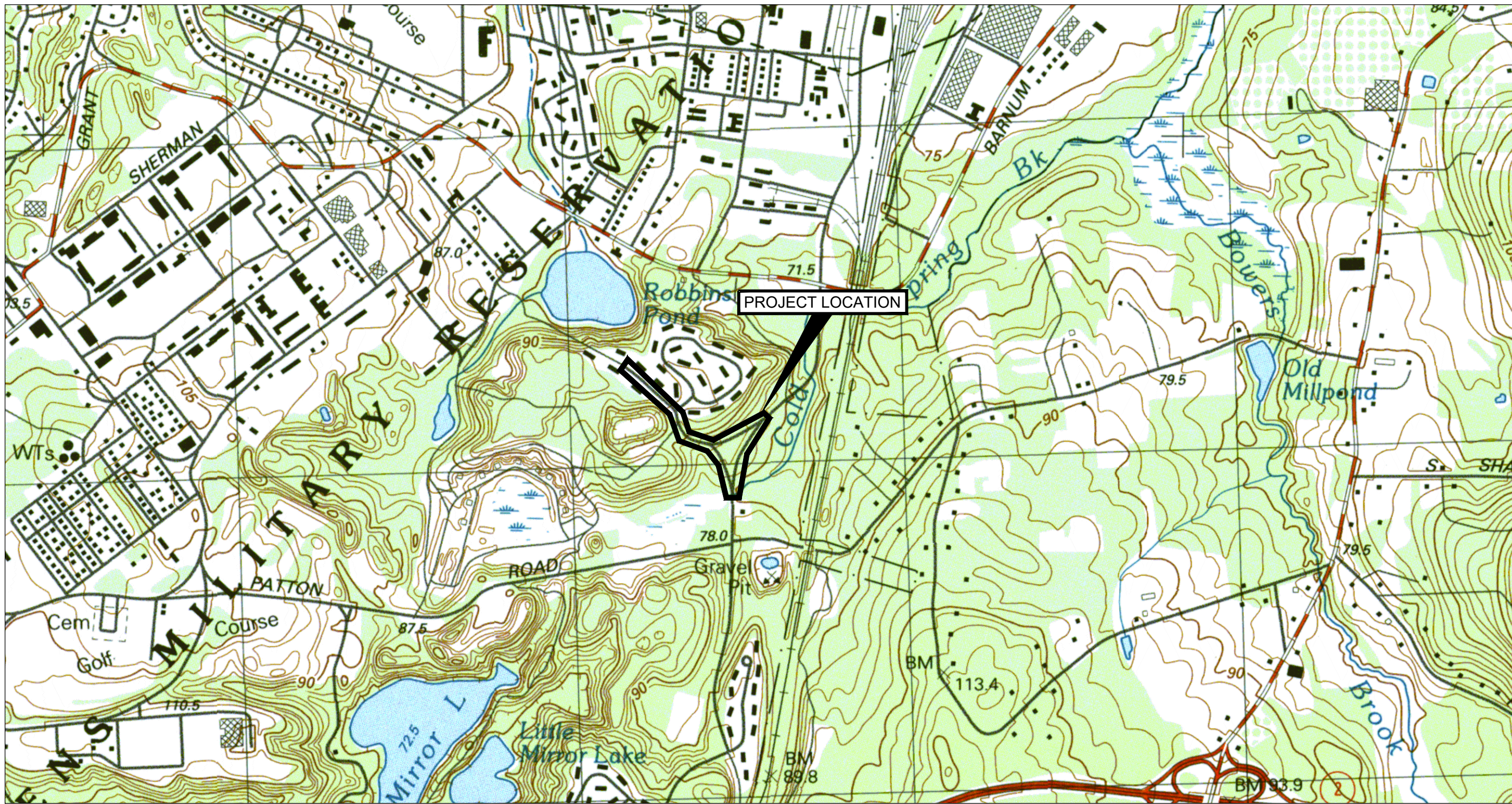


MASS DEVELOPMENT

PATTON ROAD AND BULGE ROAD INTERSECTION AND IMPROVEMENTS

DEVENS, MA



DRAWING INDEX	
SHEET	TITLE
G000	COVER AND SHEET LIST
G001	NOTES, LEGEND, AND ABBREVIATIONS
C101	OVERALL PLAN
C201	ROADWAY CONSTRUCTION PLAN (SHEET 1 OF 3)
C202	ROADWAY CONSTRUCTION PLAN (SHEET 2 OF 3)
C203	ROADWAY CONSTRUCTION PLAN (SHEET 3 OF 3)
C204	INTERSECTION PLAN
C301	BULGE ROAD PROFILE
C401	GRADING AND UTILITY PLAN (SHEET 1 OF 3)
C402	GRADING AND UTILITY PLAN (SHEET 1 OF 3)
C403	GRADING AND UTILITY PLAN (SHEET 1 OF 3)
C601	TYPICAL SECTIONS
C701	DETAILS (SHEET 1 OF 3)
C702	DETAILS (SHEET 2 OF 3)
C703	DETAILS (SHEET 3 OF 3)

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Know what's below.
Call before you dig.

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Seal:
Lawrence F. Regan

PROPOSED LEGEND	
SYMBOL	DESCRIPTION
	CATCH BASIN
	CURB (OR BERM)-TYPE NOTED
	EDGE OF ROAD
	HANDHOLE (NUMBER AS NOTED)
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	SEWER MANHOLE
	DRAINAGE MANHOLE
	GAS GATE
	WATER GATE VALVE
	HYDRANT
	LEACHING GALLEY
	LIGHTPOLE
	DRAIN PIPE
	SEWER MAIN
	ELECTRIC DUCT
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES
	TELEPHONE/COMMUNICATIONS/FIRE ALARM
	GUARD RAIL (SIZE AND TYPE NOTED)
	HIGHWAY / PROPERTY BOUND (TYPE NOTED)
	CITY OR TOWN OR COUNTY LAYOUT LINE
	CITY,TOWN OR COUNTY BOUNDARY
	BASE OR SURVEY LINE
	CENTERLINE OF CONSTRUCTION
	WHEELCHAIR RAMP (WCR)
	TREE (SIZE AND TYPE NOTED)
	FENCE (SIZE AND TYPE NOTED)
	EASEMENT LINE
	MASSHIGHWAY STANDARD SPECIFICATION REFERENCE NUMBER
	TEST PIT
	MONITORING WELL
	UTILITY POLE
	FLAG POLE
	SIGN
	TREE LINE
	SAWCUT
	TEMPORARY FENCE
	EROSION CONTROL (SPECIFIED ON PLANS)
	LIMIT OF WORK

NOTE: 1. ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS
2. REFER TO LEGEND ON EXISTING CONDITIONS PLAN (C101) FOR EXISTING LEGEND

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE AIR
ARV	RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BB	BOTTOM BERM
BC	BITUMINOUS CONCRETE
BCLC	BITUMINOUS CONCRETE LIP CURB
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
C	CENTERLINE
CL	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EQ	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
FE	FLARED END
FF	FINISHED FLOOR
FL	FLOW LINE
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GUARDRAIL
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HMA	HOT MIX ASPHALT
HYD	FIRE HYDRANT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT
N	NORTH
N/A	NOT APPLICABLE
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
N/F	NOW OR FORMERLY
NO OR #	NUMBER
N.T.S.	NOT TO SCALE
OD	OUTSIDE DIAMETER
OHU	OVERHEAD UTILITY
PCB	PROPOSED CATCH BASIN
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PDMH	PROPOSED DRAINAGE MANHOLE
PE	PLAIN END, POLYETHYLENE
PED	PEDESTRIAN
P	PROPERTY LINE
PL	PLATE
PSMH	PROPOSED SANITARY MANHOLE
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
REMOVE	REMOVE
ROW	RIGHT-OF-WAY
RQD	ROCK QUALITY
R,R&R	REMOVE, RELOCATE & RESET
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SMH	SANITARY SEWER MANHOLE
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TB	TOP OF BERM
TBM	TEMPORARY BENCH MARK
TF	TOP OF FRAME
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
UST	UNDERGROUND STORAGE TANK
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-800-DIG-SAFE OR 811 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIG SAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN. CONTRACTOR SHALL DIG TEST PITS AS NEEDED TO LOCATE THESE ITEMS. DIGGING OF TEST PITS SHALL BE INCIDENTAL TO THE PROJECT.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
4. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, SIDEWALKS, ETC., SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK, UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
5. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS BEYOND THE LIMITS OF CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE LIMITS OF WORK SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
7. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WATERCOURSE.
8. CONTRACTOR SHALL VISIT AND EXAMINE THE SITE TO FULLY UNDERSTAND ALL THE CONDITIONS PERTAINING TO THE WORK, UNDERSTAND DIFFICULTIES TO BE ENCOUNTERED, UNDERSTAND THE SCOPE OF THE DEMOLITION WORK FOR ALL SYSTEMS WHETHER SHOWN OR DESCRIBED AT NO ADDITIONAL COST TO THE OWNER. THE EXACT LOCATION OF EXISTING PIPE, BUILDINGS, SERVICES, ETC. ARE TO BE FIELD VERIFIED.
9. CONTRACTOR TO VERIFY ALL DIMENSIONS, CLEARANCES, ELEVATIONS, TYPES AND SIZES OF EXISTING PIPES AND BUILDINGS. CONTRACTOR SHALL MODIFY THE PROPOSED HEADWALL DIMENSIONS BASED ON THE EXISTING DRAIN PIPE SIZE, IF NECESSARY PER MASSDOT DETAILS AND SPECIFICATIONS.
10. ALL WORK UNDER THIS CONTRACT SHALL BE LIMITED TO THE "LIMIT OF WORK" BOUNDARY SHOWN ON THE DRAWING.
11. DEMOLITION OF CONCRETE AND DEBRIS MATERIAL SHALL IMMEDIATELY BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS UNLESS OTHERWISE REQUIRED BY THE ENGINEER. SURPLUS SOIL SHALL BE SAMPLED/ DISPOSED OFF SITE.
12. IF UNSUITABLE MATERIAL IS ENCOUNTERED IN STRUCTURAL AREAS OR AREAS OF PROPOSED PAVEMENT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROLS FOR THE DURATION OF THE PROJECT. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE FURNISHED, INSTALLED, MAINTAINED, AND REPLACED BY THE CONTRACTOR AS NEEDED TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT LEAVE THE LIMIT OF WORK.
14. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED LOCAL, STATE, AND UTILITY PERMITTING.
15. THE LATEST ORDER OF CONDITIONS FROM THE LOCAL CONSERVATION COMMISSION (IF APPLICABLE) SHALL BE INCLUDED AND IN FORCE FOR THIS CONTRACT.

GENERAL SURVEY NOTES:

1. EXISTING CONDITIONS INFORMATION IS BASED ON THE ON-THE-GROUND FIELD SURVEY CONDUCTED BY WSP BETWEEN MARCH 1, 2016 TO MARCH 11, 2016, DATED MARCH 22, 2016.
2. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND RECORD DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES.
3. BEARINGS BASED ON 1983 MASS STATE PLANE COORDINATE SYSTEM & CONTROL SURVEY BY CHAS. H. SELLS, INC. APRIL 2002.
4. ALL COORDINATES SHOWN HEREON ARE IN RELATIONSHIP TO THE DEVENS, MA CONTROL NETWORK AND GEOGRAPHIC INFORMATION SYSTEMS(GIS). REFERENCE IS MADE TO THE CONTROL SURVEY AND REPORT ENTITLED, "SURVEY CONTROL REPORT FOR DEVENS, MASSACHUSETTS" PREPARED FOR MASSACHUSETTS DEVELOPMENT FINANCE AGENCY, BY CHAS. H. SELLS, INC DATED APRIL 8, 2002. ALL COORDINATES AREA ON THE MASSACHUSETTS MAINLAND STATE PLANE SYSTEM (NAD 1983).

Project:
DEVENS ENTERPRISE MASS DEVELOPMENT

BULGE ROAD AND PATTON ROAD INTERSECTION AND IMPROVEMENTS

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W&S File No.:

Drawing Title:
LEGEND AND GENERAL NOTES

Sheet Number:
G001



Project:
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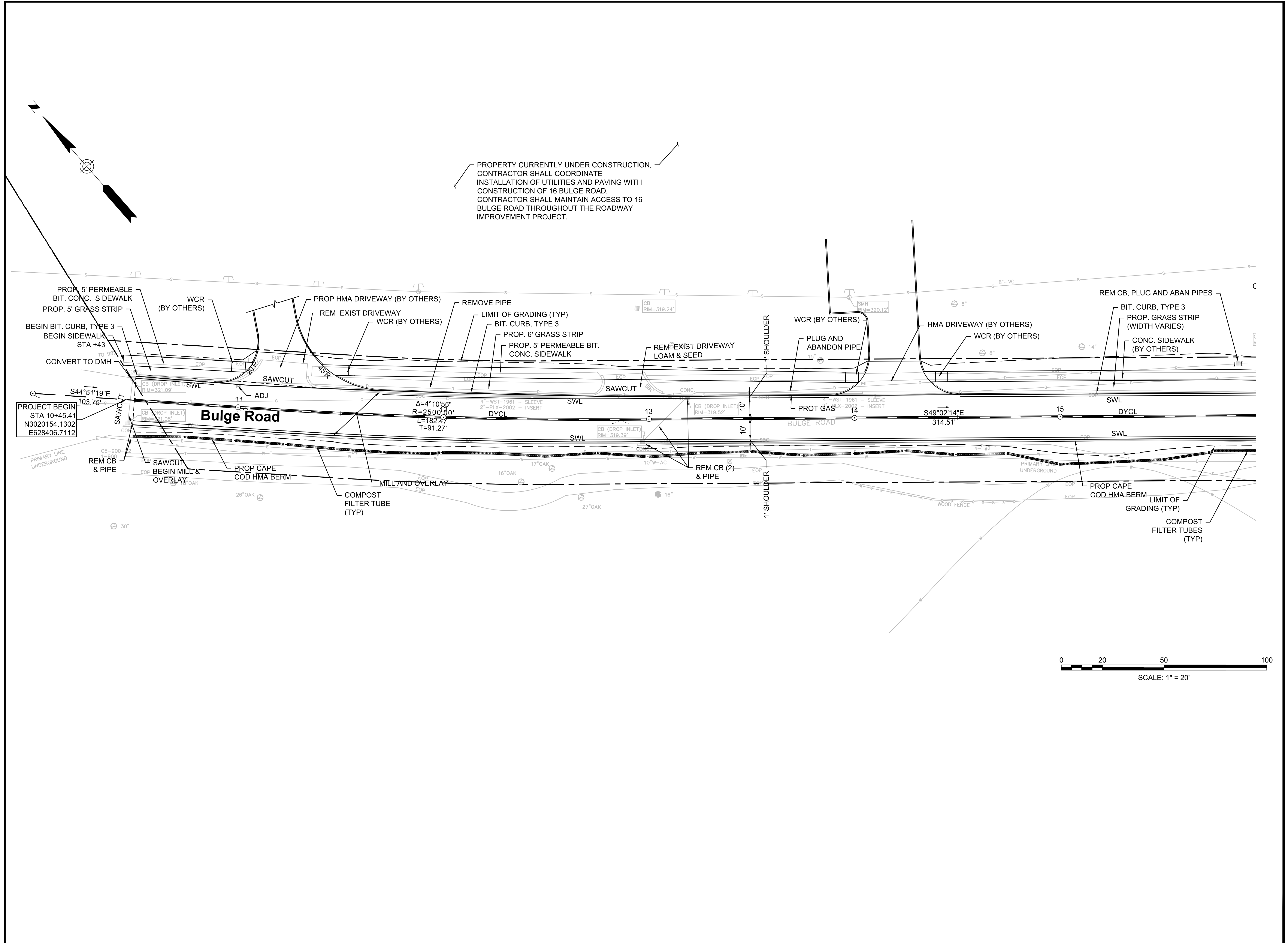
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OVERALL PLAN

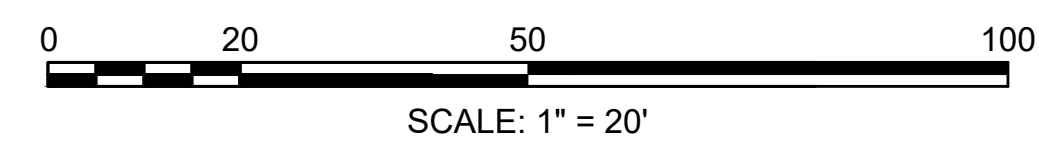
Sheet Number:

C101



PROPERTY CURRENTLY UNDER CONSTRUCTION.
 CONTRACTOR SHALL COORDINATE
 INSTALLATION OF UTILITIES AND PAVING WITH
 CONSTRUCTION OF 16 BULGE ROAD.
 CONTRACTOR SHALL MAINTAIN ACCESS TO 16
 BULGE ROAD THROUGHOUT THE ROADWAY
 IMPROVEMENT PROJECT.

PROJECT BEGIN
 STA 10+45.41
 N3020154.1302
 E628406.7112



Project:
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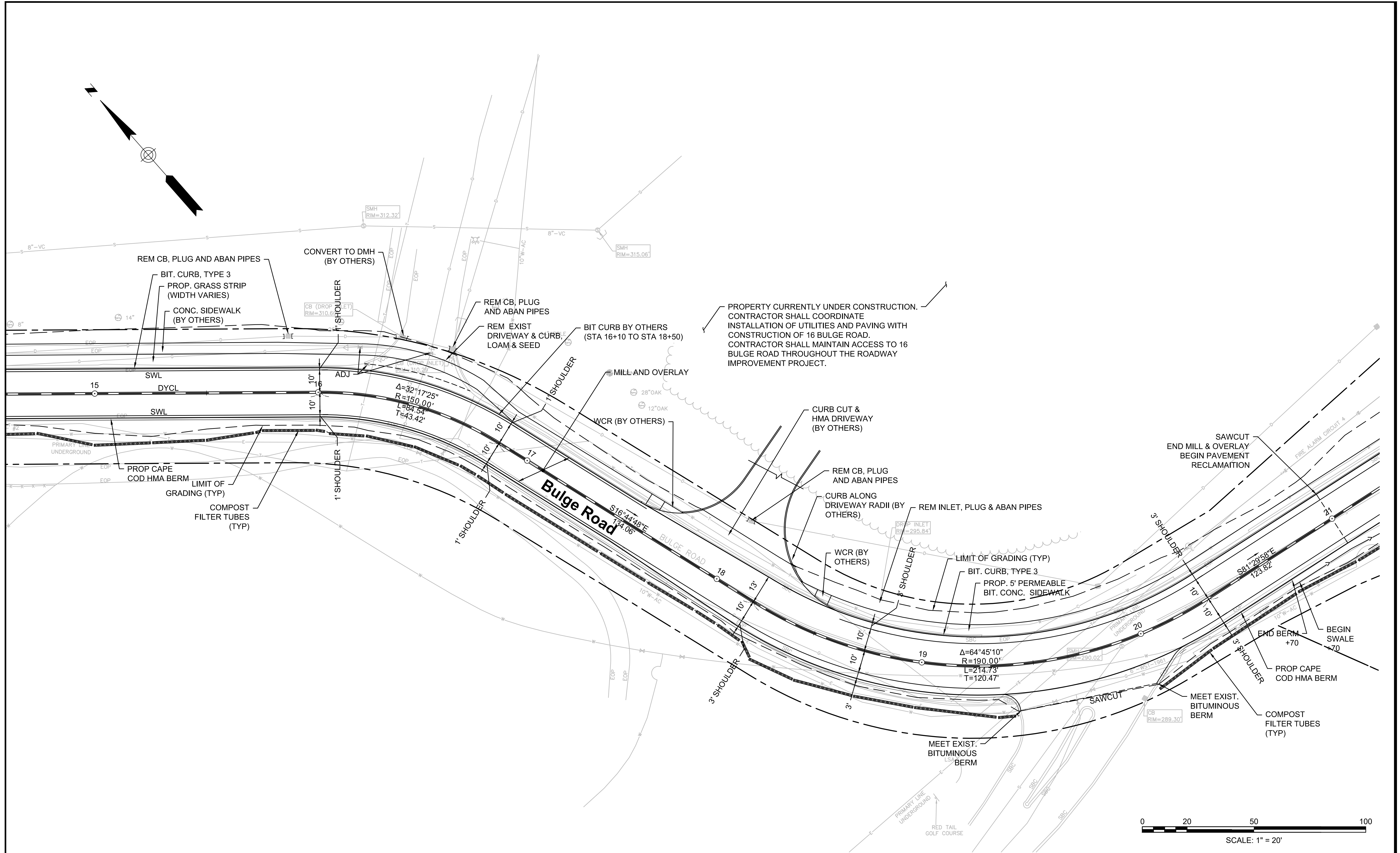
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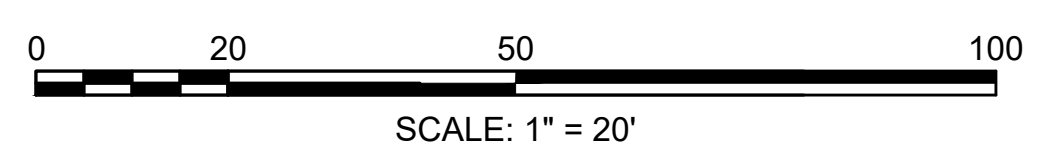
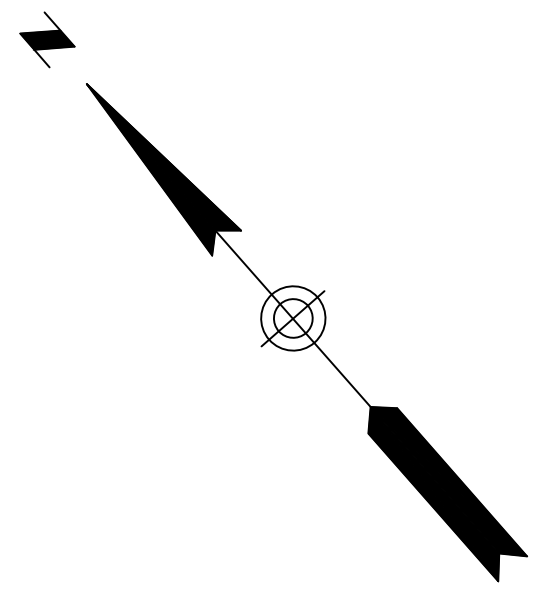
**ROADWAY
 CONSTRUCTION
 PLAN
 SHEET 1 OF 3**

Sheet Number:

C201



PROPERTY CURRENTLY UNDER CONSTRUCTION. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES AND PAVING WITH CONSTRUCTION OF 16 BULGE ROAD. CONTRACTOR SHALL MAINTAIN ACCESS TO 16 BULGE ROAD THROUGHOUT THE ROADWAY IMPROVEMENT PROJECT.



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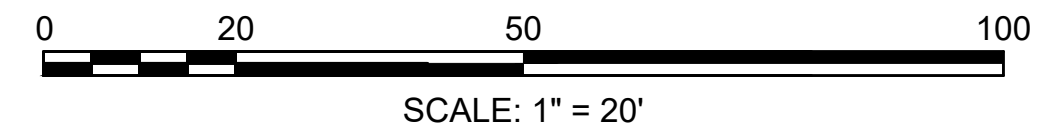
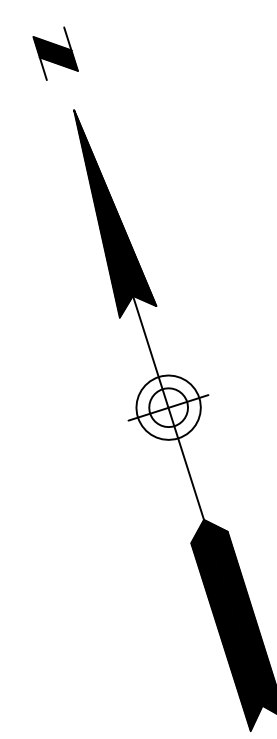
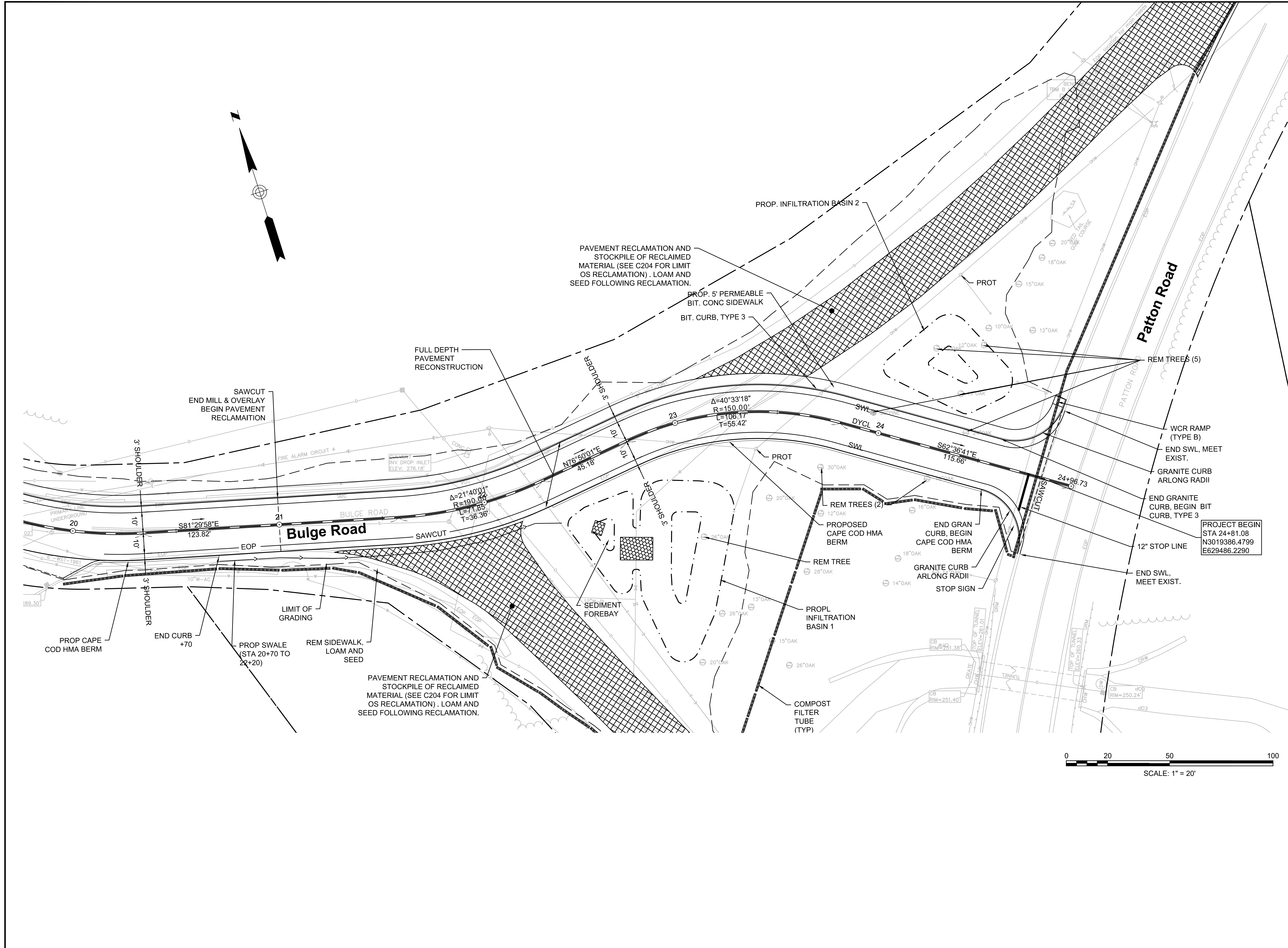
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**ROADWAY
 CONSTRUCTION
 PLAN
 SHEET 2 OF 3**

Sheet Number:

C202



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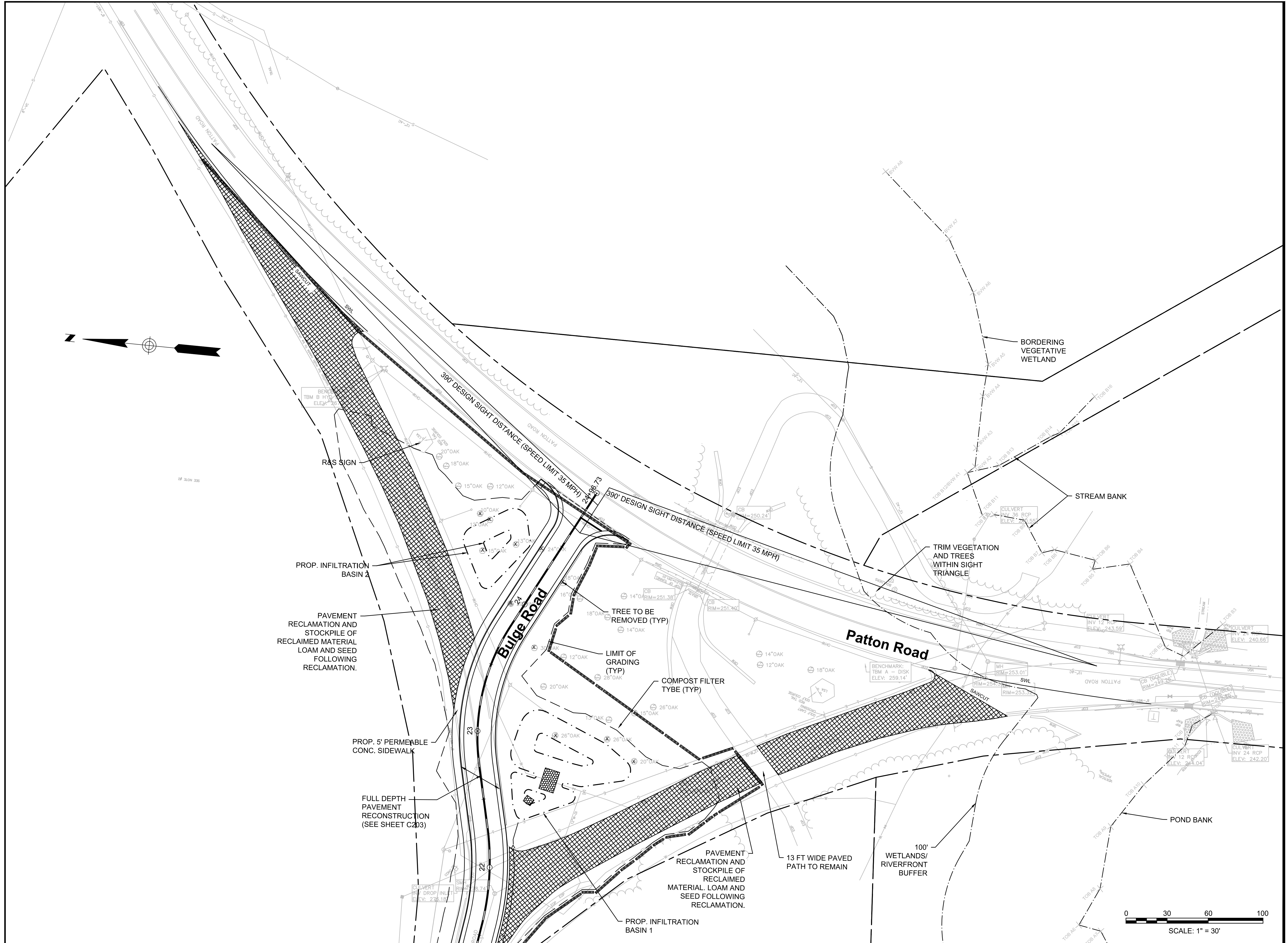
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**ROADWAY
 CONSTRUCTION
 PLAN
 SHEET 3 OF 3**

Sheet Number:

C203



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 CIVIL
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 REGISTERED PROFESSIONAL ENGINEER
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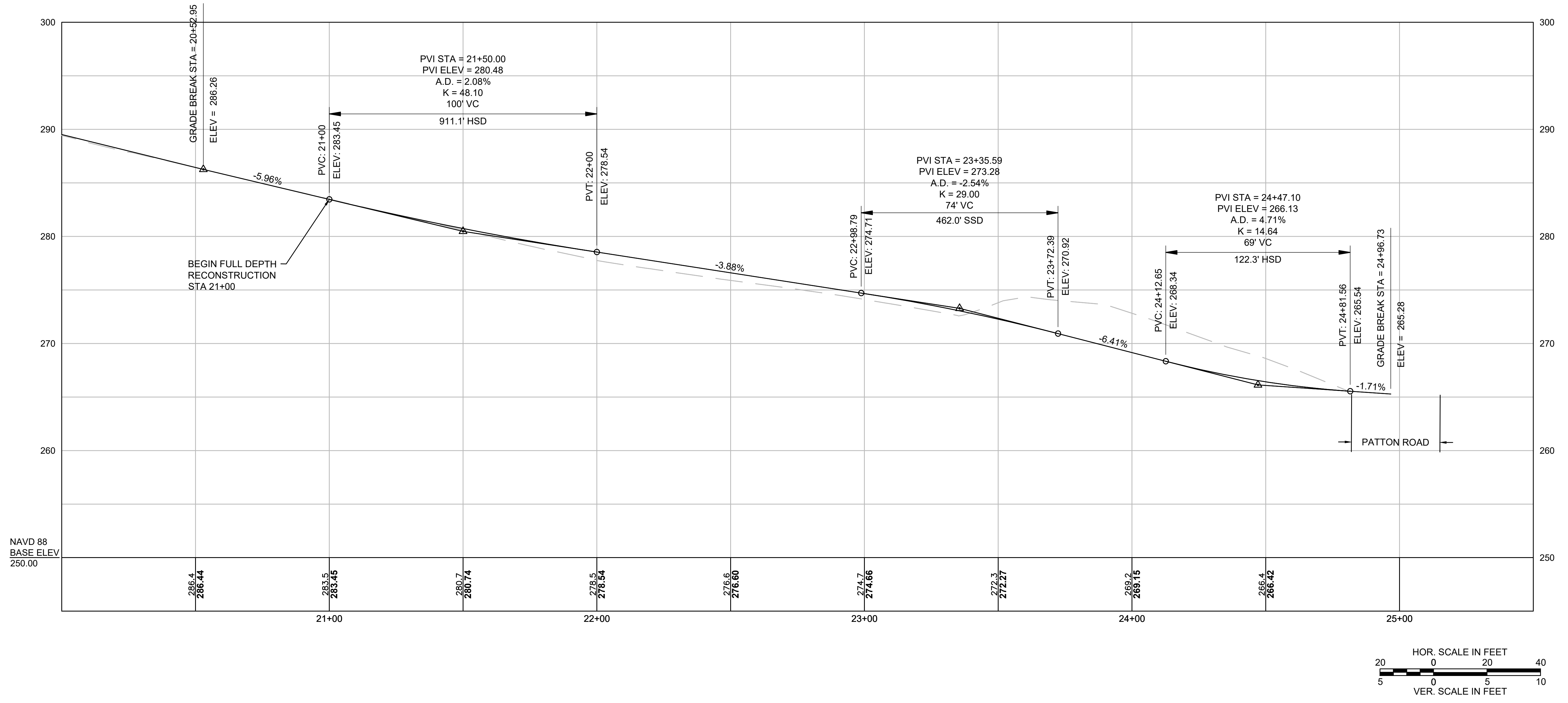
Drawing Title:

INTERSECTION PLAN

Sheet Number:

C204

BULGE RD - STA 20+00 - 25+50



Project:
**DEVENS ENTERPRISE
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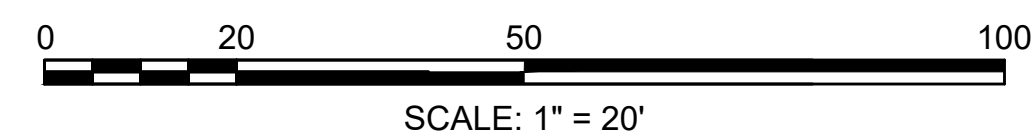
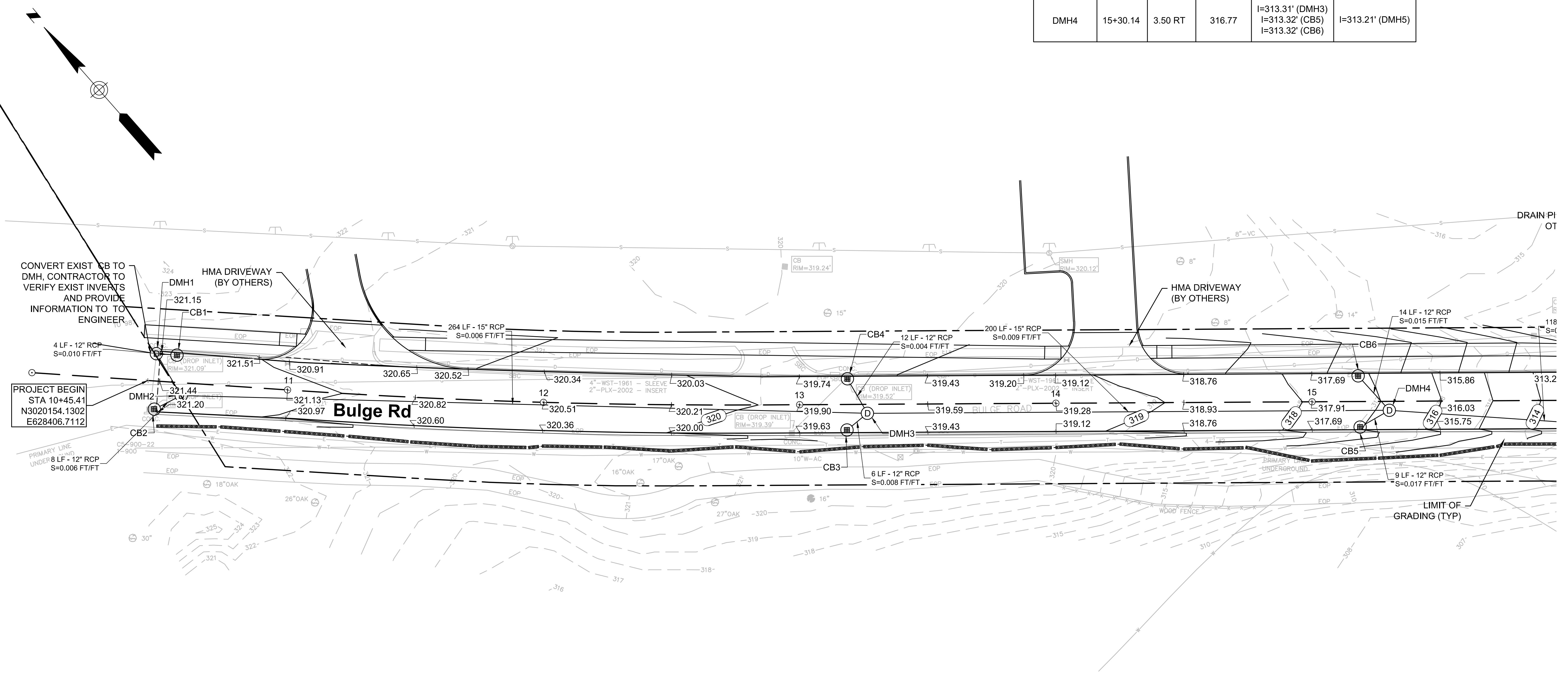
**BULGE ROAD
 PROFILE**

Sheet Number:

C301

Consultants:

DRAINAGE STRUCTURE TABLE					
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB1	10+56.04	10.62 LT	321.17		I=317.67' (DMH1)
CB2	10+48.59	11.00 RT	321.21		I=317.72' (DMH2)
CB3	13+18.40	10.00 RT	319.57		I=316.03' (DMH3)
CB4	13+18.70	10.00 LT	319.63		I=316.13' (DMH3)
CB5	15+18.69	10.00 RT	317.04		I=313.54' (DMH4)
CB6	15+18.03	10.00 LT	317.14		I=313.59' (DMH4)
DMH2	10+58.74	5.00 RT	321.99	I=317.66' (CB2) I=316.97' (DMH1)	I=316.87' (DMH3)
DMH3	13+26.42	3.50 RT	319.67	I=315.24' (DMH2) I=315.95' (CB3) I=316.07' (CB4)	I=315.24' (DMH4)
DMH4	15+30.14	3.50 RT	316.77	I=313.31' (DMH3) I=313.32' (CB5) I=313.32' (CB6)	I=313.21' (DMH5)



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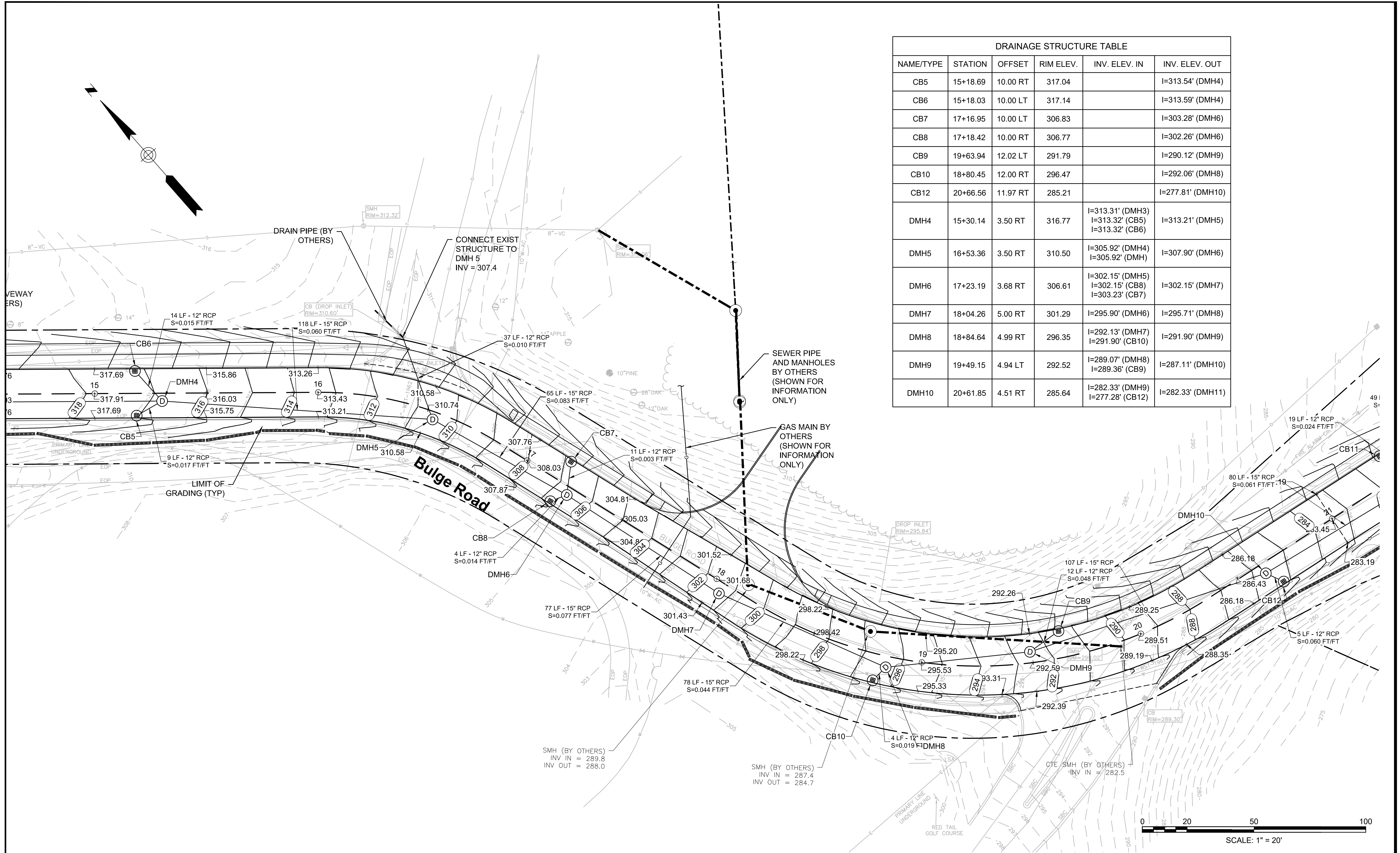
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GRADING AND UTILITY PLAN SHEET 1 OF 3

Sheet Number:

C401



DRAINAGE STRUCTURE TABLE					
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB5	15+18.69	10.00 RT	317.04		I=313.54' (DMH4)
CB6	15+18.03	10.00 LT	317.14		I=313.59' (DMH4)
CB7	17+16.95	10.00 LT	306.83		I=303.28' (DMH6)
CB8	17+18.42	10.00 RT	306.77		I=302.26' (DMH6)
CB9	19+63.94	12.02 LT	291.79		I=290.12' (DMH9)
CB10	18+80.45	12.00 RT	296.47		I=292.06' (DMH8)
CB12	20+66.56	11.97 RT	285.21		I=277.81' (DMH10)
DMH4	15+30.14	3.50 RT	316.77	I=313.31' (DMH3) I=313.32' (CB5) I=313.32' (CB6)	I=313.21' (DMH5)
DMH5	16+53.36	3.50 RT	310.50	I=305.92' (DMH4) I=305.92' (DMH)	I=307.90' (DMH6)
DMH6	17+23.19	3.68 RT	306.61	I=302.15' (DMH5) I=302.15' (CB8) I=303.23' (CB7)	I=302.15' (DMH7)
DMH7	18+04.26	5.00 RT	301.29	I=295.90' (DMH6)	I=295.71' (DMH8)
DMH8	18+84.64	4.99 RT	296.35	I=292.13' (DMH7) I=291.90' (CB10)	I=291.90' (DMH9)
DMH9	19+49.15	4.94 LT	292.52	I=289.07' (DMH8) I=289.36' (CB9)	I=287.11' (DMH10)
DMH10	20+61.85	4.51 RT	285.64	I=282.33' (DMH9) I=277.28' (CB12)	I=282.33' (DMH11)



Project:
DEVENS ENTERPRISE
MASS DEVELOPMENT

MASS DEVELOPMENT

BULGE ROAD AND PATTON ROAD
INTERSECTION AND
IMPROVEMENTS

DEVENS, MA

Weston & Sampson

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Reviewed By: LFK

Approved By: LFK

W&S Project No.: ENG21-0922

W&S File No.:

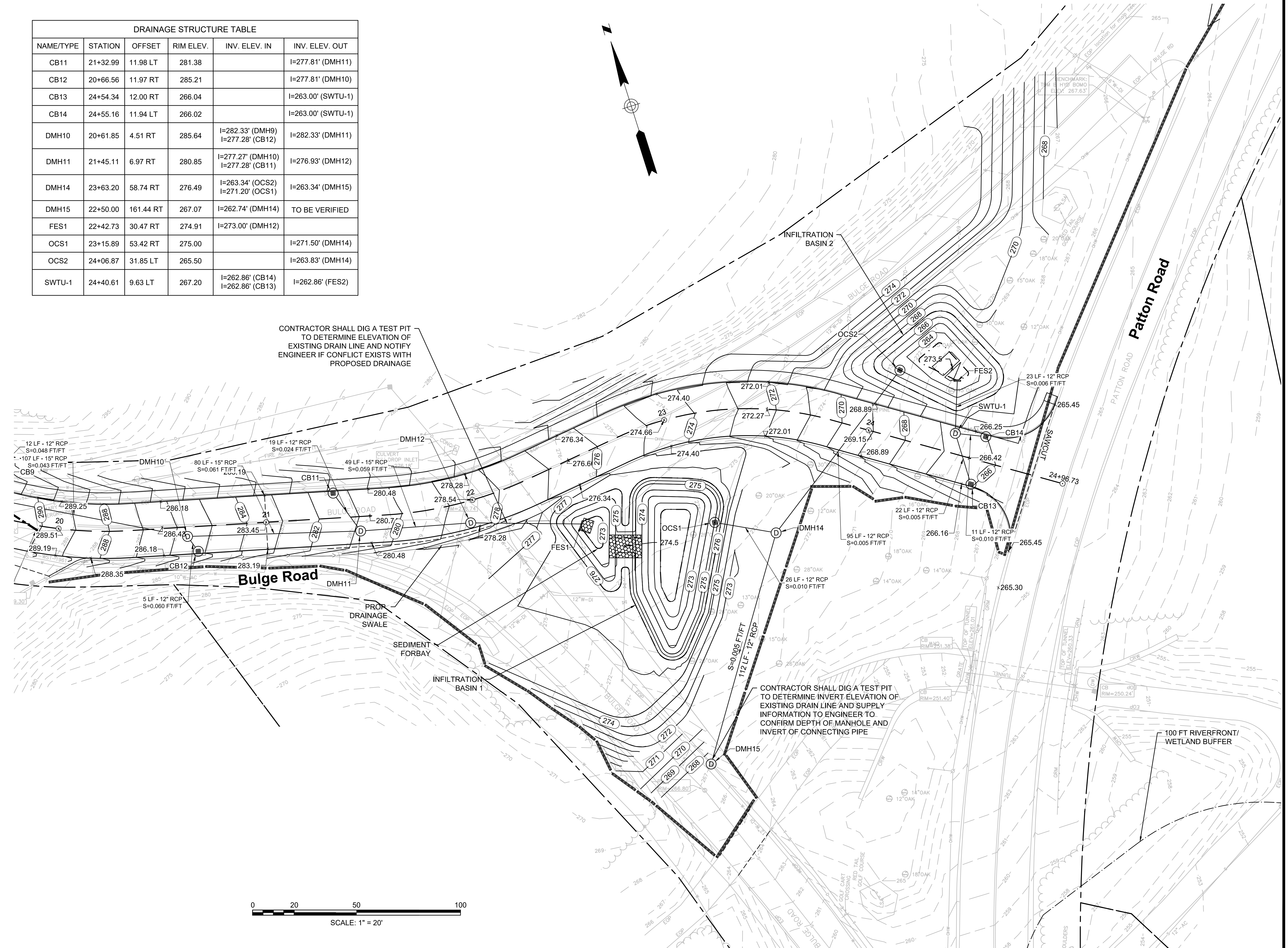
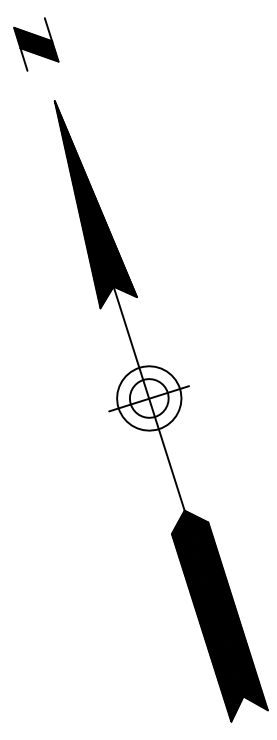
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**GRADING AND
UTILITY PLAN
SHEET 2 OF 3**

Sheet Number:

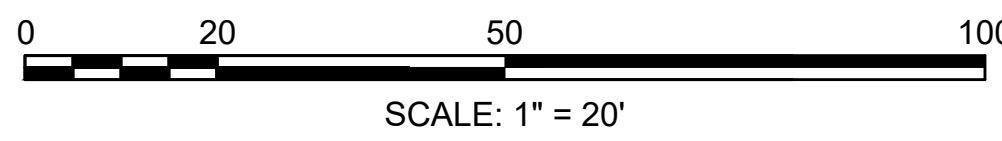
C402

DRAINAGE STRUCTURE TABLE					
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB11	21+32.99	11.98 LT	281.38		I=277.81' (DMH11)
CB12	20+66.56	11.97 RT	285.21		I=277.81' (DMH10)
CB13	24+54.34	12.00 RT	266.04		I=263.00' (SWTU-1)
CB14	24+55.16	11.94 LT	266.02		I=263.00' (SWTU-1)
DMH10	20+61.85	4.51 RT	285.64	I=282.33' (DMH9) I=277.28' (CB12)	I=282.33' (DMH11)
DMH11	21+45.11	6.97 RT	280.85	I=277.27' (DMH10) I=277.28' (CB11)	I=276.93' (DMH12)
DMH14	23+63.20	58.74 RT	276.49	I=263.34' (OCS2) I=271.20' (OCS1)	I=263.34' (DMH15)
DMH15	22+50.00	161.44 RT	267.07	I=262.74' (DMH14)	TO BE VERIFIED
FES1	22+42.73	30.47 RT	274.91	I=273.00' (DMH12)	
OCS1	23+15.89	53.42 RT	275.00		I=271.50' (DMH14)
OCS2	24+06.87	31.85 LT	265.50		I=263.83' (DMH14)
SWTU-1	24+40.61	9.63 LT	267.20	I=262.86' (CB14) I=262.86' (CB13)	I=262.86' (FES2)



CONTRACTOR SHALL DIG A TEST PIT TO DETERMINE ELEVATION OF EXISTING DRAIN LINE AND NOTIFY ENGINEER IF CONFLICT EXISTS WITH PROPOSED DRAINAGE

CONTRACTOR SHALL DIG A TEST PIT TO DETERMINE INVERT ELEVATION OF EXISTING DRAIN LINE AND SUPPLY INFORMATION TO ENGINEER TO CONFIRM DEPTH OF MANHOLE AND INVERT OF CONNECTING PIPE



Project:
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Reviewed By: LFK
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W&S Project No.: ENG21-0922
W&S File No.:

Drawing Title:

**GRADING AND
UTILITY PLAN
SHEET 3 OF 3**

Sheet Number:

C403

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Drawing Title:
TYPICAL SECTIONS

Sheet Number:
C601

PAVEMENT NOTES

PAVEMENT MILLING AND OVERLAY:

- 1.75" HMA SURFACE COURSE OVER
- 1.75" PAVEMENT MICRO MILLING

FULL DEPTH RECLAMATION:

- 1.75" HMA SURFACE COURSE OVER
- 2.25" BINDER COURSE OVER
- 12" RECLAIMED PAVEMENT BORROW W/ CRUSHED STONE FOR BLENDING

RECLAMATION OF EXISTING PAVEMENT:

- 12" EXISTING PAVEMENT
- HOT MIX ASPHALT DRIVEWAY OR HOT MIX ASPHALT SIDEWALK

CEMENT CONCRETE WHEELCHAIR RAMP:

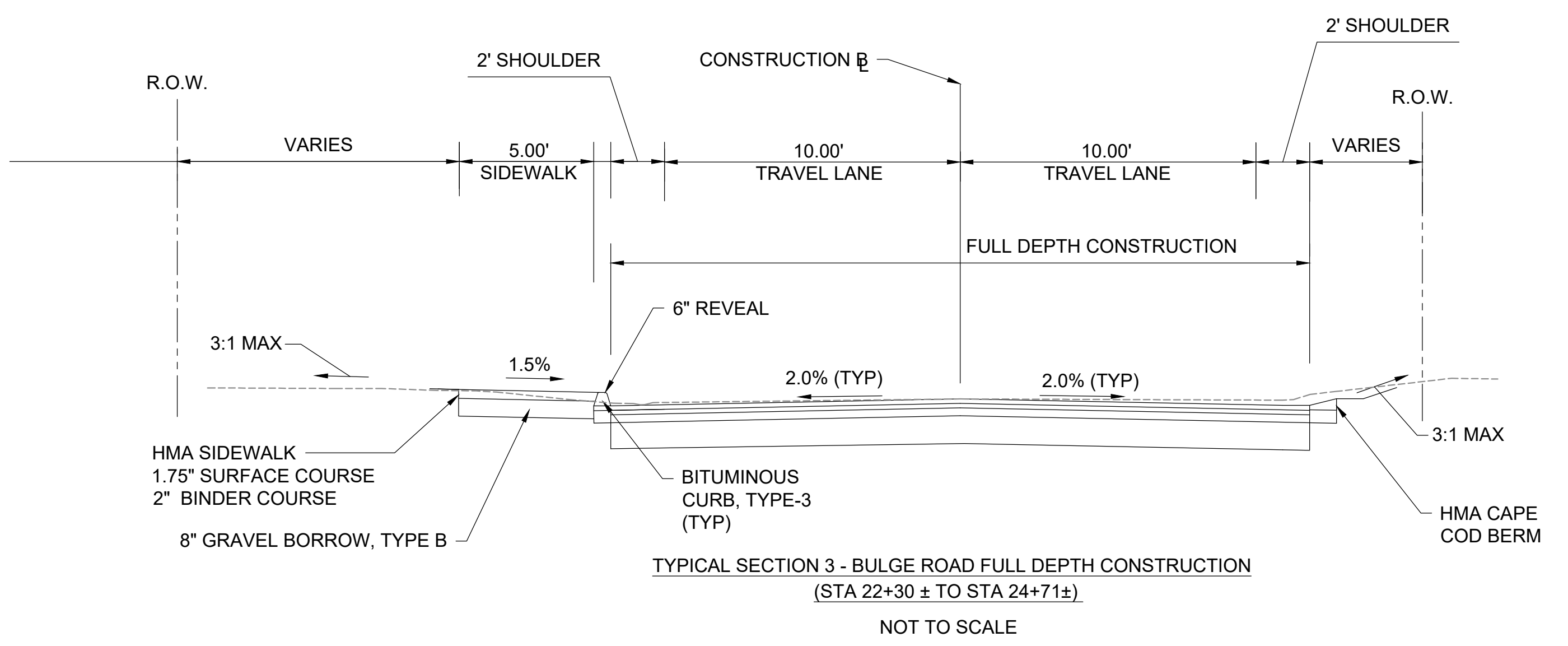
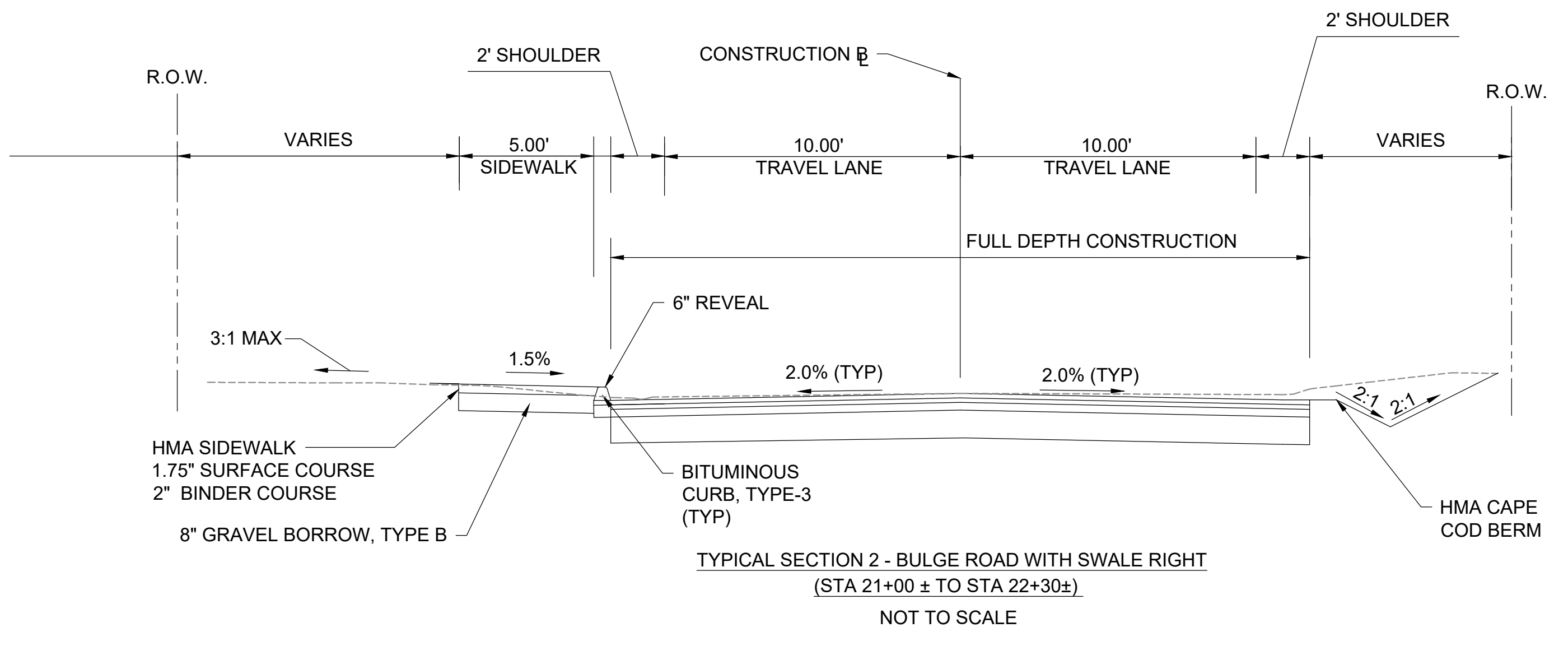
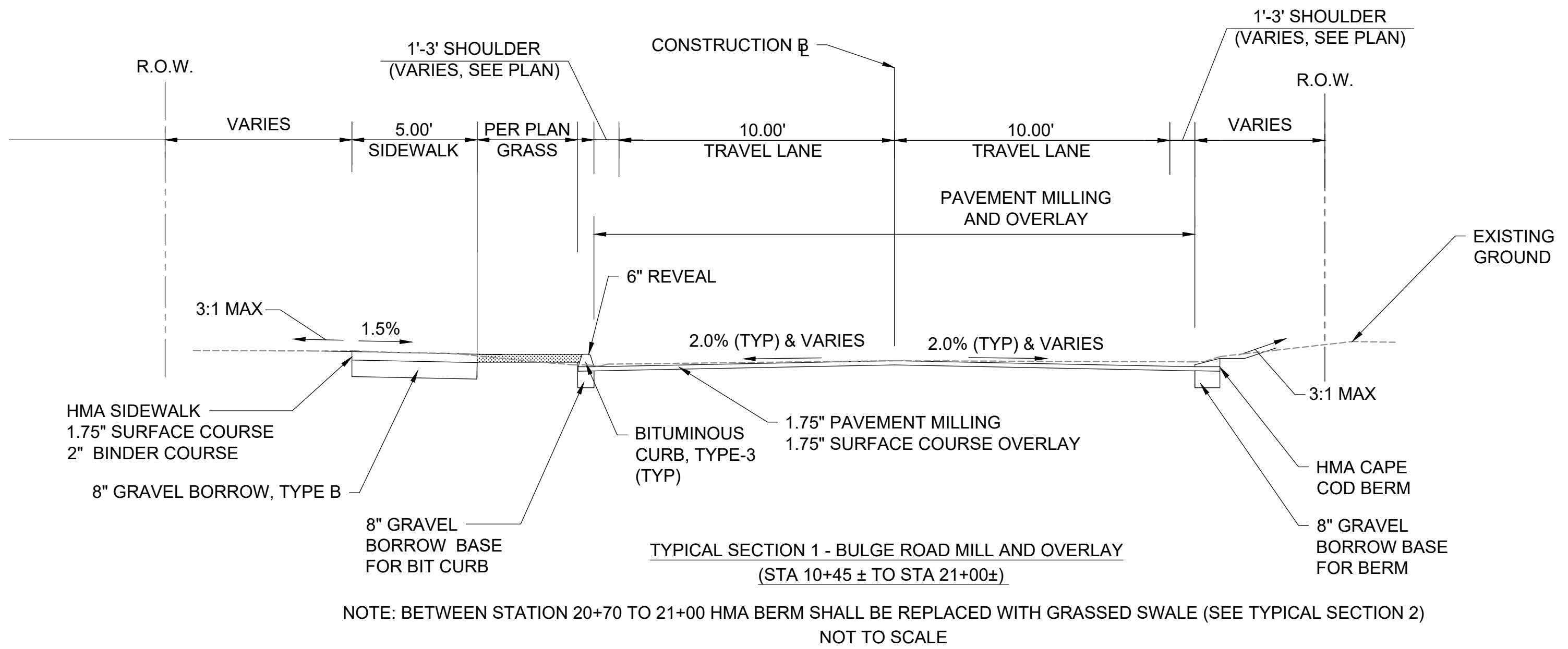
- 1 1/2" HMA SURFACE COURSE OVER
- 2" HMA BINDER COURSE OVER
- 8" GRAVEL BORROW, TYPE B

CEMENT CONCRETE WHEELCHAIR RAMP:

- 4" CEMENT CONCRETE OVER
- 8" GRAVEL BORROW, TYPE B

TACK COAT:

TACK COAT SHALL BE APPLIED AT RATE OF 0.07 GALLON PER SQUARE YARD OVER MILLED SURFACES AND 0.05 GALLON PER SQUARE YARD OVER SMOOTH PAVED SURFACES

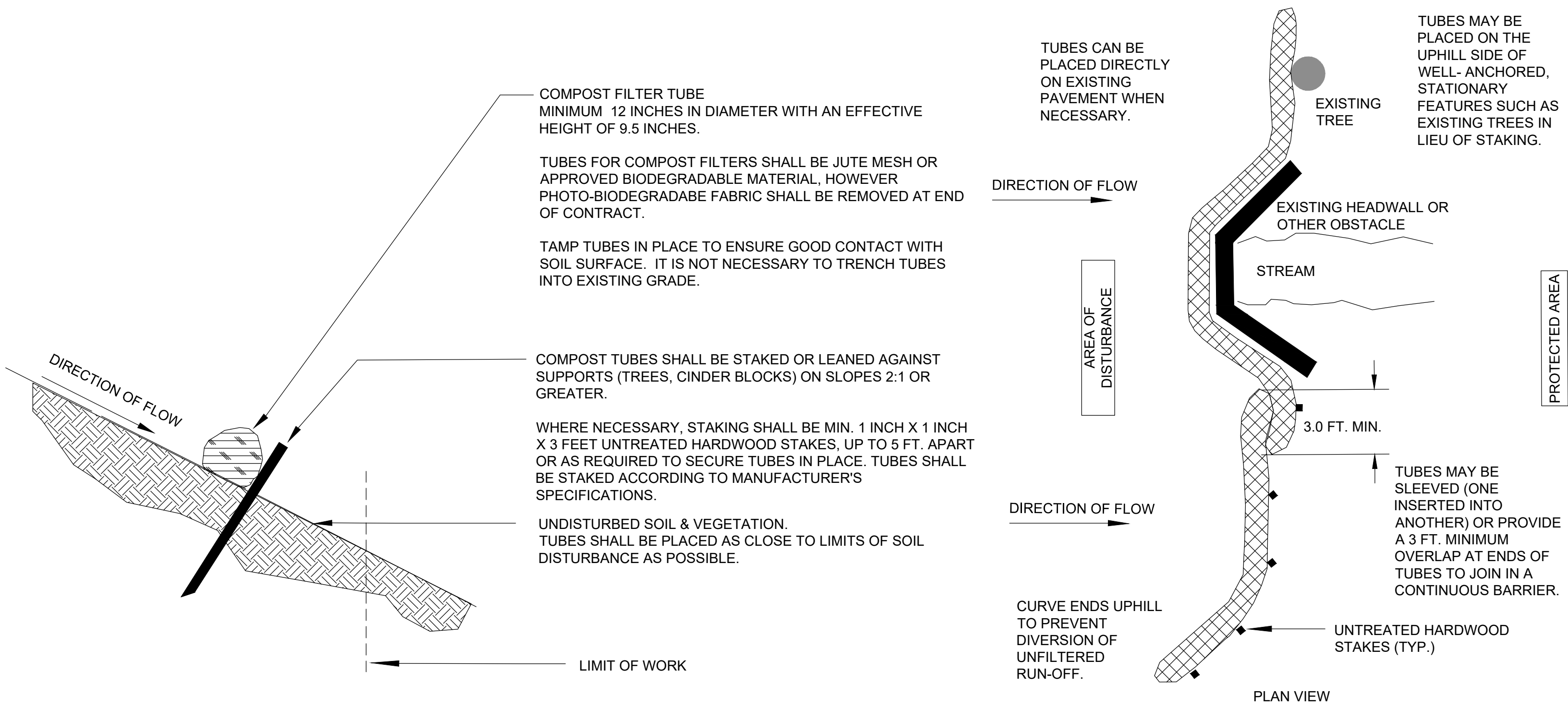


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Rev: 1.0 Date: 04/02/2019

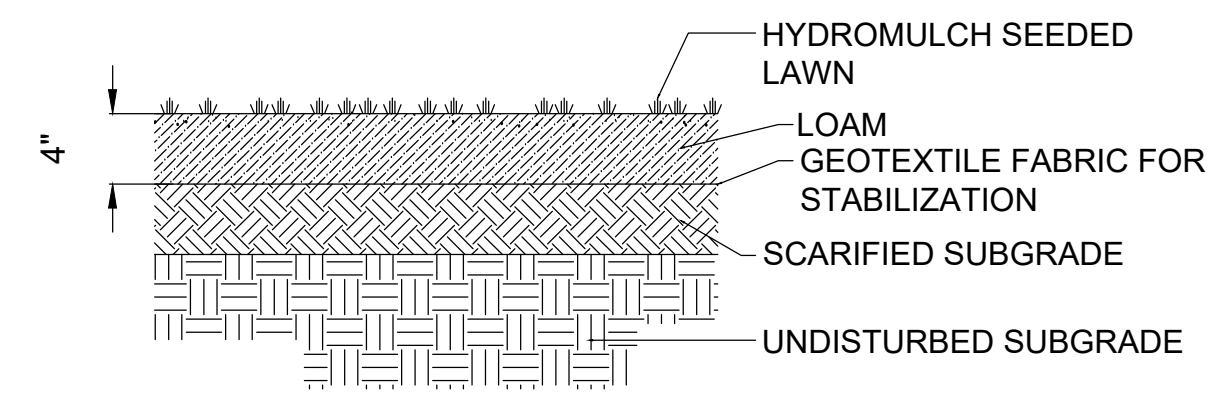
GENERAL NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.



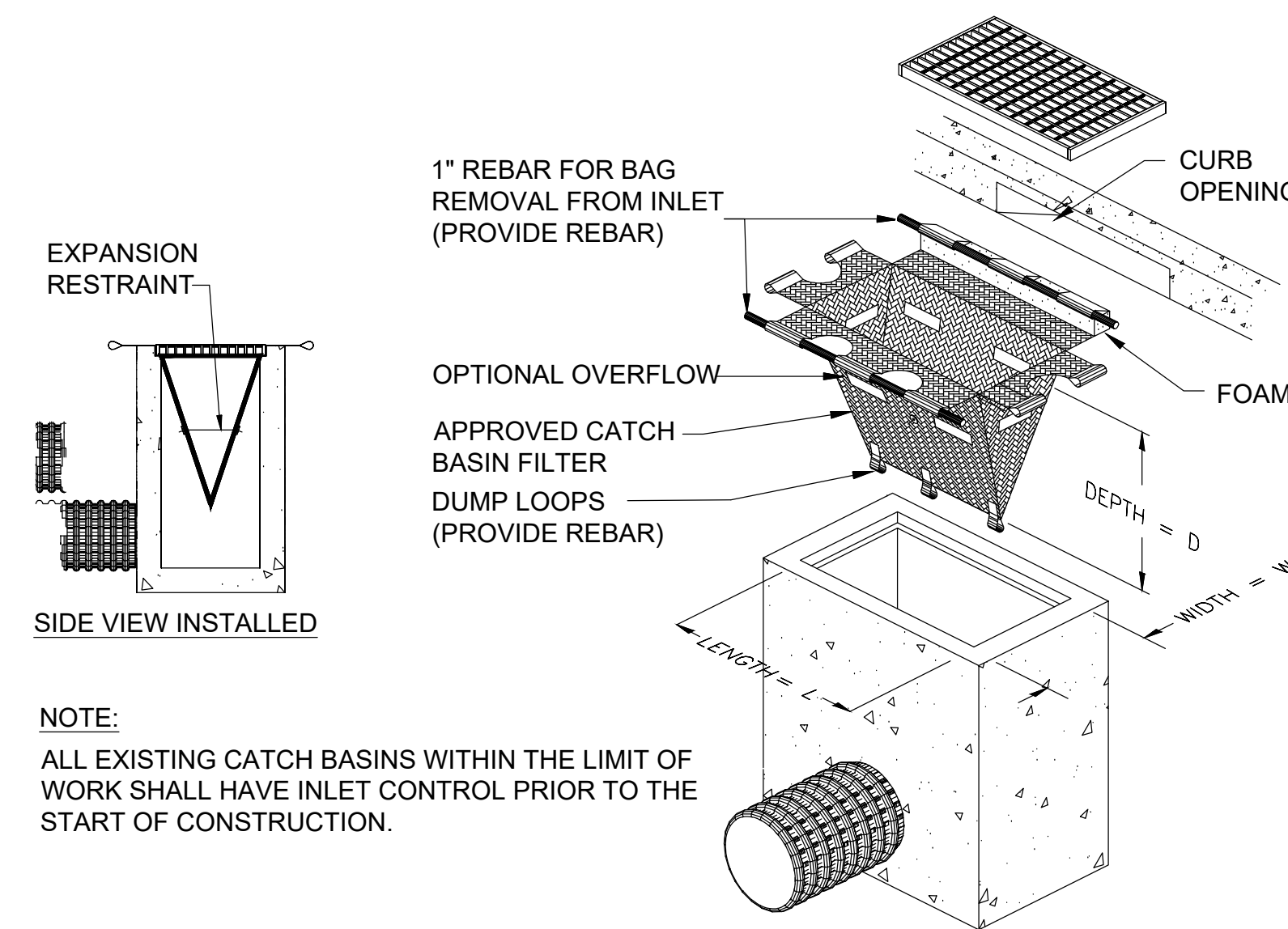
SINGLE COMPOST FILTER TUBE DETAIL

N.T.S.



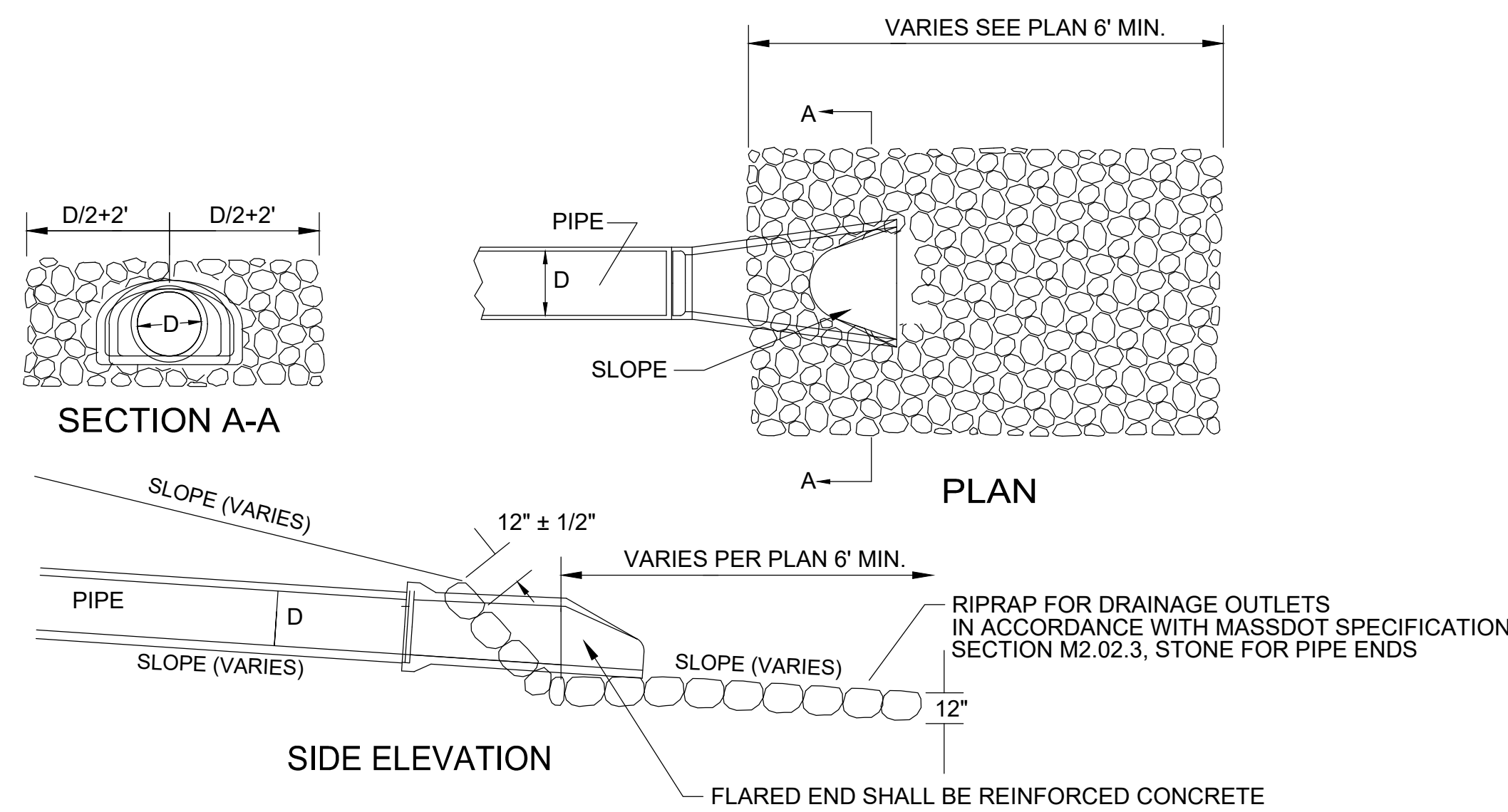
LOAM & SEED

N.T.S.



INLET SEDIMENT CONTROL

N.T.S.



FLARED END PIPE DETAIL

N.T.S.

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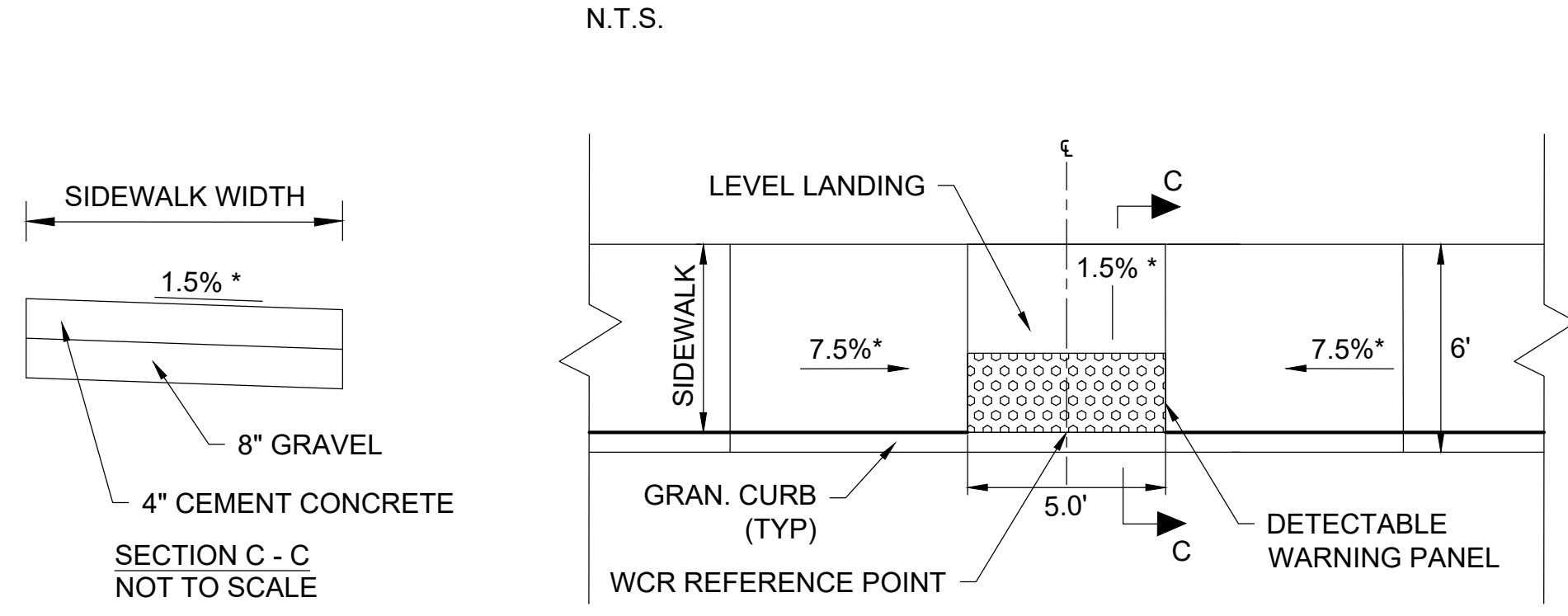
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Drawing Title:

DETAILS
SHEET 1 OF 3

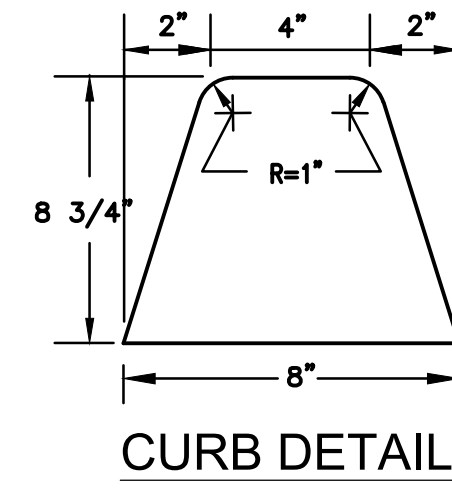
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C701

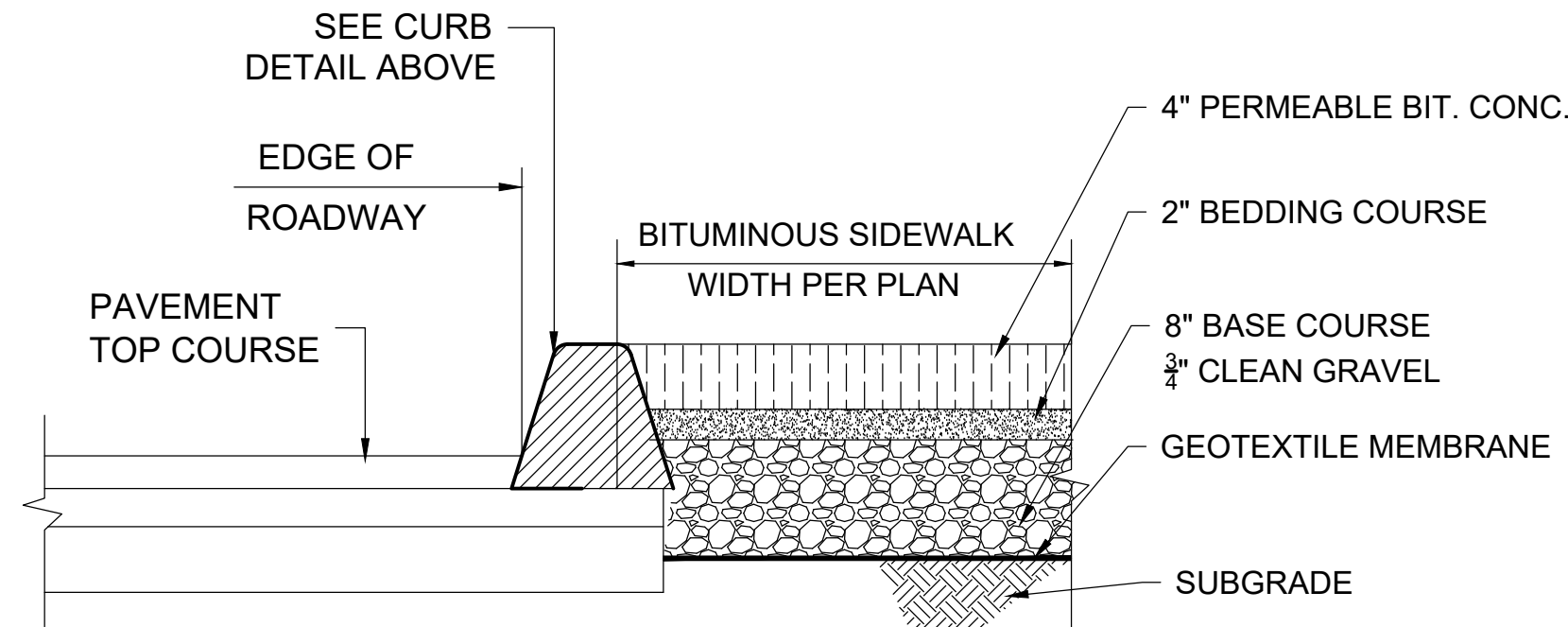


WHEEL CHAIR RAMP (WCR) TYPE-C

N.T.S.



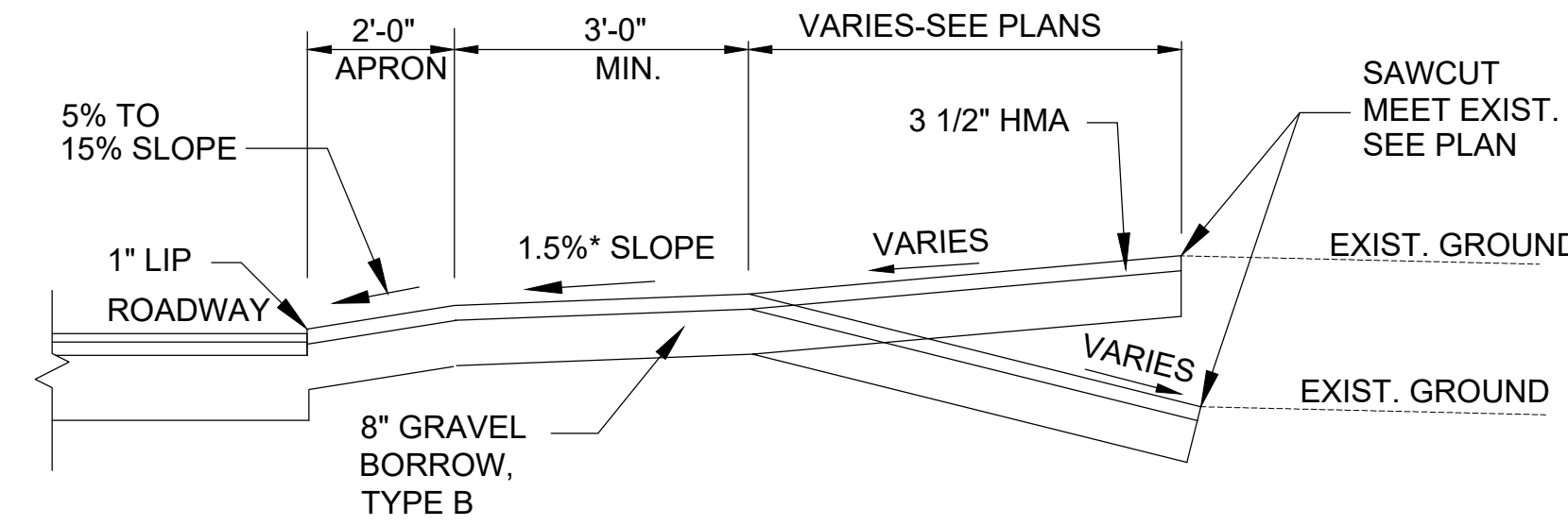
CURB IS TYPE-3 PER MASS. DOT CONSTRUCTION STANDARDS



1. WHEN BITUMINOUS CURB IS INSTALLED ALONG EXISTING ROAD THAT DOES NOT HAVE A BERM/CURBING, CONTRACTOR SHALL INSTALL A BASE BELOW PROPOSED CURB, CONSISTING OF 8" GRAVEL BORROW AND 2.25" BINDER COURSE

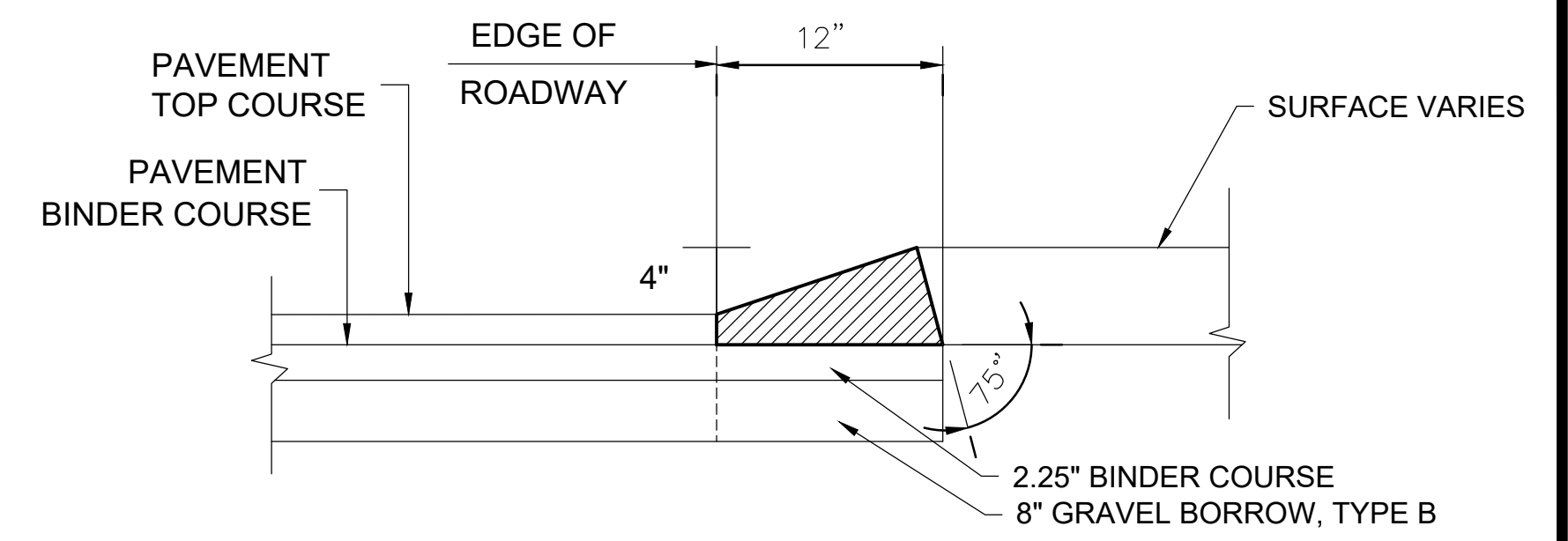
BITUMINOUS CURB WITH PERMEABLE SIDEWALK

N.T.S.



HOT MIX ASPHALT DRIVEWAY APRON

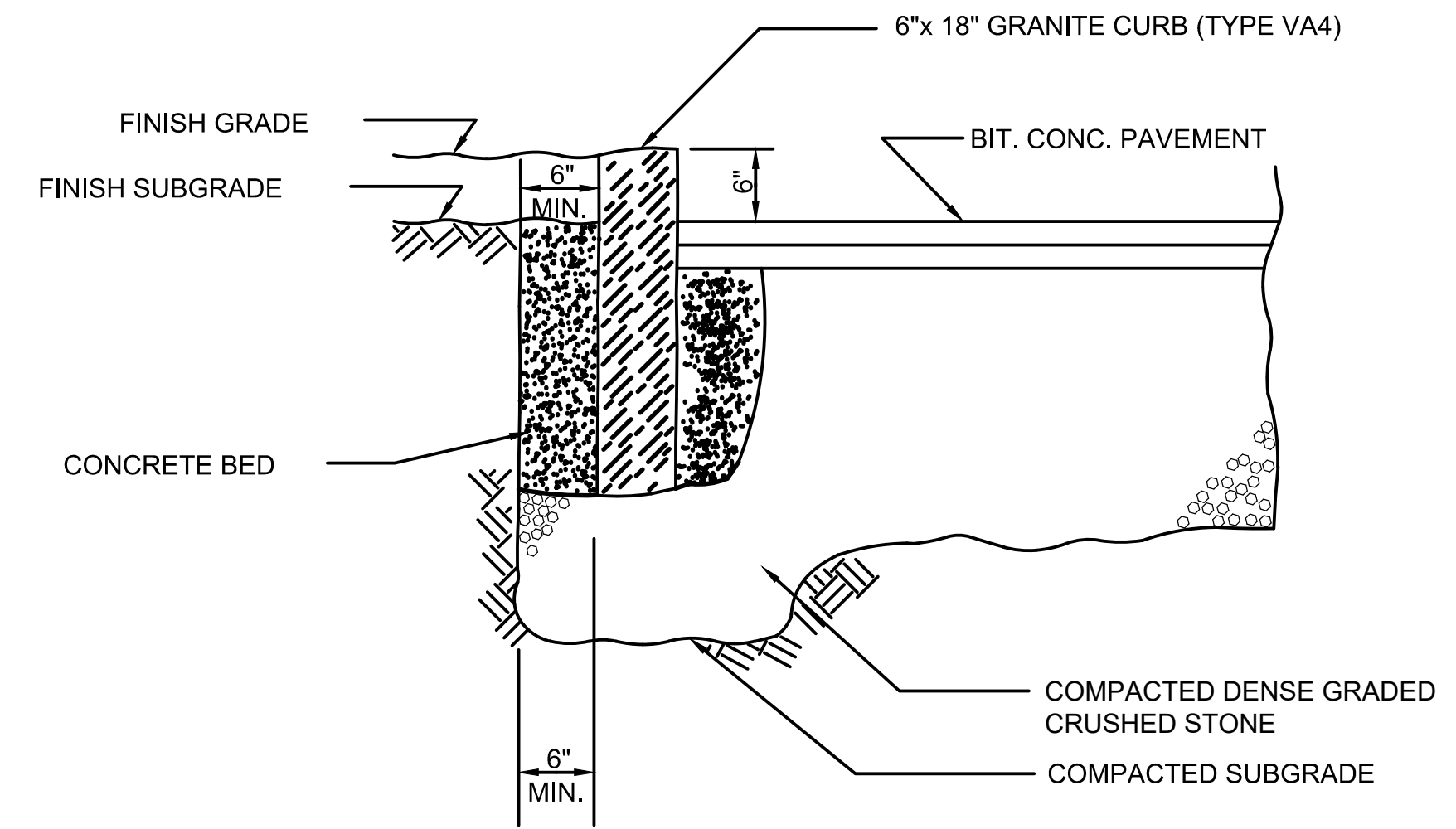
N.T.S.



1. WHEN HMA BERM IS INSTALLED ALONG EXISTING ROAD THAT DOES NOT HAVE A BERM/CURBING, CONTRACTOR SHALL INSTALL A BASE BELOW PROPOSED BERM, CONSISTING OF 8" GRAVEL BORROW AND 2.25" BINDER COURSE

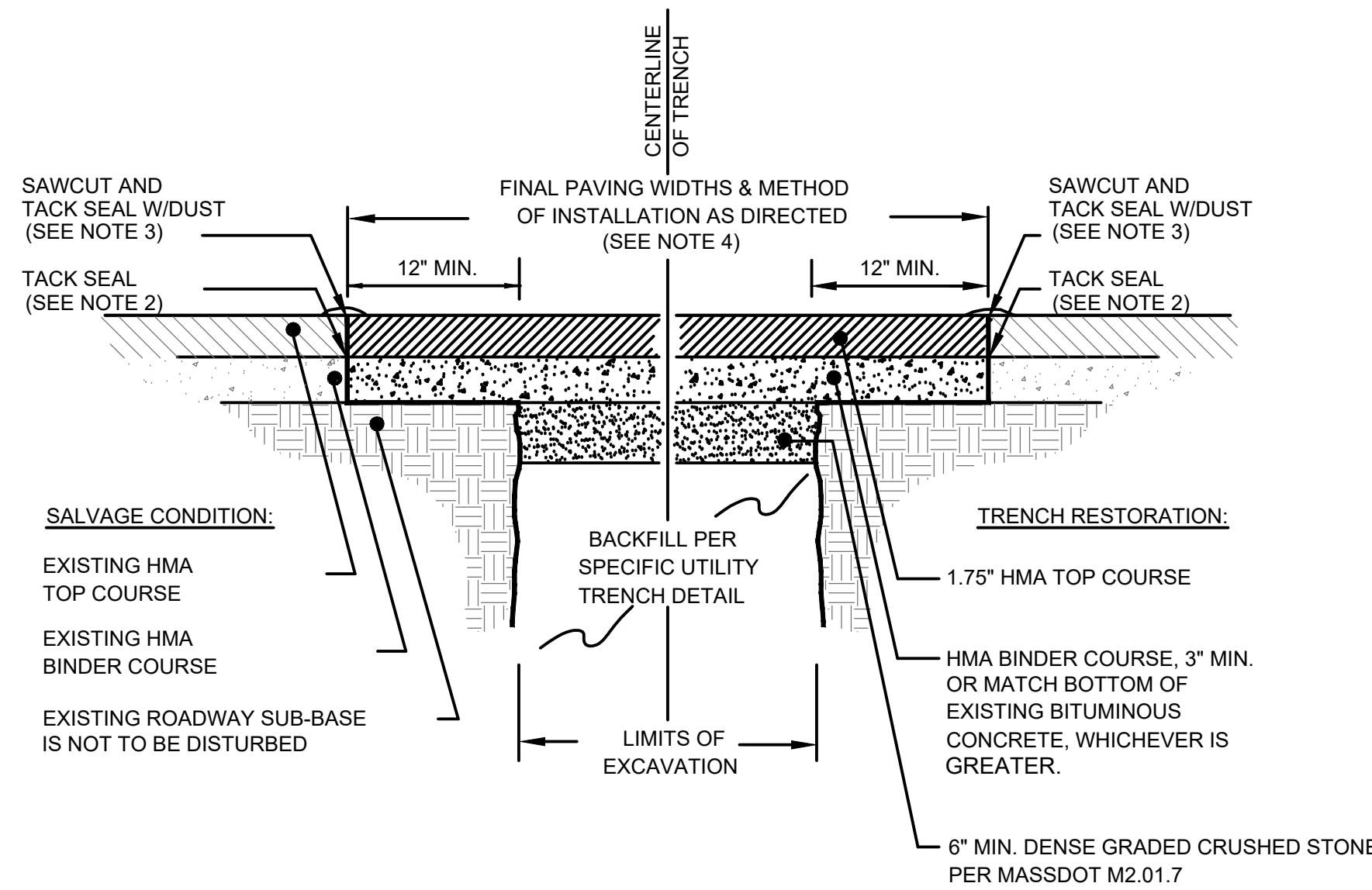
HMA CAPE COD BERM

N.T.S.



GRANITE CURB

N.T.S.



- ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 AS AMENDED.
- ALL EXPOSED HMA IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
- ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
- ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE TOWN

TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL

N.T.S.

Project:
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MASS DEVELOPMENT

BULGE ROAD AND PATTON ROAD
INTERSECTION AND
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DEVENS, MA

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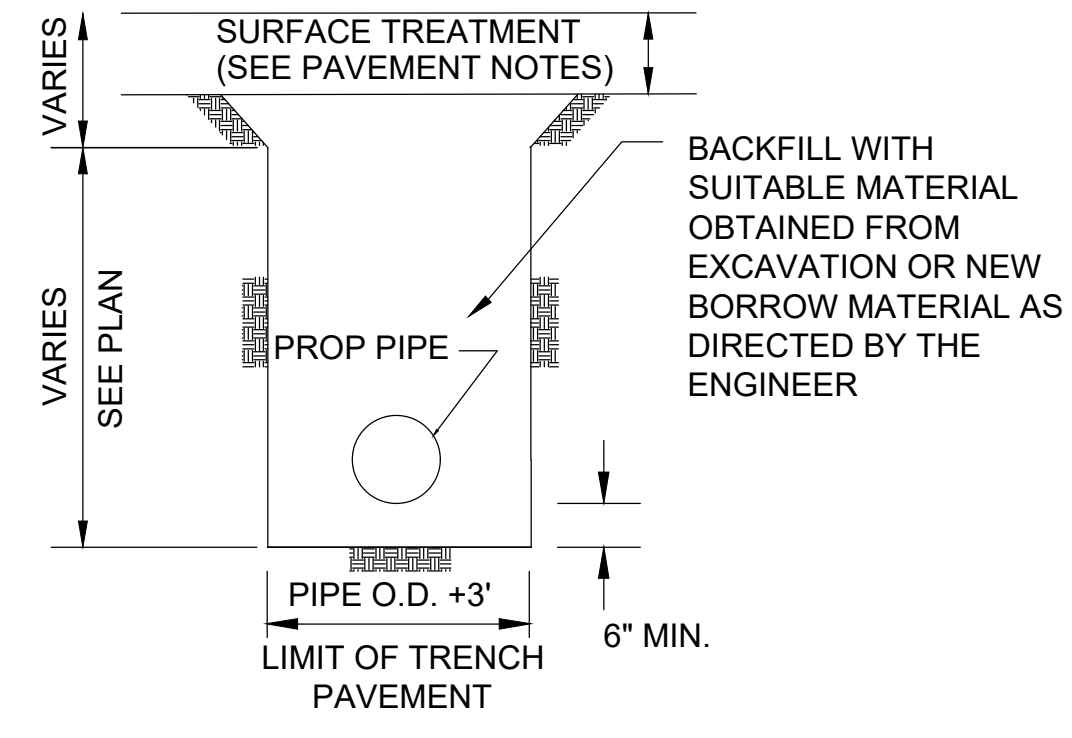
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Approved By: LFK
W&S Project No.: ENG21-0922
W&S File No.:

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**DETAILS
SHEET 2 OF 3**

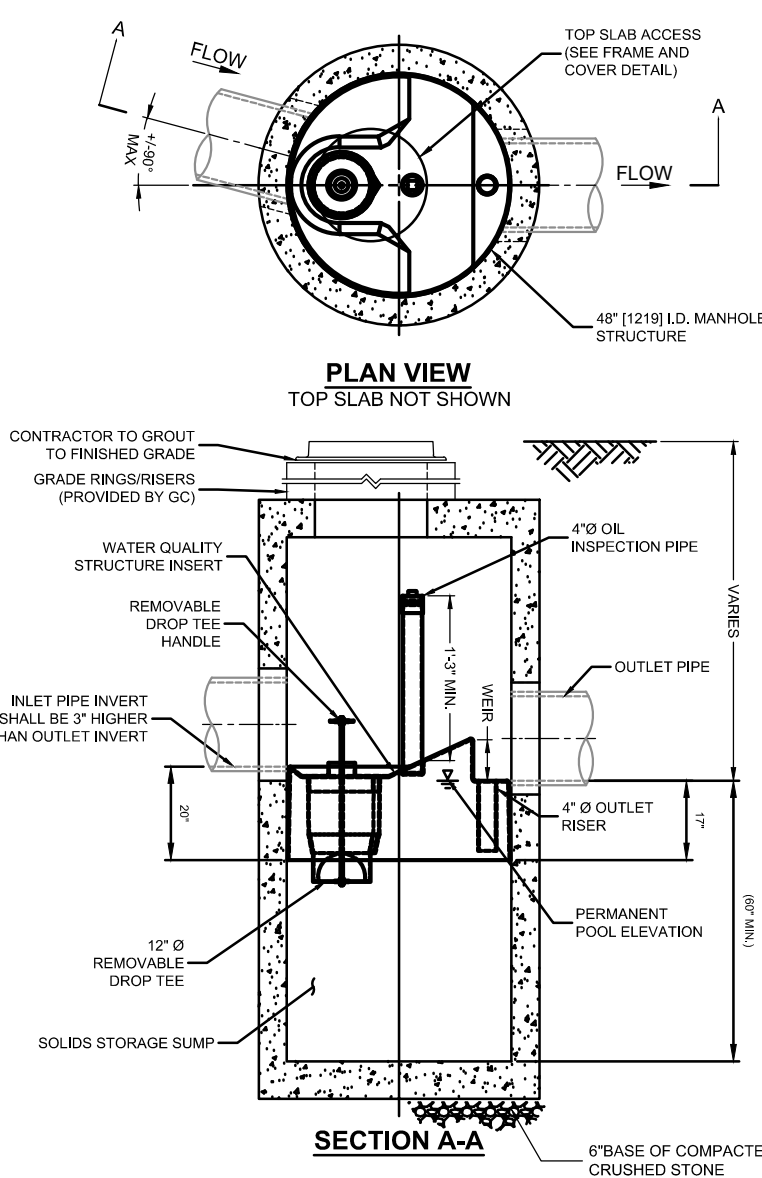
Sheet Number:
C702

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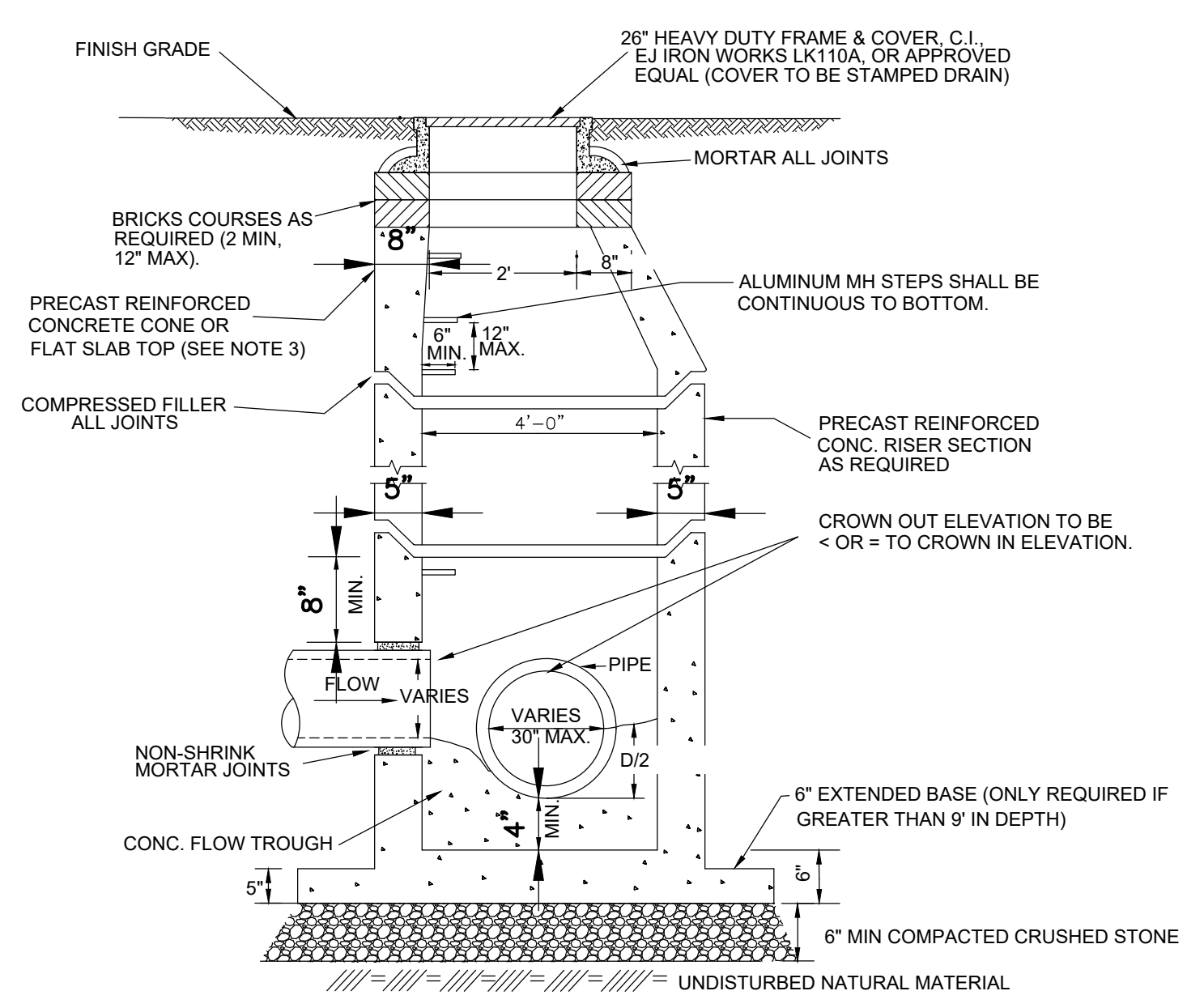


DRAINAGE TRENCH



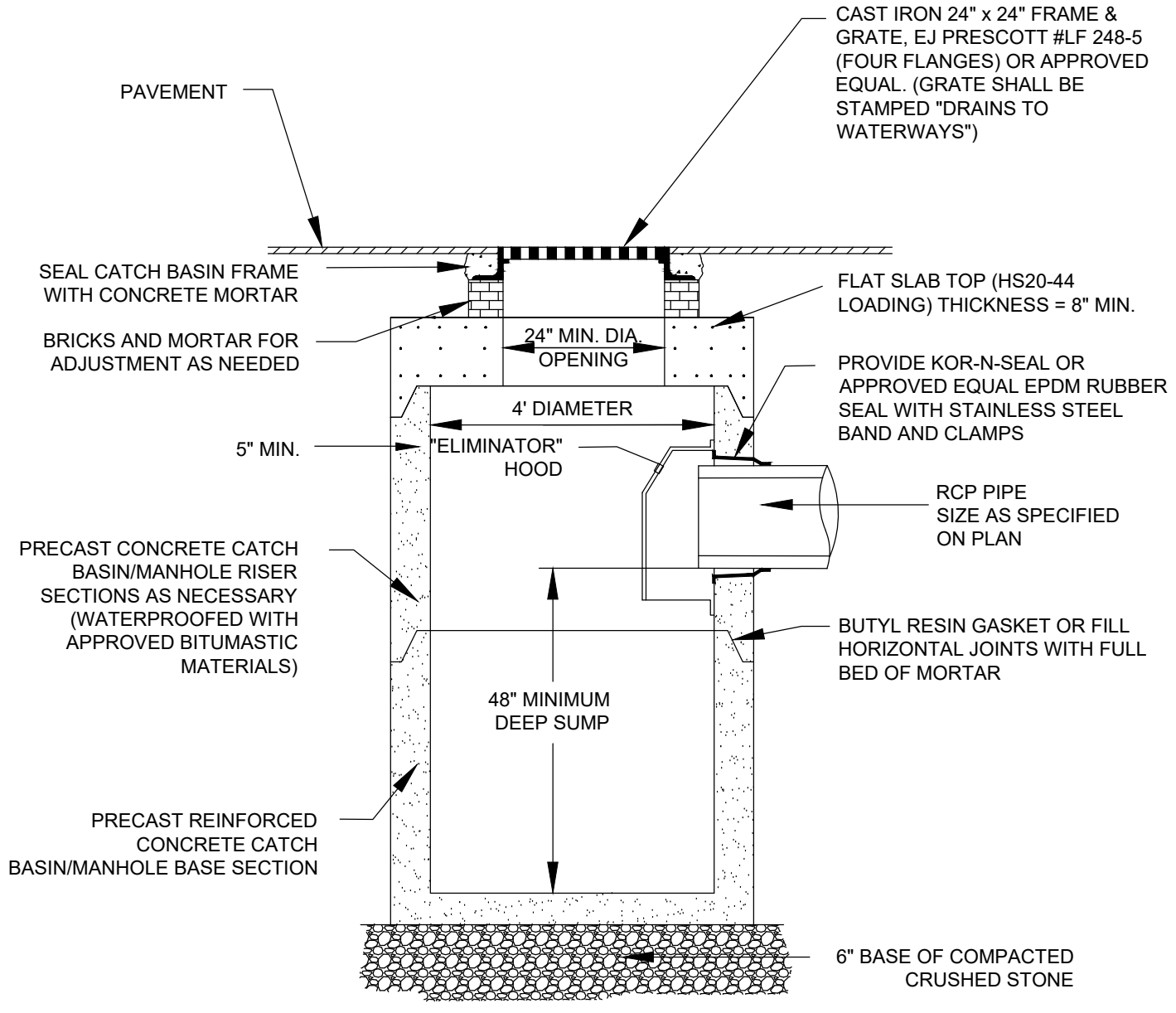
NOTE:
1. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.

STORMWATER TREATMENT UNIT (SWTU)
N.T.S.



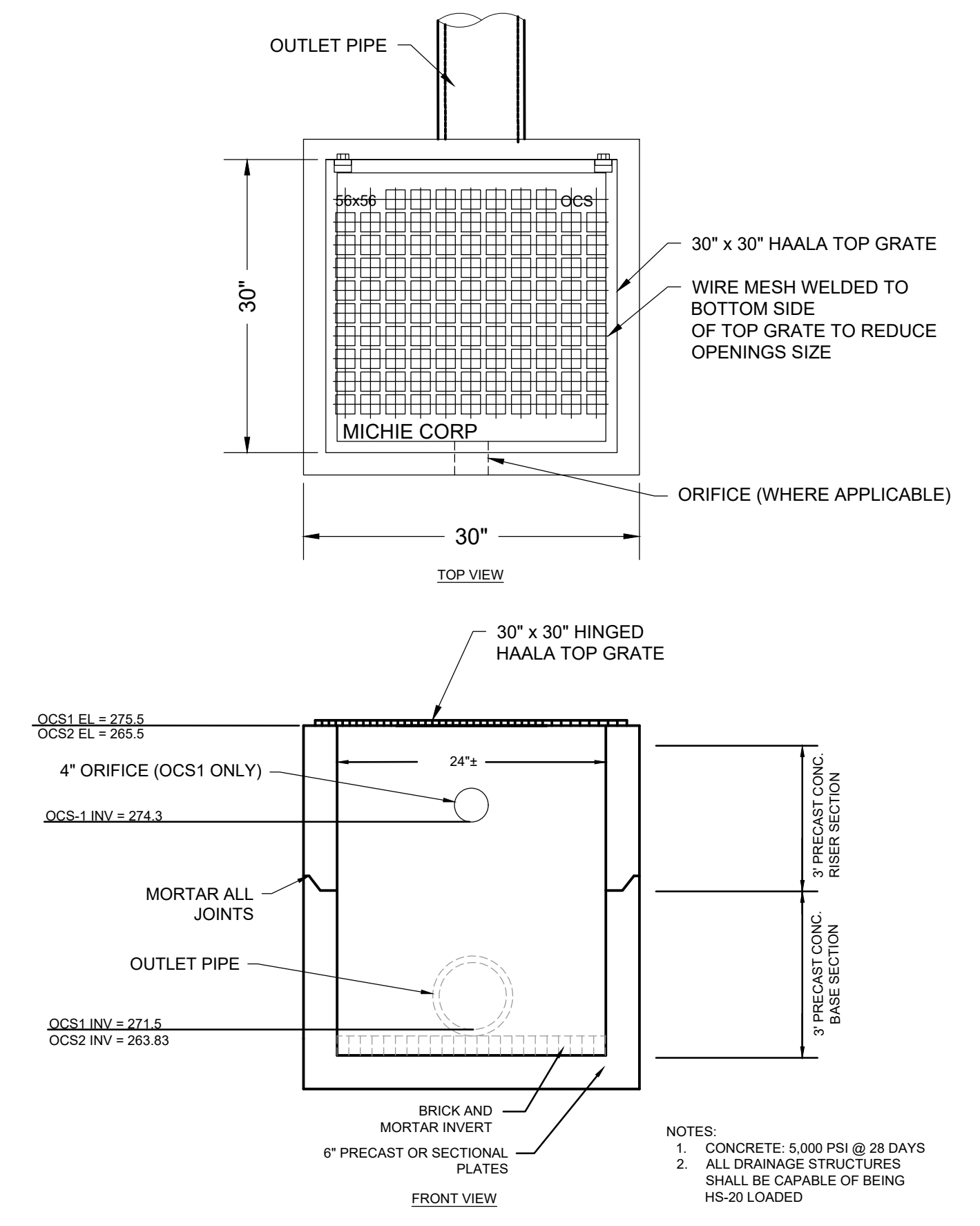
NOTE:
1. MANHOLE FRAME AND COVER SHALL BE H-20 WHEEL LOAD RATED.
2. FLAT SLAB TOP (HS-20 LOADING) WITH MINIMUM THICKNESS 8\"/>

TYPICAL PRECAST CONCRETE DRAIN MANHOLE
N.T.S.



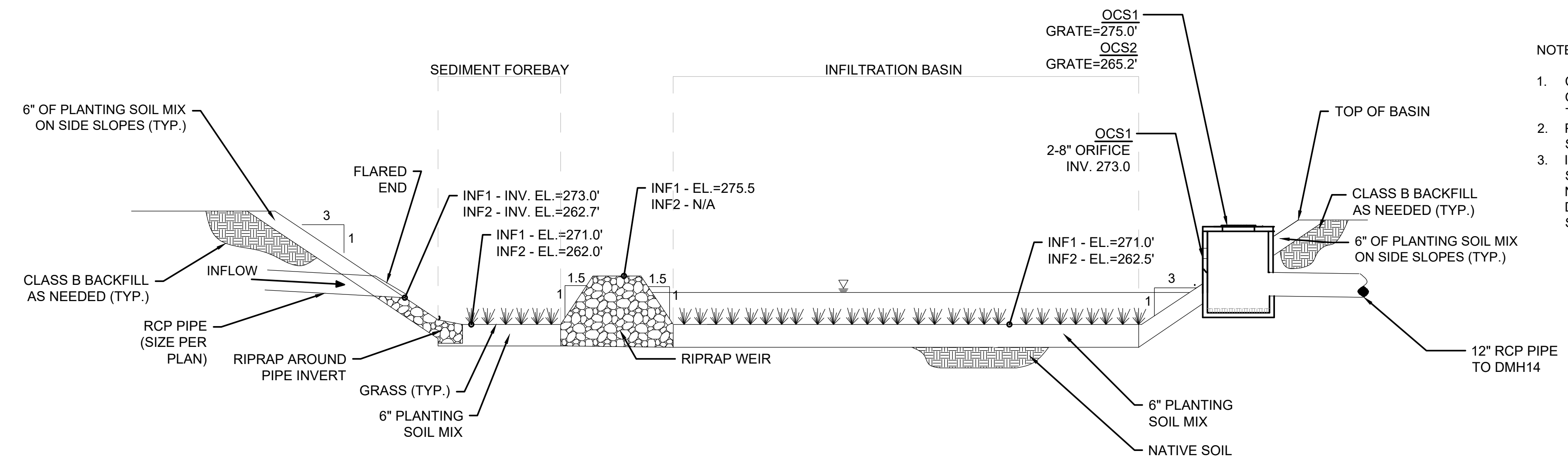
NOTES:
1. FOR DOUBLE CATCH BASINS, STRUCTURE SHALL BE 6\"/>

STANDARD CATCH BASIN
N.T.S.



NOTES:
1. CONCRETE: 5,000 PSI @ 28 DAYS
2. ALL DRAINAGE STRUCTURES SHALL BE CAPABLE OF BEING HS-20 LOADED

PRECAST CONCRETE OUTLET CONTROL STRUCTURE (OCS)
N.T.S.



NOTES:
1. CROSS SECTION IS SCHEMATIC ONLY AND IS MEANT TO DISPLAY THE PATH OF TRAVEL FOR WATER.
2. PLANTING SOIL MIX SHALL BE 50% SAND/50% LOAM
3. INFILTRATION BASIN SHALL BE SEEDED WITH NEW ENGLAND NATIVE GRASS SEED MIX FOR DETENTION BASINS AND MOIST SITES

INFILTRATION BASIN SCHEMATIC SECTION
N.T.S.

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