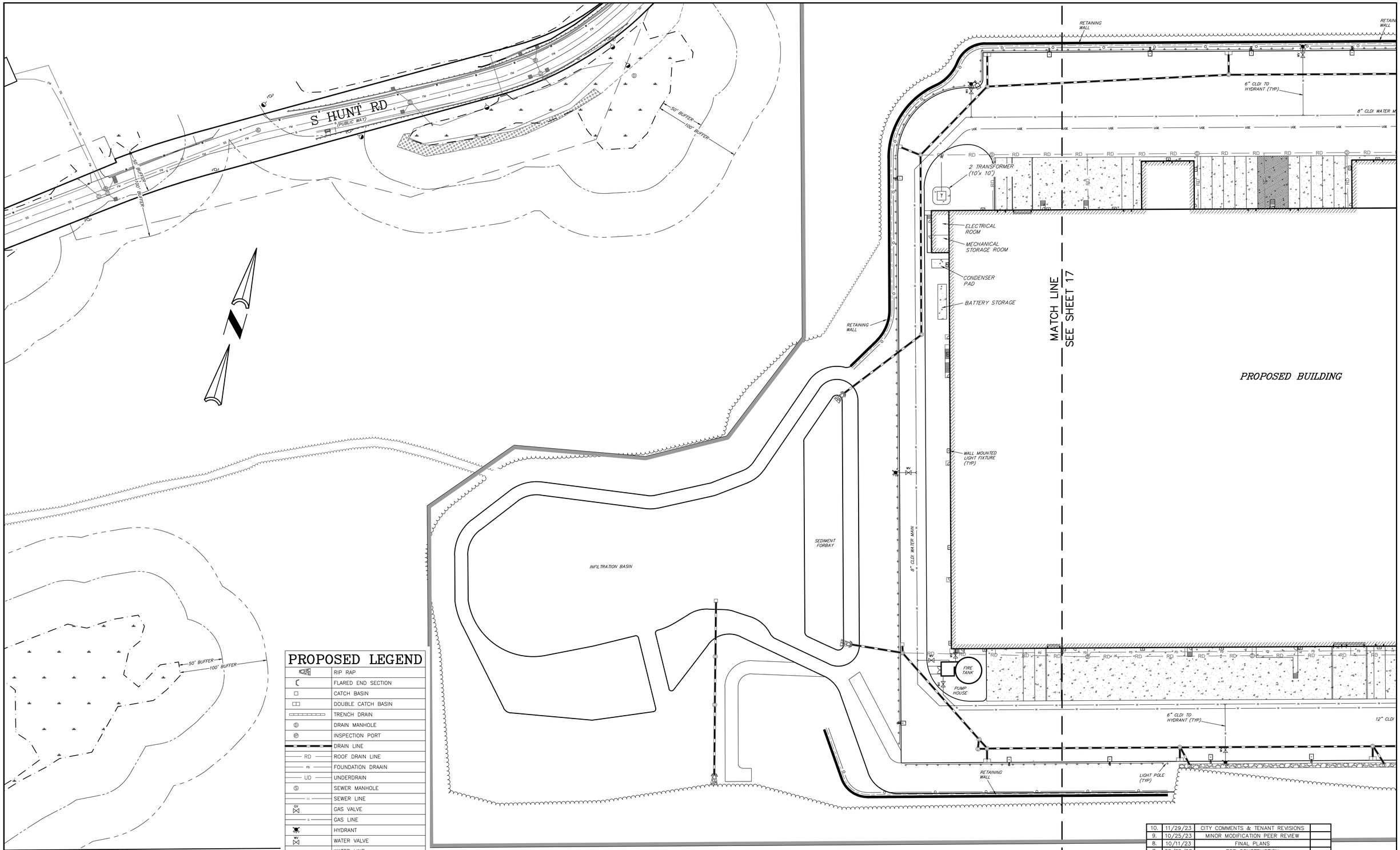
SCALE 1"= 40'
DATE 12/09/22
SHEET 15of 23
FILE # SD10
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY BGL
APPD BY DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
SEWER & DRAINAGE PLAN
(PART 3)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.30 09:15:02 -05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
15




## PROPOSED LEGEND

| | |
|---|---|
| | RIP RAP |
| | FLARED END SECTION |
| | CATCH BASIN |
| | DOUBLE CATCH BASIN |
| | TRENCH DRAIN |
| | DRAIN MANHOLE |
| | INSPECTION PORT |
| | DRAIN LINE |
| RD | ROOF DRAIN LINE |
| FD | FOUNDATION DRAAIN |
| UD | UNDERDRAIN |
| | SEWER MANHOLE |
| SS | SEWER LINE |
| GV | GAS VALVE |
| G | GAS LINE |
| | HYDRANT |
| WV | WATER VALVE |
| W | WATER LINE |
| WF | WATER LINE |
| | LIGHT POLES |
| | WALL MOUNTED LIGHT |
| | TRANSFORMER |
| UGE | UNDERGROUND ELECTRIC LINE |

NOTE:
FOR EXISTING SYMBOL LEGEND SEE SHEET 03

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

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| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE
1"= 40'

DATE
12/09/22

SHEET
16of 23

FILE #
UT09

JOB #
F:\P\2021-194

DRAWN BY
CJL

CHKD BY
GSH

APPD BY

# MCP IV 24 SOUTH HUNT OWNER LLC
## 24 SOUTH HUNT ROAD
## AMESBURY, MASSACHUSETTS
## UTILITY PLAN
## (PART 1)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30
09:15:35
-05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
16

SEE SHEET 18
MATCH LINE

SEE SHEET 16
MATCH LINE

RETAINING WALL

RETAINING WALL

6" CLDI TO HYDRANT (TYP)

8" CLDI WATER MAIN

2 TRANSFORMER (10'x 10')

ELECTRICAL ROOM

MECHANICAL STORAGE ROOM

CONDENSER PAD

BATTERY STORAGE

WALL MOUNTED LIGHT FIXTURE (TYP)

8" CLDI WATER MAIN

PROPOSED BUILDING

4" DOMESTIC WATER SERVICE

COMPRESSOR ROOM

ELECTRICAL ROOM

500 GAL

2 TRANSFORMER & 1 GENERATOR PAD (10'x 10') (TYP)

WALL MOUNTED LIGHT FIXTURE (TYP)

2- 4" TELECOMMUNICATIONS ENCASED IN CONCRETE
4- 5" ELECTRIC CONDUIT ENCASED IN CONCRETE

RETAINING WALL

10' MIN.

LIGHT POLE (TYP)

12" CLDI WATER MAIN

8" CLDI WATER MAIN

4" CLDI DOMESTIC WATER

FIRE TANK

PUMP HOUSE

6" CLDI TO HYDRANT (TYP)

12" CLDI WATER MAIN

8" CLDI WATER MAIN

RETAINING WALL

LIGHT POLE (TYP)

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

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SCALE 1"= 40'
DATE 12/09/22
SHEET 17of 23
FILE # UT09
JOB # F:\P\2021-194
DRAWN BY GJL
CHKD BY GSH
APPD BY

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

UTILITY PLAN
(PART 2)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30
09:16:15
-05'00'

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Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
17

INTERSTATE ROUTE 495 ~ BLUE STAR MEMORIAL HIGHWAY

S HUNT RD
(PUBLIC WAY)

CONNECT OVERHEAD ELECTRIC & TELECOMMUNICATION LINES TO RELOCATED UTILITY POLE

PROPOSED UTILITY POLE

50' BUFFER

100' BUFFER

CONNECT 12" WATER LINE TO EXIST. WATER STUB

CONNECT GAS LINE TO EXIST. GAS STUB

LIGHT POLE CURRENTLY BEING RELOCATED PER APPROVED PLANS (TYP)

STOP

PROPOSED UTILITY POLE

NOTE: PROPOSED ELECTRICAL SERVICE. FINAL LAYOUT PER PROVIDER

SWITCH GEAR ON UTILITY POLE (TYP)

START UNDERGROUND ELECTRIC & TELECOMMUNICATION LINES

10' MIN.

12" CLDI WATER MAIN

RETAINING WALL

EXISTING BUILDING
2.5 STORY
#12 WADE

NOTE: WORK SHOWN ON LOT 12– 14 SOUTH HUNT ROAD PERMITTED SEPARATELY UNDER EARTHWORK SPECIAL PERMIT FILED FOR 12– 14 HUNT ROAD

EXISTING BUILDING
75,702 S.F.–DOME
UNDER CONSTRUCTION

50' BUFFER

100' BUFFER

MATCH LINE
SEE SHEET 17

RETAINING WALL

6" CLDI TO HYDRANT (TYP)

8" CLDI WATER MAIN

2– 4" TELECOMMUNICATIONS ENCASED IN CONCRETE
4– 5" ELECTRIC CONDUIT ENCASED IN CONCRETE

RETAINING WALL

10' MIN.

8" CLDI WATER MAIN

4" DOMESTIC WATER SERVICE

GV

500'

COMPRESSOR ROOM

ELECTRICAL ROOM

LIGHT POLE (TYP)

2 TRANSFORMER & 1 GENERATOR PAD (10'x 10') (TYP)

12" CLDI WATER MAIN

PROPOSED BUILDING

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

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| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | PER EARTHWORK APPLICATION | |
| 2. | 01/17/23 | REVISE LOT | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE 1"= 40'
DATE 12/09/22
SHEET 18of 23
FILE # UT09
JOB # F:\P\2021-194
DRAWN BY CJL
CHKD BY GSH
APPD BY

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

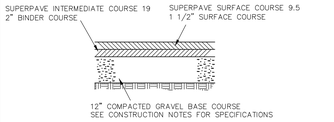
UTILITY PLAN
(PART 3)

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30
09:16:54
-05'00'

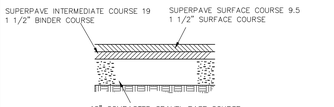
KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO.
18



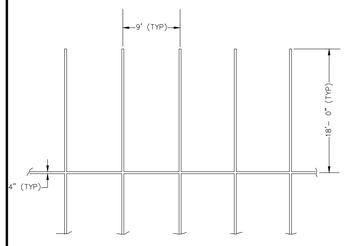

## BITUMINOUS CONCRETE PAVEMENT (HEAVY DUTY)

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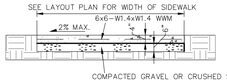

## BITUMINOUS CONCRETE PAVEMENT (STANDARD)

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## TYPICAL STRIPING DETAIL

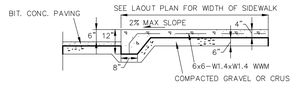
NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©




NOTE: PROVIDE EXPANSION JOINTS AT 25' O.C.

## CONCRETE WALK DETAIL

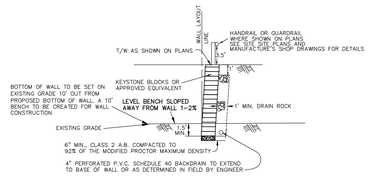
NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©




NOTE: PROVIDE EXPANSION JOINTS AT 25' O.C.

## INTEGRAL SIDEWALK/ CURB DETAIL

NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©




### NOTES

GEOGRID LENGTHS AND LOCATIONS SHALL BE DETERMINED BY MANUFACTURER'S SHOP DRAWINGS

STAMPED SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE PREPARED BY MANUFACTURER AND SUBMITTED TO ENGINEER FOR APPROVAL

WALL TO BE CONSTRUCTED PER MANUFACTURER'S SPECIFICATIONS

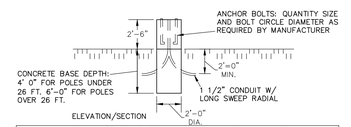
GEOGRID SHALL BE PER MANUFACTURE'S SHOP DRAWINGS

WALLS WITH HEIGHT EXCEEDING 4' SHALL HAVE GUARDS

WALLS WILL REQUIRE BUILDING PERMITS AS APPLICABLE.

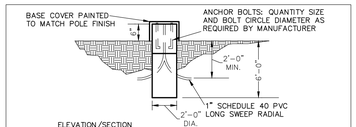
## RETAINING WALL DETAIL TYPE

NOT TO SCALE — (RETAINING–WALL) — KELLY ENGINEERING GROUP ©



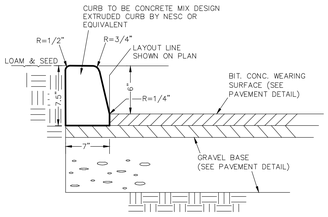

## LIGHT POLE DETAIL (PAVED AREAS)

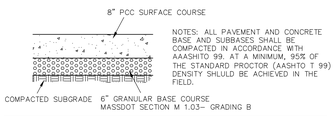
NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©




## LIGHT POLE DETAIL (LANDSCAPED AREAS)

NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©



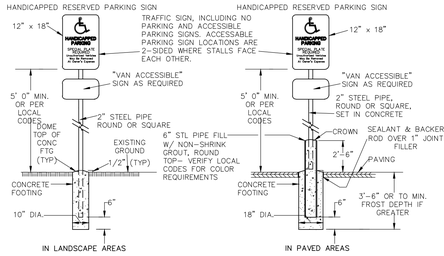




## LOADING DOCK APRON

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## CONCRETE CURB DETAIL

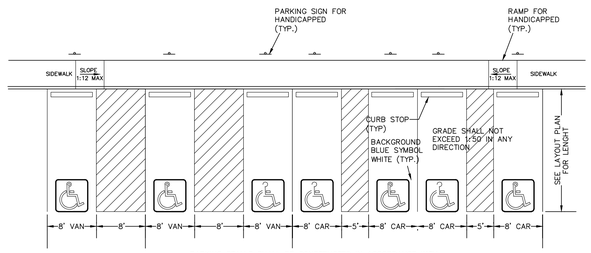
NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©




NOTE: 1. SIGN LAYOUT, COLORS, SYMBOL AND LETTERING SHALL BE STANDARD.
2. TO BE LOCATED ON SITE AS DIRECTED.
3. TO BE LOCATED AT APPROPRIATE SPACES.

## HANDICAP SIGN DETAIL

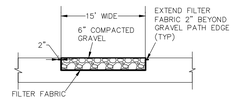
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PARKING STALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REQUIREMENTS

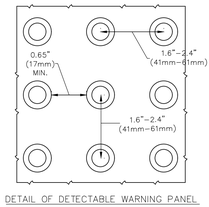
## HANDICAP PARKING DETAIL

NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©

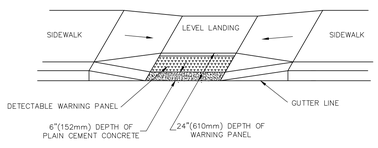



## GRAVEL ACCESS DRIVE DETAIL

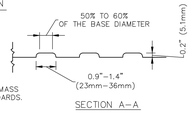
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DETAIL OF DETECTABLE WARNING PANEL




TYPICAL INSTALATION



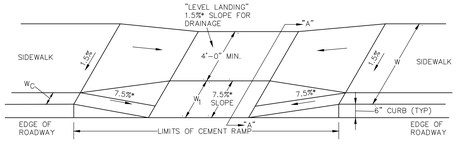

SECTION A–A

NOTE: PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT

FOR MORE INFORMATION SEE MASS HIGHWAY CONSTRUCTION STANDARDS. DRAWING # M/E 107.6.5

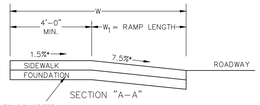
## DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS

NOT TO SCALE — KELLY ENGINEERING GROUP, INC ©




LEGEND
W = SIDEWALK WIDTH
$W_1$= PERPENDICULAR RAMP LENGTH
Wc= CURB WIDTH
* = TOLERANCE FOR CONSTRUCTION ±0.5%

USABLE SIDEWALK WIDTH PER ABB= W–Wc
RAMP LENGTH, $W_1$= W– (4' – 0") MIN.




SECTION "A–A"

NOTE:
DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN., A HEIGHT OF NOMINAL 0.2 IN. AND A CENTER–TO–CENTER SPACING OF NOMINAL 2.35 IN. AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACE, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT.

REFER TO CONCRETE WALK DETAIL & INTEGRAL SIDEWALK/CURB DETAIL FOR SIDEWALK AND FOUNDATION SPECS

FOR MORE INFORMATION SEE MASS HIGHWAY CONSTRUCTION STANDARDS. DRAWING # M/E 107.2.0

## WHEELCHAIR RAMPS

NOT TO SCALE — KELLY ENGINEERING GROUP, INC. ©

# CONSTRUCTION NOTES

A1. THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER OF ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND THE ENGINEER.

A2. THE CONTRACTOR SHALL NOTIFY THE CITY OF AMESBURY DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.

A3. IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES ALL NECESSARY SAFETY DEVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE OFFICERS.

A4. ALL WORK SHALL CONFORM TO A PERMIT TO BE ISSUED BY THE CITY OF AMESBURY.

A5. FOR ANY PROJECT THAT INVOLVES 1 ACRE OR MORE OF DISTURBANCE CONTRACTOR SHALL SECURE A NPDES PERMIT PRIOR TO BEGINNING ANY GRADING ACTIVITIES.

A6. ALL WORK SHALL CONFORM TO AN ORDER OF CONDITIONS TO BE ISSUED BY THE CITY OF AMESBURY.

A7. ALL WORK SHALL CONFORM TO THE PROJECT GEOTECHNICAL REPORT.

A8. THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES OR MUNICIPAL DEPARTMENTS SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR SHALL CONTRACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. DIG SAFE TELEPHONE NUMBER IS 1–888–344–7233.

A9. THE CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, GROSSING OR EXTENDING THEM. IF THE NEW WORK POSES A CONFLICT WITH EXISTING UTILITIES, THE ENGINEER SHALL BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.

A10. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSION AND DOOR LOCATIONS.

A11. BENCHMARK ELEVATION IS AS SHOWN ON EXISTING CONDITIONS PLAN DATUM IS NAVD 88.

A12. ALL PROPOSED SITE GAS, ELECTRIC, TELEPHONE, CATV FEATURES SHOWN ON SITE DEVELOPMENT PLANS ARE INTENDED AS A GUIDE ONLY. FINAL CONFIGURATION TO BE CONFIRMED WITH PROJECT MEP ENGINEER AND UTILITY PROVIDER.

B1. REFER TO PLUMBING PLANS FOR EXACT SIZE AND LOCATION OF SANITARY AND WATER CONNECTIONS.

B2. REFER TO ELECTRICAL PLANS FOR THE LIGHTING CIRCUITS, FIXTURE DETAIL AND BUILDING CONNECTION LOCATION.

B3. ALL H.D.P.E. HIGH DENSITY POLYETHYLENE PIPE SHALL BE AGS N–12 OR APPROVED EQUAL. SEWER SHALL BE SDR 35 WITH RUBBER RING JOINTS. WATER LINES SHALL BE CL 52 D.I.P. (DUCTILE IRON PIPE), REINFORCED CONCRETE PIPE RCP SHALL BE CLASS III.

B4. NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS ARE TO BE LEFT WITHIN 6" OF THE SEWER IN THE TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE PIPES.

C1. WALKS SHALL BE 4" THICK AND SHALL BE CONSTRUCTED ON 6" OF COMPACTED BANK GRAVEL. CONCRETE FOR WALKS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. WALKS SHALL BE REINFORCED WITH WWM 6x 6 W1.4/W1.4 CONFORMING TO ASTM A184.

C2. BASE MATERIAL SHALL BE CLEAN BANK RUN GRAVEL, CONFORMING TO M.D.P.W. M1.03.1, WITH NO STONES LARGER THAN THREE (3) INCHES IN DIAMETER AND SHALL BE PLACED AND ROLLED WITH AT LEAST A TEN TON ROLLER. THE SURFACES SHALL BE WET DURING ROLLING TO BIND THE MATERIAL. ALL STONES OF 4" DIAMETER OR LARGER SHALL BE REMOVED FROM THE SUB–BASE PRIOR TO PLAOING BASE MATERIAL. PULVERIZED MATERIAL MAY BE USED AS BASE MATERIAL PROVIDING IT MEETS THIS SPECIFICATIONS. AREAS TO BE REPAVED SHALL BE PULVERIZED AND REGRADED TO PROVIDE POSITIVE FLOW TO DRAINAGE AND AWAY FROM BUILDING. PAVE WITH 1 1/2" WEARING COURSE ON 1 1/2" BINDER COURSE. ALL VALVES BOXES, MANHOLES AND OTHER UTILITIES APPURTENANCES SHALL BE ADJUSTED TO CONFORM TO FINAL GRADE

C3. TRANSFORMER PAD SHALL BE INSTALLED PER PROVIDERS SPECIFICATIONS. GENORATOR PADS SHALL BE INSTALLED PER MANUFACTURING SPECIFICATIONS.

C4. PAVEMENT AREA SHALL BE PAVED TO A THICKNESS AS SHOWN ON THE PLANS MEASURED AFTER COMPACTION, WITH A SUPERPAVE INTERMEDIATE COURSE AND SUPERPAVE SURFACE COURSE.

C5. THE AGGREGATE SHALL BE COMPOSED, MIXED AND LAID HOT IN TWO COURSES AS SPECIFIED IN THE "COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGE", 2021 EDITION. SECTION 460 HOT MIX ASPHALT PAVEMENT FOR LOCAL STREETS.

C6. ALL EXISTING PAVING TO BE DISTURBED SHALL BE CUT ALONG A STRAIGHT LINE THROUGH ITS ENTIRE THICKNESS. BUTT NEW PAVING INTO THE EXISTING PAVEMENT TO REMAIN AND TACK COAT THE JOINT.

C7. ANY PAVEMENT REMOVED FOR UTILITY TRENCH EXCAVATION OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH A PAVEMENT SECTION CONSISTING OF 1 1/2" SUPERPAVE SURFACE COURSE OVERLAYING A 1 1/2" SUPERPAVE INTERMEDIATE COURSE OVERLAYING A 12" COMPACTED GRAVEL BASE COURSE.

D1. ALL AREAS TO BE PLANTED WITH GRASS SHALL BE TREATED WITH 100 POUNDS OF GROUND LIMESTONE PER 1,000 S.F. OF AREA PLANTED. ALL AREAS TO BE PLANTED WITH GRASS SHALL BE FERTILIZED WITH 10–10–10 AT THE RATE OF 1,000 POUNDS PER ACRE OR AS REQUIRED BY SOIL TEST. 40% OF THE NITROGEN SHALL BE ORGANIC FORM.

D2. ALL LANDSCAPED AREAS TO BE LOAMED AND SEEDED SHALL HAVE THE FOLLOWING MIX.

| | |
|---|---|
| PERENNIAL RYE | 25% |
| KENTUCKY BLUE | 25% |
| CREEPING RED FESCUE OR | |
| PENNLAWN FESCUE | 50% |

SEED AT THE RATE OF 5#/1,000 S.F.

D3. ALL DISTURBED AREAS TO BE LOAMED AND SEEDED SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL SPREAD EVENLY THROUGHOUT. PROVIDE EROSION CONTROL MEASURES AS NECESSARY TO PROVIDE SLOPE STABILITY UNTIL VEGETATION IS ESTABLISHED. (NOTE: IF THERE IS A CONFLICT BETWEEN THESE PLANS AND LANDSCAPE PLANS THE LANDSCAPE PLANS SHALL DICTATE.

E1. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEANUP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. ALL DEMOLITION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE SITE TO A LEGAL DUMP SITE. ALL TRUCKS LEAVING THE SITE SHALL BE COVERED.

E2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHALL INCLUDE SILT SACKS IN DRAINAGE INLETS, MULCHING AND PLANTING OF DISTURBED AREAS.

E3. PRIOR TO THE COMMENCEMENT OF ANY OTHER WORK A SILT SACK SHALL BE INSTALLED IN EACH EXISTING DRAINAGE INLET.

E4. AFTER INSTALLATION OF EACH DRAINAGE INLET A SILT SACK SHALL BE INSTALLED IN EACH INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.

E5. AT THE END OF CONSTRUCTION ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.

E6. DURING CONSTRUCTION THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE.

E7. STABILIZATION MEASURES (SEEDING OR PLANTING, APPLYING MULCH OR OTHER NON–VEGETATIVE PRODUCT) OF EXPOSED SOILS SHALL BEGIN AS SOON AS PRACTICABLE AND IMMEDIATELY AFTER EARTH–DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED. STABILIZATION TO BE COMPLETED WITHIN 14 DAYS.

E8. SILT SOCKS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF ALL STOCK PILES.

E9. SPARE EROSION/SEDIMENT CONTROL MATERIALS SHALL BE AVAILABLE ON SITE FOR USE IN CONTINGENCY CONDITIONS OR AT THE DIRECTION OF AMESBURY CODE ENFORCEMENT PERSONNEL.

F1. ALL STORM DRAIN INLETS SHOWN TO BE ABANDONED SHALL BE ABANDONED AS FOLLOWS SUCH THAT THE TOPS ARE NO LESS THAN 3' FROM FINISHED GRADE: (A) PRECAST DRAINAGE INLETS SHALL HAVE THE GRATE, FRAME AND CONE SECTION REMOVED. THE STORM DRAIN PIPE SHALL BE PLUGGED USING BRICK AND MORTAR AND THE REMAINING STRUCTURE SHALL BE BACK FILLED AND COMPACTED, OR THE ENTIRE STRUCTURE SHALL BE REMOVED AND REMAINING VOID SHALL BE BACKFILLED AND COMPACTED.
(B) BLOCK DRAINAGE INLETS SHALL BE GRATE AND FRAMED REMOVED AND THE STORM DRAIN PLUGGED AS IN (A) ABOVE. THE STRUCTURE SHALL THEN BE CRUSHED, BACKFILLED AND COMPACTED.

F2. ALL STORM DRAINS TO BE ABANDONED WHICH ARE WITHIN 3' OF FINISHED GRADE SHALL BE REMOVED. ALL OTHERS SHALL BE PLUGGED AT EACH END.

KELLY ENGINEERING GROUP SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORKING ACCORDANCE WITH THE CONTRACT DOCUMENTS.
THE EXTENT OF KELLY ENGINEERING GROUPS LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COST

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| REV. | DATE | REVISION | BY |
|---|---|---|---|
| 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS | |
| 9. | 10/25/23 | MINOR MODIFICATION PEER REVIEW | |
| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | NO CHANGE | |
| 2. | 01/17/23 | NO CHANGE | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE: NA
DATE: 12/09/22
SHEET: 19 of 23
FILE #: DT10
JOB #: F:\P\2021–194
DRAWN BY: GJL
CHKD BY: GSH
APPD BY: DNK

COMMONWEALTH OF MASSACHUSETTS — BRANDON G. LI — CIVIL — No. 57736 — REGISTERED PROFESSIONAL ENGINEER

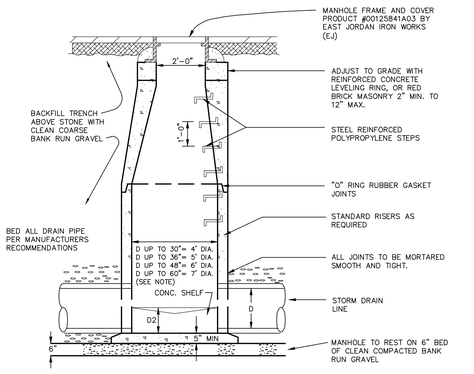
Brandon Li
2023.11.30
09:17:51
-05'00'

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

DETAIL SHEET

SHEET NO. 19

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781–843–4333 www.kellyengineeringgroup.com

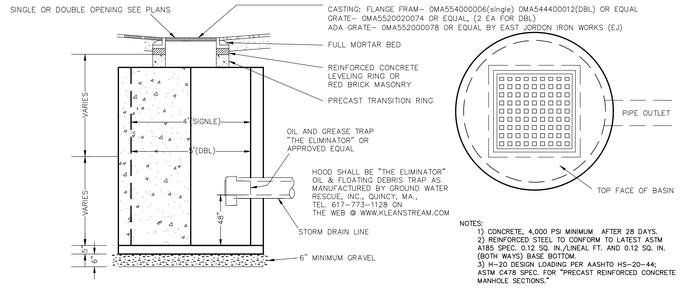



NOTES:
1) CONCRETE, 4,000 PSI MINIMUM AFTER 28 DAYS.
2) REINFORCED STEEL TO CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3) H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
4) STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP TO CONFORM TO LATEST ASTM C478 SPEC.

NOTE: CONFIGURATIONS W/ MULTIPLE INLETS MAY REQUIRE LARGER STRUCTURES

## PRECAST DRAIN MANHOLE DETAIL

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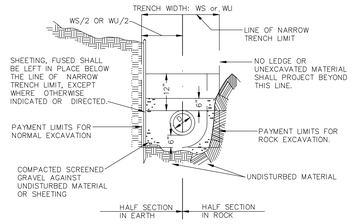



NOTES:
1) CONCRETE, 4,000 PSI MINIMUM AFTER 28 DAYS.
2) REINFORCED STEEL TO CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3) H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."

## PRECAST CATCH BASIN DETAIL

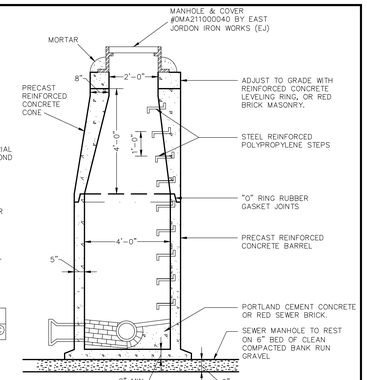
NOT TO SCALE | KELLY ENGINEERING GROUP, INC. ©

| TRENCH WIDTH WS OR WU | | |
|---|---|---|
| DIAM. OF PIPE | WU UNSHEETED | WS SHEETED |
| 12" AND SMALLER | 3'-0" | 4'-2" |
| 15" AND LARGER | O.D.+20" | O.D.+36" |




## WATER AND SEWER TRENCH SECTION

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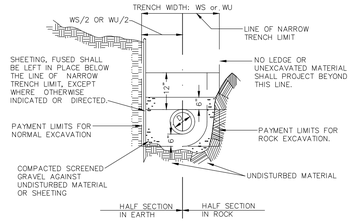



NOTES:
1) CONCRETE, 4,000 PSI MINIMUM AFTER 28 DAYS.
2) REINFORCED STEEL TO CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3) H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
4) STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP TO CONFORM TO LATEST ASTM C478 SPEC.
5) BUTYL RESIN SECTION JOINT TO CONFORM TO LATEST ASTM C990 SPEC.

## SEWER MANHOLE DETAIL

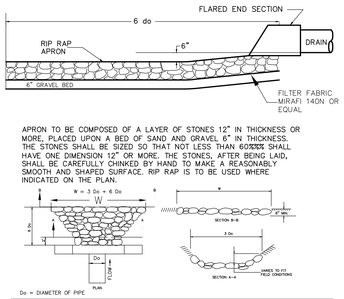
NOT TO SCALE | KELLY ENGINEERING GROUP, INC. ©

| TRENCH WIDTH WS OR WU | | |
|---|---|---|
| DIAM. OF PIPE | WU UNSHEETED | WS SHEETED |
| 12" AND SMALLER | 3'-0" | 4'-2" |
| 15" AND LARGER | O.D.+20" | O.D.+36" |




## DRAIN LINE TRENCH SECTION

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| RIP-RAP APRON DIMENSIONS | | | |
|---|---|---|---|
| RIP-RAP # | D | L | W |
| RIP-RAP #1 | 0.7' | 24' | 27' |
| RIP-RAP #2 | 0.6' | 20' | 23' |
| RIP-RAP #3 | 0.5' | 16' | 19' |

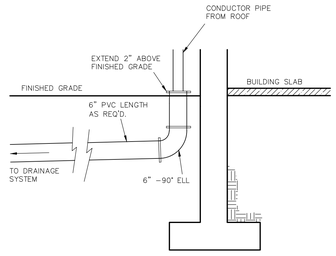
APRON TO BE COMPOSED OF A LAYER OF STONES 12" IN THICKNESS OR MORE, PLACED UPON A BED OF SAND AND GRAVEL 6" IN THICKNESS. THE STONES SHALL BE SIZED SO THAT NOT LESS THAN 60%%% SHALL HAVE ONE DIMENSION 12" OR MORE. THE STONES, AFTER BEING LAID, SHALL BE CAREFULLY CHINKED BY HAND TO MAKE A REASONABLY SMOOTH AND SHAPED SURFACE. RIP RAP IS TO BE USED WHERE INDICATED ON THE PLAN.




Do = DIAMETER OF PIPE

## RIP-RAP APRON DETAIL AT F.E.S.

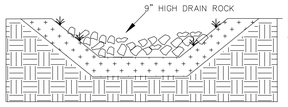
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## ROOF DRAIN CONNECTION DETAIL

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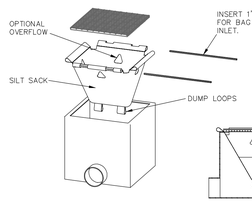
NOTES:
STONE CHECKDAMS SHALL BE
1. PROVIDED IN EVERY 100 FEET.
2. THE WIDTH OF THE DRAINAGE CHANNEL.
4. 9 INCHES ABOVE BOTTOM OF CHANNEL.
5. STONE SHALL BE 6 INCH DRAIN ROCK.
6. STONE TO BE BEDDED ON MILRAFI FILTER FABRIC #140N OR EQUAL.
7. STONE SHALL BE EMBEDDED AT EACH END INTO THE SIDE SLOPES OF THE CHANNEL.
8. CHECK DAM TO BE SHAPED TO DIRECT FLOW DOWN THE CENTER OF THE DAMS.




CROSS SECTIONAL VIEW

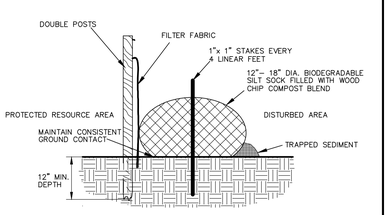
## SWALE CHECK DAM DETAIL

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## SILT SACK- TYPE A DETAIL

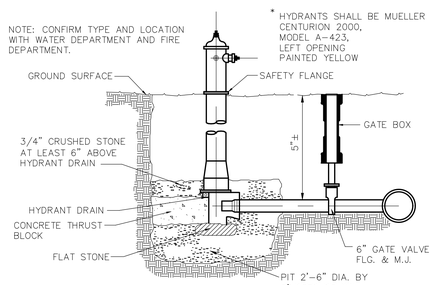
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## EROSION CONTROL LINE DETAIL

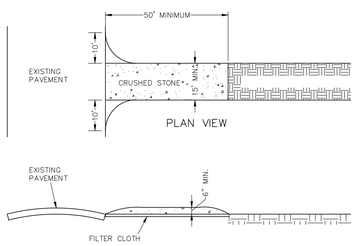
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NOTE: CONFIRM TYPE AND LOCATION WITH WATER DEPARTMENT AND FIRE DEPARTMENT.




## HYDRANT SETTING DETAIL

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TRACKING PAD NOTES:
1. STONE SIZE – USE 2" CRUSHED STONE
2. FILTER CLOTH – SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
3. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHOULD BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHOULD BE PERMITTED.
4. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

## CONSTRUCTION TRACKING PAD

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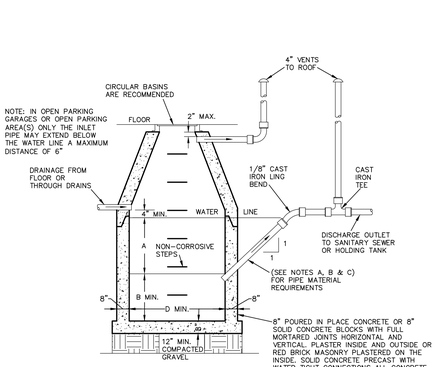
| INLET | D | A | B |
|---|---|---|---|
| 4" | 3'- 6" | 3'- 0" | 2'- 6" |
| 5" | 3'- 6" | 5'- 0" | 4'- 0" |
| | 3'- 6"X 3'- 6" | 4'- 0" | 3'- 0" |
| | 4'- 0" | 3'- 6" | 3'- 0" |
| | 4'- 0"X 4'- 0" | 3'- 0" | 2'- 6" |
| | 4'- 6" | 3'- 0" | 2'- 6" |
| 6" | 4'- 0" | 5'- 0" | 4'- 6" |
| | 4'- 0"X 4'- 0" | 4'- 0" | 5'- 6" |
| | 4'- 6" | 4'- 0" | 5'- 6" |
| | 4'- 6"X 4'- 6" | 3'- 6" | 3'- 0" |
| | 5'- 0" | 3'- 6" | 3'- 0" |
| | 5'- 0"X 5'- 0" | 3'- 0" | 2'- 6" |
| 8" | 5'- 0" | 6'- 0" | 5'- 0" |
| | 5'- 6"X 5'- 6" | 4'- 6" | 4'- 0" |
| | 6'- 0" | 4'- 0" | 3'- 6" |
| | 6'- 0"X 6'- 0" | 3'- 0" | 2'- 6" |
| | 6'- 6" | 3'- 6" | 3'- 0" |
| | 6'- 6"X 6'- 6" | 3'- 0" | 2'- 6" |

PIPING MATERIAL NOTES:
A.NO-HUB CAST IRON PRODUCT- APPROVED STAINLESS STEEL CLAMPS

B.SERVICE WEIGHT CAST IRON WITH PRODUCT-APPROVED RESILIENT GASKETS OR LEAD & OAKUM JOINTS.

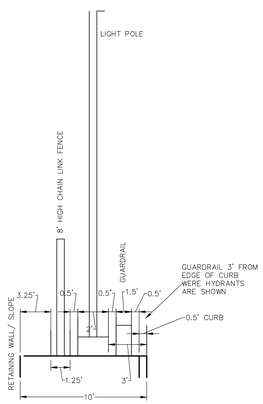
C.EXTRA HEAVY CAST IRON WITH PRODUCT-APPROVED RESILIENT GASKETS OR LEAD & OAKUM JOINTS.

**GENERAL CONSTRUCTION NOTES:**
THE SEPARATOR IS TO BE LOCATED OUTSIDE OF A BUILDING WHERE POSSIBLE AND THE COVER IS TO INCORPORATE A CENTER-HOLE. A SEALED TIGHT COVER IS TO BE USED IF THE SEPARATOR IS LOCATED INSIDE OF A BUILDING. THE COVER SHALL BE NO LESS THAN A 24" DIAMETER. THE SEPARATOR SHALL BE LOCATED AND CONSTRUCTED TO PREVENT SURFACE OR SUB-SURFACE WATER FROM ENTERING. THE INLET PIPE SHALL BE NO LESS THAN FOUR INCHES ABOVE THE WATER LINE LEVEL. WHEN THE SEPARATOR IS SUBJECT TO FREEZING IT SHALL BE SET A MINIMUM OF THREE FEET BELOW GRADE. THE SEPARATOR SHALL BE FILLED WITH WATER AND LEAK TESTED BEFORE BEING INTRODUCED INTO SERVICE. THE NON-CORROSIVE STEPS SHALL BE SPACED AT 18" INCHES APART. THE CHAMBER VENT AND OUTLET VENT SHALL RETURN TO THE INSIDE OF THE BUILDING AND EXTEND THROUGH THE ROOF.




## THE COMMONWEALTH OF MASSACHUSETTS BOARD OF EXAMINERS OF PLUMBINGS AND GASFITTERS GASOLINE, OIL AND SAND SEPARATOR DESIGN

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## GUARDRAIL, LIGHT POLE, SOUND WALL & RETAINING WALL/ SLOPE DETAIL

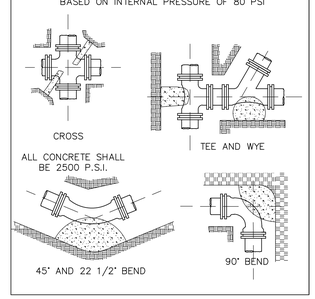
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THRUST BLOCK SCHEDULE

TABLE OF MINIMUM BEARING AREA IN SQ. IN. AGAINST UNDISTURBED SOIL FOR 8 IN. DIA. PIPE

| SOIL BEARING CAPACITY(PSF) | 90 DEGREE BEND | TEE | 45 DEGREE BEND |
|---|---|---|---|
| 1000 | 945 | 674 | 516 |
| 1500 | 630 | 450 | 344 |
| 2000 | 473 | 337 | 258 |
| 3000 | 315 | 225 | 172 |

NOTE: FOR FITTINGS W/LESS THAN 45° DEFLECTION USE BEARING AREA FOR 45° BEND BASED ON INTERNAL PRESSURE OF 80 PSI




## THRUST BLOCK

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| | | | |
|---|---|---|---|
| 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS | |
| 9. | 10/25/23 | MINOR MODIFICATION PEER REVIEW | |
| 8. | 10/11/23 | FINAL PLANS | |
| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | NO CHANGE | |
| 2. | 01/17/23 | NO CHANGE | |
| 1. | 12/21/22 | NOTICE OF INTENT | |
| REV | DATE | REVISION | BY |

SCALE: NA
DATE: 12/09/22
SHEET: 20of 23
FILE #: DT10
JOB #: F:\P\2021-194
DRAWN BY: CJL
CHKD BY: GSH
APPD BY: DNK

# MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS
DETAIL SHEET

COMMONWEALTH OF MASSACHUSETTS
BRANDON G. LI
CIVIL
No. 57736
REGISTERED PROFESSIONAL ENGINEER
Brandon Li
2023.11.3 0 09:20:32 -05'00'

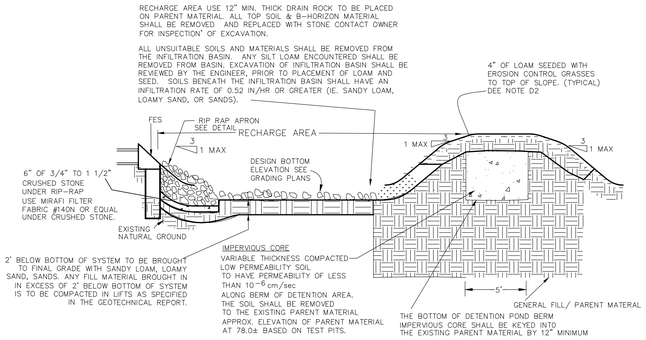
KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

SHEET NO. 20

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THE EXTENT OF KELLY ENGINEERING GROUP'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COST

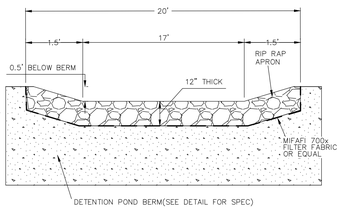
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## INFILTRATION BASIN DETAIL

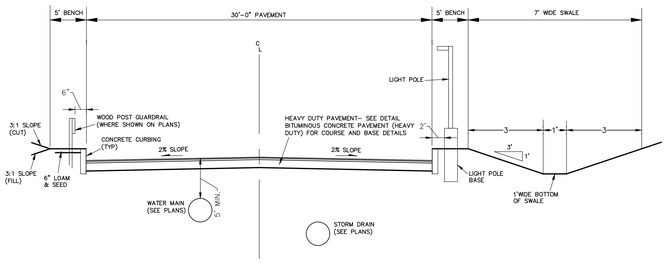
NOT TO SCALE | (WATER-QUALITY-1) | KELLY ENGINEERING GROUP ©




APRON TO BE COMPOSED OF A LAYER OF STONES 12" IN THICKNESS OR MORE, PLACED UPON A BED OF SAND AND GRAVEL 6" IN THICKNESS. THE STONES SHALL BE SIZED SO THAT NOT LESS THAN 60% SHALL HAVE ONE DIMENSION 12" OR MORE. THE STONES, AFTER BEING LAID, SHALL BE CAREFULLY CHINKED BY HAND TO MAKE A REASONABLY SMOOTH AND SHAPED SURFACE. RIP RAP IS TO BE USED WHERE INDICATED ON THE PLAN.

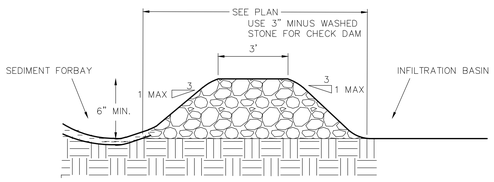
## EMERGENCY SPILLWAY DETAIL

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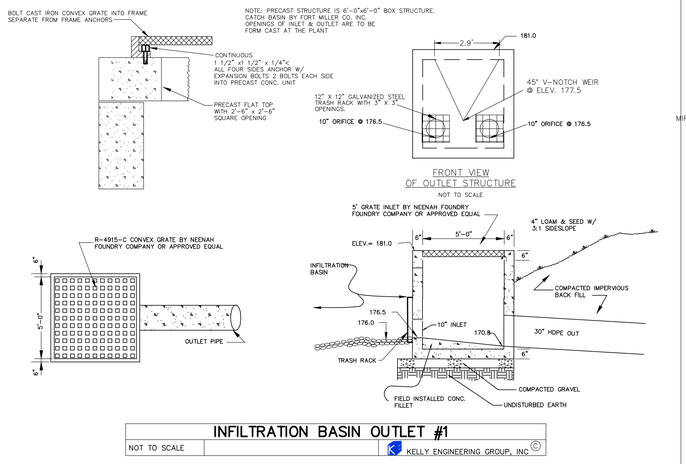

## STREET CROSS SECTION

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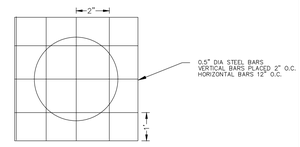

## STONE CHECKDAM DETAIL

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## INFILTRATION BASIN OUTLET #1

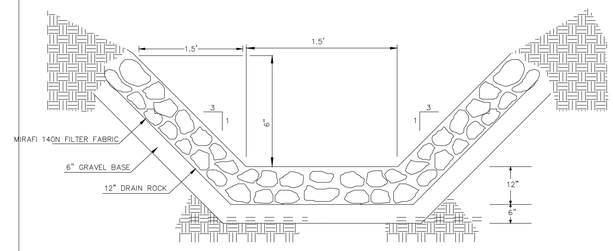
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## SECURITY BARS @ FES

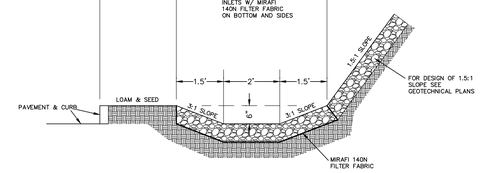
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APRON TO BE COMPOSED OF A LAYER OF STONES 12" IN THICKNESS OR MORE, PLACED UPON A BED OF SAND AND GRAVEL 6" IN THICKNESS. RIP RAP STONE SHALL BE 4" DRAIN ROCK, 12" THICK



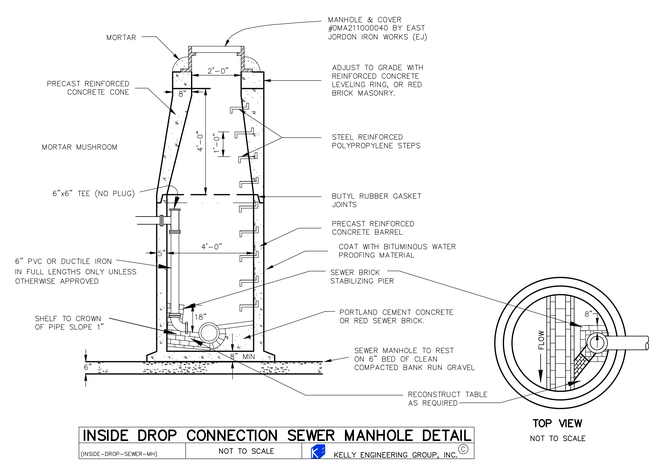

## RIP-RAP SWALE CROSS SECTION A-A

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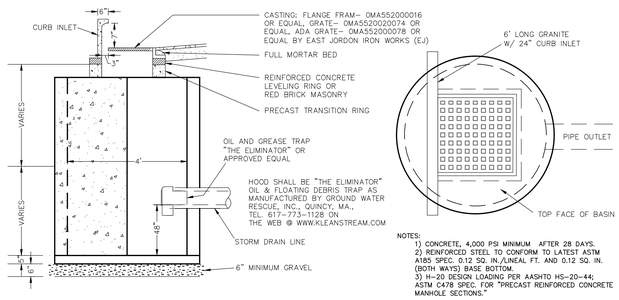

## RIP-RAP SWALE CROSS SECTION B-B

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## INSIDE DROP CONNECTION SEWER MANHOLE DETAIL

(INSIDE-DROP-SEWER-MH) | NOT TO SCALE | KELLY ENGINEERING GROUP, INC ©




## PRECAST CATCH BASIN WITH CURB INLET DETAIL

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| REV | DATE | REVISION | BY |
|---|---|---|---|
| 10. | 11/29/23 | CITY COMMENTS & TENANT REVISIONS | |
| 9. | 10/25/23 | MINOR MODIFICATION PEER REVIEW | |
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| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | NO CHANGE | |
| 2. | 01/17/23 | NO CHANGE | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE: NA
DATE: 12/09/22
SHEET: 21 of 23
FILE #: DT10
JOB #: F:\P\2021-194
DRAWN BY: CJL
CHKD BY: GSH
APPD BY: DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

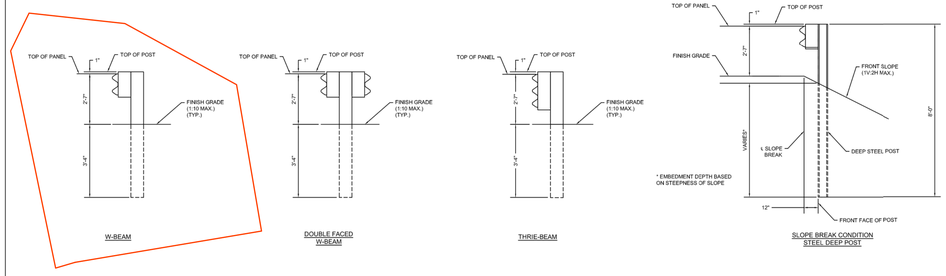
DETAIL SHEET

COMMONWEALTH OF MASSACHUSETTS — BRANDON G. LI — CIVIL — No. 57736 — REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30
09:21:15
-05'00'

KELLY ENGINEERING GROUP
civil engineering consultants
0 Campanelli Drive, Braintree, MA 02184
Phone: 781-843-4333 www.kellyengineeringgroup.com

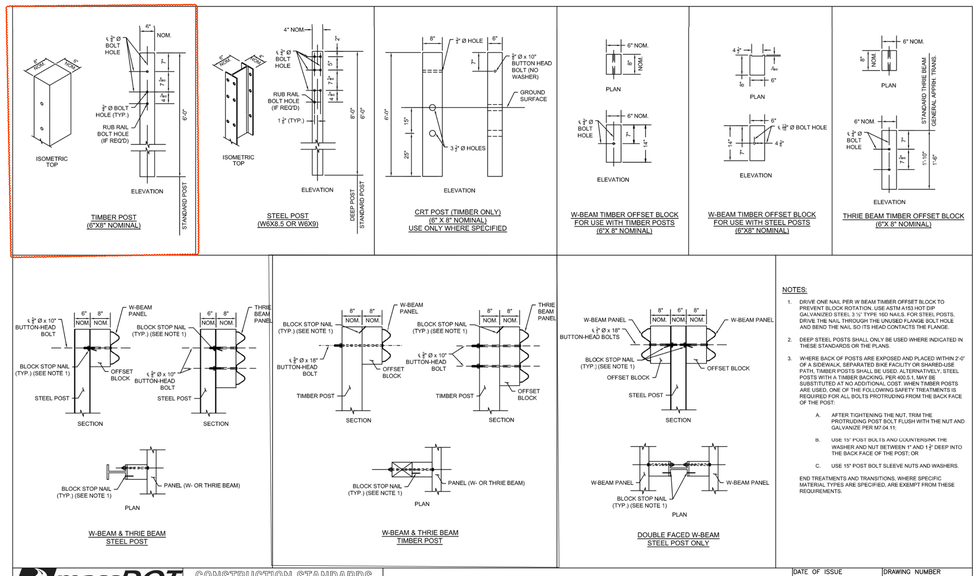
SHEET NO. 21




NOTES:

1. CONSTRUCTION TOLERANCE FOR PANEL HEIGHT = ± 1".

massDOT Massachusetts Department of Transportation Highway Division | CONSTRUCTION STANDARDS SECTION 400 | **GUARDRAIL MOUNTING HEIGHTS & POST DEPTHS** | DATE OF ISSUE: OCTOBER 2017 | DRAWING NUMBER: **400.1.5**



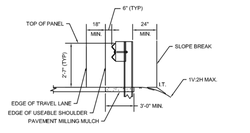

NOTES:

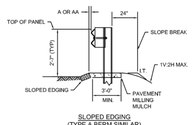
1. DRIVE ONE NAIL PER W BEAM TIMBER OFFSET BLOCK TO PREVENT BLOCK ROTATION. USE ASTM A153 HOT DIP GALVANIZED STEEL 3 ½" TYPE 16D NAILS. FOR STEEL POSTS, DRIVE THE NAIL THROUGH THE UNUSED FLANGE BOLT HOLE AND BEND THE NAIL SO ITS HEAD CONTACTS THE FLANGE.
2. DEEP STEEL POSTS SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
3. WHERE BACK OF POSTS ARE EXPOSED AND PLACED WITHIN 2'-0" OF A SIDEWALK, SEPARATED BIKE FACILITY OR SHARED-USE PATH, TIMBER POSTS SHALL BE USED. ALTERNATIVELY, STEEL POSTS WITH A TIMBER BACKING, PER 400.5.1, MAY BE SUBSTITUTED AT NO ADDITIONAL COST. WHEN TIMBER POSTS ARE USED, ONE OF THE FOLLOWING SAFETY TREATMENTS IS REQUIRED FOR ALL BOLTS PROTRUDING FROM THE BACK FACE OF THE POST:
   A. AFTER TIGHTENING THE NUT, TRIM THE PROTRUDING POST BOLT FLUSH WITH THE NUT AND GALVANIZE PER M7.04.11.
   B. USE 15" PUST BOLTS AND COUNTERSINK THE WASHER AND NUT BETWEEN 1" AND 1 ½" DEEP INTO THE BACK FACE OF THE POST, OR
   C. USE 15" POST BOLT SLEEVE NUTS AND WASHERS.

END TREATMENTS AND TRANSITIONS, WHERE SPECIFIC MATERIAL TYPES ARE SPECIFIED, ARE EXEMPT FROM THESE REQUIREMENTS.

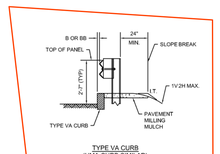
massDOT Massachusetts Department of Transportation Highway Division | CONSTRUCTION STANDARDS SECTION 400 | **POST & OFFSET BLOCK DETAILS** | DATE OF ISSUE: OCTOBER 2017 | DRAWING NUMBER: **400.1.4**

SINGLE FACED:



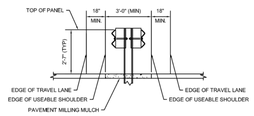



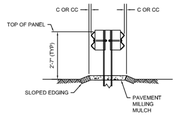

| | TL-2 | TL-3 |
|---|---|---|
| A (AT FACE) | 0" TO 6" | 0" TO 6" |
| AA (OFFSET) | 6'-0" (MIN) | N/A (SEE NOTE 5) |



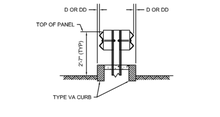

| | TL-2 | TL-3 |
|---|---|---|
| B (AT FACE) | 0" TO 6" | 0" TO 6" |
| BB (OFFSET) | 6'-0" (MIN) | N/A (SEE NOTE 5) |

DOUBLE FACED:




| | TL-2 | TL-3 |
|---|---|---|
| C (AT FACE) | 0" TO 10" | 0" TO 10" |
| CC (OFFSET) | 6'-0" (MIN) | 13'-0" (MIN) |

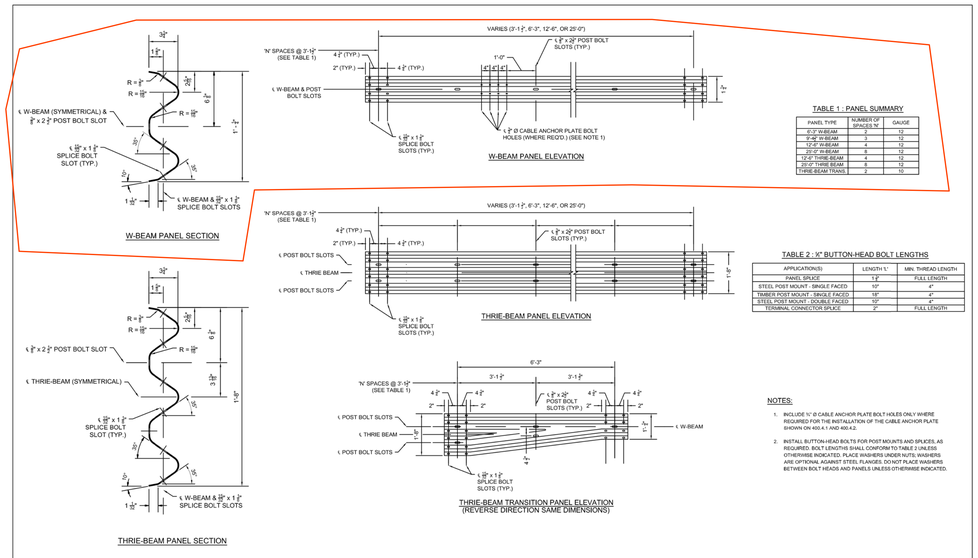



| | TL-2 | TL-3 |
|---|---|---|
| D (AT FACE) | 0" TO 10" | 0" TO 10" |
| DD (OFFSET) | 6'-0" (MIN) | N/A (SEE NOTE 5) |

NOTES:

1. TYPE VA CURB PER E 106.3.0.
2. HMA CURB PER E 106.2.0.
3. SLOPED EDGING PER E 106.5.0.
4. TYPE A BERM PER E 106.1.0.
5. TL-3 GUARDRAIL SHALL NOT BE OFFSET FROM VERTICAL CURB AND SINGLE FACED TL-3 GUARDRAIL SHALL NOT BE OFFSET FROM SLOPED EDGING UNLESS OTHERWISE SHOWN IN THE PLANS OR THESE STANDARDS.
6. IN ORDER TO FACILITATE DESIGN AND CONSTRUCTION, THE OFFSET FROM THE CURB TO FACE OF GUARDRAIL DOES NOT HAVE TO BE SYMMETRICAL BETWEEN SIDES. ONE SIDE MAY BE LOCATED AT THE FACE OF CURB AND THE OPPOSITE MAY BE OFFSET.

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| PANEL TYPE | NUMBER OF SPACES "N" | GAUGE |
|---|---|---|
| 6'-3" W-BEAM | 2 | 12 |
| 12'-6" W-BEAM | 4 | 12 |
| 18'-9" W-BEAM | 6 | 12 |
| 25'-0" W-BEAM | 8 | 12 |
| 12'-6" THRIE BEAM | 4 | 12 |
| 25'-0" THRIE BEAM | 8 | 12 |
| THRIE-BEAM TRANS | 2 | 10 |

| APPLICATION(S) | LENGTH 'L' | MIN. THREAD LENGTH |
|---|---|---|
| PANEL SPLICE | 1 ¼" | FULL LENGTH |
| STEEL POST MOUNT - SINGLE FACED | 10" | 4" |
| TIMBER POST MOUNT - SINGLE FACED | 10" | 4" |
| STEEL POST MOUNT - DOUBLE FACED | 15" | 4" |
| TERMINAL CONNECTOR SPLICE | 2" | FULL LENGTH |

NOTES:

1. INCLUDE ½" Ø CABLE ANCHOR PLATE BOLT HOLES ONLY WHERE REQUIRED FOR THE INSTALLATION OF THE CABLE ANCHOR PLATE SHOWN ON 400.4.1 AND 400.4.2.
2. INSTALL BUTTON-HEAD BOLTS FOR POST MOUNTS AND SPLICES AS REQUIRED. BOLT LENGTHS SHALL CONFORM TO TABLE 2 UNLESS OTHERWISE INDICATED. PLACE WASHERS UNDER NUTS; WASHERS ARE OPTIONAL AGAINST STEEL FLANGES. DO NOT PLACE WASHERS BETWEEN BOLT HEADS AND PANELS UNLESS OTHERWISE INDICATED.

massDOT Massachusetts Department of Transportation Highway Division | CONSTRUCTION STANDARDS SECTION 400 | **W-BEAM & THRIE BEAM PANEL DETAILS** | DATE OF ISSUE: OCTOBER 2017 | DRAWING NUMBER: **400.1.3**

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| 7. | 08/25/23 | FOR CONSTRUCTION | |
| 6. | 08/10/23 | FOR PRICING | |
| 5. | 06/14/23 | PER PEER REVIEW | |
| 4. | 05/05/23 | PEER REVIEW/ALTERNATE LAYOUT | |
| 3. | 02/08/23 | NO CHANGE | |
| 2. | 01/17/23 | NO CHANGE | |
| 1. | 12/21/22 | NOTICE OF INTENT | |

SCALE: NA
DATE: 12/09/22
SHEET: 22of 23
FILE #: DT10
JOB #: F:\P\2021-194
DRAWN BY: CJL
CHKD BY: GSH
APPD BY: DNK

MCP IV 24 SOUTH HUNT OWNER LLC
24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

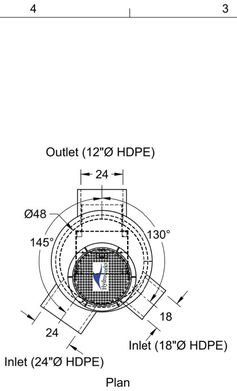
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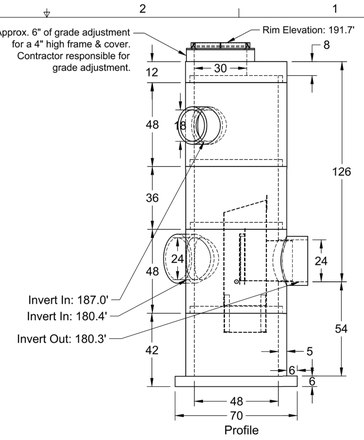
COMMONWEALTH OF MASSACHUSETTS — BRANDON G. LI — CIVIL — No. 57736 — REGISTERED PROFESSIONAL ENGINEER

Brandon Li
2023.11.30 09:23:06 -05'00'

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SHEET NO. **22**



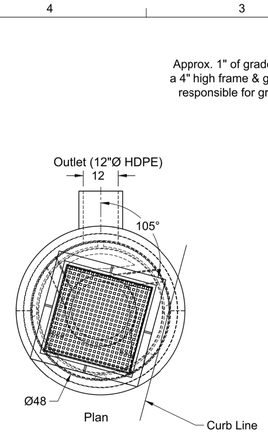

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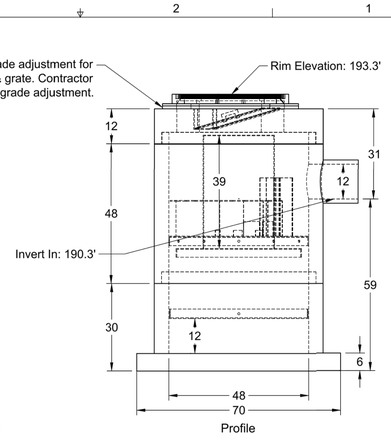
NJDEP certified

US Patent #10,801,196

| HydroDome HD4 | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#1) | | |
| Location: Amesbury, MA | | |
| Date: 09/06/2023 | Scale: | Rev: 1 |

Hydroworks



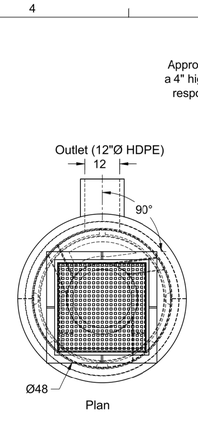



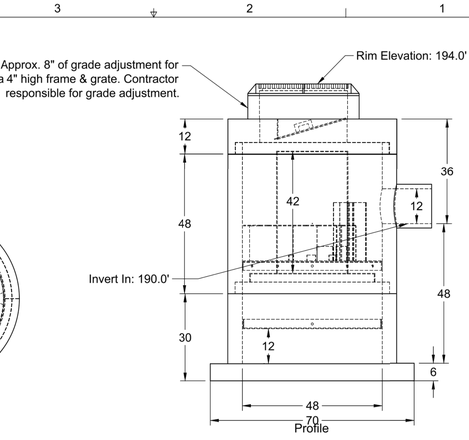

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US Patent #10,710,907

| HydroStorm HS4i | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#2) | | |
| Location: Amesbury, MA | | |
| Date: 09/07/2023 | Scale: | Rev: 1 |

Hydroworks



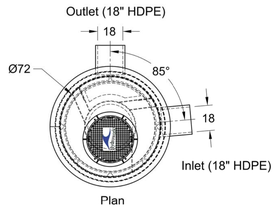



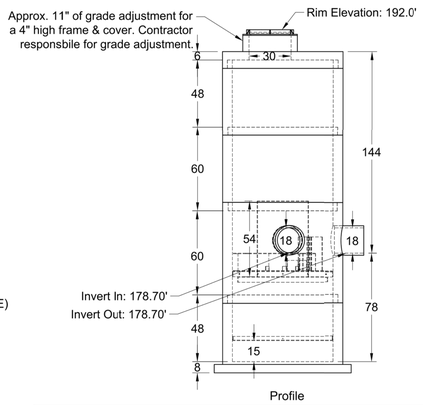

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US Patent #10,710,907

| HydroStorm HS4i | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#3) | | |
| Location: Amesbury, MA | | |
| Date: 09/07/2023 | Scale: | Rev: 1 |

Hydroworks



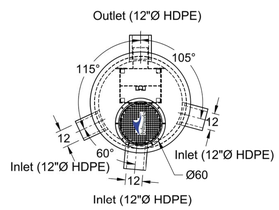



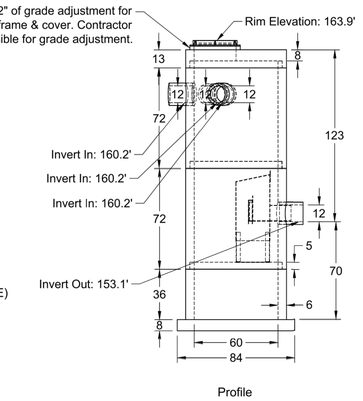

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US Patent #10,710,907

| HydroStorm HS6 | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#4) | | |
| Location: Amesbury, MA | | |
| Date: 10/06/2023 | Scale: | Rev: 1 |

Hydroworks



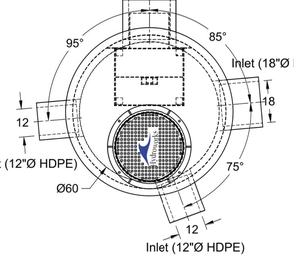

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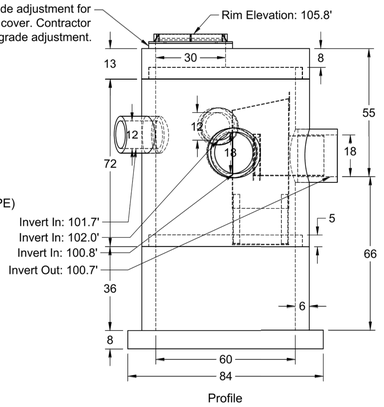
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US Patent #10,801,196

| HydroDome HD5 | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#5) | | |
| Location: Amesubry, MA | | |
| Date: 09/07/2023 | Scale: | Rev: 1 |

Hydroworks




Independently tested & independently verified by NJCAT and ETV Canada

NJDEP certified and CTDOT approved

US Patent #10,801,196

| HydroDome HD5 | | |
|---|---|---|
| Project: 24 South Hunt Road (WQD#6) | | |
| Location: Amesbury, MA | | |
| Date: 10/06/2023 | Scale: | Rev: 1 |

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CHKD BY: GSH
APPD BY: DNK

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24 SOUTH HUNT ROAD
AMESBURY, MASSACHUSETTS

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