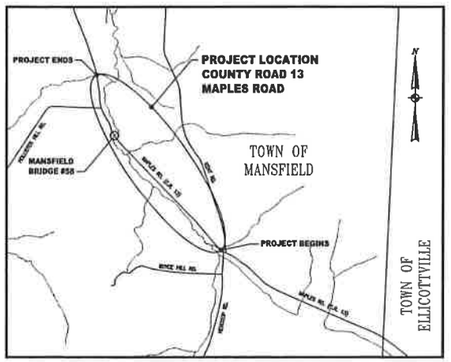
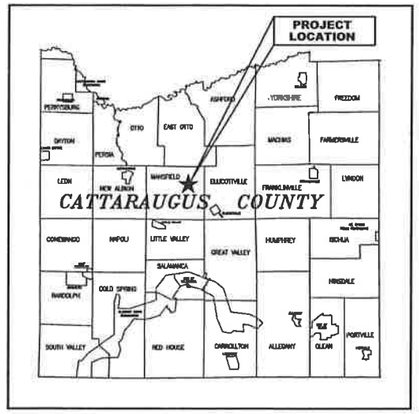
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
PLANS FOR THE
COUNTY ROAD 13 IMPROVEMENTS
MAPLES ROAD
(INCLUDING MANSFIELD BRIDGE # 58)
TOWN OF MANSFIELD

JOSEPH PILLITTERE, COMMISSIONER OF PUBLIC WORKS
8810 ROUTE 242
LITTLE VALLEY, NEW YORK 14755

MARK C. BURR, P.E. DIRECTOR OF ENGINEERING
8810 ROUTE 242
LITTLE VALLEY, NEW YORK 14755



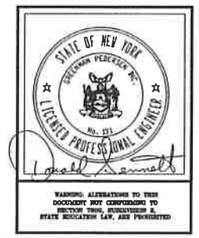
SITE LOCATION
SCALE: NONE



COUNTY LOCATION MAP
SCALE: NONE

SCOPE OF WORK

THE WORK CONSISTS OF A PORTION OF THE ROAD BEING FULLY RECONSTRUCTED WHILE ANOTHER PORTION BEING RECYCLED IN PLACE AND OVERLAID WITH MULTIPLE COURSES OF HOT MIX ASPHALT. THE REPLACEMENT OF "MANSFILED BRIDGE No. 58" IS INCLUDED IN THE WORK ALONG WITH REGRADING DITCHES, PLACEMENT OF NEW DRAINAGE PIPES, CROSS CULVERTS, DRIVEWAY APPROACHES AND RESTORATION.



N.Y.S.D.O.T. STANDARD SHEETS:
203-01, 203-02, 203-04, 209-02, 209-03, 209-05, 209-06, 603-01, 603-02, 604-02, 606-04, 606-09, 611-01, 619-02, 619-10, 619-11, 625-01, 645-01, 645-02, 645-03, 645-15, 655-01, 655-02, 685-01

INDEX OF DRAWINGS

GPI
GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING * SURVEYING * PLANNING
4950 GENESEE STREET BUFFALO, NY 14225
(716) 833-4844 FAX (716) 833-4940

GENERAL NOTES

1. CONSTRUCTION AND MATERIAL SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, US CUSTOMARY UNITS EDITION, DATED JANUARY 1, 2017 WITH CURRENT ADDITIONS AND MODIFICATIONS.
2. SUBSURFACE EXPLORATIONS HAVE BEEN MADE FOR THIS PROJECT. THE BORING LOGS ARE INCLUDED IN THE SPECIFICATION BOOK.
3. UNLESS OTHERWISE INDICATED ON THE PLANS, WORK TO BE PERFORMED UNDER THIS CONTRACT DOES NOT REQUIRE THE DISTURBING, DESTRUCTION, OR REMOVAL OF ANY KNOWN MATERIALS CONTAINING ASBESTOS.
4. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR SAFETY AND HEALTH REQUIREMENTS.
5. HIGH VOLTAGE ELECTRICAL LINES ARE IN PROXIMITY TO THIS PROJECT. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS.
6. THE COST OF WATER USED FOR THE COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE FILL ITEM.
7. MATERIALS EXCAVATED UNDER ITEM 206.01 MAY BE USED AS BORROW MATERIAL IF THE ENGINEER JUDGES SUCH MATERIALS TO BE SUITABLE. THESE EXCAVATION ITEMS ARE NOT REFLECTED IN THE EMBANKMENT ITEMS.
8. STAKEOUT – THE CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" (1-800-962-7962 OR 811) FOR UTILITY STAKEOUT 48 HOURS IN ADVANCE OF COMMENCING WORK. STAKEOUT OF PRIVATE UTILITIES SHALL BE COORDINATED WITH THE PROPERTY AND UTILITY OWNERS.
9. PROPERTY PROTECTION – THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO FEATURES TO REMAIN SUCH AS PAVEMENT, CURBS, WALKS, LAWNS, TREES, ETC. THAT IS CAUSED BY THEIR CONSTRUCTION OPERATIONS. ALL DAMAGE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO EXPENSE TO THE OWNER.
10. ARTIFACTS – SHOULD ANY REMAINS OR ARTIFACTS BE ENCOUNTERED IN THE COURSE OF PERFORMING THE WORK, ALL ACTIVITY AT THE SPECIFIC LOCATION WILL CEASE AND THE ENGINEER WILL IMMEDIATELY BE NOTIFIED OF THE FIND. AFTER APPROPRIATE ACTIONS HAVE BEEN TAKEN, THE CONTRACTOR WILL BE NOTIFIED THAT WORK MAY RESUME.
11. NOISE – NO WORK SHALL BE CONDUCTED BEFORE 7 A.M. OR AFTER 8 P.M. EXCEPT IN THE CASE OF AN EMERGENCY OR WITH PRIOR APPROVAL FROM CATTARAUGUS COUNTY.
12. THE NORTHERN LONG EARED BAT (MYOTIS SEPTELITRIDNALIS) IS LISTED AS FEDERALLY THREATENED SPECIES STATEWIDE. THIS PROJECT DOES INVOLVE CLEARING & GRUBBING AND THE REMOVAL OF TREES IN EXCESS OF 3" AS SHOWN ON THE WORK LIMITS OF THE PLANS AND THE TREE REMOVAL TABLE. ANY ADDITIONAL TREE REMOVALS BEYOND THE WORK LIMITS OR THE REMOVAL TABLE SHALL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER.

EARTHWORK

1. EXISTING DITCHES THAT ARE TO BE BACKFILLED SHALL BE UNDERCUT ONE FOOT TO CLEAR OUT POOR MATERIAL. (AS ORDERED BY THE ENGINEER). PAYMENT FOR WORK WILL BE UNDER ITEM 203.02-UNCLASSIFIED EXCAVATION AND DISPOSAL.
2. LIFT THICKNESS – THE MAXIMUM LIFT THICKNESS UNDER PAVEMENTS, WALKS AND STRUCTURAL FILLS SHALL BE 12 INCHES. HAND OPERATED COMPACTION FILLS SHALL NOT EXCEED 6 INCHES.
3. ITEM 206.0201 – TRENCH AND CULVERT EXCAVATION – REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE PAID UNDER TRENCH AND CULVERT EXCAVATION. BACKFILL OF UNAUTHORIZED EXCAVATIONS BELOW OR BEYOND PAYMENT LINES, EVEN WHERE SHEETING CANNOT BE USED, WILL BE AT THE CONTRACTOR'S EXPENSE. BACKFILL MATERIAL WILL BE AS PER THE DRAWINGS AND AS DIRECTED BY THE ENGINEER.
4. ITEM 610.1401 – ON-SITE TOPSOIL TO BE RE-USED FOR RESTORATION OF ALL AREAS OTHER THAN FRONT YARDS AND MOWED AREAS. IN THE MOWED AREAS ITEM 610.1402 – TOPSOIL TO BE USED FOR RESTORATION. TOPSOIL PLACEMENT TO BE AS DIRECTED BY THE ENGINEER.

UTILITY NOTES

1. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.
2. WORK SHALL NOT COMMENCE UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN STAKED OUT TO SHOW THEIR LOCATION EITHER INSIDE OR OUTSIDE OF THE WORK AREAS. RELOCATION OF EXISTING UTILITIES, ALTHOUGH NOT IN THE SCOPE OF THIS CONTRACT, MAY BE REQUIRED AS PART OF THIS PROJECT.
3. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED.
4. THE METHOD OF REMOVAL OF EXISTING ROADWAY OR SHOULDER PAVEMENT IN THE IMMEDIATE VICINITY OF UNDERGROUND UTILITIES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. OVERHEAD ELECTRIC LINES CROSS THE ROADWAY ALONG THE PROJECT AND MAY NEED TO BE TEMPORARILY SUPPORTED OR RELOCATED DURING CONSTRUCTION. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS.

MISCELLANEOUS NOTES

1. NO ADDITIONAL PAYMENT WILL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS OR IN THE SPECIFICATIONS UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF WORK FOR WHICH NO PAYMENT ITEM IS INDICATED, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS OF THIS CONTRACT.
2. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING, TO FAMILIARIZE HIMSELF/HERSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF/HERSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS/HER BID ALL ITEMS AND MATERIALS WHICH HE/SHE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ALL WORK AREAS WITH OPEN EXCAVATIONS SHALL BE COMPLETELY FENCED, CONFORMING WITH OSHA REGULATIONS, TO THE SATISFACTION OF THE ENGINEER, TO PROTECT THE PUBLIC AND PREVENT UNAUTHORIZED ENTRY. THE COST OF THIS WORK IS TO BE INCLUDED IN ITEM 619.01.
4. THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS.
5. IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL INSURE THE SATISFACTORY COMPLETION OF THE REQUIRED WORK WITH A MINIMUM OF DELAY.
6. PROTECTION OF THE PUBLIC: THE CONTRACTOR SHALL MAINTAIN AND PROTECT TRAFFIC IN ACCORDANCE WITH ITEM 619.01, THE TRAFFIC CONTROL DRAWINGS AND PERTINENT PROVISIONS OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION). THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SECTION 107, LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, OF THE STANDARD SPECIFICATIONS DATED JANUARY 1, 2017 INCLUDING CURRENT ADDITIONS AND MODIFICATIONS.
7. THIS PROJECT INCLUDES MITIGATION OF WETLANDS. REFER TO THE PROJECT SPECIFICATION BOOK, "SECTION J – SUPPLEMENTAL INFORMATION – WETLANDS DELINEATION MAPS" FOR INFORMATION.

CONSTRUCTION

1. STAKEOUT – THE CONSTRUCTION STAKEOUT SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR.
2. COORDINATION – THE CONTRACTOR SHALL COORDINATE ALL UTILITY WORK TO AVOID ANY POTENTIAL CONFLICTS.
3. STAGING – THE CONTRACTOR SHALL PROVIDE A SECURE STAGING AREA FOR STORAGE OF EQUIPMENT, MATERIALS, EMPLOYEE PARKING AND OFFICE SPACE.
4. CLOSEOUT – LIMITED TO THE FOLLOWING AT PROJECT CLOSE-OUT TO THE SATISFACTION OF THE ENGINEER AND THE OWNER:
   - REMOVAL OF ANY CONSTRUCTION DEBRIS
   - CLEANING PAVEMENT AND WALKWAY SURFACES
   - RESTORATION OF ALL DISTURBED GRASS AND LANDSCAPED AREAS
   - PROVIDING BONDS, GUARANTEES, CERTIFICATIONS, AS REQUIRED BY CONTRACT DOCUMENTS.
   - COMPLETION OF FINAL PUNCH LIST ITEMS.

EROSION CONTROL

1. DUST – THE CONTRACTOR SHALL APPLY WATER AS CONDITIONS WARRANT, TO CONTROL WIND BORN EROSION. THIS MEASURE APPLIES TO: HAUL ROADS, CUT AND FILL OPERATIONS, SUBBASE AND ANY OTHER EXPOSED SURFACES.
2. DEWATERING – EROSION CONTROL IS AN IMPORTANT PART OF THIS PROJECT. THE CONTRACTOR WILL NOT BE ALLOWED TO PUMP DEWATERING WATER OR OTHER TURBID WATER DIRECTLY INTO ANY STREAM OR STORM CHANNEL. THE WATER MUST BE:
   A) RETAINED IN AN APPROPRIATELY MAINTAINED SETTLING BASINS OR
   B) FILTERED THROUGH CRUSHED STONE, SAND, HAY BAILS, FILTER FABRIC ETC. OR
   C) DIRECTED TO UPLAND AREAS THAT WILL PRECLUDE TURBID ENTRY INTO ANY STREAM

   IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP A DEWATERING/EROSION CONTROL PLAN AND SUBMIT IT TO THE ENGINEER ONE WEEK PRIOR TO COMMENCING CONSTRUCTION.
3. VEGETATIVE COVER – ANY GRADED AREAS NOT SUBJECT TO FURTHER DISTURBANCE OR CONSTRUCTION TRAFFIC SHALL WITHIN 7 DAYS OF FINAL GRADING, RECEIVE THE APPLICATION OF THE PROPOSED FINAL OR TEMPORARY VEGETATIVE COVER.
4. SITE GRADING & STORM WATER RUNOFF – THE SITE SHALL BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES BEFORE ENTERING THE CREEK AS SPECIFIED IN SECTION 203-3 OF THE STANDARD SPECIFICATIONS.
5. DEBRIS REMOVAL – NO MATERIAL SHALL BE ALLOWED TO BE DROPPED INTO THE STREAM CHANNEL. ANY DEBRIS OR EXCESS MATERIALS FROM CONSTRUCTION OF THIS PROJECT SHALL BE IMMEDIATELY AND COMPLETELY REMOVED FROM THE BED AND BANKS OF ALL WATER AREAS TO APPROPRIATE UPLAND AREAS FOR DISPOSAL.
6. EQUIPMENT STORAGE – THE CONTRACTOR SHALL NOT USE THE STREAM BED OR BANKS AS A STAGING AREA FOR EQUIPMENT OR MATERIALS AFTER EACH WORKDAY. ALL MECHANIZED EQUIPMENT SHALL BE REMOVED FROM THE BANKS OF THE CREEK AND STORED IN AN APPROVED UPLAND SITE.

WORK ZONE TRAFFIC CONTROL NOTES

1. WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619-BASIC WORK ZONE TRAFFIC CONTROL, THE NYS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION), AND ANY PROVISIONS CONTAINED IN THE PLANS AND/OR PROPOSAL OF THIS CONTRACT.
2. THE WORK ZONE TRAFFIC CONTROL SHOWN IS CONSIDERED TO BE THE MINIMUM REQUIREMENTS. ADDITIONAL SIGNS AND/OR CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. SIGN LOCATIONS SHOWN ARE APPROXIMATE ONLY, THE EXACT LOCATIONS MAY BE DETERMINED BY THE CONTRACTOR AND VERBALLY APPROVED BY THE PROJECT ENGINEER.
3. THE CONTRACTOR SHALL ENSURE THAT NO DETOUR/CONSTRUCTION SIGNS OBSCURE ANY EXISTING TRAFFIC CONTROL DEVICES WHICH ARE TO REMAIN IN EFFECT DURING CONSTRUCTION.
4. THE CONTRACTOR MUST SUBMIT ANY SIGNIFICANT PROPOSED MODIFICATIONS TO THIS PLAN FOR APPROVAL. ANY EXISTING SIGNS WHICH ARE TO REMAIN AND CONFLICT WITH DETOUR/CONSTRUCTION SIGNS SHALL BE EITHER COVERED OR REMOVED, STORED, AND RESET AS DIRECTED BY THE ENGINEER THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE EXISTING SIGNS DUE TO EITHER REMOVAL, STORAGE, RESETTING OR COVERING OF THE SIGNS AT NO ADDITIONAL COST TO THE COUNTY.
5. DETOUR SIGNS TO BE PLACED IN LOCATION AND COVERED WITH BURLAP, AND BARRICADES TO BE STORED ON SITE FOR USE (2) TWO DAYS PRIOR TO ROAD CLOSING.
6. THE CONTRACTOR SHALL NOT CLOSE THE ROAD UNTIL THE CLOSING DATE HAS BEEN APPROVED BY THE COUNTY IN WRITING.
7. ACCESS TO PRIVATE DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES DURING THE LIFE OF THE CONTRACT. TEMPORARY DRIVEWAYS SHALL BE PROVIDED AS NECESSARY.
8. THE CONTRACTOR SHALL NOT PARK HIS/HER EQUIPMENT OVERNIGHT WHERE IT IS DEEMED A SAFETY HAZARD TO TRAFFIC. VEHICLES BELONGING TO THE CONTRACTOR OR HIS/HER STAFF SHALL NOT BE PARKED ON THE PAVEMENT OR SHOULDERS ALONG A ROADWAY USED BY THE GENERAL PUBLIC.
9. REFER TO SHEET 7 OF 25 FOR ADDITIONAL WORK ZONE TRAFFIC CONTROL NOTES.

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

GPI

DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

SCALE: AS NOTED
DATE: FEBRUARY 2017
DRAWING NO.:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

GENERAL NOTES

SHEET NO.
1 of 25

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
SURVEYING DATA		
COORDINATE GRID		
SPOT ELEVATION	X 103.2	X 103.2
WATER ELEVATION	W.E. 102.5	
BENCH MARK	B.M. 12	
BASELINE POINT		
PERMANENT SURVEY MARKER		
POINT ON LINE (POL)		
NORTH ARROW (TRUE)		
NORTH ARROW (MAGNETIC)		
BASELINE		
CENTERLINE		
CONTOURS		
MAJOR ELEVATION CONTOUR	180	160
MINOR ELEVATION CONTOUR		
DEPRESSION	210	
DEPRESSION (OBSTRUCTED)		
BOUNDARIES		
NATIONAL	CANADA U.S.A.	
STATE	NEW YORK PENNSYLVANIA	
COUNTY	BROOME CORTLAND	
TOWN	TOWN OF DICKINSON TOWN OF FENTON	
CITY OR VILLAGE	CITY OF BINGHAMTON PORT DICKINSON	
PUBLIC LAND		
HIGHWAY BOUNDARY		
PROPERTY LINE		
PROPERTY LINE MARKER	L.P.	
TEMPORARY EASEMENT LINE	EASEMENT	
RIGHT OF WAY LINE & MON.	MON.	MON.
ACCESS INFORMATION	ROW W/A ROW W/A	ROW W/O/A ROW W/A
ACQUISITION INFORMATION		
FEE WITH ACCESS	FEE (PAR. XX)	FEE (PAR.-XX)
TEMPORARY EASEMENT	TE (PAR. XX)	TE (PAR.-XX)

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
TOPOGRAPHY		
ROCK OUTCROP		
BIKE PATH	BIKE PATH	BIKE PATH
MAJOR TRAIL	TRAIL	
MINOR TRAIL OR PATH	TRAIL	TRAIL
PARKING BUMPER	PARKING	PARKING
STORAGE PILES	DIRTY STORAGE DEBRIS	
QUARRY OR PIT	ACTIVE PIT	
ATHLETIC FIELD GOLF COURSE	ATHLETIC FIELD	
UNIDENTIFIABLE FEATURE		
PIER	PIER	
JETTY	JETTY	
AQUEDUCT	AQUEDUCT	
SAND OR MUD AREA	SAND	
BOULDER		
PLOWED FIELD	PLOWED FIELD	
ORCHARD OR NURSERY	ORCHARD	
CUT AND FILL LIMITS		
TOP OF CUT		TOP
BOTTOM OF FILL		B.O.F.
GEOTECHNICAL		
BORING LOCATION	DNB-1	
SHEET PILING		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
TREES AND BRUSH		
WOODED AREA	WOODS	
BRUSH	BRUSH	
DECIDUOUS TREE		
CONIFEROUS TREE		
DECIDUOUS BUSH		
CONIFEROUS BUSH		
HEDGE		
BRUSH LINE		
DECIDUOUS TREE ROW		
CONIFEROUS TREE ROW		
FOUNDATION PLANTING		
STUMP		
TREE TO BE REMOVED		
BUILDING AND SPECIAL SITES		
BUILDING	HOUSE	
BUILDING TO BE DEMOLISHED		
BUILDING UNDER CONSTRUCTION	U/C	
BRIDGE		
TUNNEL	TUNNEL	
SMOKESTACK	SMOKESTACK	
TANK, SILO, TOWER	TANK SILO	
DAM, LOCK, SPILLWAY	DAM SPILLWAY	
UNDERPASS		
CEMETERY	CEMETERY	
PATIO, CONCRETE PAD, STAIRS, CELLAR DOOR, SWIMMING POOL, ETC.	PATIO POOL	
MAILBOX	MB	MB
POST, FLAGPOLE, PARKING METER	FLAGPOLE	FP
POLE (NON-UTILITY)		
LIGHT POLE (NON-UTILITY)		
POST		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
WATER LOCATIONS		
STREAM OR RIVER		
WATERFALLS OR RAPIDS	FALLS	
MINOR STREAM		
INTERMITTED STREAM		
LAKE OR POND	LAKE	
DRY POND OR DRY STREAM	DRY POND	
SPRING		
MARSH OR SWAMP		
RIP-RAP		
WELL	WELL	
EDGE OF WATERWAY OR FEATURE		
ROUTE MARKERS		
INTERSTATE	3	3
STATE	8	8
COUNTY	3	3
COUNTY TOURING ROUTE SHIELD	2	2
TOWN	8	5
U.S.	3	3
ROADS		
PAVED ROADWAY DWY, PARK LOT		
UNPAVED ROWAY, DWY, PARK LOT		
SIDEWALK	S.W.	S.W.
CURB/DROP CURB		
CHANGE OF PAVEMENT		
FLUSH MEDIAN		
GUIDE RAIL OR BARRIER		
IMPACT ATTENUATOR		
BOX BEAM OR "W" BEAM RAIL		
BOX BEAM OR "W" BEAM MED. BARR.		
CABLE GUIDE RAIL		
CONCRETE BARRIER	CONC. BARR.	CONC. BARR.
RETAINING WALL	R.W.	R.W.
FENCE		
GUIDE POST		
STONE WALL		
BARRICADE		
BARREL		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
TRAFFIC CONTROL		
TEMP. CONCRETE BARRIER		
TEMP. CONCRETE BARRIER LIGHTED		
CONSTRUCTION BARRICADE		
CONST. BARRICADE LIGHTED		
PLASTIC DRUM		
PLASTIC DRUM LIGHTED		
FLASHING ARROW BOARD		
CONE		
FLAGGER		
VARIABLE MESSAGE DISPLAY		VMD
SIGN AND BILLBOARDS		
SIGN (GROUND MOUNTED)		
SIGN (OVERHEAD)		
BILLBOARDS TWO POST SIGN	BB	BB
SIGN LOCATION AND MULTIPLE TEXT		
SIGN REMOVAL LOCATION		
SIGN TO BE REPLACED		
SIGN TO REMAIN		
DRAINAGE FACILITIES		
CULVERT		
CATCH BASIN	CB CB	CB CB
FIELD INLET	FI FI	FI FI
GRATE	GRATE	GRATE
DITCH LINE		
GUTTER	GUT.	GUT.
HEADWALL	HW	HW
END SECTION		
EROSION & SEDIMENTATION CONTROL		
STATE WETLAND		
FEDERAL WETLAND		
STATE/FED WETLAND		
ADJACENT AREA		
HAYBALE/STRAW BALE		
SILT FENCE		
VEGETATION FENCE		
SILT/ VEG FENCE		
TURBIDITY CURTAIN		
SEDIMENT TRAP		
CHECK DAM (SILT FENCE)		S/F
CHECK DAM (HAYBALE/STRAWBALE)		H/S
CHECK DAM (STONE)		STO

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
UTILITY LINES	UG = UNDERGROUND OH = OVERHEAD	
OVERHEAD WIRE	OH	OH
TELEPHONE	T	T
CABLE T.V.	C	C
GAS	G	G
WATER MAIN	W	W
SANITARY SEWER	SAN	SAN
STORM SEWER	ST	ST
UTILITIES ABOVE GROUND		
UTILITY POLE	NYSE & G 47	
TRAFFIC SIGNAL		
FIRE HYDRANT		
PULLBOX STREET LIGHTS	L	L
PULLBOX TRAFFIC SIGNALS	T	T
TELEPHONE BOOTH	T	
PAPER BOX		
ELECTRIC METER	E	
GAS METER	G	
WATER METER	W	
WATER MANHOLE	W	W
SANITARY SEWER MANHOLE	S	S
TELEPHONE MANHOLE	T	T
GAS MANHOLE	G	G
CONTROL BOX SIGNALS, RR	TC BOX RR BOX	TC BOX RR BOX
GAS LINE MARKER		
STREET LIGHT		
STEEL SIGNAL POLE		
SIGNAL POLE W/ CONTROLLER		
CALL BOX POLICE, FIRE		
TRANS. LINE AND TOWERS		
TRANS. LINE AND POLES		
SUBSTATION	SUBSTATION	SUBSTATION
GUY WIRE W/ ANCHOR		
UTILITIES BELOW GROUND		
WATER VALVE	W.V.	W.V.
MANHOLE	M.H.	M.H.
UTILITY VALVE		
GAS VALVE		
UNDERGROUND	UG	

ALIGNMENT

AH.	=	AHEAD
AZ.	=	AZIMUTH
BK.	=	BACK
B	=	BASELINE
BRG.	=	BEARING
℄	=	CENTERLINE
C.S.	=	CURVE TO SPIRAL
C.P.	=	CONTROL POINT
c D	=	DEGREE of CURVE
DIA.	=	DIAMETER
e.	=	CROSS SLOPE
EQ.	=	EQUALITY
EXT.	=	EXTERNAL
H.C.L.	=	HORIZONTAL CONTROL LINE
H.S.D.	=	HEADLIGHT SIGHT DISTANCE
L	=	LENGTH OF CIRCULAR CURVE
L.S.	=	LENGTH OF SPIRAL
L.V.C.	=	LENGTH OF VERTICAL CURVE
M.C.	=	CENTER CORRECTION OF VERTICAL CURVE
M	=	MAIN LINE
P.C.	=	POINT OF CURVATURE
P.I.	=	POINT OF INTERSECTION
P.O.L.	=	POINT ON LINE
P.S.D.	=	PASSING SIGHT DISTANCE
P.T.	=	POINT OF TANGENT
P.V.C.	=	POINT OF VERTICAL CURVE
P.V.I.	=	POINT OF VERTICAL INTERSECTION
P.V.T.	=	POINT OF VERTICAL TANGENT
R	=	RADIUS
S.C.	=	SPIRAL TO CURVE
S.S.D.	=	STOPPING SIGHT DISTANCE
S.T.	=	SPIRAL TO TANGENT
STA.	=	STATION
T	=	TANGENT LENGTH
T.G.L.	=	THEORETICAL GRADE LINE
T.S.	=	TANGENT TO SPIRAL
V.C.	=	VERTICAL CURVE
Z	=	ELEVATION
△	=	DELTA ANGLE

TOPOGRAPHY (DRAINAGE)

B.B.	=	BOTTOM of BANK (STREAM)
B.C.	=	BOTTOM OF CURB
B.O.	=	BOTTOM OF OPENING
C.A.P.	=	CORRUGATED ALUMINUM PIPE
C.B.	=	CATCH BASIN
C.I.	=	CURB INLET
C.I.P.	=	CAST IRON PIPE
℄ STRM.	=	CENTERLINE of STREAM
C.M.P.	=	CORRUGATED METAL PIPE
C.S.P.	=	CORRUGATED STEEL PIPE
C.S.P.A.	=	CORRUGATED STEEL PIPE ARCH
CULV.	=	CULVERT
D.I.	=	DROP INLET
D.M.H.	=	DRAINAGE MANHOLE
D.S.	=	DRAINAGE STRUCTURE
D'XING	=	DITCH CROSSING
E.H.W.	=	EXTREME HIGH WATER
EL.	=	ELEVATION
ELEV.	=	ELEVATION
E.L.W.	=	EXTREME LOW WATER
E.S.	=	END SECTION
F.I.	=	FIELD INLET
H.W.	=	HEADWALL
INV.	=	INVERT
M.H.	=	MANHOLE
M.H.W.	=	MEAN HIGH WATER
M.P.	=	METAL PIPE
O.H.W.	=	ORDINARY HIGH WATER
O.L.W.	=	ORDINARY LOW WATER
P.E.P.	=	POLYETHYLENE PIPE
P.I.	=	PAVED INVERT
P.P.V.C.U.P.	=	PERFORATED POLYVINYL CHLORIDE UNDERDRAIN PIPE
R.C.P.	=	REINFORCED CONCRETE PIPE
S.D.G.	=	SPECIAL DITCH GRADE
S.I.C.P.P.	=	SMOOTH INTERIOR CORRUGATED POLY. PIPE
S.I.P.C.P.U.P.	=	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE

TOPOGRAPHY (DRAINAGE)

T.B.	=	TOP of BANK (STREAM)
T.C.	=	TOP OF CURB
T.G.	=	TOP OF GRATE
T.O.	=	TOP OF OPENING
V.C.P.	=	VITRIFIED CLAY PIPE
V.T.P.	=	VITRIFIED TILE PIPE

TOPOGRAPHY (MISC.)

A/G	=	ABOVE GROUND
ABUT.	=	ABUTMENT
A.D.B.E.	=	AS DIRECTED BY ENGINEER
A.O.B.E.	=	AS ORDERED BY ENGINEER
ASPH.	=	ASPHALT
BDY.	=	BOUNDARY
B.I.N.	=	BRIDGE IDENTIFICATION NUMBER
BLDG.	=	BUILDING
B.M.	=	BENCH MARK
B.O.	=	BOTTOM OF OPENING
BR.	=	BRIDGE
BRK.HO.	=	BRICK HOUSE
C.B.HO.	=	CONCRETE BLOCK HOUSE
C.C.	=	CENTER TO CENTER
CONC.	=	CONCRETE
CONST.	=	CONSTRUCTION
C.R.	=	COUNTY ROAD
C.R.W.	=	CONCRETE RETAINING WALL
D.	=	DEED DISTANCE
D.M.	=	DIRECT MEASUREMENT
DWY.	=	DRIVEWAY
E.O.T.W.	=	EDGE OF TRAVELED WAY
E.O.S.	=	EDGE OF SHOULDER
F.B.	=	FULL BANK
F.P.	=	FENCE POST
FD.	=	FOUNDATION
F.L.	=	FENCE LINE
FR.HO.	=	FRAME HOUSE
GAR.	=	GARAGE
GR.	=	GRAVEL
HSE.	=	HOUSE
HWY.	=	HIGHWAY
I.P.	=	IRON PIN OR IRON PIPE
M.	=	MEASURED DISTANCE
M.B.	=	MAILBOX
MON.	=	MONUMENT
N&R	=	NAIL AND RED
N&W	=	NAIL AND WASHER
O.G.	=	ORIGINAL GROUND
O/H	=	OVERHEAD
P.	=	PARCEL
PAV'T.	=	PAVEMENT
P.E.	=	PERMANENT EASEMENT
PED. POLE	=	PEDESTRIAN POLE
PL	=	PROPERTY LINE
POR.	=	PORCH
RR.	=	RAILROAD
RTE.	=	ROUTE
R.O.W.	=	RIGHT OF WAY
R.O.W. W/A	=	RIGHT OF WAY WITH ACCESS
R.O.W. WO/A	=	RIGHT OF WAY WITHOUT ACCESS
R.W.	=	RETAINING WALL
S.H.	=	STATE HIGHWAY
SHLDR.	=	SHOULDER
SPK.	=	SPIKE
ST.	=	STREET
STK.	=	STAKE
STO.HO.	=	STONE HOUSE
STY.	=	STORY
S.W.	=	SIDEWALK
T.E.	=	TEMPORARY EASEMENT
T.L.	=	TREE LINE
T.O	=	TEMPORARY OCCUPANCY
U/G	=	UNDERGROUND
W.W.	=	WING WALL

TOPOGRAPHY (UTILITIES)

E	=	ELECTRIC
E.M.H.	=	ELECTRIC MANHOLE
G	=	GAS
G.P.	=	GUY POLE
G.S.B.	=	GAS SERVICE BOX (HOUSE LINE)
G.V.	=	GAS VALVE (MAIN LINE)
HYD.	=	HYDRANT
L.P.	=	LIGHT POLE
L.P.G.	=	LOW PRESSURE GAS
M.P.G.	=	MEDIUM PRESSURE GAS
U.T.P.	=	UTILITY POLE
SA.	=	SANITARY SEWER
S.M.H.	=	SANITARY MANHOLE
ST.	=	STORM SEWER
T	=	TELEPHONE
T.C.B.	=	TRAFFIC CONTROL BOX
TEL. BOX	=	TELEPHONE BOX
TEL. P.	=	TELEPHONE POLE
T.M.H.	=	TELEPHONE MANHOLE
TV.	=	CABLE TELEVISION
W	=	WATER
W.S.B.	=	WATER SERVICE BOX (HOUSE LINE)
W.V.	=	WATER VALVE (MAIN LINE)

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CONSULTING ENGINEERS
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4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4940 FAX (716) 633-4944

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NO.	REVISIONS:	DRAWN BY	CHECKED BY	DATE
	ISSUED FOR BID	BT	RGC	2-17-17

JOB NO.: 30060
DRAWING NO.:
DATE: FEBRUARY 2017
SCALE: AS NOTED

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

ABBREVIATIONS & LEGEND

SHEET NO.
2 of 25

TABLE OF QUANTITIES (HIGHWAY AND BRIDGE)

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
201.06	CLEARING AND GRUBBING	L.S.	1
202.120001	REMOVING EXISTING SUPERSTRUCTURES	L.S.	1
202.03CA	RELOCATION OF CONCRETE WATERING TROUGH	L.S.	1
202.19CA	REMOVAL OF SUBSTRUCTURES	L.S.	1
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	C.Y.	6400
203.03	EMBANKMENT IN PLACE	C.Y.	8000
203.07	SELECT GRANULAR FILL	C.Y.	1200
203.21	SELECT STRUCTURAL FILL	C.Y.	25
206.01	STRUCTURE EXCAVATION	C.Y.	80
206.0201	TRENCH AND CULVERT EXCAVATION	C.Y.	5300
206.05	TEST PIT EXCAVATIONS	EA.	5
207.22	GEOTEXTILE DRAINAGE	S.Y.	3500
207.96000017	GEOSYNTHETIC REINFORCEMENT	S.Y.	16000
208.01030022	BIORETENTION AND DRY SWALE SOIL	C.Y.	669
209.110101	CHECK DAM (DITCH BOTTOM WIDTH 0' TO 3') STONE TEMPORARY	EA.	116
209.1003	SEED AND MULCH – TEMPORARY	S.Y.	29100
209.13	SILT FENCE – TEMPORARY	L.F.	15000
209.1501	TURBIDITY CURTAIN – TEMPORARY	L.F.	250
209.1701	DRAINAGE STRUCTURE INLET PROTECTION, SILT FENCE – TEMPORARY	L.F.	400
209.22	STABILIZED CONSTRUCTION ENTRANCE	S.Y.	150
304.15	SUBBASE COURSE, OPTIONAL TYPE	C.Y.	8650
304.60000017	FULL DEPTH RECLAMATION OF ASPHALT PAVEMENT	S.Y.	10150
304.80000017	BITUMINOUS STABILIZING AGENT FOR FULL DEPTH RECLAMATION OF ASPHALT PAVEMENT	GAL.	22300
304.90000017	AGGREGATE FOR FULL DEPTH RECLAMATION OF ASPHALT PAVEMENT	TON	610
402.098302	9.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON	2000
402.198902	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON	3320
402.378902	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON	1500
407.0102	DILUTED TACK COAT	GAL.	1650
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	S.Y.	210
552.11	PERMANENT STEEL SHEETING	S.F.	6011
553.020001	COFFERDAM (TYPE 2)	EA.	1
553.020002	COFFERDAM (TYPE 2)	EA.	1
555.970100CA	CONCRETE FOR STRUCTURES, CLASS HP, REINFORCING INCLUDED, NO BAR LISTS ON PLANS	C.Y.	50
557.0503	SUPERSTRUCTURE SLAB w/ INTEGRAL WEARING SURFACE – BOTTOM FORMWORK NOT REQUIRED – TYPE 3 FRICTION	S.Y.	227
557.2003	STRUCTURAL APPROACH SLAB w/ INTEGRAL WEARING SURFACE – TYPE 3 FRICTION	S.Y.	116
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	S.Y.	319
559.16960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE	S.F.	300
559.18960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECKS AND BRIDGE DECK OVERLAYS	S.F.	3190
563.03	PRESTRESSED CONCRETE HOLLOW SLAB UNITS (21"x48")	S.F.	1768.1
565.1922	TYPE E.L. BEARING	EA.	18
568.54	STEEL BRIDGE RAILING (THREE RAIL)	L.F.	122
568.70	TRANSITION BRIDGE RAILING	L.F.	128

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
603.171116	GALVANIZED STEEL END SECTIONS PIPE (2⅔"x½" CORR.), 16 GA., 15"	EA.	25
603.171216	GALVANIZED STEEL END SECTIONS PIPE (2⅔"x½" CORR.), 16 GA., 18"	EA.	1
603.171316	GALVANIZED STEEL END SECTIONS PIPE (2⅔"x½" CORR.), 16 GA., 21"	EA.	2
603.6005	REINFORCED CONCRETE PIPE, CLASS III, 24" DIAMETER	L.F.	168
603.6702	REINFORCED CONCRETE HORIZ. ELLIPTICAL PIPE, CLASS III (19"x30")	L.F.	176
603.6704	REINFORCED CONCRETE HORIZ. ELLIPTICAL PIPE, CLASS III (24"x38")	L.F.	48
603.6708	REINFORCED CONCRETE HORIZ. ELLIPTICAL PIPE, CLASS III (34"x53")	L.F.	48
603.6709	REINFORCED CONCRETE HORIZ. ELLIPTICAL PIPE, CLASS III (38"x60")	L.F.	48
603.6710	REINFORCED CONCRETE HORIZ. ELLIPTICAL PIPE, CLASS III (43"x68")	L.F.	56
603.67020008	REINF. CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (19"x30")	EA.	6
603.67040008	REINF. CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (24"x38")	EA.	2
603.67080008	REINF. CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (34"x53")	EA.	2
603.67090008	REINF. CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (38"x60")	EA.	2
603.67100008	REINF. CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (43"x68")	EA.	2
603.7305	REINFORCED CONCRETE PIPE END SECTION, 24" DIAMETER	EA.	6
603.9812	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE, 12" DIAMETER	L.F.	1018
603.9815	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE, 15" DIAMETER	L.F.	44
603.9818	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE, 18" DIAMETER	L.F.	102
603.99450005	SUMP PUMP AND GUTTER DRAIN OUTLET TO STORM SEWER	L.F.	280
604.3001CA	RECTANGULAR DRAINAGE STRUCTURE 24"x24"	L.F.	87
604.3002CA	RECTANGULAR DRAINAGE STRUCTURE 36"x36"	L.F.	27
604.3003CA	RECTANGULAR DRAINAGE STRUCTURE 48"x36"	L.F.	5
605.1001	UNDERDRAIN FILTER, TYPE 2	C.Y.	1875
605.1501	PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING (4")	L.F.	3616
605.1604	PERFORATED POLYVINYL CHLORIDE UNDERDRAIN PIPE (4")	L.F.	7305
605.21010018	PRECAST CONCRETE HEADWALLS FOR 4" LATERAL OUTLET PIPES	EA.	20
605.98101218	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 12" DIAMETER	L.F.	1506
605.98101518	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 15" DIAMETER	L.F.	500
606.10	BOX BEAM GUIDE RAILING	L.F.	140
606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)	L.F.	22
606.120101	BOX BEAM END PIECE	EA.	1
606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE IIA	EA.	3
606.2701	HPBO (Mod.) CORRUGATED BEAM GUIDE RAILING	L.F.	650
606.2703	ANCHORAGE UNITS FOR HPBO (Mod.) CORRUGATED BEAM GUIDE RAILING	EA.	2
606.71	REMOVING AND DISPOSING OF CORRUGATED BEAM GUIDE RAIL	L.F.	425
608.0101	CONCRETE FOR DRIVEWAYS AND SIDEWALKS	C.Y.	6
610.1401	TOPSOIL – REUSE ON-SITE MATERIAL	C.Y.	1600
610.1402	TOPSOIL – ROADSIDE	C.Y.	1600
610.1601	TURF ESTABLISHMENT – ROADSIDE	S.Y.	29100
611.0151	PLANTING MAJOR DECIDUOUS TREES – 2" CALIPER	EA.	26
611.0331	PLANTING CONIFEROUS TREES – 3 FEET HIGH	EA.	4
614.060204	TREE REMOVAL OVER 6" TO 12" AT BREAST HEIGHT	EA.	10
614.060304	TREE REMOVAL OVER 12" TO 18" AT BREAST HEIGHT	EA.	20
614.060404	TREE REMOVAL OVER 18" TO 24" AT BREAST HEIGHT	EA.	20
614.060504	TREE REMOVAL OVER 24" TO 36" AT BREAST HEIGHT	EA.	15
614.060604	TREE REMOVAL OVER 36" TO 48" AT BREAST HEIGHT	EA.	10

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
619.01	BASIC WORK ZONE TRAFFIC CONTROL	L.S.	1
619.04	TYPE III CONSTRUCTION BARRICADES	EA.	15
619.1701	TEMPORARY CONCRETE BARRIER (UNPINNED)	L.F.	40
619.27	MAILBOXES	EA.	11
619.2701CA	RELOCATE PAPER BOXES	EA.	4
619.2702CA	RELOCATE HOUSE NUMBER PANELS	EA.	11
620.03	STONE FILLING (LIGHT)	C.Y.	80
620.04	STONE FILLING (MEDIUM)	C.Y.	350
620.05	STONE FILLING (HEAVY)	C.Y.	950
620.08	BEDDING MATERIAL	C.Y.	15
623.11	CRUSHED GRAVEL (IN-PLACE MEASURE)	C.Y.	93
625.01	SURVEY OPERATIONS	L.S.	1
625.05	STEEL PIN AND CAP, RIGHT OF WAY MARKERS	EA.	71
627.50140008	CUTTING PAVEMENT	L.F.	1425
637.03	CONCRETE CYLINDER CURING BOX	EA.	1
637.12	ENGINEER'S FIELD OFFICE, TYPE 2	MOS.	9
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 30 SF WITH Z-BARS	S.F.	32
645.81	TYPE A SIGN POST	EA.	6
646.22	DELINEATOR SNOWPLOWING MARKER, SUPPLEMENTARY SNOWPLOWING MARKER PANEL	EA.	13
646.31	STEEL POSTS 1.1 LB/FT	EA.	9
647.61	REMOVE AND DISPOSE SIGN PANEL, SIGN PANEL ASSEMBLY, SIZE 1 (UNDER 30 SQUARE FEET)	EA.	40
685.01	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES – 15 MILS	L.F.	14000
685.02	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES – 15 MILS	L.F.	8000
698.04	ASPHALT PRICE ADJUSTMENT	D-C	1
698.05	FUEL PRICE ADJUSTMENT	D-C	1
698.06	STEEL/IRON PRICE ADJUSTMENT	D-C	1
699.040001	MOBILIZATION	L.S.	1

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CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
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DRAWN BY: BGC
CHECKED BY: GB
JOB NO.: 30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	BGC	2-17-17

SCALE: AS NOTED
DATE: FEBRUARY 2017
DRAWING NO.:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

TABLE OF QUANTITIES

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\3 - Table of Quantities.dwg Friday, 17 February 2017 6:28AM

CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ①	
R	2,707.25'
L	135.66'
Δ	2°52'16"
T	67.846'
C	135.649' N44°07'34"W
P.C.	N:840,209.951
	E:1,111,765.825
	TAN. N42°41'26"W
P.T.	N:840,307.321
	E:1,111,671.380
	TAN. N45°33'43"W
BANKING	4.8% DOWN TO LT.

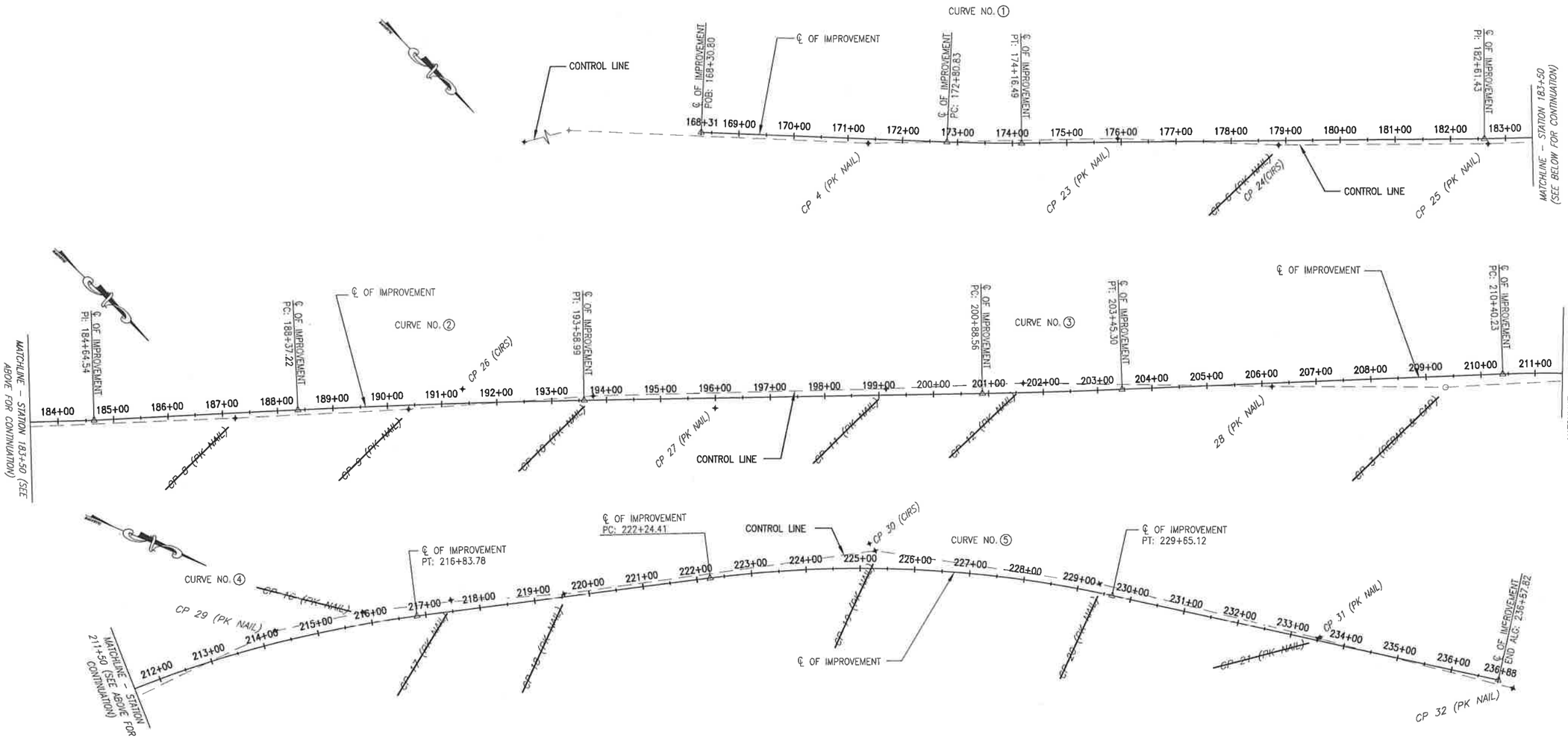
CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ②	
R	17,017.21
L	521.78'
Δ	1°45'24"
T	260.908'
C	521.754' N46°48'01"W
P.C.	N:841,289.688
	E:1,110,645.267
	TAN. N47°40'43"W
P.T.	N:841,646.851
	E:1,110,264.923
	TAN. N45°55'19"W
BANKING	NORMAL CROWN

CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ③	
R	10,299.90
L	256.74
Δ	1°25'41"
T	128.376'
C	256.733' N46°38'10"W
P.C.	N:842,154.363
	E:1,110,9740.809
	TAN. N45°55'19"W
P.T.	N:842,330.644
	E:1,109,554.163
	TAN. N47°21'00"W
BANKING	2.0% DOWN TO LT.

CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ④	
R	2,160.00'
L	643.55'
Δ	17°04'14"
T	324.176'
C	641.17' N38°48'53"W
P.C.	N:842,801.476
	E:1,109,043.030
	TAN. N47°21'00"W
P.T.	N:843,301.061
	E:1,108,641.140
	TAN. N30°16'46"W
BANKING	5.2% DOWN TO RT.

CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ⑤	
R	2,160.00'
L	740.71'
Δ	19° 38 '53"
T	374.028'
C	737.087' N20°27'20"W
P.C.	N:843,767.930
	E:1,108,368.549
	TAN. N30°16'46"W
P.T.	N:844,458.539
	E:1,108,110.952
	TAN. N10°37'53"W
BANKING	5.2% DOWN TO RT.

NOTE: SURVEY PREPARED BY CATTARAUGUS COUNTY



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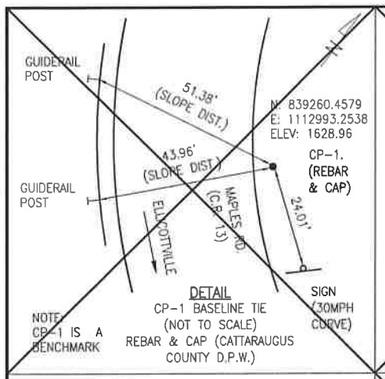
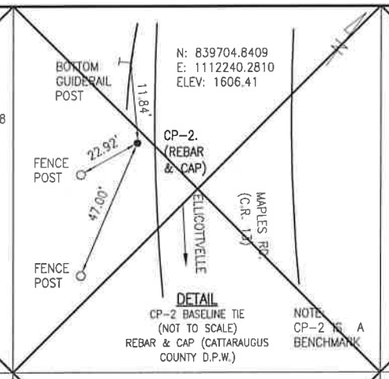
CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

SURVEY CONTROL LAYOUT

SHEET NO.
4 of 25



DETAIL
CP-1 BASELINE TIE
(NOT TO SCALE)
REBAR & CAP (CATTARAUGUS COUNTY D.P.W.)



DETAIL
CP-2 BASELINE TIE
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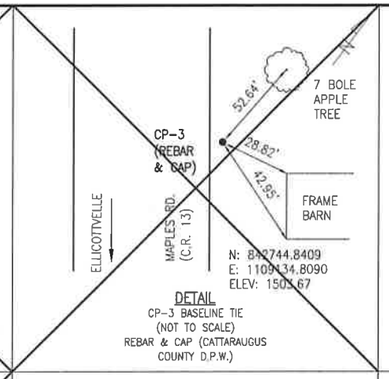
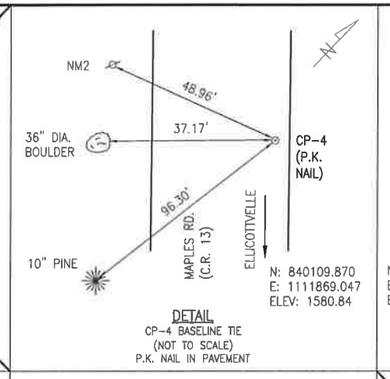
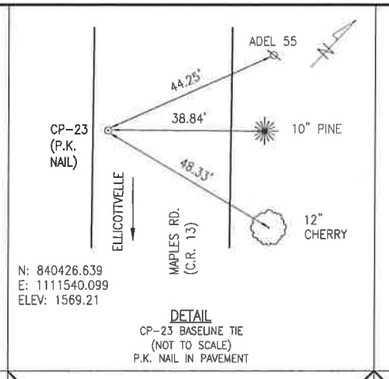
REBAR & CAP (CATTARAUGUS COUNTY D.P.W.)



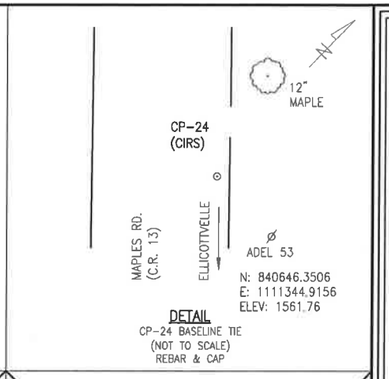
DETAIL
CP-3 BASELINE TIE
(NOT TO SCALE)
REBAR & CAP (CATTARAUGUS COUNTY D.P.W.)



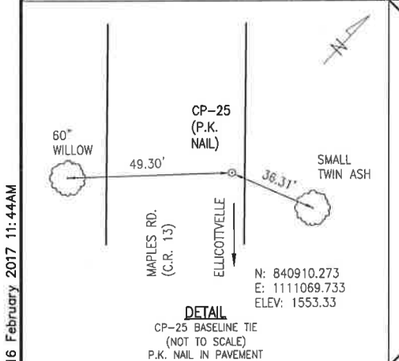
DETAIL
CP-4 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



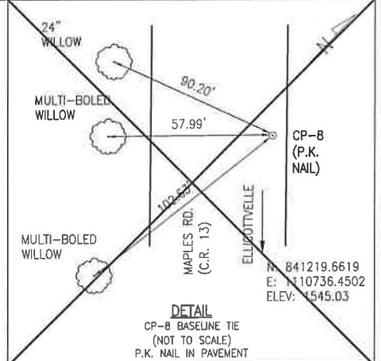
DETAIL
CP-23 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



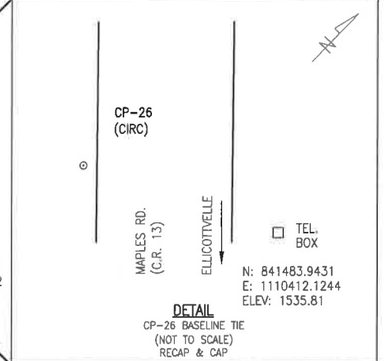
DETAIL
CP-24 BASELINE TIE
(NOT TO SCALE)
REBAR & CAP



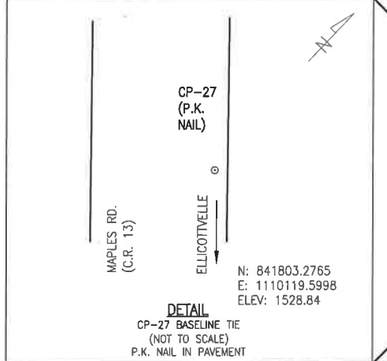
DETAIL
CP-25 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



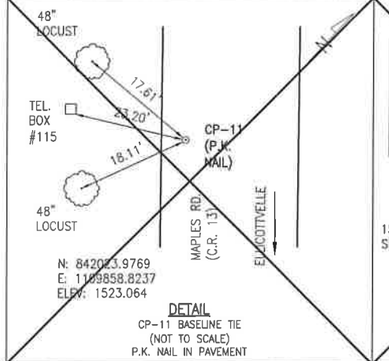
DETAIL
CP-8 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



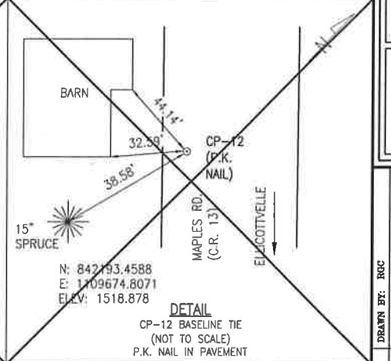
DETAIL
CP-26 BASELINE TIE
(NOT TO SCALE)
RECAP & CAP



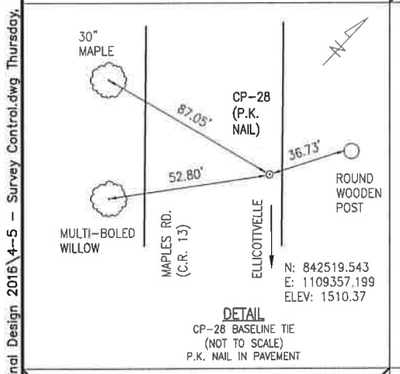
DETAIL
CP-27 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



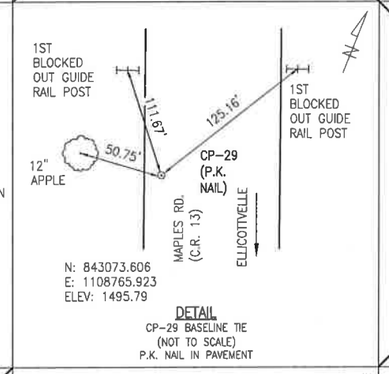
DETAIL
CP-11 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



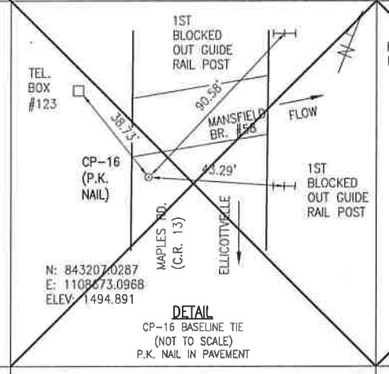
DETAIL
CP-12 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



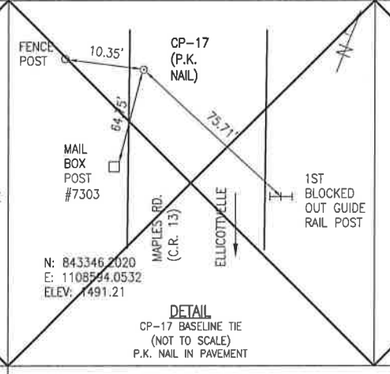
DETAIL
CP-28 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



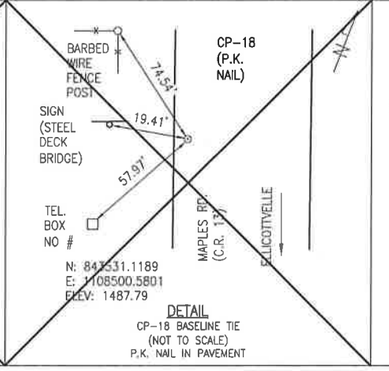
DETAIL
CP-29 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



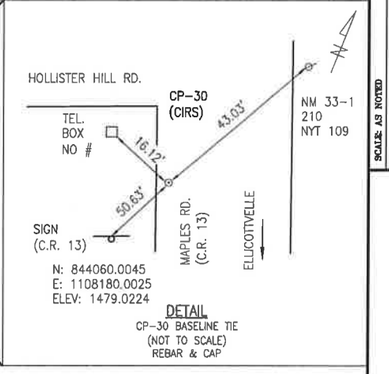
DETAIL
CP-16 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



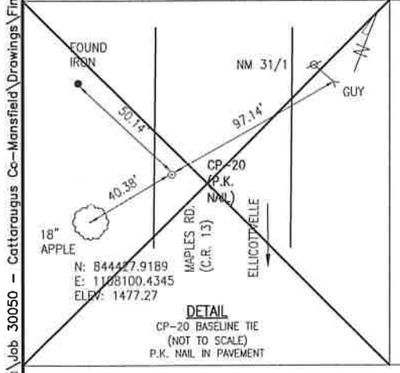
DETAIL
CP-17 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



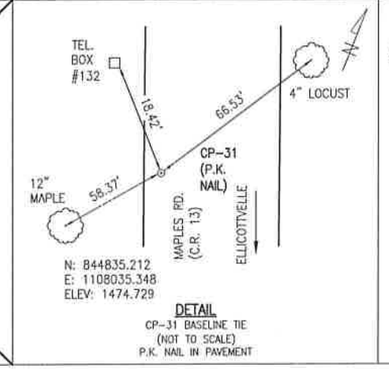
DETAIL
CP-18 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



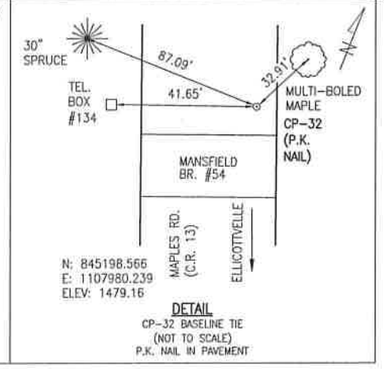
DETAIL
CP-30 BASELINE TIE
(NOT TO SCALE)
REBAR & CAP



DETAIL
CP-20 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



DETAIL
CP-31 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT



DETAIL
CP-32 BASELINE TIE
(NOT TO SCALE)
P.K. NAIL IN PAVEMENT

℄ OF IMPROVEMENT CRITICAL ALIGNMENT POINTS

STATION	NORTHING	EASTING
POB: 168+30.80	839879.168'	1112070.962'
① BC: 169+00	839930.0322'	1112024.0421'
PC: 172+80.83	840209.951'	1111765.825'
PT: 174+16.49	840307.321'	1111671.380'
PC: 188+37.22	841289.688'	1110645.267'
PT: 193+58.99	841646.851'	1110264.923'

STATION	NORTHING	EASTING
PC: 200+88.56	842154.363'	1109740.809'
PT: 203+45.30	842330.644'	1109554.163'
PC: 210+40.23	842801.476'	1109043.030'
PT: 216+83.78	843301.061'	1108641.140'
PC: 222+24.41	843767.930'	1108368.549'
PT: 229+65.12	844458.539'	1108110.952'
② EC: 236+56.60	845138.1572'	1107983.3779'

① BC DENOTES BEGINNING OF CONSTRUCTION
② EC DENOTES END OF CONSTRUCTION

NOTE: SURVEY PREPARED BY CATTARAUGUS COUNTY

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(716) 633-4844
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CHECKED BY: GB
JOB NO.: 30050
DRAWING NO.:
SCALE AS NOTED
DATE: FEBRUARY 2017

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

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TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

SURVEY CONTROL TIES

SHEET NO.
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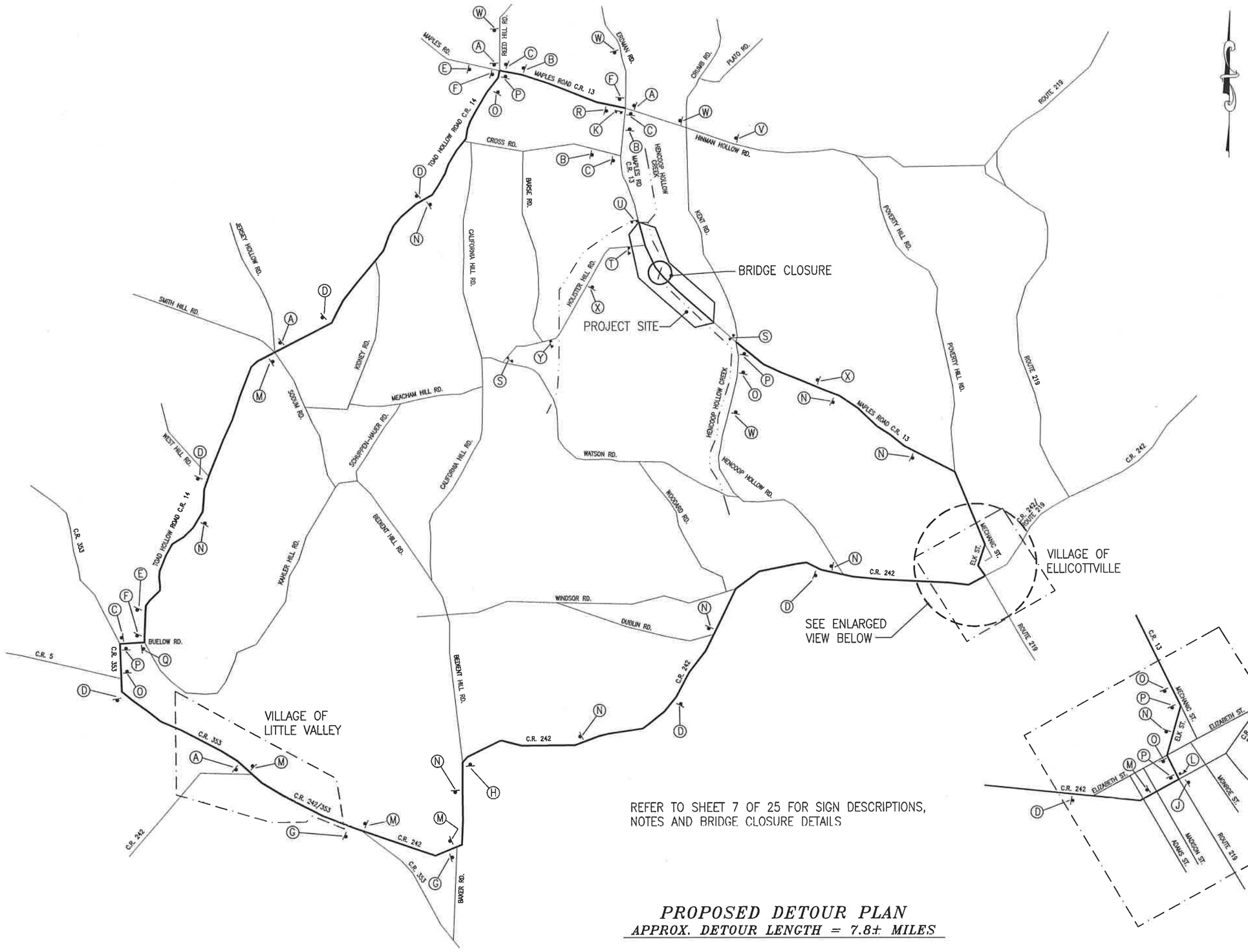

PROPOSED DETOUR PLAN

APPROX. DETOUR LENGTH = 7.8± MILES

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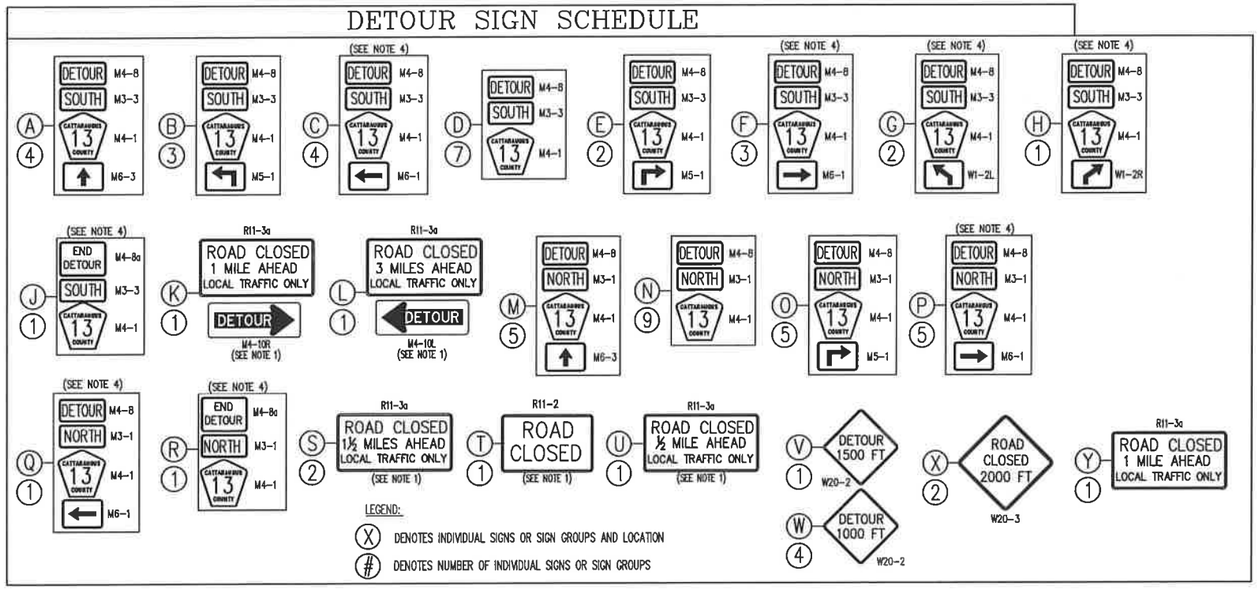
DETOUR PLAN

SHEET NO.

6 of 25

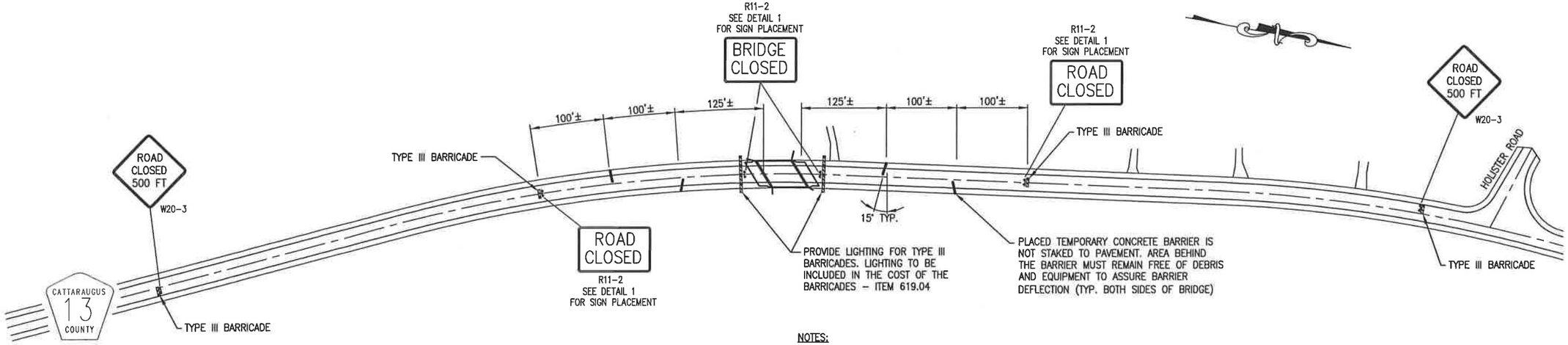
X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\6-7 - Detour Plan & Signage Details.dwg Wednesday, 15 February 2017 2:15PM

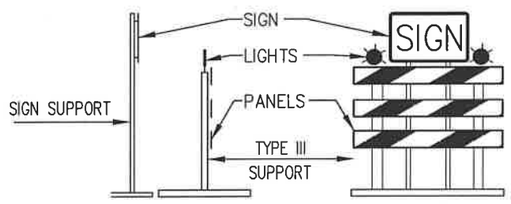
DETOUR SIGN SCHEDULE



NOTES:

1. IF THE ROAD IS OPENED FOR SOME DISTANCE BEYOND THE INTERSECTION AND/OR THERE ARE SIGNIFICANT ORIGIN/DESTINATION POINTS BEYOND THE INTERSECTION, THE R11-2 AND R11-3A ROAD CLOSED SIGNS AND THE M4-10(L/R) "DETOUR" SIGN MOUNTED ON TYPE III BARRICADES ARE TO BE LOCATED AT THE EDGE OF THE TRAVELED WAY.
2. SEE REQUIREMENTS IN THE STANDARD SPECIFICATION SECTION 619 FOR VEHICLE BARRIER SYSTEM REQUIREMENTS.
3. ANY EXISTING SIGNS WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET AOBE. BLANK COVERS USED TO COVER PORTIONS OF EXISTING SIGNS SHALL BE OF A COLOR AND REFLECTORIZED MATERIAL MATCHING THAT OF THE SIGN BEING PARTIALLY COVERED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO SIGNS CAUSED BY THE METHODS USED TO TEMPORARILY REMOVE, REPLACE, RELOCATE OR COVER SIGN PANELS OR SIGN TEXT, AT NO ADDITIONAL COST TO THE STATE. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THE CONTACT DOCUMENTS.
4. SIGN GROUPINGS (C),(F),(G),(H),(J),(P),(Q), AND (R) SHALL ALWAYS BE POSTED A MAXIMUM OF 50' FROM AN INTERSECTION.
5. FOR LOCAL AND/OR COUNTY ROAD DETOUR SIGNAGE DETAILS REFER TO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) WITH NEW YORK STATE SUPPLEMENT FOR GUIDANCE.
6. THE CONTRACTOR WILL PLACE ALL SIGNS FOR THE DETOUR PRIOR TO BRIDGE RECONSTRUCTION.
7. THE SIGN LOCATIONS SHOWN ARE APPROXIMATE. THE LATERAL AND LONGITUDINAL PLACEMENT OF SIGNS SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
8. THE DETOUR PLAN SHOWN IS CONSIDERED TO BE THE MINIMUM REQUIREMENTS. ADDITIONAL SIGNS AND/OR CONTROL DEVICES MAY BE REQUIRED, A.O.B.E.
9. ANY EXISTING SIGNS WHICH ARE TO REMAIN AND CONFLICT WITH DETOUR SIGNS SHALL BE EITHER COVERED, REMOVED, OR STORED AND RESET AS DIRECTED BY THE ENGINEER THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE EXISTING SIGNS.
10. THE CONTRACTOR WILL MAINTAIN ALL SIGNS AND/OR CONTROL DEVICES FOR THE DURATION OF THE DETOUR. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ROADWAY MAINTENANCE.





DETAIL 1
N.T.S.

NOTES:

1. THE SIGN PANELS SHALL BE MOUNTED ON SEPERATE SIGN SUPPORTS, NOT ON THE TYPE III BARRICADES
2. REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES SECTION 6F FOR THE DIRECTION OF STRIPING ON THE BARRICADES.
3. SIGN PANELS SHALL BE INCLUDED IN ITEM 619.01. TYPE III BARRICADES TO BE PAID UNDER ITEM 619.04 AND THE CONCRETE BARRICADES SHALL BE PAID UNDER ITEM 619.1701
4. ANY LIGHTING USED ON TYPE III BARRICADES SHALL BE INCLUDED IN THE COST OF THE BARRICADES, ITEM 619.04

BRIDGE CLOSURE DETAILS
N.T.S.

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BY | DATE
RGC | 2-17-17
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DATE: FEBRUARY 2017
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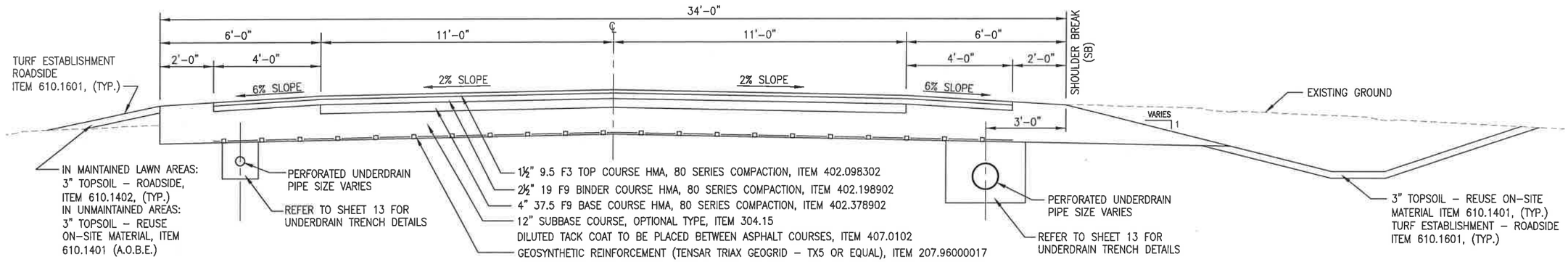
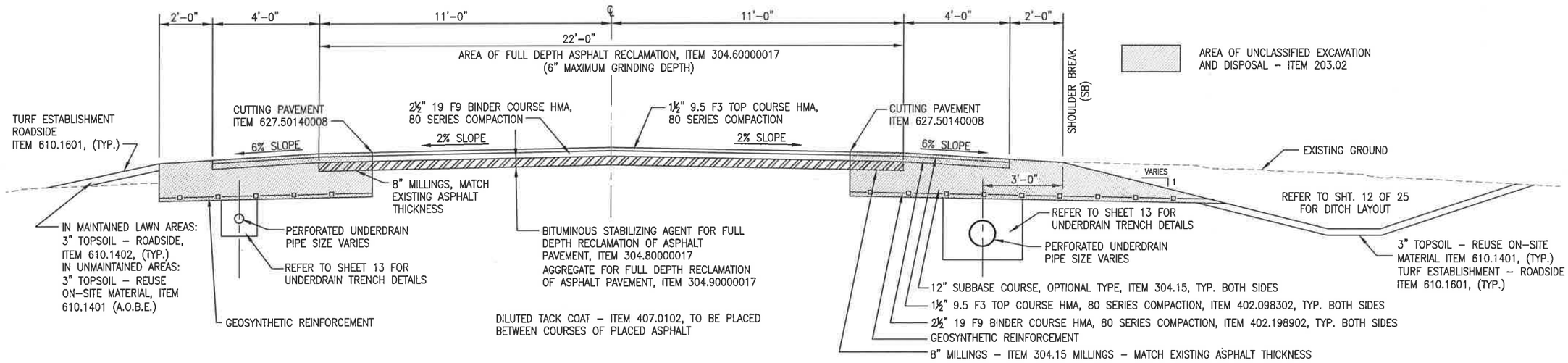
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

BRIDGE CLOSURE, SIGNS & NOTES



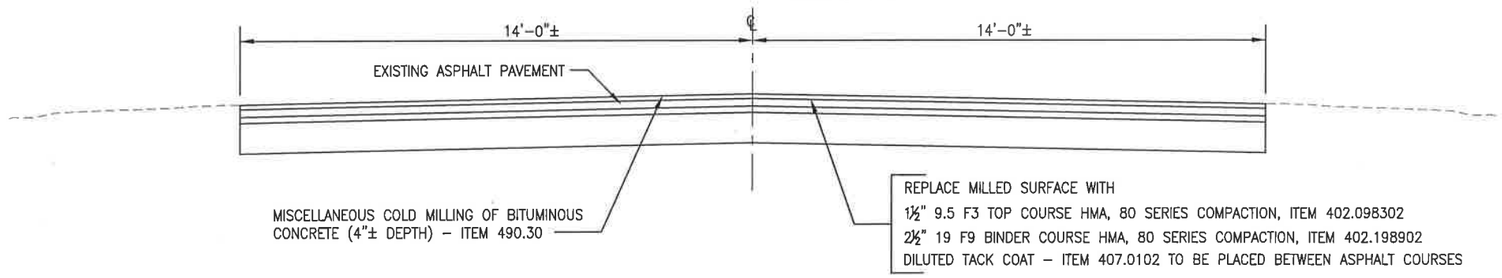
TYPICAL FULL DEPTH RECONSTRUCTION SECTION
STA. 210+50 TO STA. 235+92

SCALE: ½"=1'-0"



TYPICAL FULL DEPTH ASPHALT RECLAMATION SECTION
STA. 169+00 TO STA. 210+50

SCALE: ½"=1'-0"



TYPICAL MILLED ASPHALT SECTION
STA. 235+92± TO STA. 236+56±

SCALE: ½"=1'-0"

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TOWN OF MANSFIELD – C.R. 13 IMPROVEMENTS

TYPICAL SECTIONS

SHEET NO.
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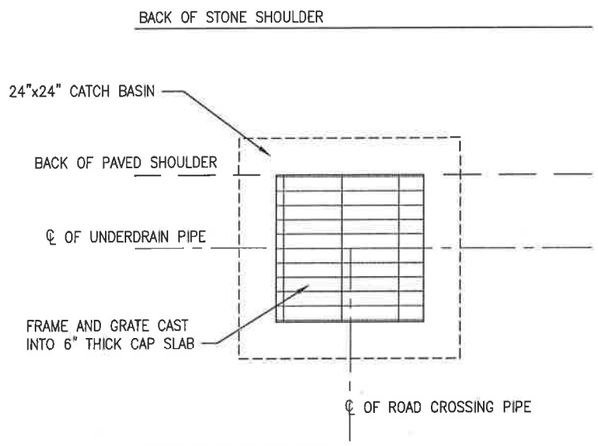
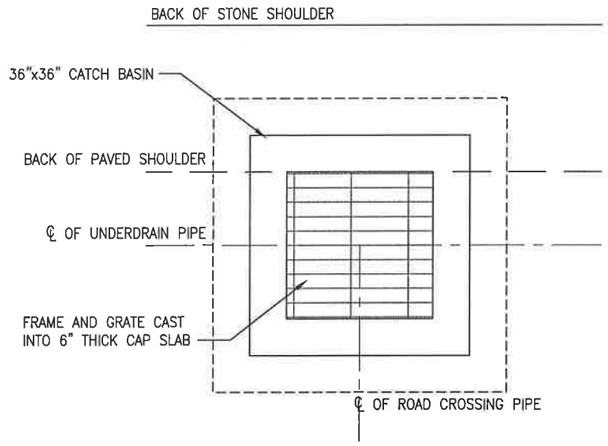
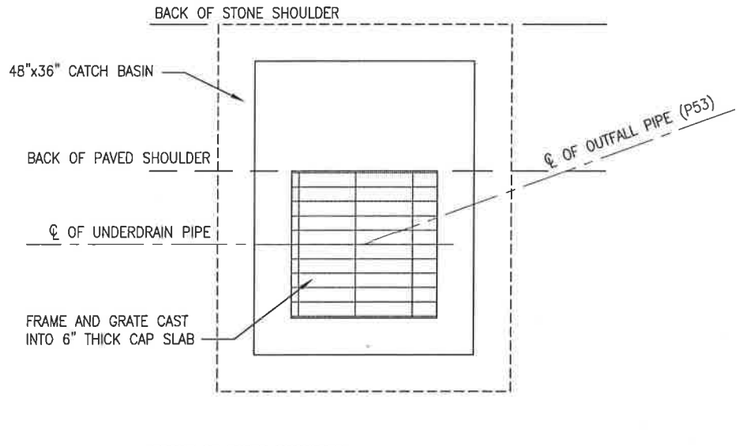


24"x24" CATCH BASIN PLAN VIEW
ITEM 604.3001CA
SCALE: 1" = 1'-0"



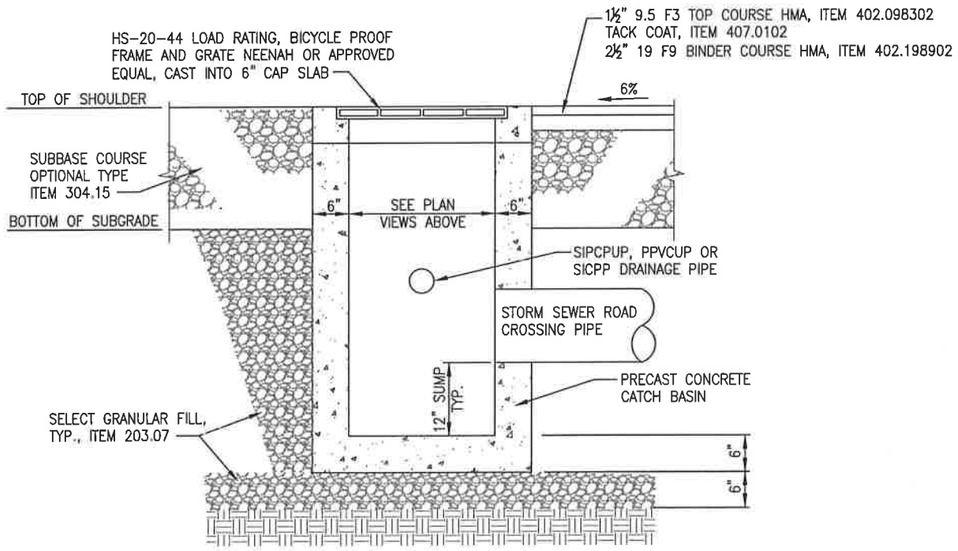
36"x36" CATCH BASIN PLAN VIEW
ITEM 604.3002CA
SCALE: 1" = 1'-0"



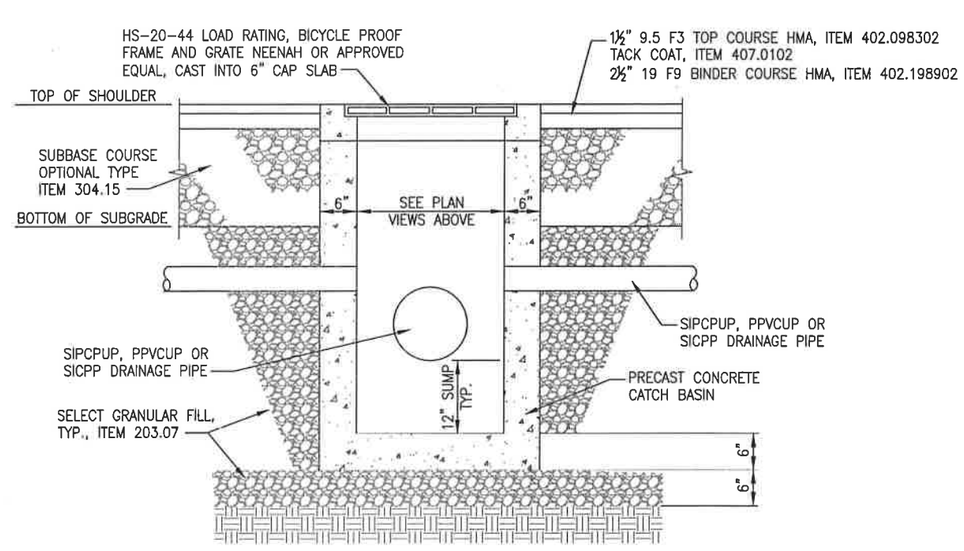
48"x36" CATCH BASIN PLAN VIEW
(CB16)
ITEM 604.3003CA
SCALE: 1" = 1'-0"

NOTES:

1. ALL CATCH BASIN TO HAVE SPECIFIC FORMED PIPE OPENINGS, KNOCKOUTS ARE NOT ALLOWED.
2. FRAMES AND GRATES TO BE HS-20-44 LOAD RATED AND BICYCLE PROOF AS MANUFACTURED BY NEENAH FOUNDRY OR EQUAL. COST TO BE INCLUDED IN THE CATCH BASIN ITEMS 604.300xCA



TYPICAL CATCH BASIN SECTION
PERPENDICULAR TO ROAD
SCALE: 1" = 1'-0"



TYPICAL CATCH BASIN SECTION
PARALLEL TO ROAD
SCALE: 1" = 1'-0"

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TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

CATCH BASIN DETAILS

SHEET NO.
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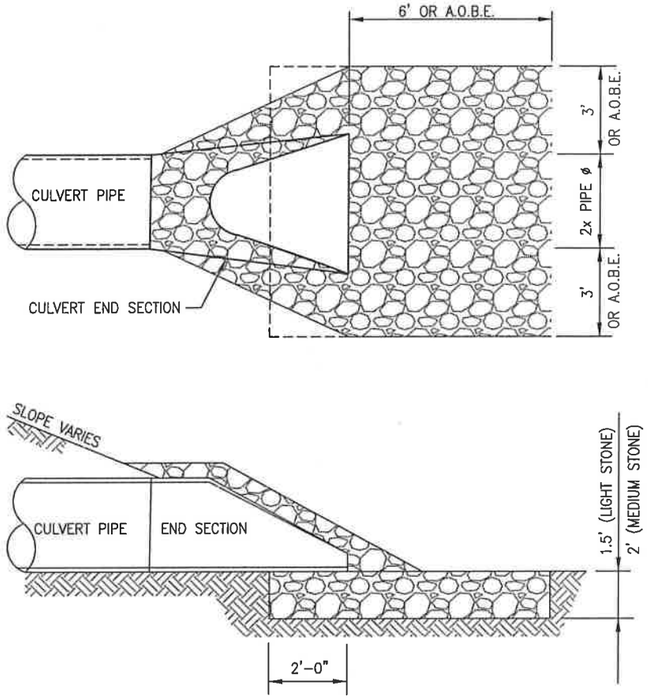
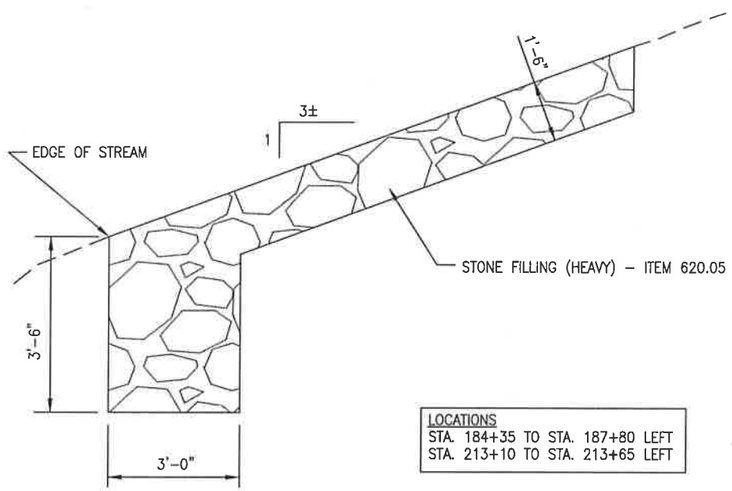


STONE FILL AT END SECTION DETAILS

SCALE: NONE

STONE FILL AT CULVERT END SECTIONS		
	ITEM NO. 620.03 LIGHT STONE FILL (cy)	ITEM NO. 620.04 MEDIUM STONE FILL (cy)
LOCATION	VOLUME (CY)	VOLUME (CY)
169+75 RT	4.0	
177+06 RT		7.0
177+40 LT		5.0
177+44 LT		7.0
181+72 LT		5.0
184+50 LT		6.0
187+50 LT		6.0
190+34 RT		10.0
190+41 LT		10.0
193+52 RT		5.0
196+19 RT		7.0
196+54 LT		7.0
196+98 RT	4.0	
197+23 RT	4.0	
197+60 RT	4.0	
198+10 RT	4.0	
199+37 RT	4.0	
199+90 RT	4.0	
200+40 RT	4.0	
201+58 RT	4.0	
202+76 RT	4.0	
203+26 RT	4.0	
204+58 RT		7.0
204+81 LT		6.0
204+88 LT		7.0

STONE FILL AT CULVERT END SECTIONS		
	ITEM NO. 620.03 LIGHT STONE FILL (cy)	ITEM NO. 620.04 MEDIUM STONE FILL (cy)
LOCATION	VOLUME (CY)	VOLUME (CY)
208+75 RT		13.0
208+89 LT		13.0
212+27 RT		5.0
212+49 RT	4.0	
212+69 RT	4.0	
219+10 LT		7.0
219+10 RT		7.0
222+34 LT	4.0	
223+32 LT	4.0	
223+41 LT		10.0
223+54 RT		10.0
224+08 LT	4.0	
224+38 LT	4.0	
225+91 LT		7.0
225+91 RT		7.0
227+46 LT		7.0
227+71 RT		7.0
228+78 RT		8.0
228+87 LT		8.0
230+10 LT	3.8	
230+10 RT		5.0
231+66 LT	3.8	
234+00 LT	3.8	
TOTAL	80.0	209.0



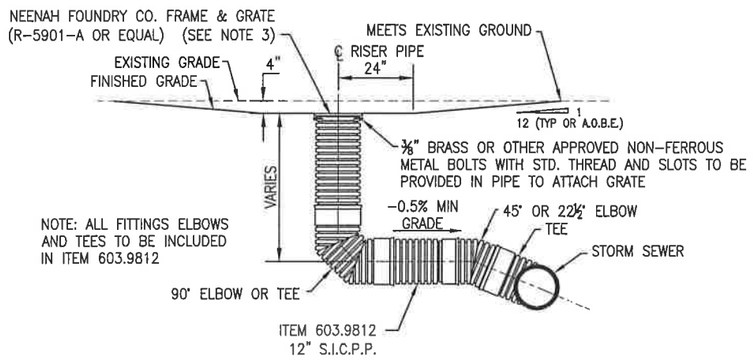
LOCATIONS
STA. 184+35 TO STA. 187+80 LEFT
STA. 213+10 TO STA. 213+65 LEFT

BANK STABILIZATION DETAIL

SCALE: NONE

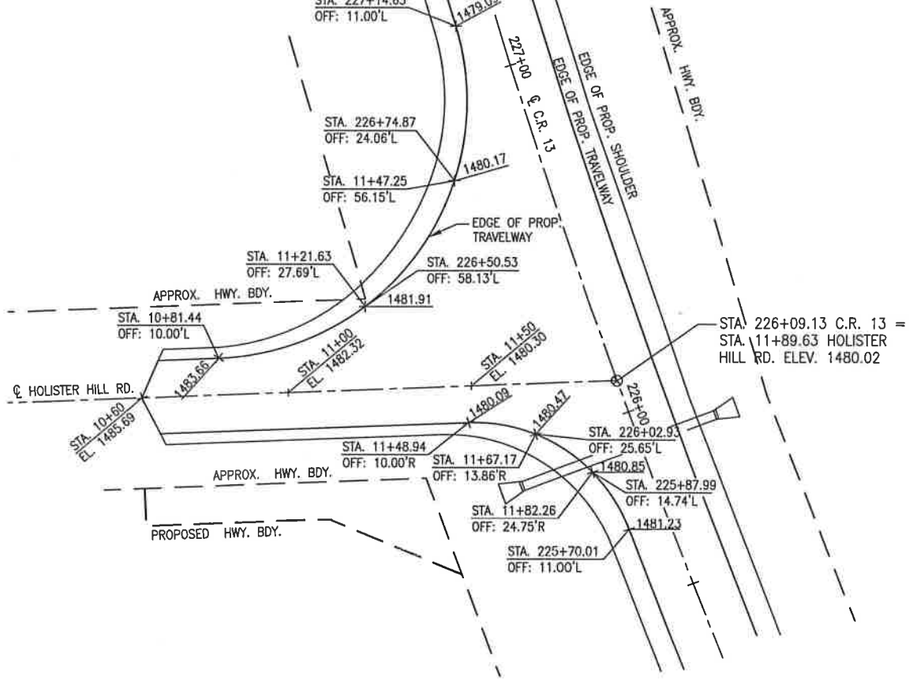
NYSDOT FIELD INLET NOTES

1. THE CONSTRUCTION DETAILS AND BACKFILL MATERIAL SHALL CONFORM TO SECTION 603 OF THE NYSDOT STANDARD SPECIFICATIONS.
2. THE QUANTITY OF PIPE TO BE PAID WILL BE THE NUMBER OF LINEAR FEET OF PIPE MEASURED ALONG THE AXIS FROM THE INSIDE OF THE DRAINAGE STRUCTURE TO THE TOP OF THE GRATE.
3. PAYMENT FOR THE PIPE GRATE WILL BE MADE UNDER ITEM 603.9812. DRAIN GRATE SHALL MEET THE MATERIAL REQUIREMENTS OF SECTION 655 OF THE NYSDOT STANDARD SPECIFICATIONS. EXCAVATION AND BACKFILL WILL ALSO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603.9812.
4. THE COST OF COMPLETING THE ASSEMBLY OF THESE STRUCTURES WILL BE INCLUDED IN THE PRICE BID FOR ITEM 603.9812.
5. LOCATIONS OF FIELD INLETS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER



FIELD INLET CONNECTION DETAIL

SCALE: NONE



GRADING DETAIL AT HOLISTER HILL INTERSECTION

SCALE: 1"=20'-0"

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

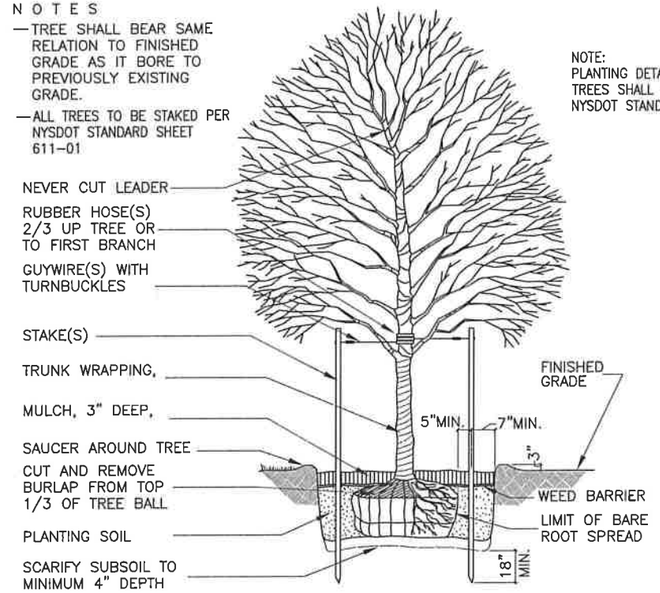
SCALE: NONE
DATE: FEBRUARY 2017
DRAWING NO.: AD-8

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

MISCELLANEOUS DETAILS
(1 OF 2)

SHEET NO.
10 of 25

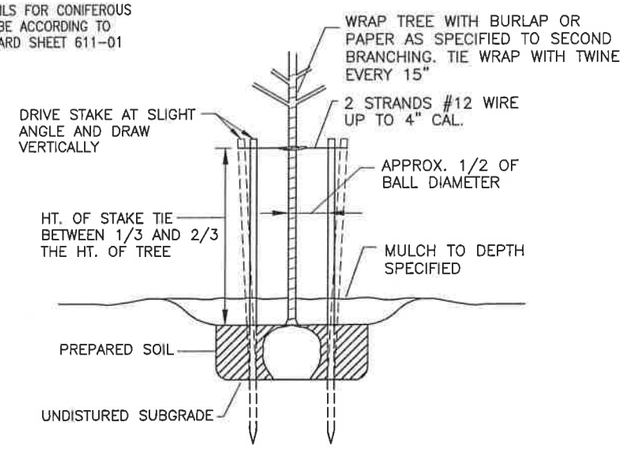
NOTES
— TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE.
— ALL TREES TO BE STAKED PER NYSDOT STANDARD SHEET 611-01



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE:

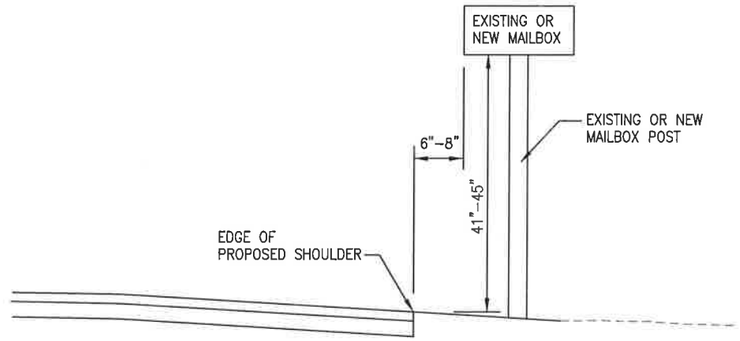
NOTE:
PLANTING DETAILS FOR CONIFEROUS TREES SHALL BE ACCORDING TO NYSDOT STANDARD SHEET 611-01



2" CAL. USE 2 – 10' STAKES

STAKING AND WRAPPING MAJOR TREES

NOT TO SCALE:



TYPICAL MAILBOX RELOCATION DETAIL

ITEM 619.27

SCALE: 1"=1'-0"

TREE PLANTING TABLE				
STATION	SIDE	TYPE	NUMBER	NOTE
196+75	L	YELLOW POPLAR	1	PLANT OFF RIGHT-OF-WAY
196+75	R	YELLOW POPLAR	1	PLANT OFF RIGHT-OF-WAY
198+50	R	YELLOW POPLAR	1	PLANT OFF EASEMENT
198+75	L	RED MAPLE	1	PLANT OFF RIGHT-OF-WAY
199+00	L	RED MAPLE	1	PLANT OFF RIGHT-OF-WAY
199+25	L	RED MAPLE	1	PLANT OFF RIGHT-OF-WAY
199+50	L	RED MAPLE	1	PLANT OFF RIGHT-OF-WAY
199+50	R	YELLOW POPLAR	1	PIANT OFF EASEMENT
200+50	L	YELLOW POPLAR	1	PLANT OFF RIGHT-OF-WAY
201+00	R	YELLOW POPLAR	1	PLANT OFF EASEMENT
202+00	R	YELLOW POPLAR	1	PLANT OFF EASEMENT
203+00 to 203+75	L	WHITE PINE	4	PLANT OFF RIGHT-OF-WAY
204+25 to 204+50	L	YELLOW POPLAR	3	PLANT OFF RIGHT-OF-WAY
2045+50 to 205+15	L	YELLOW POPLAR	3	PLANT OFF EASEMENT
205+15 to 208+75	L	YELLOW POPLAR	9	PIANT OFF RIGHT-OF-WAY
210+00 to 212+00	L	YELLOW POPLAR	4	PLANT OFF RIGHT-OF-WAY

TREE REMOVAL TABLE		
STATION	SIDE	NOTE
176+80	L	TRIM AS NEEDED
177+50 TO 181+25	L	CLEAR TO RIGHT-OF-WAY
181+25 TO 182+00	L	CLEAR TO EASEMENT
181+75 TO 182+50	R	CLEAR TO RIGHT-OF-WAY
185+00 TO 190+25	L	CLEAR TO RIGHT-OF-WAY
190+25 TO 190+55	L	CLEAR TO EASEMENT
190+55 TO 191+50	L	CLEAR TO RIGHT-OF-WAY
190+55 TO 198+00	R	CLEAR TO RIGHT-OF-WAY
196+30 TO 196+70	L	CLEAR TO EASEMENT
198+00 TO 208+80	R	CLEAR TO EASEMENT
200+50	L	CUT
203+00 TO 203+75	L	THE PROPERTY OWNER WILL MARK 3 OR 4 PINE TREES TO BE CUT
204+30 TO 204+75	L	CLEAR TO RIGHT-OF-WAY
204+75 TO 205+15	L	CLEAR TO EASEMENT
205+15 TO 208+75	L	CLEAR TO RIGHT-OF-WAY
208+75 TO 209+10	L	CLEAR TO EASEMENT
209+10 TO 216+00	L	CLEAR TO RIGHT-OF-WAY
213+00 TO 230+25	R	CLEAR TO EASEMENT
232+00 TO 232+50	R	CLEAR TO RIGHT-OF-WAY
235+50 TO 236+50	R	CLEAR TO RIGHT-OF-WAY

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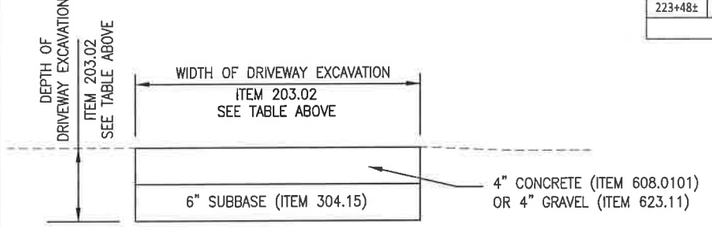
MISCELLANEOUS DETAILS
(2 OF 2)

SHEET NO.

11 of 25

DRIVEWAY TABLE									
ITEM NO. 203.02 - UNCLASSIFIED EXCAVATION AND DISPOSAL									
ITEM NO. 304.15 - SUBBASE COURSE, OPTIONAL TYPE									
ITEM NO. 623.11 - CRUSHED GRAVEL (IN-PLACE MEASURE)									
ITEM NO. 608.0101 - CONCRETE FOR DRIVEWAYS AND SIDEWALKS									
House Number	Approx. Station	Side	Avg. Width (Ft.)	Avg. Length (Ft.)	Approx. Area (SF)	Item 203.02 (CY)	Item 304.15 (CY)	Item 623.11 (CY)	Item 608.0101 (CY)
7120	170+20	R	30	25	511	16.0	10.0	7.0	
7123	170+70	L	12	15	180	5.0	4.0	3.0	
7136	173+52	R	12	15	180	4.0	4.0	3.0	
7140	174+90	R	12	15	180	6.0	4.0	3.0	
7164	179+75	R	21	15	315	10.0	6.0	4.0	
7164	180+85	R	14	15	210	7.0	4.0	3.0	
7229	196+25	L	17	15	255	8.0	5.0	4.0	
7228	196+60	R	16	15	240	8.0	5.0	3.0	
7228	197+10	R	16	16	256	8.0	5.0	4.0	
	197+85	R	25	20	500	16.0	10.0	7.0	
	200+05	R	25	20	500	16.0	10.0	7.0	
	203+00	R	25	20	500	16.0	10.0	7.0	
7286	209+20	R	23	16	368	12.0	7.0	5.0	
7286	209+85	R	15	16	240	8.0	5.0	3.0	
7286	212+60	R	12	20	256	8.0	5.0	4.0	
	216+70	L	12	30	360	12.0	16.0	5.0	
7335	221+00	L	13	25	325	10.0	10.0	4.0	
7335	222+50	L	13	20	260	8.0	5.0	4.0	
7335	224+30	L	14	33	462	15.0	9.0		6.0
7365	228+60	L	14	28	392	12.0	8.0	5.0	
7380	230+45	R	14	12	168	6.0	3.0	2.0	
7380	231+45	R	16	15	240	8.0	5.0	3.0	
7389	232+75	L	17	13	221	7.0	4.0	3.0	
				TOTALS		226.0	154.0	93.0	6.0



CONCRETE OR GRAVEL DRIVEWAY REPLACEMENT DETAIL

NOT TO SCALE

SIGN TABLE					
ITEM NO. 645.5102 - GROUND MOUNTED SIGN PANELS WITH Z-BARS					
ITEM NO. 645.81 - TYPE A SIGN POSTS (1⅝" SQUARE UNISTRUT POSTS)					
ITEM NO. 647.61 - REMOVE & DISPOSE SIGNS, GROUND MOUNTED TYPE "A" SIGN SUPPORTS (UNDER 30 SF)					
Approx. Station	Approx. Offset	Side	Description	Item 645.5102 (SF)	Item 645.81 (EA.)	Item 647.61 (EA.)
173+21	18	L	Left Curve/30MPH	10.25	1	2
211+43	17	R	STEEL DECK BRIDGE			1
219+69	17	L	STEEL DECK BRIDGE			1
225+17	46	L	C.R. 13	2.25	1	1
225+95	48	L	HOLISTER HILL RD.	2.50	1	1
226+05	56	L	STOP	6.25	1	1
226+24	4	L	LEFT/RIGHT ARROW	8.00	1	1
227+51	5	R	C.R. 13	2.25	1	1
			TOTAL	32	6	9

END SECTIONS FOR BIORETENTION 4" OUTLETS			
ITEM NO. 605.21010018 - PRECAST CONCRETE HEADWALLS FOR 4" LATERAL OUTLET PIPES			
Approx. Station	Approx. Offset	Side	ITEM 605.21010018 (EACH)
181+58±	34'±	LT.	1
184+37±	39'±	LT.	1
187+25±	38'±	LT.	1
190+29±	35'±	LT.	1
208+80±	35'±	LT.	1
215+50±	42'±	LT.	1
219+00±	48'±	RT.	1
223+48±	30'±	RT.	1
		TOTAL	8

GUIDERAIL TABLE										
ITEM NO. 568.54 STEEL BRIDGE RAIL (THREE RAIL)										
ITEM NO. 568.70 TRANSITION BRIDGE RAILING										
ITEM NO. 606.10 - BOX BEAM GUIDE RAILING										
ITEM NO. 606.100002 - BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)										
ITEM NO. 606.120101 - BOX BEAM END PIECE										
ITEM NO. 606.120201 - BOX BEAM GUIDE RAILING END ASSEMBLY TYPE IIA										
ITEM NO. 606.2701 - HPBO (Mod.) CORRUGATED BEAM GUIDE RAILING										
ITEM NO. 606.2703 - ANCHORAGE UNITS FOR HPBO (Mod.) CORRUGATED BEAM GUIDE RAILING										
ITEM NO. 606.71 - REMOVING AND DISPOSING OF CORRUGATED BEAM GUIDE RAILING										
Location	Side	Item 568.54 (LF)	Item 568.70 (LF)	Item 606.10 (LF)	Item 606.100002 (LF)	Item 606.120101 (EA)	Item 606.120201 (LF)	Item 606.2701 (LF)	Item 606.2703 (EA)	Item 606.71 (LF)
Location Varies										325
215+55.20 to 216+15.08	LT.	60.875								
215+74.75 to 216+37.11	RT.	60.875								
215+23.20 to 215+55.20	LT.		32							
215+42.75 to 216+74.75	RT.		32							
216+15.08 to 216+47.08	LT.		32							
216+37.11 to 216+69.11	RT.		32							
181+00 to 187+50	LT.							650	2	
214+83.20 to 215+23.10	LT.			40						
214+82.75 to 215+42.75	RT.			60						
216+69.11 to 217+09.11	RT.			40						
216+47.08, 14' RAD.	LT.				22					
216+55±	LT.					1				
214+83.20	LT.						1			
214+82.75	RT.						1			
217+09.11	RT.						1			
TOTALS		121.75	128	140	22	1	3	650	2	325

R.O.W. MARKER TABLE			
ITEM NO 625.05 - STEEL PIN & CAP RIGHT-OF- WAY MARKERS			
LEFT SIDE		RIGHT SIDE	
STATION	OFFSET	STATION	OFFSET
176+40.03	31.98	190+20	33.22
177+55	32.44		43.00
	42.92	190+50	33.18
181+30	33.92		43.00
	43.00	198+05.67	33.00
182+00	34.20	203+86.41	37.84
	43.00	203+98.17	27.20
184+30	32.47	203+65.13	39.00
	67.00	208+38.67	41.00
187+85	32.34	208+43.93	36.26
	67.00	208+90	36.16
190+25	32.78		48.29
	46.00	211+00	31.63
190+55	32.82	212+53.06	38.89
	46.00	212+56.47	22.76
196+40	30.92	216+20.23	50.00
	46.52	216+21.58	40.37
196+63.10	46.72	216+24.63	18.32
196+70	30.55	216+63.78	50.00
	46.78	219+00	50.00
204+75	37.06		55.00
	47.96	219+20	50.00
205+15	36.15		55.00
	47.23	222+24.41	50.00
208+75	29.76	229+65.12	50.00
	45.57	230+29.09	50.00
209+05	29.96	230+33.28	28.46
	45.48		
212+92.37	44.63		
213+24.58	83.19		
213+70	47.32		
	75.96		
214+83.89	48.96		
214+84.25	70.08		
216+94.25	61.75		
216+94.56	45.70		
217+83.07	39.83		
217+83.45	60.05		
220+85	47.64		
	33.06		
225+75	58.99		
226+00	86.56		
226+15.33	134.12		
226+25.44	130.72		

MAILBOXES
ITEM NO. 619.27 - MAILBOXES
LOCATIONS
HOUSE 7120, STA. 169+42 LT
HOUSE 7123, STA. 171+00 LT
HOUSE 7164, STA. 180+00 LT
HOUSE 7228, STA. 196+00 LT
HOUSE 7229, STA. 196+00 LT
HOUSE 7286, STA. 209+80 LT
HOUSE xxxx, STA. 216+90 LT
HOUSE 7335, STA. 222+30 LT
HOUSE 7365, STA. 228+75 LT
HOUSE 7380, STA. 231+00 LT
HOUSE 7393, STA. 233+00 LT
TOTAL 11

HOUSE ADDRESS PANELS	
ITEM NO. 619.2702CA - RELOCATE HOUSE NUMBER PANELS	
HOUSE NUMBER	STATION
HOUSE 7120	169+75 RT.
HOUSE 7123	171+00 LT.
HOUSE 7136	173+30 RT.
HOUSE 7140	174+20 RT.
HOUSE 7164	180+00 RT.
HOUSE 7228	196+50 RT.
HOUSE 7229	196+50 RT.
HOUSE 7232	197+25 RT.
HOUSE 7253	202+10 LT.
HOUSE 7235	222+70 LT.
HOUSE 7365	228+45 LT.
TOTAL	11

NEWSPAPER BOXES	
ITEM NO. 619.2701CA - RELOCATE PAPER BOXES	
HOUSE NUMBER	STATION
HOUSE 7232	197+25 LT.
HOUSE 7335	222+30 LT.
HOUSE 7335	226+00 LT.
HOUSE 7335	226+002 LT.
TOTAL	4

LATERAL CONNECTIONS TO STORM SEWER	
ITEM NO. 603.99450005 - SUMP PUMP AND GUTTER DRAIN OUTLET TO STORM SEWER (LF)	
ASSUMED LOCATION	ASSUMED LENGTH (LF)
HOUSE NO. 7120	20
HOUSE NO. 7123	20
HOUSE NO. 7136	20
HOUSE NO. 7140	20
HOUSE NO. 7164	20
HOUSE NO. 7228	20
HOUSE NO. 7229	20
HOUSE NO. 7253	20
HOUSE NO. 7286	20
HOUSE NO. 7335	20
HOUSE NO. 7365	20
HOUSE NO. 7380	20
HOUSE NO. 7389	20
HOUSE NO. 7404	20
TOTAL	280

DITCH LAYOUT DATA						
Location	Type	Foreslope	Bottom Width	Backslope	COMMENT	Grade
DITCH NO. 1 193+50, 28' RT. TO 196+19, 26.9' RT.	STANDARD DITCH	3H:1V	2'	2H:1V	SLOPE TO GRADE TO SB 196+19R 5 CHECK DAMS ITEM 209.110101	269± LF @ -1.97%
DITCH NO. 2 196+83, 28' RT. TO 199+37, 26' RT.	STANDARD DITCH	3H:1V	2'	2H:1V	SLOPE TO GRADE TO SB 199+38R 5 CHECK DAMS ITEM 209.110101	254± LF @ -1.74%
DITCH NO. 3 199+38, 26' RT. TO 201+58, 26' RT.	STANDARD DITCH	3H:1V	2'	2H:1V	SLOPE TO GRADE TO SB 201+58R 3 CHECK DAMS 209.110101	220± LF @ -1.41%
DITCH NO. 4 201+60, 26' RT. TO 204+50, 30.12' RT.	STANDARD DITCH	3H:1V	2'	2H:1V	SLOPE TO GRADE TO SB 204+50R 5 CHECK DAMS ITM 209.110101	290± LF @ -1.89%
DITCH NO. 5 204+50, 26' RT. TO 208+73, 36' RT.	STANDARD DITCH	3H:1V	2'	2H:1V	SLOPE TO GRADE TO SB 208+73R 8 CHECK DAMS ITEM 209.110101	423± LF @ -2.22%
DITCH NO. 6 212+30, 27' RT. TO 215+85, 36' RT.	STANDARD DITCH	VARIES	2'	2H:1V	SLOPE TO GRADE TO CREEK 9 CHECK DAMS ITEM 209.110101	395± LF @ -1.80%
DITCH NO. 7 217+75, 42' LT. TO 219+10, 41' LT.	SPECIAL DITCH	VARIES	2'	2H:1V	SLOPE TO GRADE TO SB 219+10L 3 CHECK DAMS ITEM 209.110101	135± LF @ -2.26%
DITCH NO. 8 220+78, 31' LT. TO 219+00, 41' LT.	SPECIAL DITCH	VARIES	2'	2H:1V	SLOPE TO GRADE TO SB 219+10L 2 CHECK DAMS ITEM 209.110101	168± LF @ +0.39%
DITCH NO. 9 221+50, 31' LT. TO 222+34, 31.5' LT.	STANDARD DITCH	VARIES	2'	2H:1V	SLOPE TO GRADE TO SB 222+34L 2 CHECK DAMS ITEM 209.110101	84± LF @ -2.62%
DITCH NO. 10 223+60, 30' LT. TO 225+91, 40' LT. & DOWN HOLISTER	STANDARD DITCH	VARIES	2'	2H:1V	SLOPE TO GRADE TO SB 225+91L 8 CHECK DAMS ITEM 209.110101	231± LF @ -2.86%

SB - DENOTES SHOULDER BREAK

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MISCELLANEOUS TABLES

SHEET NO.
12 of 25

X:\Date\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\8-15 - Drainage & Misc Tables.dwg Thursday, 16 February 2017 1:13PM

DRAINAGE TABLE ITEMS USED ON SHEETS 13 AND 14

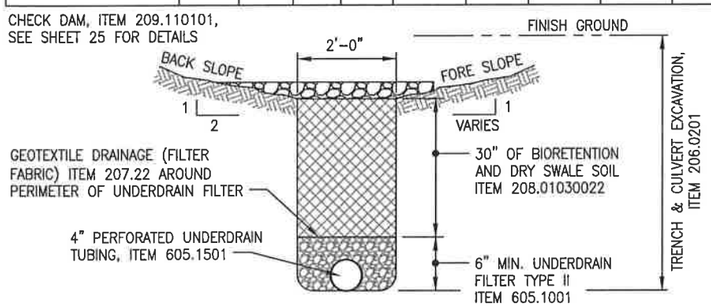
ITEM NO.	DESCRIPTION	UNIT	ITEM NO.	DESCRIPTION	UNIT
203.03	EMBANKMENT IN PLACE	CY	603.67080008	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (34"x53")	EACH
203.07	SELECT GRANULAR FILL	CY	603.67090008	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (38"x60")	EACH
206.0201	TRENCH AND CULVERT EXCAVATION	CY	603.67100008	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (43"x68")	EACH
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	603.7305	REINFORCED CONCRETE PIPE END SECTIONS 24 INCH DIAMETER	EA
603.171116	GALVANIZED STEEL END SECTIONS-PIPE (2-2/3" x 1/2" CORRUGATIONS) 15 INCH DIAMETER, 16 GAUGE	EACH	603.9812	(SICPP) SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 12" DIAMETER	LF
603.171216	GALVANIZED STEEL END SECTIONS-PIPE (2-2/3" x 1/2" CORRUGATIONS) 18 INCH DIAMETER, 16 GAUGE	EACH	603.9815	(SICPP) SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 15" DIAMETER	LF
603.171316	GALVANIZED STEEL END SECTIONS-PIPE (2-2/3" x 1/2" CORRUGATIONS) 21 INCH DIAMETER, 16 GAUGE	EACH	603.9818	(SICPP) SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE - 18" DIAMETER	LF
603.6005	(RCP) REINFORCED CONCRETE PIPE CLASS III, 24" DIAMETER	LF	604.3001CA	RECTANGULAR DRAINAGE STRUCTURE 24"x24"	LF
603.6702	(RCHEP) REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE, CLASS III (19"x30")	LF	604.3002CA	RECTANGULAR DRAINAGE STRUCTURE 36"x36"	LF
603.6704	(RCHEP) REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE, CLASS III (24"x38")	LF	604.3003CA	RECTANGULAR DRAINAGE STRUCTURE 48"x36"	LF
603.6708	(RCHEP) REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE, CLASS III (34"x53")	LF	605.1001	UNDERDRAIN FILTER, TYPE 2	CY
603.6709	(RCHEP) REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE, CLASS III (38"x60")	LF	605.1604	(PPVCUP) PERFORATED POLYVINYL CHLORIDE UNDERDRAIN PIPE (4")	LF
603.6610	(RCHEP) REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE, CLASS III (43"x68")	LF	605.21010018	PRECAST CONCRETE HEADWALLS FOR 4" LATERAL OUTLET PIPES	EA
603.67020008	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (19"x30")	EACH	605.98101218	(SIPCPUP) SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 12" DIA.	LF
603.67040008	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION, (24"x38")	EACH	605.98101518	(SIPCPUP) SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 15" DIA.	LF

BIORETENTION AND DRY SWALE TABLE

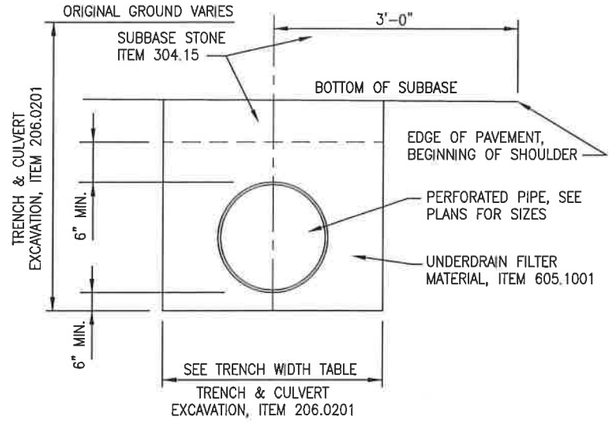
ITEM 206.0201 – TRENCH AND CULVERT EXCAVATION (CY)
ITEM 207.22 – GEOTEXTILE DRAINAGE (SY)
ITEM 605.1001 – UNDERDRAIN FILTER, TYPE II (CY)
ITEM 605.1501 – SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING, 4" DIAMETER (LF)
ITEM 208.01030022 – BIORETENTION AND DRY SWALE SOIL (CY)
ITEM 209.110101 – CHECK DAM (DITCH BOTTOM WIDTH 0' TO 3') STONE – TEMPORARY (EA)
ITEM 605.21010018 – PRECAST CONCRETE HEADWALLS FOR 4" LATERAL OUTLET PIPES

STATION	LENGTH (LF)	DIMENSIONS			ITEM 206.0201 (CY)	ITEM 207.22 (SY)	ITEM 605.1001 (CY)	ITEM 605.1501 (LF)	ITEM 208.01030022 (CY)	ITEM 209.110101 (EA)	ITEM 605.21010022 (EA)
		WIDTH	SIDE SLOPES								
			FORE	BACK							
171+00 TO 176+00 (LT.)	500	2'	1:2	1:2	202	438	32	515	95	6	
178+00 TO 181+25 (LT.)	325	2'	1:2	1:2	142	306	22	359	67	6	1
182+25 TO 184+25 (LT.)	200	2'	1:2	1:2	87	187	14	220	41	5	1
184+65 TO 187+00 (LT.)	200	2'	1:2	1:2	104	225	16	268	49	5	1
187+65 TO 190+20 (LT.)	235	2'	1:2	1:2	107	231	17	271	50	6	1
190+60 TO 193+40 (LT.)	280	2'	1:2	1:2	115	247	18	290	54	6	
197+00 TO 199+40 (LT.)	240	2'	1:2	1:2	95	204	15	245	44	5	
207+25 TO 208+50 (LT.)	125	2'	1:2	1:2	63	136	10	160	30	3	1
209+25 TO 215+10 (LT.)	585	2'	1:2	1:2	250	536	39	630	117	13	1
216+75 TO 218+75 (RT.)	200	2'	1:2	1:2	94	203	15	238	44	5	1
219+25 TO 223+25 (RT.)	400	2'	1:2	1:2	166	358	26	420	78	6	1
TOTALS	3290				1425	3071	224	3616	669	66	8

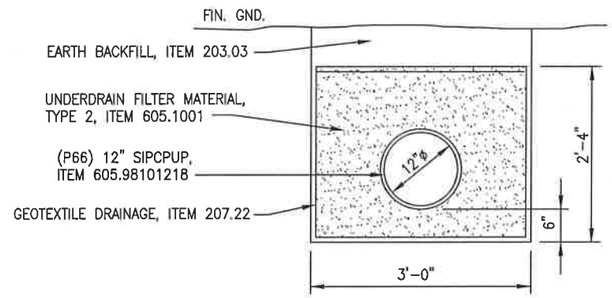
CHECK DAM, ITEM 209.110101,
SEE SHEET 25 FOR DETAILS



BIORETENTION & DRY SOIL SWALE DETAIL
SCALE: NONE

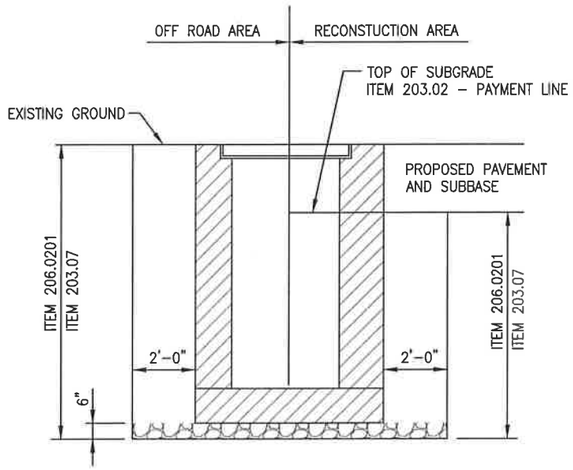


EXCAVATION AND BACKFILL DETAILS FOR PERFORATED UNDERDRAIN PIPE
SCALE: NONE

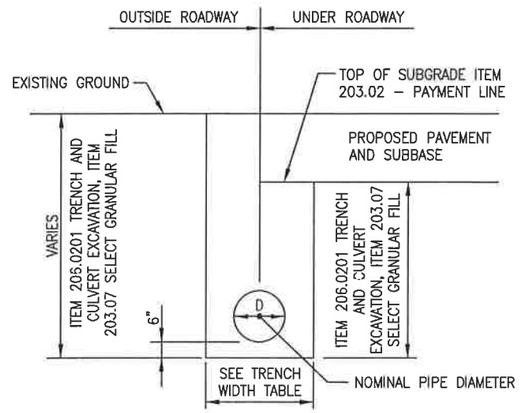


SPECIAL TRENCH DETAIL FOR PIPE (P66)
STA. 209+50 RT. TO STA. 212+27.52 RT.
SCALE: NONE

TRENCH WIDTH TABLE	
NOMINAL PIPE DIAMETER	TRENCH WIDTH
8"	24"
12"	36"
18"	54"
24"	72"
30"	80"



EXCAVATION AND BACKFILL PAY LIMITS FOR DRAINAGE STRUCTURES
SCALE: NONE



EXCAVATION AND BACKFILL DETAILS STORM PIPING, SIPCC & OTHER NON-PERFORATED PIPE
SCALE: NONE

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

SCALE: NONE
DATE: FEBRUARY 2017
DRAWING NO.: DSTT-1

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

DRAINAGE STRUCTURE TABLES (1 OF 3)

SHEET NO.
13 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\8-15 - Drainage & Misc Tables.dwg Friday, 17 February 2017 6:31AM

STRUCTURE NUMBER	STATION TO STATION	DESCRIPTION	RIM ELEV.	SUMP ELEV.	ELEVATION FROM	ELEVATION TO	206.0201 TRENCH & CULVERT EXCAVATION (CY)	203.03 EMBANKMENT IN PLACE (CY)	203.07 SELECT GRANULAR FILL (CY)	605.1001 UNDERDRAIN FILTER, TYPE 2 (CY)	304.15 SUBBASE COURSE, OPTIONAL TYPE (CY)	603.171116 GALVANIZED STEEL END SECTION 15" DIA. (EA.)	603.171216 GALVANIZED STEEL END SECTION 18" DIA. (EA.)	603.171316 GALVANIZED STEEL END SECTION 21" DIA. (EA.)	603.6005 REINFORCED CONCRETE PIPE, CLASS III (24") (LF)	603.6702 REINF. CONC. HORIZ. ELIPTICAL PIPE CLASS III (19"x30") (LF)	603.6704 REINF. CONC. HORIZ. ELIPTICAL PIPE CLASS III (24"x38") (LF)	603.6708 REINF. CONC. HORIZ. ELIPTICAL PIPE CLASS II (34"x53") (LF)	603.6709 REINF. CONC. HORIZ. ELIPTICAL PIPE CLASS III (38"x60") (LF)	603.6710 REINF. CONC. HORIZ. ELIPTICAL PIPE CLASS III (43"x68") (LF)	603.6720008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (19"x30") (EA)	603.6740008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (24"x38") (EA)	603.6760008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (34"x53") (EA)	603.6780008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (38"x60") (EA)	603.6790008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (43"x68") (EA)	603.6710008 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (43"x68") (EA)	603.7305 REINFORCED CONCRETE PIPE END SECTION (24") (EA)	603.9812 SICPP CULVERT & STORM DRAIN PIPE (12") (LF)	603.9815 SICPP CULVERT & STORM DRAIN PIPE (15") (LF)	603.9818 SICPP CULVERT & STORM DRAIN PIPE (18") (LF)	604.3001CA RECTANGULAR DRAINAGE STRUCTURE 24"x24" (LF)	604.3002CA RECTANGULAR DRAINAGE STRUCTURE 36"x36" (LF)	604.3003CA RECTANGULAR DRAINAGE STRUCTURE 48"x36" (LF)	605.1604 PVCUP PERFORATED POLYVNYL CHLORIDE UNDERDRAIN PIPE (4") (LF)	605.210101018 PRECAST CONC. HEADWALLS FOR LATERAL OUTLET PIPES (EA)	605.981012181 SIPCPUP PERFORATED UNDERDRAIN PIPE (12") (LF)	605.981015181 SIPCPUP PERFORATED UNDERDRAIN PIPE (15") (LF)
P1-1A	169+00R-171+50R	253 LF 4" PPVCUP			1587.76	1578.50	68.99			39.95	29.04																				253			
P2	169+75R-171+50R	176 LF 12" SICPP			1585.50	1577.70	56.71	7.82	48.89			1																	176							
CB1	171+50R	CATCH BASIN	1580.22	1576.70			8.20		6.86																				4.02						
P3	171+50R-171+50L	35 LF 12" SICPP			1577.70	1577.60	18.08		12.25		5.83																	35							
CB2	171+50L	CATCH BASIN	1581.40	1576.58			10.56		8.79																						5.32				
P4	169+00L-171+50L	250 LF 4" PPVCUP			1587.76	1578.78	71.63			42.93	28.69																				250			
P5-5A-6	171+50R-173+40R	197 LF 4" PPVCUP			1578.50	1573.54	45.56			37.06	8.50																				197			
CB3	173+40R	CATCH BASIN	1575.23	1571.29			8.97		7.49																						4.44				
P7	173+40R-173+40L	36 LF 12" SICPP			1572.29	1572.00	13.40		10.08		3.32																	36							
CB4	173+40L	CATCH BASIN	1575.48	1571.00			9.95		8.29																						4.98				
P8	171+50L-173+40L	190 LF 12" SIPCPUP			1577.58	1572.07	61.86			47.71	14.14																							190	
P9-10	173+40R-176+10R	274 LF 4" PPVCUP			1573.56	1566.72	55.80			43.98	11.82																				274			
CB5	176+10R	CATCH BASIN	1569.12	1564.68			10.09		8.40																						5.06				
P11	176+10R-176+10L	29 LF 12" SICPP			1565.68	1565.54	12.53		9.31		3.22																	29							
CB6	176+10L	CATCH BASIN	1569.12	1562.90			13.10		10.86																						6.72				
P12	173+40L-176+10L	270 LF 12" SIPCPUP			1572.00	1565.54	89.40			64.50	24.90																							270	
P13	176+10R-176+85R	75 LF 4" PPVCUP			1568.72	1564.24	16.18			11.84	4.33																				75			
P14	176+85R-176+99R	19 LF 4" PPVCUP			1564.24	1563.62	4.10	1.10		3.00																					19	1		
P15	176+10L-177+39L	131 LF 12" SICPP			1563.90	1562.00	57.49	7.28	50.21			1																131							
P16	177+07R-177+40L	56 LF 24" RCP			1562.99	1561.87	50.65		31.69		12.44				56												2							
P17	177+29R-179+50R	221 LF 4" PPVCUP			1563.55	1558.17	49.78			30.71	19.07																				221			
CB7	179+50R	CATCH BASIN	1560.81	1556.47			9.89		8.08																						4.84				
P18	179+50R-181+72R	222 LF 12" SIPCPUP			1557.47	1552.22	86.33			61.67	24.67																							222	
CB8	181+72R	CATCH BASIN	1555.55	1550.50			10.98		9.13																						5.55				
P19	181+72R-181+72L	46 LF 12" SICPP			1551.50	1550.35	23.36		18.25		5.11	1																46							
P20	177+50L-181+50L	400 LF 4" PPVCUP			1563.03	1553.57	75.94			52.81	23.12																				400			
P21	181+50L-181+67L	27 LF 4" PPVCUP			1553.57	1550.00	4.19	1.17		3.03																					27	1		
P22	181+72R-184+50R	278 LF 4" PPVCUP			1552.88	1547.32	68.61			56.62	11.99																				278			
CB9	184+50R	CATCH BASIN	1549.99	1543.94			16.71		12.83																				6.55						
P23	184+50R-184+50L	51 LF 18" SICPP			1544.94	1544.50	44.88		31.60		9.95			1														51							
P24	182+00L-184+42L	243 LF 4" PPVCUP			1552.27	1547.44	48.23			34.18	14.05																				243			
P25	184+42L-184+45L	25 LF 4" PPVCUP			1547.44	1547.00	4.96	1.45		3.52																					25	1		
P26	184+50R-187+50R	300 LF 4" PPVCUP			1547.32	1541.86	88.86			42.98	25.89																				300			
P27	184+52L-187+22L	270 LF 4" PPVCUP			1547.29	1542.35	44.27			32.62	11.65																				270			
P28	187+22L-187+44L	33 LF 4" PPVCUP			1542.35	1541.78	4.27	0.94		3.33																					33	1		
CB10	187+50R	CATCH BASIN	1544.52	1539.94			13.23		10.22																					5.08					
P29	187+50R-187+50L	51 LF 18" SICPP			1540.94	1540.00	34.26		20.97		9.95			1														51							
P30	187+50R-190+23R	274 LF 4" PPVCUP			1541.86	1536.85	56.75			40.91	15.84																				274			
P31	190+23R-190+28R	17 LF 4" PPVCUP			1536.85	1536.61	2.64	0.48		2.16																					17	1		
P32	190+34R-190+41L	48 LF 34"x53" RCHEP			1534.64	1533.61	87.98		53.29		16.44							48				2													
P33	187+52L-190+25L	273 LF 4" PPVCUP			1541.83	1536.83	63.61			47.82	15.78																				273			
P34	190+25L-190+33L	20 LF 4" PPVCUP			1536.83	1536.37	3.28	0.86		2.42																					20	1		
P35	190+45R-193+45R	300 LF 4" PPVCUP			1536.47	1531.00	46.60			38.06	8.54																				300			
P36	193+45R-193+50R	14 LF 4" PPVCUP			1531.00	1530.92	2.54	0.81		1.73																					14	1		
P37	190+50L-193+50L	300 LF 4" PPVCUP			1536.39	1530.89	59.54			42.20	17.35																				300			
CB11	193+50L	CATCH BASIN	1533.60	1529.56			9.15		7.64																					4.54					
P38	193+50L-193+53R	39 LF 12" SICPP			1530.56	1530.30	13.30		8.97		4.33	1																39							
P39	193+50L-196+39L	290 LF 4" PPVCUP			1530.89	1525.64	55.06			42.54	12.51																				290			
P40	196+38L-196+49L	23 LF 4" PPVCUP			1525.64	1525.19	3.63	0.65		2.98																					23	1		
P41	196+22R-196+51L	56 LF 24" RCP			1524.98	1524.77	42.68		23.73		12.44				56												2							
P42	196+30R-199+40R	310 LF 4" PPVCUP			1525.82	1520.18	50.83			32.90	17.92																				310			
P43	196+98R-197+23R	25 LF 12" SICPP			1523.94	1523.50	7.72		5.86		1.86	2																25							
P44	199+38R-199+40R	10 LF 12" SICPP			1519.58	1519.48	3.22	0.74	2.37			1																10							
CB12	199+40R	CATCH BASIN	1522.85	1518.31			10.05		8.37																					5.04					
P45	195+70L-199+40L	270 LF 4" PPVCUP			1525.09	1520.17	48.23			36.58	11.65																				270			
P46	199+40R-199+40L	29 LF 12" SICPP			1519.31	1519.21	12.37		9.15		3.22																	29							
CB13	199+40L	CATCH BASIN	1522.85	1518.01			13.84		10.68																					5.34					
P47	199+40L-201+60L	220 LF 15" SIPCPUP			1519.01	1515.00	105.93			82.69	13.24																								220
P48	199+90R-200+40R	50 LF 12" SICPP			1518.64	1517.89	23.56		19.83		3.72	2																50							
P49	199+40R-201+60R	220 LF 4" PPVCUP			1520.18	1516.22	18.74		28.48	21.45	12.72																				220			
P50	201+58R-201+60R	11 LF 12" SICPP			1515.90	1515.57	2.16		2.16			1																11							
CB14	201+60R	CATCH BASIN	1519.28	1514.27			10.91		9.07																					5.51					
P51	201+60R-201+60L	28 LF 12" SICPP			1515.27	1514.90	12.66		9.55		3.11																	28							
CB15	201+60L	CATCH BASIN	1518.85	1513.47			15.12		11.64																					5.88					
P52	201+60L-204+40L	280 LF 15" SIPCPUP			1514.47	1510.39	143.91			97.49	33.70																								280
CB16	204+40L	CATCH BASIN	1513.75	1509.29			14.56		10.89																					4.96					
P53	204+40L-204+82L	44 LF 15" SICPP			1510.29	1510.00	16.42	3.55	10.67				1																44							
P54	201+60R-204+36R	277 LF 4" PPVCUP			1516.22	1510.95	23.90		11.95	43.74	42.31																				277			
P55	204+36R-204+50R	18 LF 4" PPVCUP			1510.95	1510.41	1.55	1.97	0.77	2.84																					18	1		
		SHEET TOTAL					2274.24	28.82	569.47	1150.95	548.36	10	1	2	112	—	—	48	—	—	—	—	2	—	—	4	645	44	102	52	26.87	5	5471	9	682	500

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

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DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30050
DRAWING NO.: DST-2
SCALE: NONE
DATE: FEBRUARY 2017

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

DRAINAGE STRUCTURE TABLES
(2 OF 3)

SHEET NO.

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\8-15 - Drainage & Misc Tables.dwg Thursday, 16 February 2017 1:39PM

STRUCTURE NUMBER	STATION TO STATION	DESCRIPTION	RIM ELEV.	SUMP ELEV.	ELEVATION FROM	ELEVATION TO	206.0201 TRENCH & CULVERT EXCAVATION (CY)	203.03 EMBANKMENT IN PLACE (CY)	203.07 SELECT GRANULAR FILL (CY)	605.1001 UNDERDRAIN FILTER, TYPE 2 (CY)	304.15 SUBBASE COURSE, OPTIONAL TYPE (CY)	603.171116 GALVANIZED STEEL END SECTION 15" DIA. (EA.)	603.171216 GALVANIZED STEEL END SECTION 18" DIA. (EA.)	603.171316 GALVANIZED STEEL END SECTION 21" DIA. (EA.)	603.6005 REINFORCED CONCRETE PIPE, CLASS III (24") (LF)	603.6702 REINF. CONC. HORIZ. ELLIPTICAL PIPE CLASS III (19"x30") (LF)	603.6704 REINF. CONC. HORIZ. ELLIPTICAL PIPE CLASS II (24"x38") (LF)	603.6708 REINF. CONC. HORIZ. ELLIPTICAL PIPE CLASS II (34"x53") (LF)	603.6709 REINF. CONC. HORIZ. ELLIPTICAL PIPE CLASS III (38"x60") (LF)	603.6710 REINF. CONC. HORIZ. ELLIPTICAL PIPE CLASS III (43"x68") (LF)	603.670200DB REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (19"x30") (EA)	603.670400DB REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (24"x38") (EA)	603.670600DB REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (34"x53") (EA)	603.670800DB REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (38"x60") (EA)	603.671000DB REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE END SECTION (43"x68") (EA)	603.7305 REINFORCED CONCRETE PIPE ELBOW (24") (EA)	603.9812 SICPP CULVERT & STORM DRAIN PIPE (12") (LF)	603.9815 SICPP CULVERT & STORM DRAIN PIPE (15") (LF)	603.9818 SICPP CULVERT & STORM DRAIN PIPE (18") (LF)	604.3001CA RECTANGULAR DRAINAGE STRUCTURE 24"x24" (LF)	604.3002CA RECTANGULAR DRAINAGE STRUCTURE 36"x36" (LF)	604.3003CA RECTANGULAR DRAINAGE STRUCTURE 43"x68" (LF)	605.1604 PPVCUP PERFORATED POLYVINYL CHLORIDE UNDERDRAIN PIPE (4") (LF)	605.210100018 PRECAST CONC. HEADWALLS FOR 4" LATERAL OUTLET PIPES (EA)	605.981012 18 SIPCPUP PERFORATED UNDERDRAIN PIPE (12") (LF)	605.981015 18 SIPCPUP PERFORATED UNDERDRAIN PIPE (15") (LF)
P56	204+61R–204+85L	48 LF 19"x30" RCHEP			1509.76	1509.42	47.31		28.93		12.52					48						2												380		
P57	204+80R–208+60R	380 LF 4" PPVCUP			1510.34	1503.42	76.08			54.10	21.97																							21	1	
P58	208+60R–208+65R	21 LF 4" PPVCUP			1503.42	1503.03	5.94	1.81		4.13																								370		
P59	205+00L–208+70L	370 LF 4" PPVCUP			1509.98	1503.24	83.02			61.62	21.39																							25	1	
P60	208+70L–208+83L	25 LF 4" PPVCUP			1503.24	1502.72	3.45	1.08		2.37																										
P61	208+75R–208+89L	56 LF 43"x68" RCHEP			1500.38	1500.26	128.76		57.27		20.06										56														
P62	208+94L–210+40L	146 LF 4" PPVCUP			1502.81	1500.81	17.51			17.51																							146		
P63	210+40L–210+86L	47 LF 4" PPVCUP			1500.81	1500.24	6.21			6.21																							47		
P64	210+86L–213+00L	215 LF 4" PPVCUP			1500.24	1497.15	18.55			27.83																							215		
P65	213+00L–213+25L	39 LF 4" PPVCUP			1497.15	1496.65	5.05			5.05																							39	1	
CB17	209+50R	CATCH BASIN	1503.54	1499.93			8.37		7.00																					4.11					
P66	209+50R–212+27R	275 LF 12" SIPCPUP			1500.93	1496.80	97.78	15.28		82.50		1																							275	
P67	212+49R–212+69R	20 LF 12" SICPP			1496.40	1496.04	5.07		3.96		1.11	2																		20					
P68	219+10L–219+10R	72 LF 19"x30" RCHEP			1486.44	1484.03	88.42		129.56							72						2													
P69	222+33L–223+33L	100 LF 12" SICPP			1483.30	1481.00	25.00	3.67	21.33			2																		100					
P70	223+41L–223+52R	48 LF 38"x60" RCHEP			1480.46	1477.80	75.83		64.54										48						2									
P71	224+08L–224+38L	30 LF 12" SICPP			1480.20	1479.60	9.17		5.83		3.33	2																		30					
P72	225+91L–225+91R	56 LF 19"x30" RCHEP			1476.85	1475.83	30.66		38.42		21.90					56						2													
P73	227+48L–227+68R	56 LF 24" RCP			1474.18	1472.54	27.38		39.03		19.16				56																				
P74	228+87L–228+78R	48 LF 24"x38" RCHEP			1473.40	1472.55	41.55		32.06		21.33						48						2												
P75	230+10R–230+10R	26 LF 12" SICPP			1471.70	1471.54	11.27	1.94	9.04			1																		26					
CB19	230+10R	CATCH BASIN	1475.86	1470.70			11.18		9.29																					5.66					
P76	230+10L–230+10R	29 LF 12" SICPP			1471.88	1471.70	16.79		11.95		4.83																			29					
CB18	230+10L	CATCH BASIN	1476.27	1470.88			11.60		9.64																					5.89					
P77	230+10L–230+10L	15 LF 12" SICPP			1474.00	1472.00	4.17	1.12	3.05			1																		15					
P78	231+69L–230+10L	159 LF 12" SIPCPUP			1472.52	1471.88	54.77			45.93	8.83																								159	
CB20	231+69L	CATCH BASIN	1475.54	1471.52			9.11		7.60																					4.52					
P79	231+65L–231+69L	13 LF 12" SICPP			1473.28	1472.80	0.72	0.72	2.88			1																		13					
P80	234+00L–231+69L	231 LF 4" PPVCUP			1473.68	1472.52	31.89			31.89																							231		
CB22	234+00L	CATCH BASIN	1476.28	1472.25			9.13		7.62																					4.53					
P81	234+00L–234+00L	11 LF 12" SICPP			1473.75	1473.35	1.83		1.83			1																		11					
P82	235+80L–234+00L	180 LF 4" PPVCUP			1475.37	1473.68	40.39			24.85	15.53																							180		
P83	231+69R–230+10R	159 LF 12" SIPCPUP			1472.20	1471.70	60.06			51.23	8.83																								159	
CB21	231+69R	CATCH BASIN	1475.54	1471.20			9.69		8.08																					4.84					
P84	234+00R–231+69R	231 LF 12" SIPCPUP			1472.92	1472.20	51.33			51.33																								231	
CB23	234+00R	CATCH BASIN	1476.28	1471.92			9.73		8.11																					4.86					
P85	234+00L–234+00R	29 LF 12" SICPP			1473.25	1473.02	10.31		5.48		4.83																		29						
P86	235+80R–234+00R	180 LF 4" PPVCUP			1475.37	1473.68	40.39			24.85	15.53																							180		
P87	197+60R–198+10R	50 LF 12" SICPP			1522.85	1521.98	11.06		7.33		3.72	2																	50						
P88	202+76R–203+26R	50 LF 12" SICPP			1513.67	1512.72	12.83		9.11		3.72	2																	50						
		SHEET TOTALS					1209.36	25.62	528.94	491.40	208.59	15	—	—	56	176	48	—	48	56	6	2	—	2	2	2	373	—	—	34.41	—	—	1834	3	824	—
		PREVIOUS SHEET TOTALS					2274.24	28.82	569.47	1150.95	546.36	10	1	2	112	—	—	48	—	—	—	—	2	—	—	4	645	44	102	52.00	26.87	4.96	5471	9	682	500
		GRAND TOTALS					3483.60	54.44	1098.41	1642.35	756.95	25	1	2	168	176	48	48	48	56	6	2	2	2	2	6	1018	44	102	86.41	26.87	4.96	7305	12	1506	500
		ROUNDED QUANTITIES					3484	55	1099	1643	757	25	1	2	168	176	48	48	48	56	6	2	2	2	2	6	1018	44	102	87	27	5	7305	12	1506	500

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4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4840

GPI

DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30060
BY DATE
RGC 2-17-17
REVISIONS:

SCALE: NONE
DATE: FEBRUARY 2017
DRAWING NO.: DET-3

NO. ISSUED FOR BID

CAITT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

DRAINAGE STRUCTURE TABLES
(3 OF 3)

SHEET NO.
15 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\8-15 - Drainage & Misc Tables.dwg Thursday, 16 February 2017 1:40PM

STA: 169+00.00
BEGIN FULL DEPTH RECLAMATION OF ASPHALT PAVEMENT WITH WIDENING, MATCH EXISTING PAVEMENT

MAPLES ROAD (C.R. 13)

G. PETER & CAROLYN WIDGER (REPUTED OWNERS) LIBER 873 PAGE 1084 TM# 46.001-1-15.1

PHYLLIS J. MALMBERG (REPUTED OWNER) LIBER 921 PAGE 498 TM# 46.001-1-15.4

JOHN POWERS & RITA ANGELA POWERS (REPUTED OWNERS) IN#12287-002 TM# 46.001-1-22.3

THOMAS D. & SHARON R. CHAPMAN (REPUTED OWNERS) LIBER 910 PAGE 1151 TM# 46.001-1-17

DEAN R. KENT & THERESA DAVIES (REPUTED OWNERS) LIBER 852 PAGE 930 TM# 46.001-1-19

PETER SCOMA, VIVAN MARIE SCOMA AND KEVIN ROBERT WEBER (REPUTED OWNERS) IN# 189635-001 TM# 46.001-1-21.3

REPUTED OWNERS THOMAS AND DIANNE SHANTLER L.1027-P.338

FREDERICK H. KNAPP (REPUTED OWNER) IN# 102963-001 TM# 46.001-1-21.1

ROY ELLIS, VIRGINIA ELLIS AND LEE ROBERTSON (REPUTED OWNERS) IN# 158173-001 TM# 46.001-1-11

HSE. NO. 7123 · HSE. NO. 7120 · HSE. NO. 7140 · HSE. NO. 7156 · HSE. NO. 7164

(P8) 190± LF 12" SIPCPUP @ 2.91%
CB-2 RIM 1581.40 STA:171+50 OFF:14.2L 24x24
150 LF 4" PCPUT @ 3.20%
STA. 171+00 4" INV. 1577.68
(P4) 250± LF 4" PPVCUP @ 3.59%
4" INV. 1587.76 STA. 169+00 168+31
4" INV. 1587.76 STA. 169+00
(P3) CROSSING NO. 1 35± LF 12" SICPP @ 0.29%
(P1A) 15± LF 4" PPVCUP @ 3.66%
(P1) 238± LF 4" PPVCUP @ 3.66%
EX. ETW (TYP.)
EX. PAVEMENT EDGE (TYP.)
(P2) 176± LF 12" SICPP @ 4.17%
ES-1 INV. 1585.50 STA:169+75.00'OFF: 28.00'R
(P5) 162± LF 4" PPVCUP @ 2.52%
(P5A) 15± LF 4" PPVCUP @ 2.52%
(P6) 20± LF 4" PPVCUP @ 2.52%
CB-1 RIM 1580.22 STA:171+50 OFF:20.4R 36x36
CB-3 RIM 1575.23 STA:173+40 OFF:22.2R 24x24
BIORETENTION & DRY SWALE SOIL, STA. 171+00 TO STA. 176+00, (25' OFFSET FROM CENTERLINE), (GRADE TO DRAIN), SEE DETAILS ON SHEET 13 OF 25
CB-4 RIM 1575.48 STA:173+40 OFF:14.3L 24x24
CHECK DAMS, TYP., SEE NOTE THIS SHEET
STA. 172+50 4" INV. 1572.88
CURVE #1 L=135.63 R=270.25' Δ=25°27'16"
365 LF 4" PCPUT @ 2.43%
(P9) 20± LF 4" PPVCUP @ 2.50%
(P7) CROSSING NO. 2 36± LF 12" SICPP @ 0.79%
(P11) CROSSING NO. 3 29± LF 12" SICPP @ 0.49%
CB-5 RIM 1569.12 STA:176+10 OFF:14.2R 24x24
(P12) 270± LF 12" SIPCPUP @ 2.40%
APPROX. HWY. BDY.
CB-6 RIM 1569.12 STA:176+10 OFF:14.3L 24x24
(P13) 25± LF 4" PPVCUP @ 3.31%
4" INV. 1564.24, STA. 176+85±
(P14) 19± LF 4" PPVCUP @ 3.30%
(P10) 254± LF 4" PPVCUP @ 2.50%
4" INV. 1563.62 STA:176+99.13 OFF:26.64R
(P15) 131± LF 12" SICPP @ 1.46%
ES-3 INV. 1562.00 STA:177+39.22 OFF:32.65L
ES-2 INV. 1563.11 STA: 177+06 OFF: 21.7R
ES-4 INV. 1561.75 STA:177+40 OFF:23.4L
4" INV. 1563.03 STA. 177+50±
DRAINAGE (R1)
STA. 178+00 4" INV. 1558.51
200 LF 4" PCPUT @ 2.26%
BIORETENTION & DRY SWALE SOIL, STA. 178+00 TO STA. 181+25, (25' OFFSET FROM CENTERLINE), (GRADE TO DRAIN), SEE DETAILS ON SHEET 13 OF 25
(P20) 400± LF 4" PPVCUP @ 2.36%
(P17) CONTINUOUS WETLAND "A" 221± LF 4" PPVCUP @ 2.43%
4" INV. 1563.55 STA. 177+29±
(P16) CROSSING NO. 4 56± LF 24" RCP @ 2.00%
CB-7 RIM 1560.81 STA:179+50 OFF:14.3R 24x24
(P18) 222± LF 12" SIPCPUP @ 2.36%
ES-5 INV. 1550.35 STA:181+71.70' OFF:33.84'L
4" INV. 1550.00 STA:181+87.39 OFF:34.35'L
4" PRECAST HEADWALL, ITEM 605.21010018, INV. 1550.00
(P21) 27± LF 4" PPVCUP @ 13.43%
4" INV. 1553.57 STA. 181+50±
100 LF 4" PCPUT @ 3.10%
STA. 180+00 4" INV. 1554.00
59 LF 4" PCPUT @ 1.53%
STA. 181+00 4" INV. 1550.90
WETLAND "B" CONTINUOUS
WOODED AREA
CB-8 RIM 1555.55 STA:181+72 OFF:14.3R 24x24
(P19) CROSSING NO. 5 46± LF 12" SICPP @ 2.48%
VAC
GRAVEL DRIVES
MATCHLINE - STATION 182+00 (SEE NEXT SHEET FOR CONTINUATION)

CHECK DAMS TO BE INSTALLED IN BIORETENTION SWALES IN ACCORDANCE WITH DETAILS SHOWN ON SHEET 25 OF 25 AND AS DIRECTED BY ENGINEER, ITEM 209.110101

PLAN

HORIZONTAL SCALE
50 0 50 100
1" = 50'-0"

VERTICAL SCALE
10 0 10 20
1" = 10'-0"

LEGEND
(L) - LEFT
(R) - RIGHT
(X) - CROSSING

FULL BANK 4.8% DOWN TO LEFT (CURVE 1)

NORMAL CROWN | TRANSITION | TRANSITION | NORMAL CROWN

STA. 169+00.00 BEGIN TYPE III WITH WIDENING, MATCH EXISTING PAVEMENT.

STA. 171+42.16 · STA. 173+23.49 · STA. 173+73.83 · STA. 175+55.16

PVI STA:172+00.00
PVI ELEV:1579.56
K:303.89
LVC:400.00

BVCS: 170+00.00 BVCE: 1587.08
EVCS: 174+00.00 EVCE: 1574.67
BVCS: 180+25.00 BVCE: 1559.39

-4.92% -3.76% -2.44%

INVS 1587.76
ES-1 (R)
(P1) 238± LF 4" PPVCUP @ 3.66% (R)
(P4) 250± LF 4" PPVCUP @ 3.59% (L)
CB-2 (24x24) STA:171+50 OFF:14.2L RIM:1581.40 SE 4" INV. 1578.78 In NE 12" INV. 1577.60 In NW 12" INV. 1577.58 Out
(P8) 190± LF 12" SIPCPUP @ 2.91% (L)
(P2) 176± LF 4" SICPP @ 4.17% (R)
(P1A) 15± LF 4" PPVCUP @ 3.66% (R)
CB-1 (36x36) STA:171+50 OFF:20.4R RIM:1580.22 SE 4" INV. 1578.50 IN NW 4" INV. 1578.50 OUT SE 12" INV. 1577.70 In SW 12" INV. 1577.70 Out
(P5) 62± LF 4" PPVCUP @ 2.52% (R)
(P5A) 20± LF 4" PPVCUP @ 2.52% (R)
(P6) 20± LF 4" PPVCUP @ 2.52% (R)
(P3) 35± LF 12" SICPP @ 0.29% (X)
CB-3 (24x24) STA:173+40 OFF:22.2R RIM:1575.23 SE 4" INV. 1573.54 In NW 4" INV. 1573.54 Out SW 12" INV. 1572.29 Out
CB-4 (24x24) STA:173+40 OFF:14.3L RIM:1575.48 SE 12" INV. 1572.07 In NE 12" INV. 1572.00 In NW 12" INV. 1572.00 Out
(P12) 270± LF 12" SIPCPUP @ 2.40% (L)
(P9) 20± LF 4" PPVCUP @ 2.50% (R)
(P7) 36± LF 12" SICPP @ 0.79% (X)
CB-5 (24x24) STA:176+10 OFF:14.2R RIM:1569.12 SE 4" INV. 1566.72 In SW 12" INV. 1565.68 Out NW 4" INV. 1566.72 Out
(P10) 254± LF 4" PPVCUP @ 2.50% (R)
(P11) 29± LF 12" SICPP @ 0.49% (X)
CB-6 (24x24) STA:176+10 OFF:14.3L RIM:1569.12 SW 4" INV. 1564.00 In NE 12" INV. 1565.54 In SE 12" INV. 1565.54 In NW 12" INV. 1563.90 Out
APPROX. EX. GRADE
(P15) 131± LF 12" SICPP @ 1.46% (L)
(P13) 75± LF 4" PPVCUP @ 3.31% 4" INV. 1564.24 (X)
(P14) 19± LF 4" PPVCUP @ 3.30% 4" INV. 1563.62 (R)
ES-2 (R)
ES-3 (L) T.C.L. 4" INV. 1563.03 (L)
(P16) 56± LF 24" RCP @ 2.00% (X)
ES-4 (L) 4" INV. 1563.55 (R)
(P17) 221± LF 4" PPVCUP @ 2.43% (R)
CB-7 (24x24) STA:179+50 OFF:14.3R RIM:1560.81 SE 4" INV. 1558.17 In NW 12" INV. 1557.47 Out
(P20) 400± LF 4" PPVCUP @ 2.36% (L)
(P18) 222± LF 12" SIPCPUP @ 2.36% (R)
PVI STA:182+25.00
PVI ELEV:1554.50
K:641.31
LVC:400.00
CB-8 (24x24) STA:181+72 OFF:14.3R RIM:1555.55 SE 12" INV. 1552.22 In NW 4" INV. 1552.88 Out SW 12" INV. 1551.50 Out
ES-5 (L)
(P21) 27± LF 4" PPVCUP @ 13.43% (L)
4" INV. 1553.57 (L)
4" INV. 1550.00 (L)
(P19) 46± LF 12" SICPP @ 2.48% (X)

1590.9 1590.84 | 1586.2 1587.08 | 1582.2 1583.49 | 1579.0 1580.22 | 1576.5 1577.28 | 1574.4 1574.67 | 1572.0 1572.23 | 1569.1 1569.78 | 1566.2 1567.34 | 1564.0 1564.89 | 1561.8 1562.45 | 1559.8 1560.00 | 1556.6 1557.60 | 1554.6 1555.35

169+00 170+00 171+00 172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00

PROFILE

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE STREET BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO:
REVISIONS:

NO.		BY	DATE
1	ISSUED FOR BID	RGC	2-17-17

DRAWN BY: RGC
CHECKED BY: CEB
JOB NO.: 30050

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

PLAN AND PROFILE
STA. 169+00 TO STA. 182+00

SHEET NO.
16 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\16-20 - Plan & Profile .dwg Thursday, 16 February 2017 2:02PM

MAPLES ROAD (C.R. 13)

MATCHLINE - STATION 182+00 (SEE PREVIOUS SHEET FOR CONTINUATION)

MATCHLINE - STATION 196+09 (SEE NEXT SHEET FOR CONTINUATION)

JOHN POWERS & RITA ANGELA POWERS (REPUTED OWNERS) IN# 12287-002 TMP# 46.001-1-22.3

HENRY & MARIE KARAMANSKI (REPUTED OWNERS) IN# 12287-003 TMP# 46.001-1-22.1

LENORE FARRELL (REPUTED OWNER) LIBER 973 PAGE 872 TMP# 46.001-1-9.2

HSE. NO. 7228

CHECK DAMS TO BE INSTALLED IN BIORETENTION SWALES IN ACCORDANCE WITH DETAILS SHOWN ON SHEET 25 OF 25 AND AS DIRECTED BY ENGINEER, ITEM 209.110101

LEGEND
(L) - LEFT
(R) - RIGHT
(X) - CROSSING

PLAN

HORIZONTAL SCALE
50 0 50 100
1" = 50'-0"

VERTICAL SCALE
20 0 10 20
1" = 10'-0"

NORMAL CROWN

NO SUPERELEVATION (CURVE 2)

PVI STA:182+25.00
PVI ELEV:1554.50
K:641.31
LVC:400.00

EVCS: 184+25.00
EVCE: 1550.86

PROFILE

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GPI

SCALE:	1" = 50'-0"
DATE:	FEBRUARY 2017
DRAWING NO.:	
JOB NO.:	30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

DRAWN BY: RGC
CHECKED BY: GEB

CAITT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

PLAN & PROFILE
STA. 182+00 TO STA. 196+00

SHEET NO.
17 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\16-20 - Plan & Profile .dwg Thursday, 16 February 2017 2:26PM

(2) BLACK WALNUT TREES AT APPROXIMATE STATIONS 199+00–199+30 WILL BE REMOVED BY THE PROPERTY OWNERS.

MAPLES ROAD (C.R. 13)

JUDITH LEVIN GRUNDY (REPUTED OWNER) LIBER 862 PAGE 561 TMP# 46.001-1-24.1

THE UNIFIED CREDIT TRUST (REPUTED OWNER) LIBER 996 PAGE 984 TMP# 46.001-1-26.1

CURVE #3 L=256.739 R=10299.903 Δ=1°25'41"

(3) TO (4) SERIOUSLY DISTRESSED PINE TREES TO BE MARKED WITH COLORED RIBBON BY PROPERTY OWNER AND ARE TO BE REMOVED AS PART OF THIS CONTRACT. REMAINDER OF TREES TO REMAIN AND PROTECTED DURING CONSTRUCTION

BIORETENTION & DRY SWALE SOIL, STA. 197+00 TO STA. 199+40 (25' OFFSET FROM CENTERLINE), (GRADE TO DRAIN), SEE DETAILS ON SHEET 13 OF 25

BIORETENTION & DRY SWALE SOIL, STA. 207+25 TO STA. 208+50 (OFFSE VARIES FROM 30° TO 25' OFF CENTERLINE), (GRADE TO DRAIN) SEE DETAILS ON SHEET 13 OF 25

CHECK DAMS TO BE INSTALLED IN BIORETENTION SWALES IN ACCORDANCE WITH DETAILS SHOWN ON SHEET 25 OF 25 AND AS DIRECTED BY ENGINEER, ITEM 209.110101

MATCHLINE – STATION 196+00 (SEE PREVIOUS SHEET FOR CONTINUATION)

MATCHLINE – STATION 210+00 (SEE NEXT SHEET FOR CONTINUATION)

PLAN

HORIZONTAL SCALE
50 0 50 100
1" = 50'-0"

VERTICAL SCALE
10 0 10 20
1" = 10'-0"

NORMAL CROWN | TRANSITION | FULL BANK | TRANSITION | NORMAL CROWN | TRANSITION

STA. 200+00.22 | STA. 201+06.22 | 2.0% DOWN TO LEFT (CURVE 3) | STA. 203+27.63 | STA. 204+33.63 | STA. 208+94.10

LEGEND
(L) – LEFT
(R) – RIGHT
(X) – CROSSING

PROFILE

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CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE STREET BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

GPI

DRAWN BY: RGC
CHECKED BY: GEB
JOB NO.: 30050
DATE: 2-17-17
BY: RGC

REVISIONS:
NO. | ISSUED FOR BID

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

PLAN & PROFILE
STA. 196+00 TO STA. 210+00

SHEET NO.
18 of 25

X:\Data\Job 30050 – Cattaraugus Co-Mansfield\Drawings\Final Design 2016\16-20 – Plan & Profile .dwg Thursday, 16 February 2017 2:40PM

L=643.549
Δ=17°04'14"
R=2160.000
CURVE #4

BANK STABILIZATION AREA
STA. 213+10 TO STA. 213+65
SEE DETAIL ON SHEET 10 OF 24

4" INV 1496.65
STA:213+25.04 OFF:43.87'L

(P65) 39± LF 4" PPVCUP @ 1.28%

(P64) 215± LF 4" PPVCUP @ 1.44%

(P63)
47± LF 4" PPVCUP @ 1.22%

4" INV. 1500.61
STA. 210+40

4" INV. 1500.24
STA. 210+86

4" INV. 1497.15
STA. 213+00

MATCHLINE - STATION 210+00 (SEE PREVIOUS SHEET FOR CONTINUATION)

STA: 210+50
END FULL DEPTH RECLAMATION OF ASPHALT PAVEMENT WITH WIDENING, BEGIN FULL DEPTH RECONSTRUCTION

(P66)
275± LF 12" SIPCPUP @ 1.50%
SPECIAL SECTION

ES-26 INV 1496.04
STA:212+69.36 OFF:26.98'R

(P67) DRIVEWAY CULVERT
20± LF 12" SICPP @ 1.80%

ES-25 INV 1496.40
STA:212+49.11 OFF:27.05'R

ES-24 INV 1496.80
STA:212+27.52 OFF:26.96'R

DITCH NO. 6

PROP. NEW BRIDGE
REFER TO DWGS. S-1
THRU S-18

MANSFIELD BRIDGE 58

STREAM (R)

BIORETENTION & DRY SWALE SOIL, STA. 209+25 TO STA. 215+10 (8'± OFF HIGHWAY BOUNDARY), (GRADE TO DRAIN) SEE DETAILS ON SHEET 13 OF 25

630± LF 4" PCPUT @ 1.52%

4" PRECAST HEADWALL, ITEM 605.21010018, INV. 1489.3±, STA. 215+30

CHECK DAMS, TYP., SEE NOTE THIS SHEET

UTIL MKR

GRAVEL DRIVE

THE UNIFIED CREDIT TRUST
(REPUTED OWNER)
LIBER 996 PAGE 984
TMP# 46.001-1-26.1

RONALD & NANCY MEEDER
(REPUTED OWNERS)
LIBER 726 PAGE 814
TMP# 46.001-1-28.1

HSE. NO. 7335

ES-28 INV 1486.64
STA:219+10 OFF:37.0L

(P68) CROSSING NO. 15,
72± LF 19"x30" RCHEP @ 3.37%

RELOCATE EXISTING WATERING TROUGH AS DIRECTED BY THE ENGINEER AND HOME OWNER, ITEM 202.03CA - RELOCATION OF CONCRETE WATERING TROUGH

DITCH NO. 7

DITCH NO. 8

DITCH NO. 9

DITCH NO. 10

(P69) 100± LF 12" SICPP @ 2.30%

ES-29 INV 1483.30
STA:222+33.98 OFF:31.47'L

ES-31 INV. 1480.46
STA:223+41 OFF:29.1L

ES-30 INV 1481.00
STA:223+32.00 OFF:40.00'L

DRAINAGE (R7)

DRAINAGE (R8)

DRAINAGE (R9)

DRAINAGE (R10)

DRAINAGE (R11)

N30°16'46"W 220±00

WOODED AREA

WETLAND "A"

WETLAND "B"

WETLAND "C"

CONTINUOUS

4" INV. 1488.08
STA. 216+75

238± LF 4"
PCPUT @ 2.30%

CHECK DAMS, TYP., DRAINAGE SEE NOTE THIS SHEET

4" PRECAST HEADWALL, ITEM 605.21010018, INV. 1483.5±, STA. 219+00±

BIORETENTION & DRY SWALE SOIL, STA. 216+75 TO STA. 218+75 (30' OFFSET FROM CENTERLINE), (GRADE TO DRAIN), SEE DETAILS ON SHEET 13 OF 25

4" INV. 1481.83±
STA. 220+00
75± LF 4" PCPUT
@ 2.17%

4" INV. 1483.46
STA. 219+25

ES-27 INV 1483.83
STA:219+10 OFF:47.0R

CHECK DAMS, TYP., SEE NOTE THIS SHEET

BIORETENTION & DRY SWALE SOIL, STA. 219+25 TO STA. 223+25 (30' OFFSET FROM CENTERLINE), (GRADE TO DRAIN), SEE DETAILS ON SHEET 13 OF 25

4" INV. 1477.77±
STA. 222+50

250± LF 4" PCPUT
@ 1.62%

95± LF 4" PCPUT
@ 0.77%

(P70) CROSSING NO. 16, 48± LF
38"x60" RCHEP @ 5.59%

4" PRECAST HEADWALL, ITEM 605.21010018, INV. 1477.0±, STA. 223+50±

ES-32 INV. 1477.47
STA:223+53.68 OFF:29.35R

MATCHLINE - STATION 224+00 (SEE NEXT SHEET FOR CONTINUATION)

CHECK DAMS TO BE INSTALLED IN BIORETENTION SWALES IN ACCORDANCE WITH DETAILS SHOWN ON SHEET 25 OF 25 AND AS DIRECTED BY ENGINEER, ITEM 209.110101

LEGEND
(L) - LEFT
(R) - RIGHT
(X) - CROSSING

ANDREW KASPRZAK AND BROOKE N. SCHARF
(REPUTED OWNERS)
INS# 210752-001
TMP# 46.001-1-25.2

WAYNE H. & MARILYN J. KENT
(REPUTED OWNERS)
LIBER 974 PAGE 969
TMP# 46.001-1-27.1

GREGORY T. & LAURA L. DECINQUE
(REPUTED OWNERS)
INS# 178163-001
TMP# 46.001-1-27.7

MAPLES ROAD (C.R. 13)

PLAN

HORIZONTAL SCALE
50 0 50 100
1" = 50'-0"

VERTICAL SCALE
10 0 10 20
1" = 10'-0"

TRANSITION	FULL BANK	TRANSITION	NORMAL CROWN	TRANSITION	FULL BANK
STA. 210+50± END TYPE III WITH WIDENING. BEGIN FULL DEPTH RECONSTRUCTION.	STA. 210+86.56	STA. 216+37.45	STA. 218+29.92	STA. 220+78.27	STA. 222+70.73
	5.2% DOWN TO RIGHT (CURVE 4)				5.2% DOWN TO RIGHT (CURVE 5)

PVI STA: 212+50.00
PVI ELEV: 1499.41
K: 386.72
LVC: 400.00

PVI STA: 218+80.00
PVI ELEV: 1494.45
K: 361.26
LVC: 500.00

PVI STA: 223+50.00
PVI ELEV: 1484.25
K: 744.16
LVC: 400.00

BVCS: 210+50.00
BVCE: 1503.05

EVCS: 214+50.00
EVCE: 1497.84

SEE SHEETS S-1 THRU S-18 FOR NEW MANSFIELD BRIDGE #58 FOLLOWING SHEET 25 OF 25 WHICH IS PART OF THIS PROJECT

BVCS: 216+30.00
BVCE: 1496.42

EVCS: 221+30.00
EVCE: 1489.03

BVCS: 221+50.00
BVCE: 1488.59

EVCS: 225+50.00
EVCE: 1480.98

-1.82%
-0.79%
-2.17%

(P63) 47± LF 4" PPVCUP @ 1.22% (L)
4" INV. 1500.24 (L)
(P64) 215± LF 4" PPVCUP @ 1.44% (L)
4" INV. 1497.15 (L)
(P65) 39± LF 4" PPVCUP @ 1.28% (L)
4" INV. 1496.65 (L)
4" INV. 1500.81 (L)
(P66) 275± LF 12" SIPCPUP @ 1.50% (R) SPECIAL SECTION
ES-24 (R)
ES-25 (R)
ES-26 (R)
(P67) DRIVEWAY CULVERT 20± LF 12" SICPP @ 1.80% (R)
DITCH NO. 6 395± LF @ -1.80% (R)
T.G.L.
APPROX. EX. GRADE
ES-28 (L)
DITCH NO. 7 135± LF @ -2.26% (L)
(P68) 72± LF 19"x30" RCHEP @ 3.37% (X)
ES-27 (R)
DITCH NO. 8 168± LF @ +0.39% (L)
DITCH NO. 9 84± LF @ -2.62% (L)
(P70) 48± LF 38"x60" RCHEP @ 5.59% (X)
ES-32 (R)
DITCH NO. 10 231± LF @ 2.86% (L)
(P69) 100± LF 12" SICPP @ 2.30%
ES-29 (L)
ES-30 (L)
ES-31 (L)

1510.00 1505.00 1500.00 1495.00 1490.00 1485.00 1480.00 1475.00 1470.00

1502.7 1503.96 | 1501.1 1502.17 | 1498.8 1500.61 | 1496.8 1499.31 | 1496.0 1498.26 | 1494.5 1497.44 | 1494.7 1496.66 | 1492.0 1495.80 | 1490.3 1494.68 | 1488.8 1493.29 | 1487.3 1491.61 | 1486.6 1489.66 | 1485.1 1487.52 | 1484.3 1485.49 | 1481.2 1483.58

210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00

PROFILE

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE STREET BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

GPI

REVISIONS:	BY	DATE
ISSUED FOR BID	RGC	2-17-17

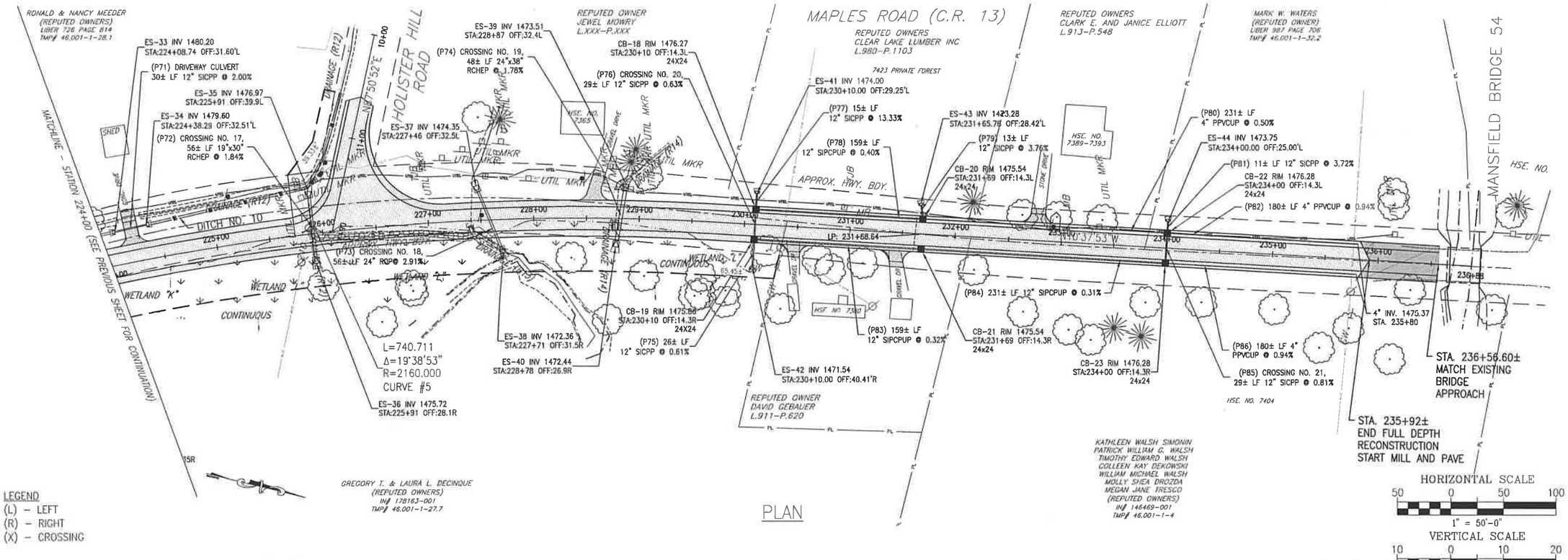
DRAWN BY: RGC
CHECKED BY: GEB
JOB NO.: 30060
DRAWING NO.:
DATE: FEBRUARY 2017
SCALE: 1" = 50'-0"

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

PLAN & PROFILE
STA. 210+00 TO STA. 224+00

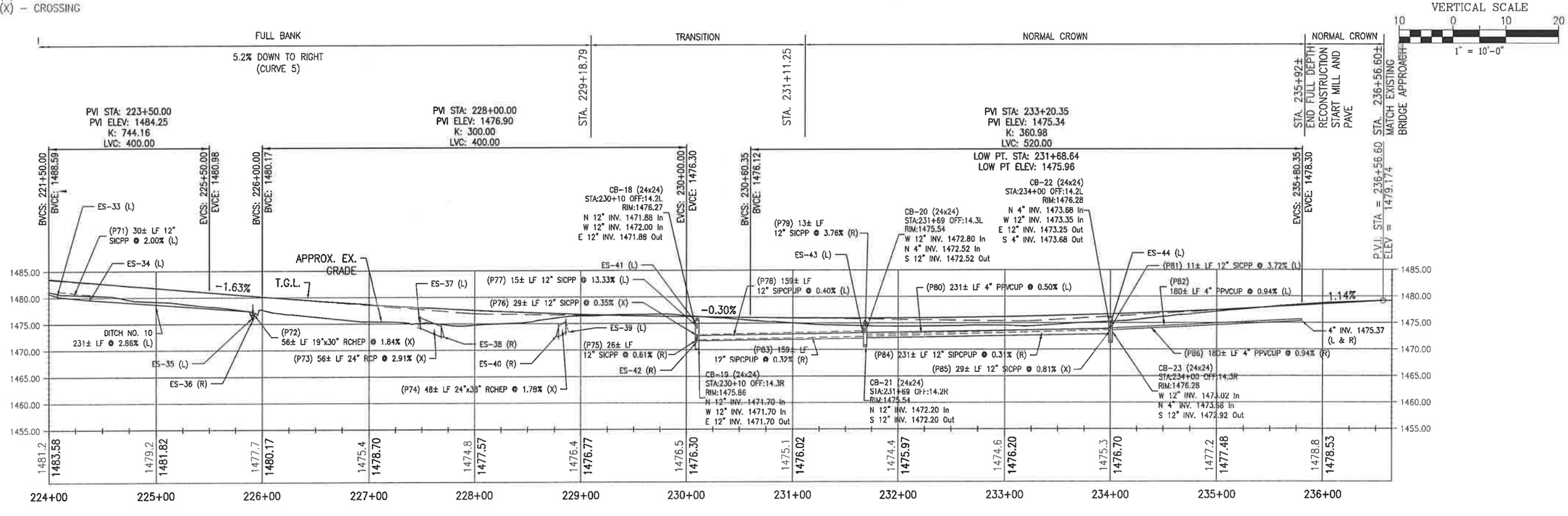
SHEET NO.
19 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\16-20 - Plan & Profile.dwg Thursday, 16 February 2017 3:01PM



LEGEND
(L) – LEFT
(R) – RIGHT
(X) – CROSSING

PLAN



PROFILE

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ENGINEERING • SURVEYING • PLANNING
4950 GENESEE STREET BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

GPI

REVISIONS:			
NO.		BY	DATE
	ISSUED FOR BID	RGC	2-17-17

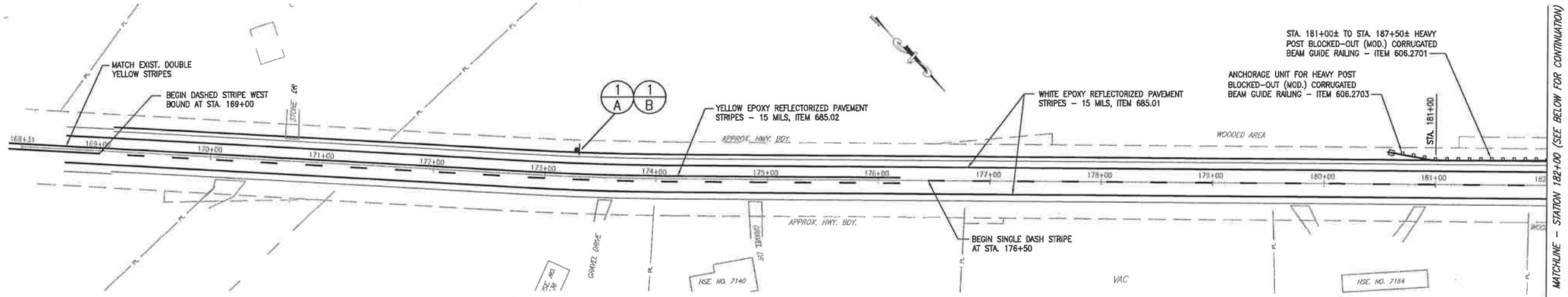
DRAWN BY: RGC
CHECKED BY: GEB
JOB NO.: 30050
SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO.:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD – C.R. 13 IMPROVEMENTS

PLAN & PROFILE
STA. 224+00 TO STA. 236+56

SHEET NO.
20 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\16-20 - Plan & Profile .dwg Thursday, 16 February 2017 3:05PM



NEW SIGN TEXT

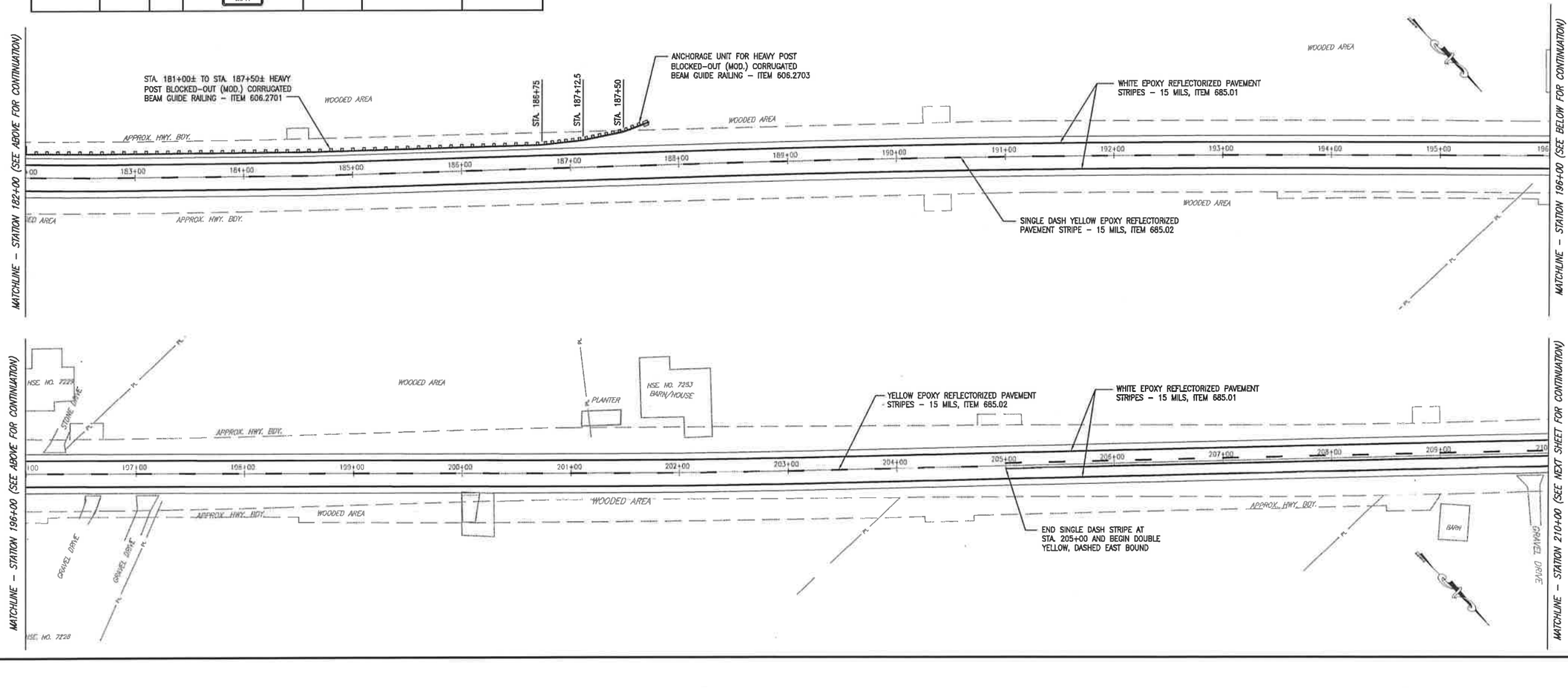
ITEM NUMBER	LOCATION	TEXT NO.	TEXT	M.U.T.C.D. NO.	SIZE (inches) (PAYMENT FACTOR)	TYPE OF MOUNT
645.5102 645.81	1	A		W1–2L	30" x 30" (6.25 sf)	GROUND MOUNTED, SINGLE POST
		B	30 MPH	W13–1	24" x 24" (4.00 sf)	

1. ALL SIGNAGE AND PAVEMENT MARKING SHALL CONFORM TO THE GUIDELINES AND REGULATIONS OF THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) AND THE NEW YORK STATE SUPPLEMENT (EDITION 2009)

SIGN LEGEND

X/X NEW LOCATION TEXT NO.

GRAPHIC SCALE
50 0 50 100
1" = 50'-0"



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4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
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DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30060

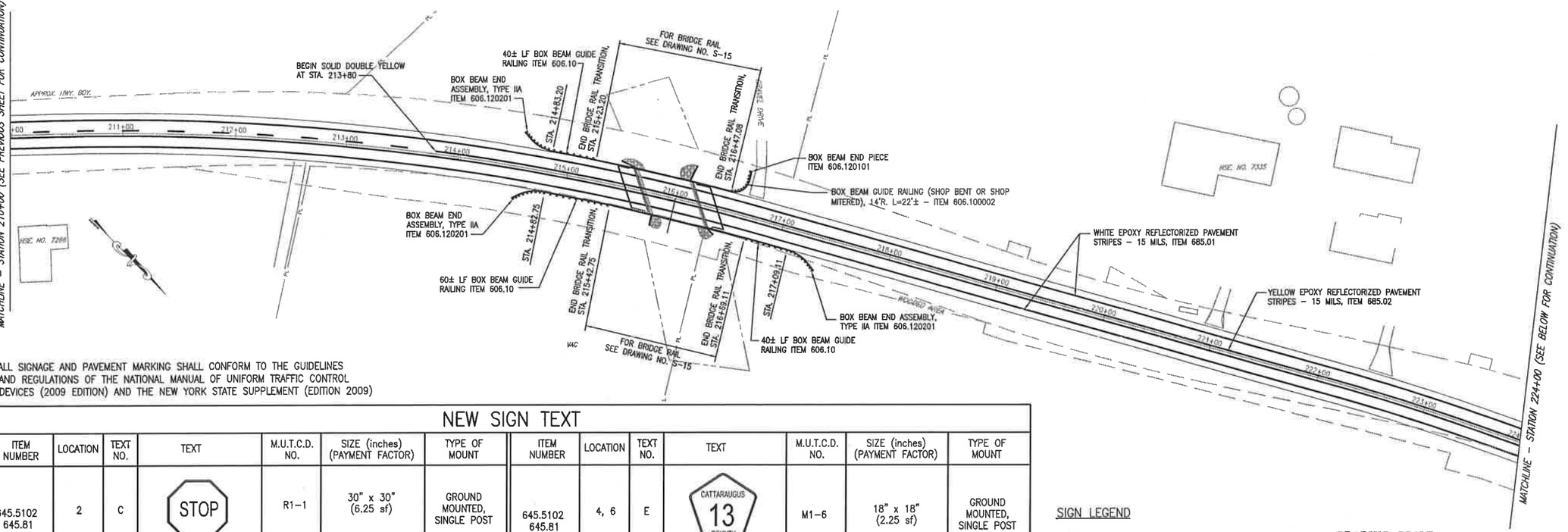
NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO.:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD – C.R. 13 IMPROVEMENTS

PAVEMENT MARKINGS, SIGNS AND GUIDE RAIL (1 OF 2)

SHEET NO.
21 of 25



1. ALL SIGNAGE AND PAVEMENT MARKING SHALL CONFORM TO THE GUIDELINES AND REGULATIONS OF THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) AND THE NEW YORK STATE SUPPLEMENT (EDITION 2009)

NEW SIGN TEXT

ITEM NUMBER	LOCATION	TEXT NO.	TEXT	M.U.T.C.D. NO.	SIZE (inches) (PAYMENT FACTOR)	TYPE OF MOUNT
645.5102 645.81	2	C	STOP	R1–1	30" x 30" (6.25 sf)	GROUND MOUNTED, SINGLE POST
645.5102 645.81	3	D	HOLISTER HILL RD.	D3–1	Varies (APPROX. 1.25 sf)	2 SIGNS BACK TO BACK GROUND MOUNTED ON SINGLE POST
645.5102 645.81	4, 6	E	CATTARAUGUS 13 COUNTY	M1–6	18" x 18" (2.25 sf)	GROUND MOUNTED, SINGLE POST
645.5102 645.81	5	F	↔	W1–7	48" x 24" (8.00 sf)	GROUND MOUNTED, SINGLE POST

SIGN LEGEND

(X/X) NEW LOCATION TEXT NO.

GRAPHIC SCALE
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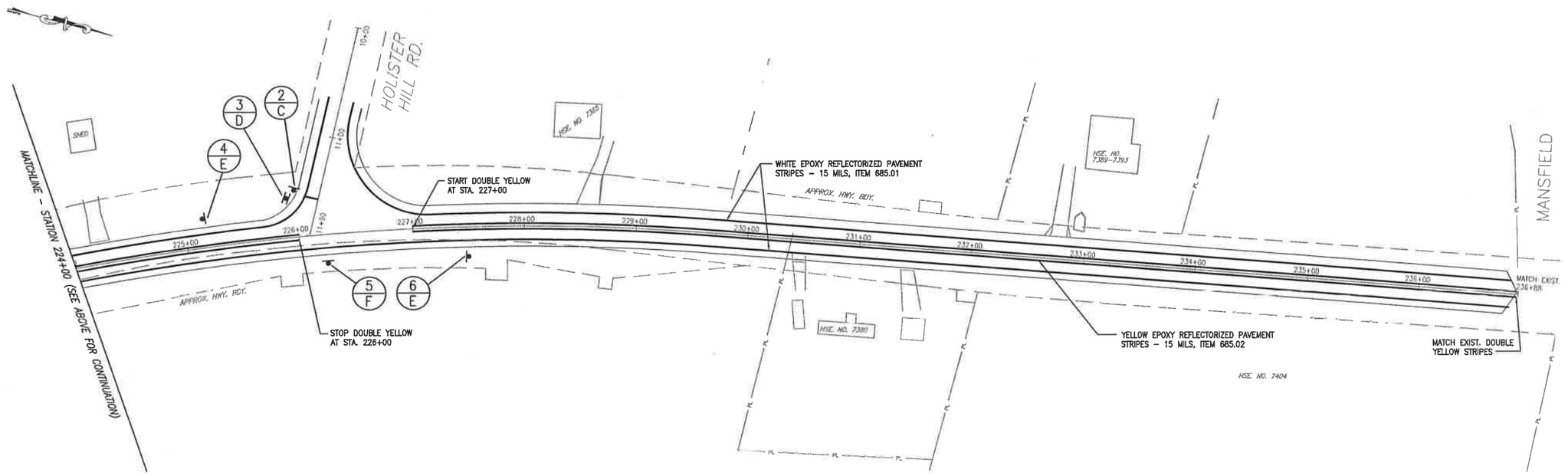
1" = 50'-0"



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CHECKED BY: GB
JOB NO.: 30050
SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO.:

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD – C.R. 13 IMPROVEMENTS

PAVEMENT MARKINGS, SIGNS AND GUIDE RAIL (2 OF 2)

SHEET NO.
22 of 25

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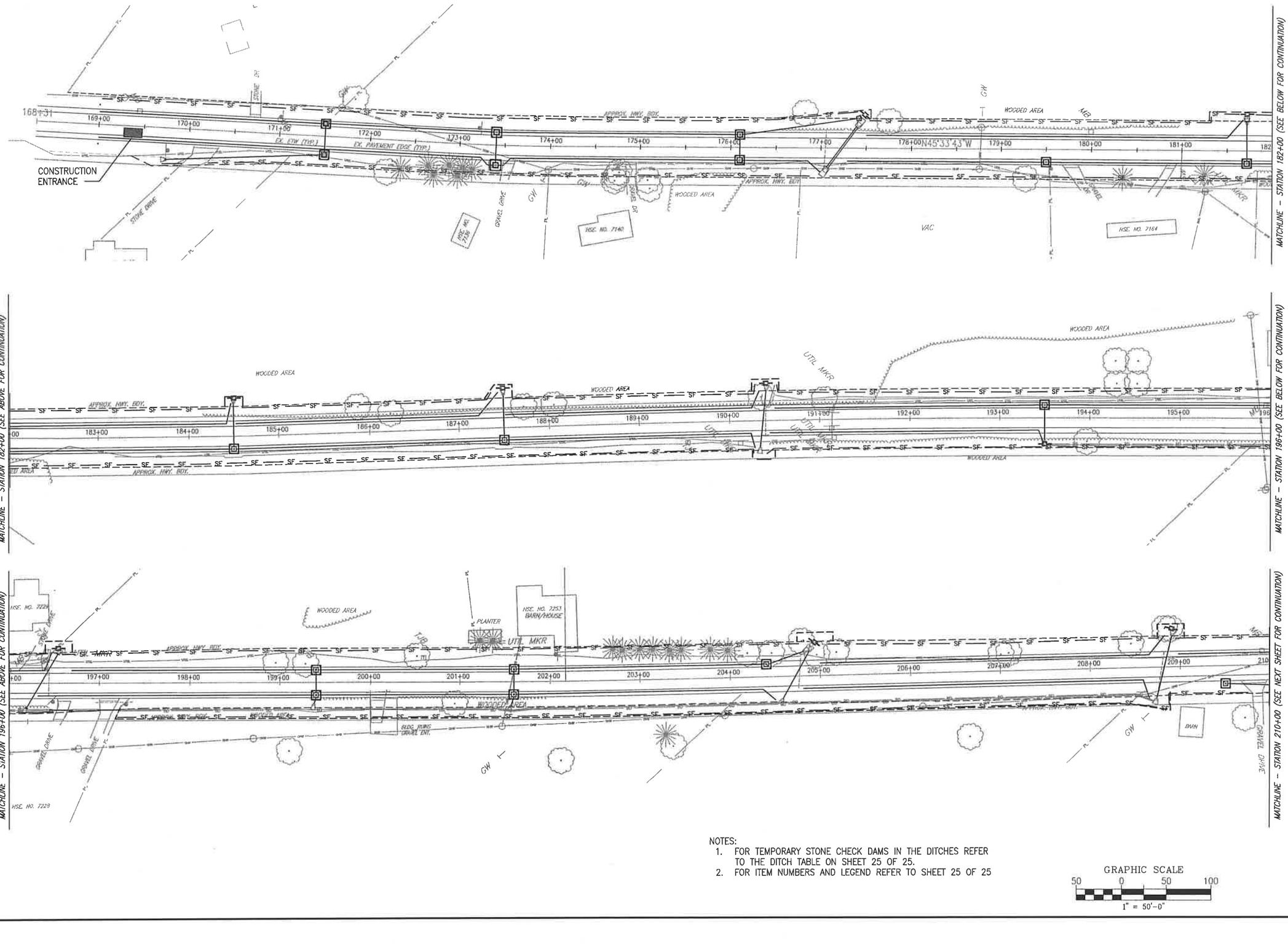

NOTES:
1. FOR TEMPORARY STONE CHECK DAMS IN THE DITCHES REFER TO THE DITCH TABLE ON SHEET 25 OF 25.
2. FOR ITEM NUMBERS AND LEGEND REFER TO SHEET 25 OF 25

GRAPHIC SCALE
50 0 50 100
1" = 50'-0"

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ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWN BY: RGC
CHECKED BY: GB
DRAWING NO.:
JOB NO.: 30050

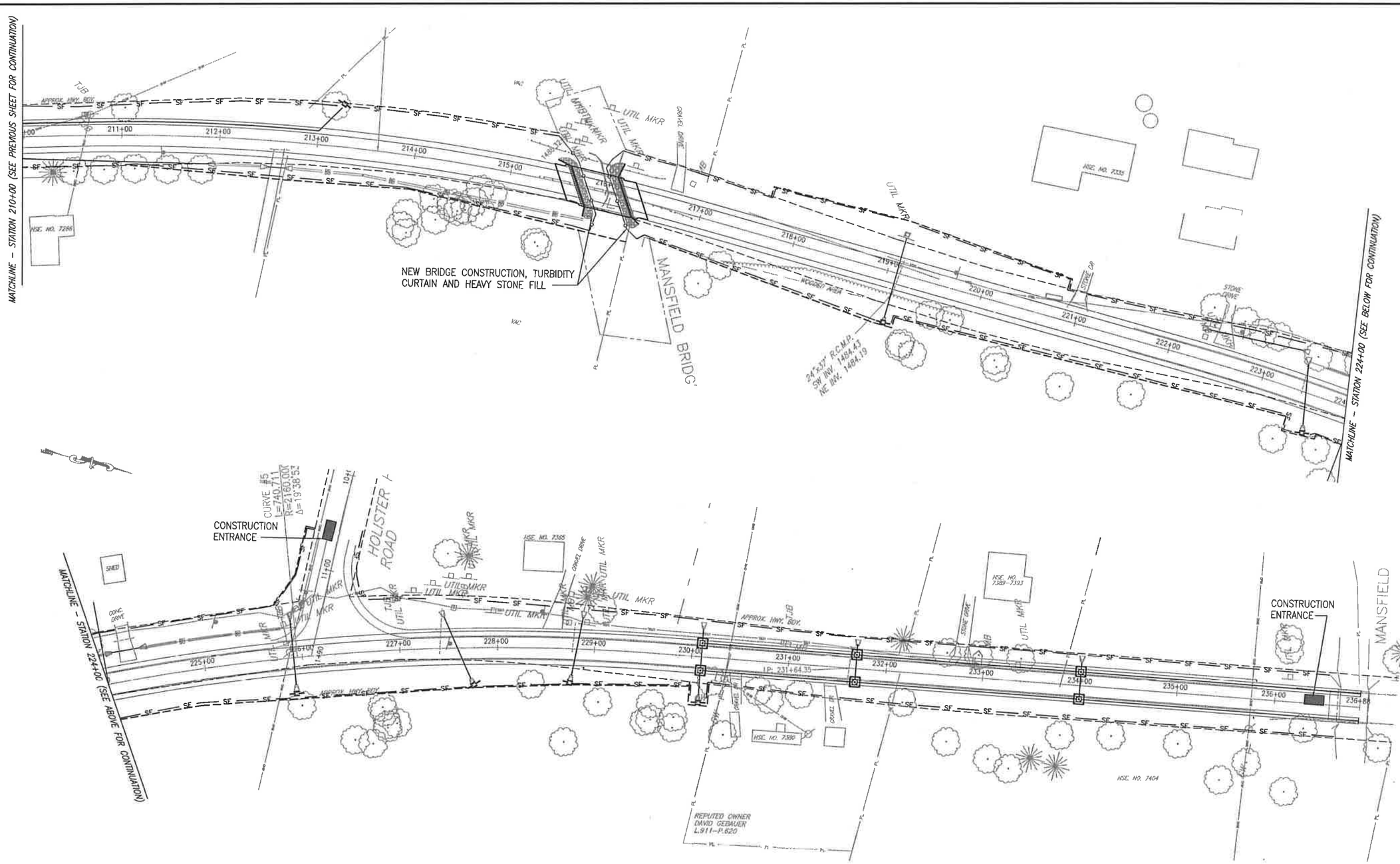
NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

EROSION CONTROL PLANS (1 OF 2)

SHEET NO.
23 of 25

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Drawings\Final Design 2016\23-25 - Erosion Control Plans.dwg Friday, 17 February 2017 6:42AM



NOTES:
1. FOR TEMPORARY STONE CHECK DAMS IN THE DITCHES REFER TO THE DITCH TABLE ON SHEET 25 OF 25.
2. FOR ITEM NUMBERS AND LEGEND REFER TO SHEET 25 OF 25

GRAPHIC SCALE
50 0 50 100
1" = 50'-0"

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	ISSUED FOR BID	RGC	2-17-17

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO.:

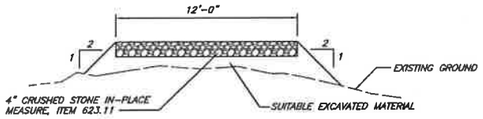
CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD – C.R. 13 IMPROVEMENTS

EROSION CONTROL PLANS (2 OF 2)

SHEET NO.
24 of 25

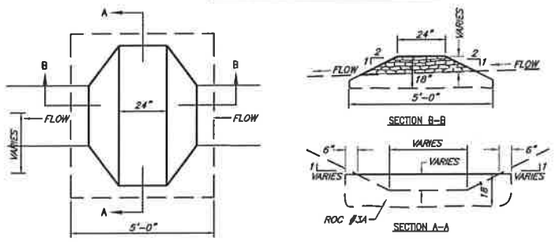
EROSION CONTROL KEY

- INDICATES DRAINAGE STRUCTURE PROTECTION ITEM 209.1701
- INDICATES TEMP. TURBIDITY CURTAIN PROTECTION ITEM 209.1501
- INDICATES STABILIZED CONSTRUCTION ENTRANCE ITEM 209.22
- INDICATES TEMPORARY CHECK DAM PROTECTION ITEM 209.110101
- SF — INDICATES TEMPORARY SILT FENCE PROTECTION ITEM 209.13
- INDICATES CONCRETE STILLING BASIN ITEM 209.1202 AND ITEM 207.22



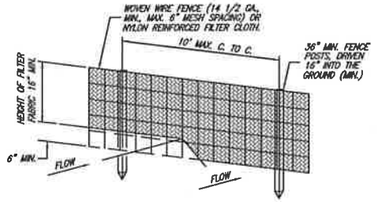
NOTE:
GRADE TEMPORARY DRIVEWAY AS DIRECTED BY THE ENGINEER.

TEMPORARY DRIVEWAY DETAIL

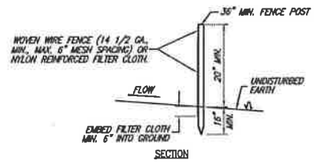


CHECK DAMS TO PLACED IN THE PROPOSED DITCHES, BIORETENTION SWALES AND AT OUTLET FROM CULVERTS AT INTERVALS THAT WILL ALLOW ONLY ONE FOOT OF WATER TO BACK UP IN THEM BEFORE TOPPING. PLACEMENT TO BE APPROVED AND AS DIRECTED BY THE ENGINEER. REFER TO DITCH TABLE ON SHEET 12, BIORETENTION SWALE TABLE ON SHEET 13 AND EROSION CONTROL SHEETS 23 & 24 FOR APPROXIMATE CHECK DAM QUANTITIES

TEMPORARY STONE CHECK DAM DETAIL (TSCD) ITEM 209.110101



PERSPECTIVE VIEW

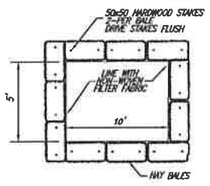


SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

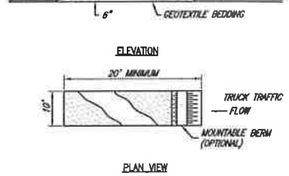
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE OR NYLON REINFORCED FENCE W/TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN THE SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED EVERY 7 DAYS & MATERIAL REMOVED WHEN ACCUMULATION REACHES HALF THE MEASURED HEIGHT OF THE SILT FENCE.

SILT FENCE DETAIL ITEM 209.13



NON-WOVEN FILTER FABRIC TO BE CHECKED PERIODICALLY AND REPLACED AS NECESSARY.

WASTE CONCRETE STILLING BASIN ITEM 207.22

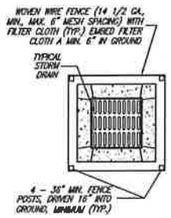


ELEVATION

PLAN VIEW

1. STONE SIZE – USE CLEAN #2 STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 20'.
3. THICKNESS – NOT LESS THAN 6".
4. WIDTH – 10' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACEMENT OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING W/ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE ITEM 209.22



PLAN

NOTES:
ALL EROSION AND SEDIMENT CONTROL SHALL BE CONSTANTLY MAINTAINED.
ALL CONTROL SHALL BE INSPECTED DAILY AND REPAIRED IMMEDIATELY.

DRAINAGE STRUCTURE INLET PROTECTION – TEMPORARY ITEM 209.1701

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GPI

DRAWN BY: RGC
CHECKED BY: GB
JOB NO.: 30050

NO.	REVISIONS:	BY	DATE
	ISSUED FOR BID	RGC	2-17-17

SCALE: 1" = 50'-0"
DATE: FEBRUARY 2017
DRAWING NO.:

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

EROSION CONTROL DETAILS

SHEET NO.
25 of 25

GENERAL NOTES

1. DESIGN SPECIFICATIONS: NYSDOT LRFD BRIDGE DESIGN SPECIFICATION, AASHTO LRFD DESIGN SPECIFICATIONS, 4TH EDITION, NYSDOT BRIDGE DESIGN MANUAL, ENGLISH UNITS, NYSDOT PRESTRESSED CONCRETE CONSTRUCTION MANUAL, AND THE NYSDOT HIGHWAY DESIGN MANUAL WITH ALL PROVISIONS IN EFFECT AS OF DECEMBER 31, 2015.
2. LIVE LOAD: AASHTO HL-93 AND NYSDOT DESIGN PERMIT VEHICLE.
3. CONSTRUCTION AND MATERIAL SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, US CUSTOMARY UNITS EDITION, DATED JANUARY 1, 2017 WITH CURRENT ADDITIONS AND MODIFICATIONS.
4. ALL SHOP DRAWINGS SUBMITTED FOR THIS PROJECT SHALL BE IN US CUSTOMARY UNITS. SHOP DRAWINGS WILL BE REQUIRED FOR REINFORCING BARS, ELASTOMERIC BEARINGS, AND PRECAST CONCRETE BEAMS.
5. THE LOAD RATINGS ARE IN ACCORDANCE WITH THE AASHTO MANUAL FOR BRIDGE EVALUATION – SECOND EDITION 2010, INCLUDING 2014 INTERIM REVISIONS.
6. THIS BRIDGE SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES CONTAINED IN THE CURRENT EDITION OF THE AASHTO MAINTENANCE MANUAL: THE MAINTENANCE AND MANAGEMENT OF ROADWAYS AND BRIDGES.
7. SUBSURFACE EXPLORATIONS HAVE BEEN MADE FOR THIS PROJECT AT THE LOCATIONS INDICATED ON THE GENERAL PLAN (S-4). BORING LOGS ARE IN THE SPECIFICATIONS FOR THIS PROJECT. THE CONTRACTOR IS ADVISED THAT ANOMALIES MAY EXIST OUTSIDE THE SAMPLING LOCATION.
8. UNLESS OTHERWISE INDICATED ON THE PLANS, WORK TO BE PERFORMED UNDER THIS CONTRACT DOES NOT REQUIRE THE DISTURBING, DESTRUCTION, OR REMOVAL OF ANY KNOWN MATERIALS CONTAINING ASBESTOS.
9. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR SAFETY AND HEALTH REQUIREMENTS.
10. THE CONTRACTOR SHALL HAVE AN LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK PREPARE AND STAMP A SET OF PLANS AND ALL CALCULATIONS FOR THE FOLLOWING WORK:
    - BEARINGS (IF DIFFERENT FROM CONTRACT PLANS)
    - ERECTION PLAN
    - PRESTRESSED SLAB UNITS (IF DIFFERENT FROM CONTRACT PLANS)

    PLANS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL AS DESCRIBED IN THE SHOP DRAWING SUBMITTAL PROCEDURE INCLUDED IN THE CONTRACT DOCUMENTS. AT LEAST TWO WORKING DAYS PER DRAWING, WITH A MINIMUM OF TEN WORKING DAYS MUST BE ALLOWED FOR EACH SET OF DRAWINGS SUBMITTED FOR THE ENGINEER'S REVIEW. NO WORK MAY BEGIN UNTIL THE RESPECTIVE SUBMITTALS ARE APPROVED. ALL COSTS FOR PREPARING THESE PLANS AND CALCULATIONS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.

EXCAVATION & BACKFILL NOTES

1. THE COST OF WATER USED FOR THE COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE FILL ITEM.
2. ALL PLACEMENTS OF SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY.
3. HIGHWAY EMBANKMENT MATERIAL ITEM 203.03 (HIGHWAY ESTIMATE) AND SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE PLACED SIMULTANEOUSLY, IN CONTACT, ON BOTH SIDES OF THE VERTICAL PAYMENT LINE.
4. MATERIALS EXCAVATED UNDER ITEMS, 203.02 AND 206.01 MAY BE USED AS BORROW MATERIAL IF THE ENGINEER JUDGES SUCH MATERIALS TO BE SUITABLE. THESE EXCAVATION ITEMS ARE NOT REFLECTED IN THE EMBANKMENT ITEMS.

DEMOLITION AND REMOVAL NOTES

1. RECORD PLANS FOR THIS STRUCTURE (BRIDGE NO. 58) ARE NOT AVAILABLE.
2. IF THE STRUCTURE HAS A BRIDGE IDENTIFICATION NUMBER (B.I.N.) PLATE ATTACHED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND REMOUNT IT AFTER CONSTRUCTION IS COMPLETED.
3. EXISTING SUBSTRUCTURE SHALL BE REMOVED AS INDICATED ON THE PLANS UNDER ITEM 202.19CA IN THE BRIDGE ESTIMATE.
4. EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER ITEM 202.120001 IN THE BRIDGE ESTIMATE.
5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SUBSECTION 202-3.01 GENERAL AND SAFETY REQUIREMENTS. A REMOVAL PLAN SHALL BE SUBMITTED TO THE ENGINEER FIFTEEN (15) DAYS PRIOR TO BEGINNING THE DEMOLITION. THE REQUIREMENT THAT IT BE SIGNED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK IS WAIVED.
6. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THOSE ITEMS.
7. DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS AND OTHER MATERIAL TO THE AREA BELOW THE BRIDGE EXCEPT WHERE THE PLANS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
8. ALL MATERIAL FALLING ON THE AREA BELOW OR ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE COUNTY.
9. THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS AND OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT BID PRICES OF THE APPROPRIATE ITEMS IN THE CONTRACT.
10. CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION, AND NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
11. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SUPPORTS, BRACING AND OTHER DEVICES REQUIRED OR DIRECTED BY ENGINEER TO PROTECT THE SAFETY OF THE ADJACENT STRUCTURES, ROADWAY, AND UTILITIES.

UTILITY NOTES

1. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.
2. WORK SHALL NOT COMMENCE UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN STAKED OUT TO SHOW THEIR LOCATION EITHER INSIDE OR OUTSIDE OF THE WORK AREAS. RELOCATION OF EXISTING UTILITIES, ALTHOUGH NOT IN THE SCOPE OF THIS CONTRACT, MAY BE REQUIRED AS PART OF THIS PROJECT.
3. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED.
4. THE METHOD OF REMOVAL OF EXISTING ROADWAY OR SHOULDER PAVEMENT IN THE IMMEDIATE VICINITY OF UNDERGROUND UTILITIES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. OVERHEAD ELECTRIC LINES CROSS THE ROADWAY ALONG THE PROJECT AND MAY NEED TO BE TEMPORARILY SUPPORTED OR RELOCATED DURING CONSTRUCTION. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS.

SUBSTRUCTURE NOTES

1. ALL EXPOSED EDGES OF CONCRETE ARE TO BE CHAMFERED ONE INCH UNLESS OTHERWISE NOTED.
2. FINISHING CONCRETE SURFACES: IMMEDIATELY AFTER FORMS HAVE BEEN REMOVED, SURFACES EXPOSED TO VIEW SHALL HAVE ALL PROJECTIONS AND IRREGULARITIES REMOVED AND ALL CAVITIES NEATLY FILLED WITH MORTAR OF THE PROPORTION USED IN THE CONCRETE. ALL OTHER REQUIREMENTS OF SUBSECTION 555-3.11 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 1, 2017 AND ALL SUBSEQUENT ADDENDA SHALL ALSO APPLY.
3. A SUBMISSION TO THE ENGINEER IN CHARGE INDICATING THE PROCEDURE AND EQUIPMENT TO BE USED FOR INSTALLING THE SHEET PILE ABUTMENTS SHALL BE REQUIRED PRIOR TO COMMENCING WORK. UPON APPROVAL OF HIS/HER METHODS THE CONTRACTOR MAY BEGIN THIS WORK.
4. THE STEEL SHEETING FOR THE ABUTMENTS AND WINGWALLS SHALL BE HOT ROLLED MATERIAL.
5. THE STEEL SHEETING SHALL BE A572 GRADE 50.
6. CONCRETE FOR STRUCTURES SHALL BE CLASS HP ITEM 555.970100CA. COMPRESSIVE STRENGTH OF CONCRETE FOR SUBSTRUCTURES AT 28 DAYS SHALL BE f'c = 4,000 PSI.
7. ALL REINFORCEMENT FOR SUBSTRUCTURES SHALL BE ASTM 615, GRADE 60 DEFORMED GALVANIZED BARS IN ACCORDANCE WITH THE MATERIAL SPECIFICATIONS OF SUBSECTIONS 709-01 AND 709-11 OF THE STANDARD SPECIFICATIONS.
8. THE TOP OF BACKWALLS SHALL BE STEEL TROWEL FINISHED. SHEET GASKET (TREATED BOTH SIDES), IN ACCORDANCE WITH THE MATERIAL SPECIFICATIONS OF SUBSECTION 728-06, SHALL BE PLACED ON THE TOP OF THE BACKWALLS OF EXPANSION ABUTMENTS. TWO SHEETS SHALL BE USED; PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.
9. PROTECTIVE SEALING OF STRUCTURAL CONCRETE, ITEM 559.16960118 SHALL BE APPLIED TO ALL EXPOSED SUBSTRUCTURE CONCRETE.

INDEX OF DRAWINGS

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: JAH
JOB NO.: 20050
SCALE: NONE
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CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

BRIDGE GENERAL NOTES (1 OF 2)

SHEET NO.
S-1

SUPERSTRUCTURE NOTES

1. CONCRETE FOR THE SUPERSTRUCTURE DECK AND APPROACH SLABS SHALL BE CLASS HP, ITEMS 557.0503 AND 557.2003. COMPRESSIVE STRENGTH OF CONCRETE FOR DECK AND APPROACH SLABS AT 28 DAYS SHALL BE f'c=4,000 PSI.
2. ALL REINFORCEMENT FOR THE DECK AND APPROACH SLABS SHALL BE ASTM 615, GRADE 60 GALVANIZED DEFORMED BARS IN ACCORDANCE WITH THE MATERIAL SPECIFICATIONS OF SUBSECTIONS 709-01 AND 709-11.
3. TOP SURFACES OF NEW BRIDGE DECKS & APPROACH SLABS SHALL BE SEALED ACCORDING TO ITEM 559.18960118, PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECK AND BRIDGE DECK OVERLAYS.

DECK PLACEMENT NOTES

1. CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP PLACEMENT OPERATIONS AT ANY TIME IF, IN THE ENGINEER'S OPINION, CONCRETE PLACED DURING THE PLACEMENT HAS STARTED TO SET, OR IS ABOUT TO SET, AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
2. LONGITUDINAL CONSTRUCTION JOINTS WILL NOT BE PERMITTED.
3. WET BURLAP CURING BLANKETS SHALL BE PLACED ON THE CONCRETE DECK WITHIN 30 MINUTES OF THE CONCRETE BEING DEPOSITED INTO THE FORMS OR 5 MINUTES AFTER FINISHING, WHICHEVER COMES FIRST. THE PLACEMENT OF THE TURF DRAG TEXTURE SHALL NOT INTERFERE WITH THESE REQUIREMENTS.
4. IN THE EVENT THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION, WHETHER BY THE CONTRACTOR'S OWN DECISION OR BY ORDER OF THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FINISHED DECK GRADE, WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO DECK FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. FINISHING MACHINE(S) SHALL BE OPERATED AS CLOSE TO THE SKEW ANGLE AS PRACTICABLE.

COFFERDAM NOTES

1. SHOULD THE CONTRACTOR ELECT TO LAY BACK A PORTION OF THE EXISTING EARTH ADJACENT TO AN EXCAVATION REQUIRING A COFFERDAM, ANY REQUIRED EXTENSIONS OF THE COFFERDAM NECESSARY TO KEEP WATER FROM ENTERING THE EXCAVATION SHALL BE FURNISHED AND PLACED AT NO COST TO THE COUNTY.
2. WHERE A COFFERDAM IS USED, THE COST OF DEWATERING THE ENTIRE EXCAVATION, REGARDLESS OF SOURCE OF WATER, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE COFFERDAM ITEMS 553.020001 AND 553.020002.
3. THE COFFERDAM SHALL BE FLOODED AS DIRECTED BY THE ENGINEER WHEN THE WATER ELEVATION EXCEEDS 1493 FT.
4. SHOULD FIELD CONDITIONS REQUIRE A CHANGE FROM THE TYPE OF COFFERDAM SYSTEM CALLED FOR ON THE PLANS, THE ENGINEER SHALL CONTACT THE COUNTY FOR COORDINATION WITH APPROPRIATE AGENCIES TO APPROVE THE CHANGE.
5. DEWATERING OF THE COFFERDAM SHALL BE ACCOMPLISHED BY PUMPING THE WATER TO AN APPROVED UPLAND VEGETATED AREA OUTSIDE OF THE STREAMBED AS SHOWN ON THE PLANS AND/OR APPROVED BY THE ENGINEER. TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL, SUCH AS HAY BALES OR APPROVED EQUAL, MAY BE REQUIRED AS DETERMINED BY THE ENGINEER. NO SETTLEMENT BASIN SHALL BE CONSTRUCTED.
6. ORDINARY HIGH WATER IS ESTIMATED TO BE 1491.20. THIS IS DEFINED AS THE WATER SURFACE ELEVATION FOR THE MEAN ANNUAL FLOOD, WHICH IS THE FLOOD THAT HAS A RECURRENCE INTERVAL OF 2.33 YEARS.
7. ORDINARY WATER IS ESTIMATED TO BE 1490±. THIS IS DEFINED AS THE HIGHEST SURFACE WATER ELEVATION LIKELY TO BE ENCOUNTERED DURING ONE CONSTRUCTION SEASON (OTHER THAN MAJOR FLOODS). IT IS ALWAYS LESS THAN THE ORDINARY HIGH WATER ELEVATION AND IT IS USUALLY AN OBSERVED ELEVATION RATHER THAN A COMPUTED ONE.
8. LOW WATER IS ESTIMATED TO BE 1489±. THIS WATER ELEVATION IS THE NORMAL LOW WATER ELEVATION PREVALENT DURING ONE CONSTRUCTION SEASON FOR MORE THAN 25% OF THE TIME. IT IS AN OBSERVED ELEVATION RATHER THAN A COMPUTED ONE.

MISCELLANEOUS NOTES

1. NO ADDITIONAL PAYMENT WILL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS OR IN THE SPECIFICATIONS UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF WORK FOR WHICH NO PAYMENT ITEM IS INDICATED, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS OF THIS CONTRACT.
2. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING, TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ALL WORK AREAS AT THE STRUCTURE SHALL BE COMPLETELY FENCED, CONFORMING WITH OSHA REGULATIONS, TO THE SATISFACTION OF THE ENGINEER, TO PROTECT THE PUBLIC AND PREVENT UNAUTHORIZED ENTRY. THE COST OF THIS WORK IS TO BE INCLUDED IN ITEM 619.01.
4. THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS.
5. IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL INSURE THE SATISFACTORY COMPLETION OF THE REQUIRED WORK WITH A MINIMUM OF DELAY.
6. PROTECTION OF THE PUBLIC: THE CONTRACTOR SHALL MAINTAIN AND PROTECT TRAFFIC IN ACCORDANCE WITH ITEM 619.01, THE TRAFFIC CONTROL DRAWINGS AND PERTINENT PROVISIONS OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION). THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SECTION 107, LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, OF THE STANDARD SPECIFICATIONS DATED JANUARY 1, 2017 INCLUDING CURRENT ADDITIONS AND MODIFICATIONS.
7. THE COST OF ALL JOINT MATERIAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
8. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH STREAMS. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL, OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM A STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER RIGHTS AND TO SUSTAIN FISH LIFE DOWNSTREAM.
9. UNIT BID PRICES SHALL INCLUDE ANY ADDITIONAL COST INCURRED TO MEET ARMY CORPS OF ENGINEERS, NYSDEC, USEPA, AND OSHA REGULATIONS.
10. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE CLOSE PROXIMITY OF THIS PROJECT TO THE CREEK. DURING CONSTRUCTION THE CREEK MAY OVERFLOW ITS BANKS AND FLOOD CERTAIN AREAS, MAKING IT IMPOSSIBLE TO CONTINUE WORK IN THESE AREAS UNTIL THE WATER RECEDES. WORK ALREADY COMPLETED IN THESE AREAS MAY NEED TO BE REDONE TO COMPLY WITH THE SPECIFICATIONS. THE CONTRACTOR SHALL BEAR THE COST OF THIS ADDITIONAL WORK.
11. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE INCLUDING THE SPECIFIC TIME CONSTRAINTS.
12. ALL METAL REINFORCING BAR CHAIRS AND SUPPORTS SHALL HAVE PLASTIC SHOES.
13. ALL BRIDGES HAVE THE POTENTIAL OF BEING SUMMER ROOSTING HABITAT FOR THE NORTHERN LONG-EARED BAT (NLEB). THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 10 DAYS PRIOR TO THE START OF WORK AT THE BRIDGE. A BRIDGE/BAT SURVEY WILL BE CONDUCTED BY THE ENGINEER FOR THE PRESENCE OF THE NLEB FOR ANY BRIDGE WORK THAT WILL TAKE PLACE BETWEEN MARCH 31 AND OCTOBER 1 AND/OR INVOLVES ACCESS TO THE UNDERSIDE OF THE BRIDGE OR DRILLING DOWN TO THE UNDERSIDE OF THE BRIDGE, INCLUDING BRIDGE PAINTING AND WASHING. THE SURVEY WILL BE CONDUCTED AND RESULTS PROVIDED WITHIN SEVEN (7) DAYS OF THE CONTRACTOR'S NOTIFICATION. NO WORK ON THAT BRIDGE CAN COMMENCE UNTIL THE BRIDGE IS CLEARED THROUGH THE ENGINEER.

ESTIMATE OF QUANITITES (BRIDGE ONLY)

(ALL QUANITITES INCLUDED ON SHEET 3 OF 25)

ITEM NO	DESCRIPTION	UNIT	BRIDGE ESTIMATE	FINAL
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	NEC	
202.19CA	REMOVAL OF SUBSTRUCTURES	LS	NEC	
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	1000	
203.03	EMBANKMENT IN PLACE	CY	60	
203.07	SELECT GRANULAR FILL	CY	45	
203.21	SELECT STRUCTURAL FILL	CY	25	
206.01	STRUCTURE EXCAVATION	CY	80	
206.0201	TRENCH AND CULVERT EXCAVATION	CY	280	
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	60	
552.11	PERMANENT STEEL SHEETING	SF	6011	
553.020001	COFFERDAM (TYPE 2)	EA	1	
553.020002	COFFERDAM (TYPE 2)	EA	1	
555.970100CA	CONCRETE FOR STRUCTURES, CLASS HP, REINFORCING INCLUDED, NO BAR LIST ON PLANS	CY	50	
557.0503	SUPERSTRUCTURE SLAB w/ INTEGRAL WEARING SURFACE - BOTTOM FORMWORK NOT REQ'D - TYPE 3 FRICTION	SY	227	
557.2003	STRUCTURAL APPROACH SLAB W/ INTEGRAL WEARING SURFACE - TYPE 3 FRICTION	SY	116	
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	319	
559.16960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE	SF	300	
559.18960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECKS AND BRIDGE DECK OVERLAYS	SF	3162	
563.03	PRESTRESSED CONCRETE HOLLOW SLAB UNITS (21"x48")	SF	1768.10	
565.1922	TYPE E.L. BEARING	EA	18	
568.54	STEEL BRIDGE RAILING (THREE-RAIL)	LF	122	
568.70	TRANSITION BRIDGE RAILING	LF	128	
606.71	REMOVING AND DISPOSING OF CORRUGATED BEAM GUIDE RAILING	LF	100	
610.1402	TOPSOIL - ROADSIDE	CY	10	
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	100	
619.04	TYPE III CONSTRUCTION BARRICADES	EA	12	
619.1701	TEMPORARY CONCRETE BARRIER (UNPINNED)	LF	40	
620.05	STONE FILLING (HEAVY)	CY	300	
620.08	BEDDING MATERIAL	CY	15	
637.03	CONCRETE CYLINDER CURING BOX	EA	1	
698.06	STEEL/IRON PRICE ADJUSTMENT	D-C	1	

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CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: JAH
JOB NO: 30050
SCALE: NONE
DATE: MARCH 2016
DRAWING NO.: S2-BRIDGENOTES.DWG

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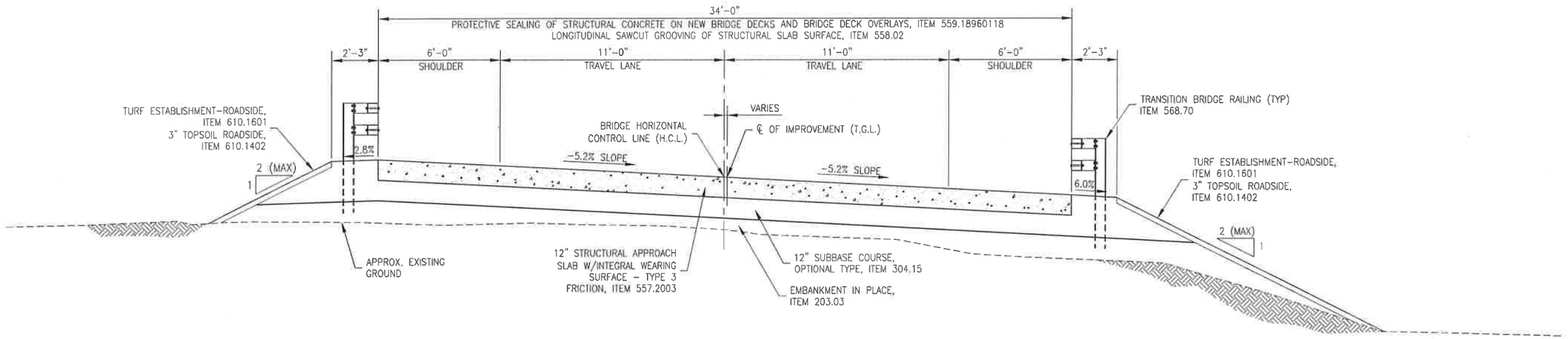
BRIDGE GENERAL NOTES
(2 OF 2)

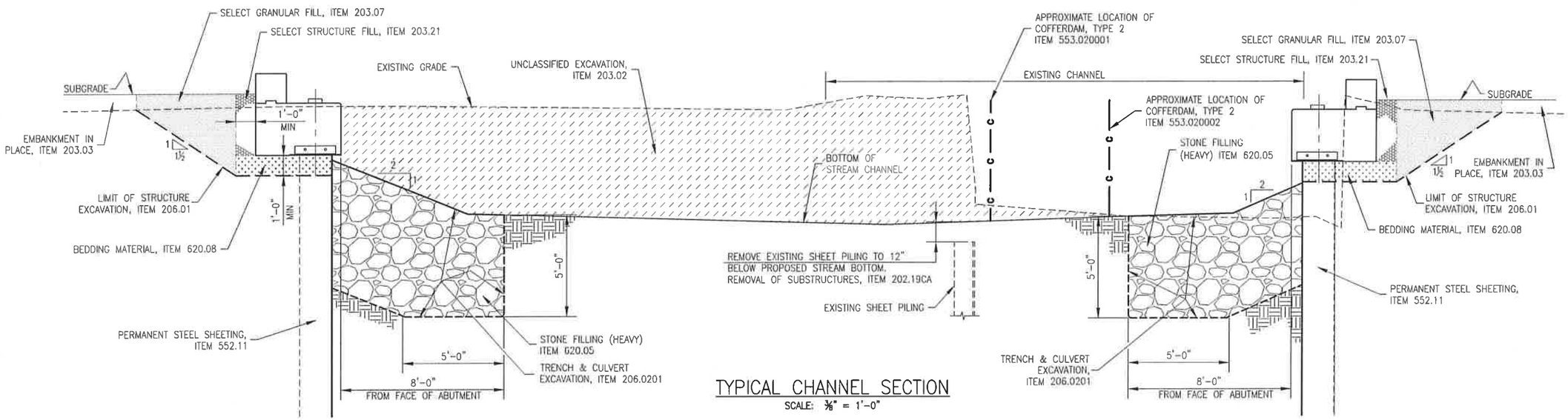
SHEET NO.
S-2



APPROACH SLAB TYPICAL SECTION

SCALE: ⅜" = 1'-0"

BRIDGE HCL STA. B 10+53.45 TO STA. B 10+68.45
BRIDGE HCL STA. B 11+22.57 TO STA. B 11+37.57



TYPICAL CHANNEL SECTION

SCALE: ⅜" = 1'-0"

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CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: BJC
JOB NO.: 30050
SCALE: ⅜" = 1'-0
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DRAWING NO.: 30-TYAPPSLABSEC.DWG

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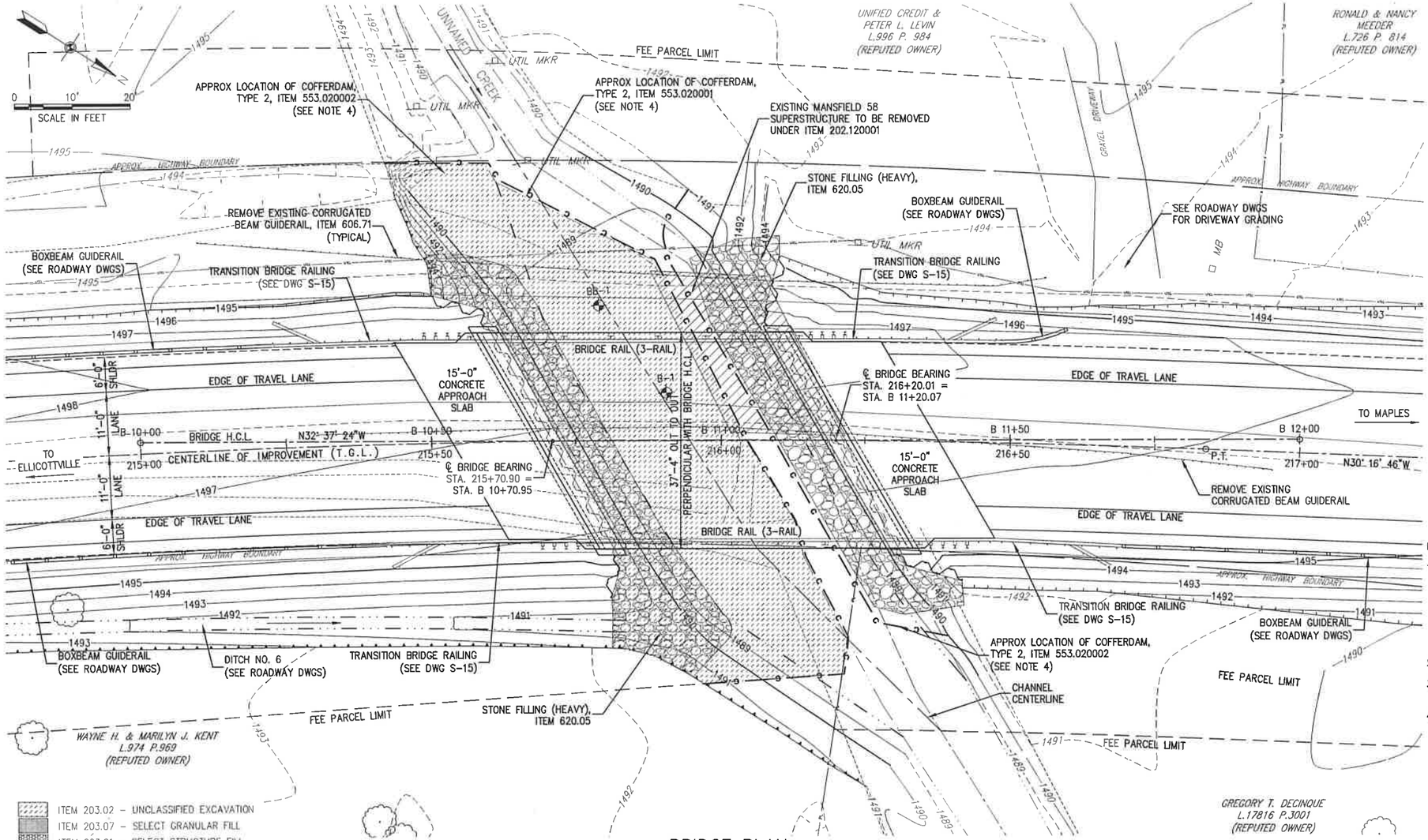
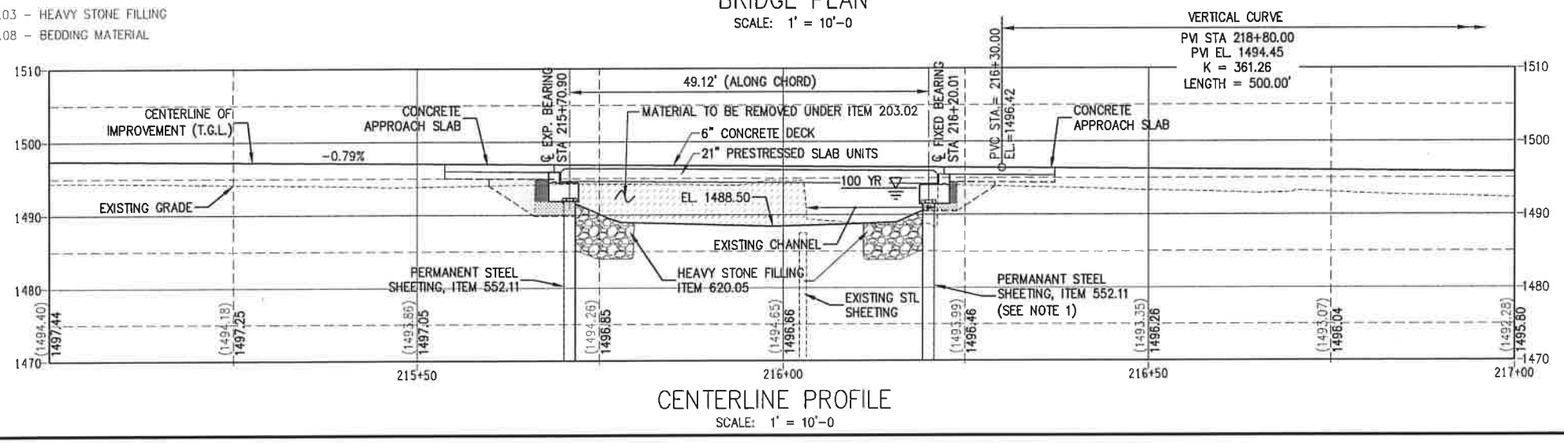
TYPICAL BRIDGE APPROACH & MISC. DETAILS

SHEET NO.
S-3



BRIDGE PLAN
SCALE: 1" = 10'-0



CENTERLINE PROFILE
SCALE: 1" = 10'-0

LOAD RATING TABLE (LRFD)	
	HL-93 RATING FACTOR
INVENTORY	1.95
OPERATING	2.62
NYSDOT PERMIT VEHICLE	1.02
LOAD RATING TABLE (LFD)	
	HS-25 TRUCK RATINGS
INVENTORY	61.8 TONS
OPERATING	103.1 TONS

CL OF IMPROVEMENT CURVE INFORMATION	
CURVE No. ④	
R	2,160.00'
L	643.55'
D	2°39'09"
Δ	17°04'14"
T	324.176'
C	641.17' N36°48'53W
P.C.	STA. 210+40.23
	E 1,109,043.030
	N 842,801.476
P.I.	E 1,108,804.5959
	N 843,021.1105
P.T.	STA. 216+83.78
	E 1,108,641.140
	N 843,301.061
BANKING	5.2% DOWN TO RT.

BRIDGE H.C.L.	
STA. B 10+00.00	E 1,108,738.8325
	N 843,145.3476
STA. B 12+00.00	E 1,108,631.0094
	N 843,313.7940

NOTES:

1. REMOVAL OF SUBSTRUCTURES, ITEM 202.19CA:
   - UNDER THIS ITEM; THE SOUTH ABUTMENT AND WINGWALL SHEETS MAY BE EXTRACTED OR CUT OFF 1 FOOT BELOW THE PROPOSED STREAM BED.
   - THE NORTH ABUTMENT AND WINGWALL SHEETS SHALL BE EXTRACTED.
2. REGRADE STREAM PROFILE TO MATCH EXISTING FLOW.
3. FOR EXCAVATION & EMBANKMENT DETAILS REFER TO SHEET S-3.
4. THE ANTICIPATED COFFERDAM CONSTRUCTION SEQUENCE ENVISIONED BY THE DESIGNERS IS AS FOLLOWS:
   - THE SOUTH COFFERDAM, 553.020001, IS INSTALLED ALONG THE EXISTING SOUTH ABUTMENT AND WINGWALLS AS SHOWN ON THE PLANS. THE STREAM IS CONTAINED WITHIN THE EXISTING CHANNEL. UNCLASSIFIED EXCAVATION IS PERFORMED BEHIND THE COFFERDAM AND ABUTMENT TO THE LIMITS SHOWN ON THE PLANS. THE SHEETING FOR THE NEW SOUTH ABUTMENT AND WINGWALLS IS INSTALLED AND HEAVY STONE FILLING PLACED IN FRONT. THE SOUTH COFFERDAM IS REMOVED.
   - THE NORTH COFFERDAM, 553.020002, IS INSTALLED AS SHOWN ON THE PLANS, AND THE STREAM IS CHANNELIZED TO THE SOUTH SIDE OF THE CHANNEL. THE SHEETING FOR THE EXISTING NORTH ABUTMENT AND WINGWALLS IS REMOVED AND THE NEW ABUTMENT SHEETING IS INSTALLED. HEAVY STONE FILLING IS PLACED IN FRONT. THE NORTH COFFERDAM MAY BE REMOVED AT THIS TIME.

HYDRAULIC DATA TABLE			
DRAINAGE AREA = 3.29 SQ. MILES		BASIC FLOOD	DESIGN FLOOD
RECURRENCE INTERVAL (years)	2.33	100	50
PEAK DISCHARGE (cfs)	400	1,400	1,200
HIGH WATERELEVATION ℄ PT OF MAX. BACKWATER	EXISTING	1,495.06	1,495.02
	PROPOSED	1,493.60	1,493.18
AVG. VELOCITY THRU STRUCTURE (fps)	EXISTING	6.85	6.64
	PROPOSED	6.50	5.98
SCOUR ANALYSIS	MINIMUM CHANNEL EL. 1488.50		
	Q_{100} SCOUR DEPTH (FT)	Q_{100} SCOUR ELEV. (FT)	Q_{500} SCOUR DEPTH (FT)	Q_{500} SCOUR ELEV. (FT)
ABUTMENTS	8.42	1480.08	10.18	1478.32

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GPI

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JOB NO.: 33050
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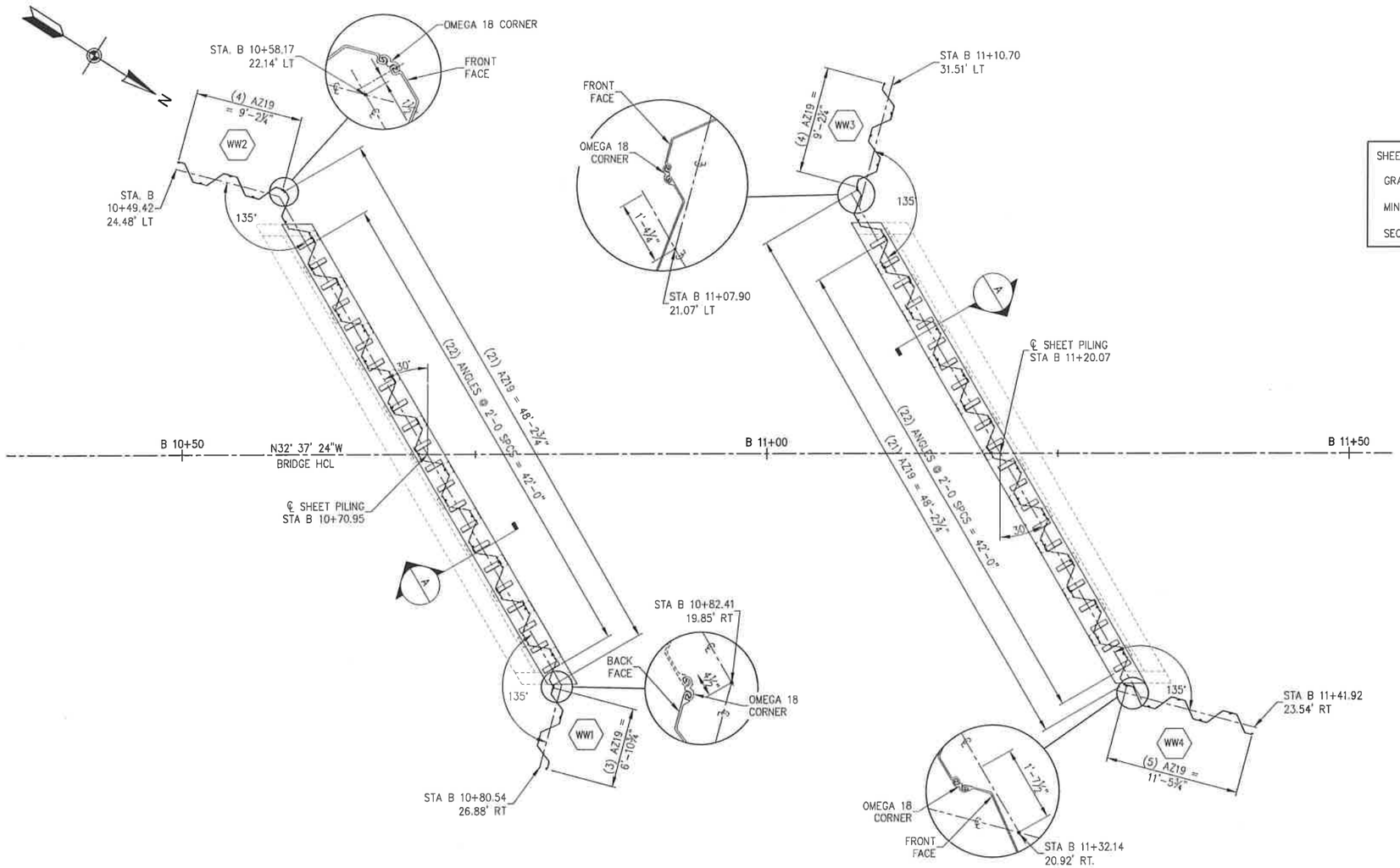
CAITT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

BRIDGE GENERAL PLAN & PROFILE

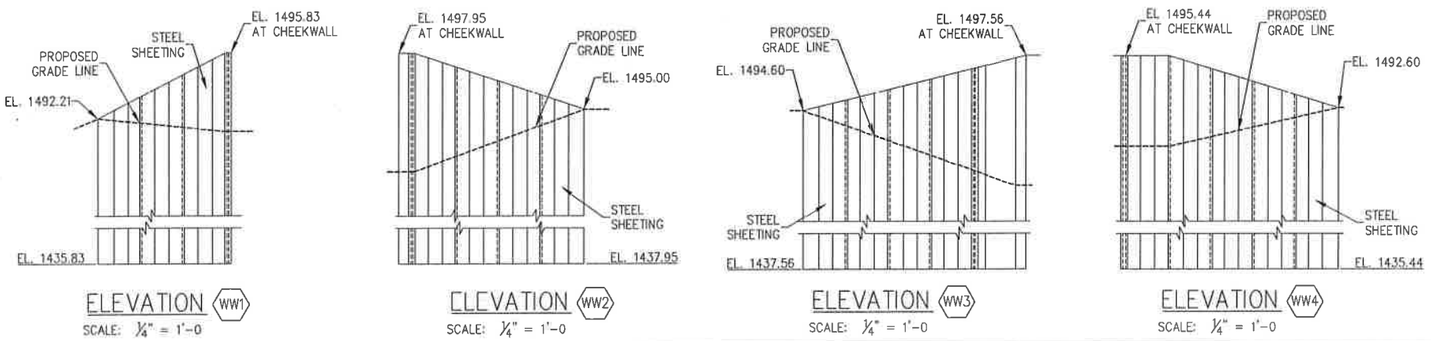
SHEET NO.
S-4



SHEET PILE LOCATION PLAN

ITEM 552.11

SCALE: 3/16" = 1'-0



ELEVATION (WW1) SCALE: ¼" = 1'-0

ELEVATION (WW2) SCALE: ¼" = 1'-0

ELEVATION (WW3) SCALE: ¼" = 1'-0

ELEVATION (WW4) SCALE: ¼" = 1'-0

OMEGA 18 CORNER

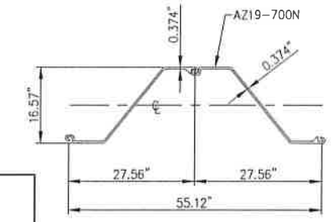
SCALE: NONE

SHEET PILE PROPERTIES

GRADE: A572 GRADE 50

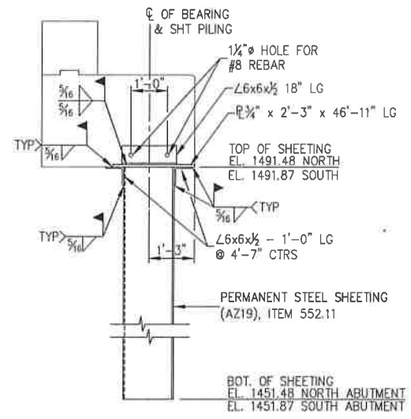
MIN. THICKNESS: 0.375"

SECTION MODULUS (MIN) 34.8 IN³/FT



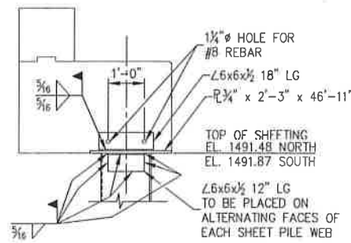
AZ19 STEEL SHEETING

SCALE: NONE



A SECTION

SCALE: 1/2" = 1'-0"



A SECTION (ALTERNATE)

SCALE: 1/2" = 1'-0"

NOTE:

1. THE COST OF THE ANGLES AND THE ABUTMENT PLATE ARE INCLUDED IN VARIOUS ITEMS OF THE CONTRACT.
2. NO PICK HOLES ALLOWED IN FINAL PRODUCT
3. ALL PLATES AND ANGLES SHALL BE GALVANIZED. AND FIELD WELDS SHALL BE COLD GALVANIZED.

GREENMAN-PEDERSEN, INC.
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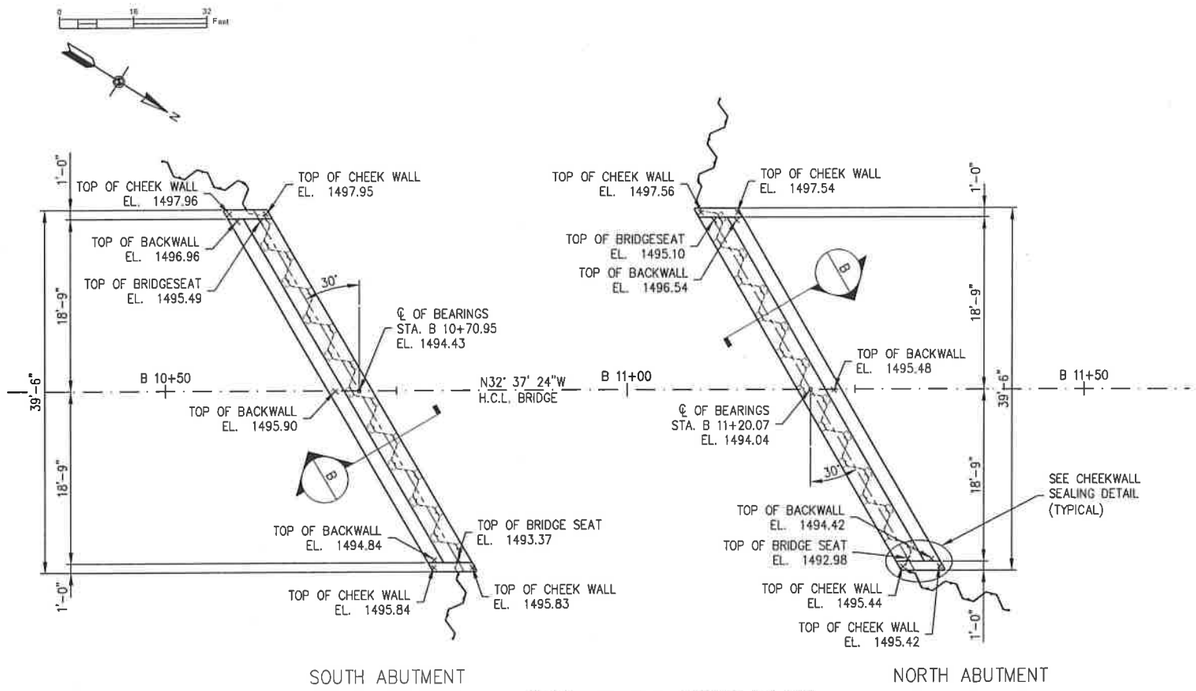
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: BJC
JOB NO.: 30050
DATE: 2-17-2017 BY BSB
REVISIONS: NO. 1 ISSUED FOR BID
SCALE: AS NOTED
DATE: MARCH 2016
DRAWING NO. (to accompany specifications)

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

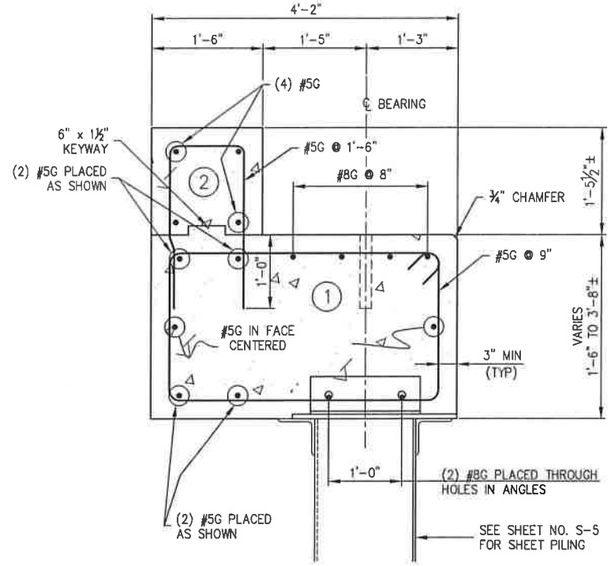
SHEET PILE ABUTMENT LAYOUT

SHEET NO. S-5



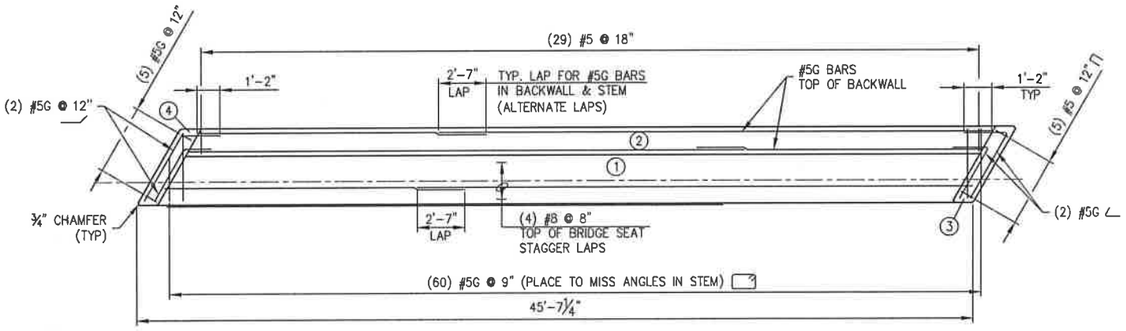
ABUTMENT LAYOUT PLAN

SCALE: ⅛" = 1'-0



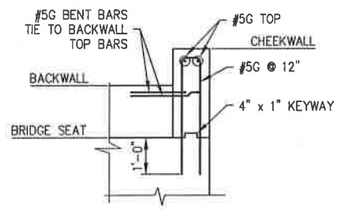
TYPICAL ABUTMENT SECTION B

SCALE: 1" = 1'-0



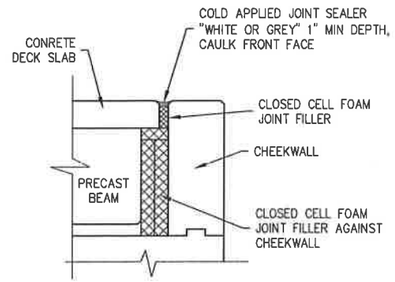
TYPICAL ABUTMENT REINFORCING PLAN

SCALE: ¼" = 1'-0



TYPICAL CHEEKWALL DETAIL

SCALE: ½" = 1'-0



CHEEKWALL SEALING DETAIL

SCALE: ¾" = 1'-0

CONCRETE TABLE ITEM 555.970100CA		
PLACEMENT	SOUTH ABUTMENT QTY (CY)	NORTH ABUTMENT QTY (CY)
①	18.2	18.2
②	3.7	3.7
③	0.26	0.26
④	0.26	0.26

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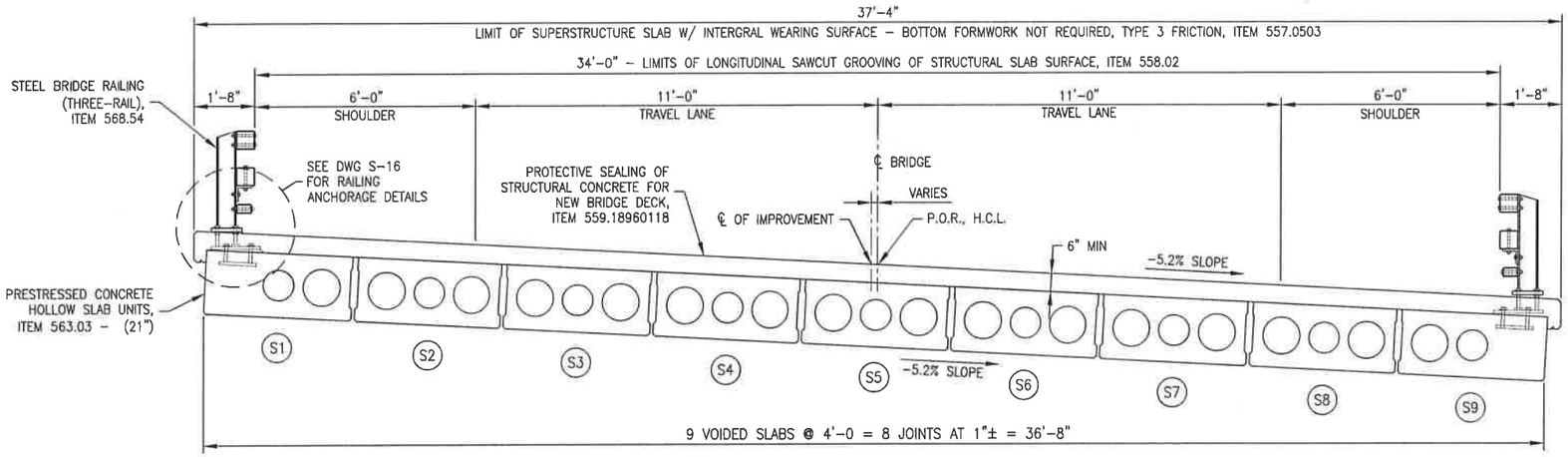
DRAWN BY: BSB
CHECKED BY: BJC
JOB NO.: 30050
SCALE: AS NOTED
DATE: MARCH 2016
DRAWING NO.: ST-APLEBRIDGE.DWG

NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

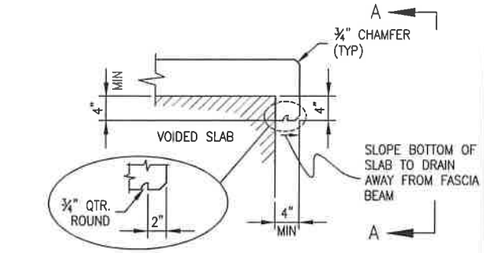
ABUTMENT PLAN, DETAILS & REINFORCING

SHEET NO.
S-6



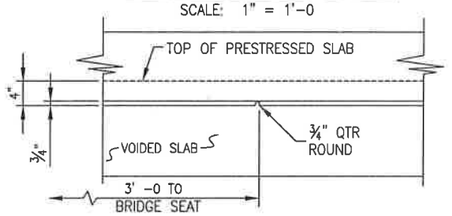
TRANSVERSE SECTION

SCALE: ½" = 1'-0



TYPICAL FASCIA DETAIL

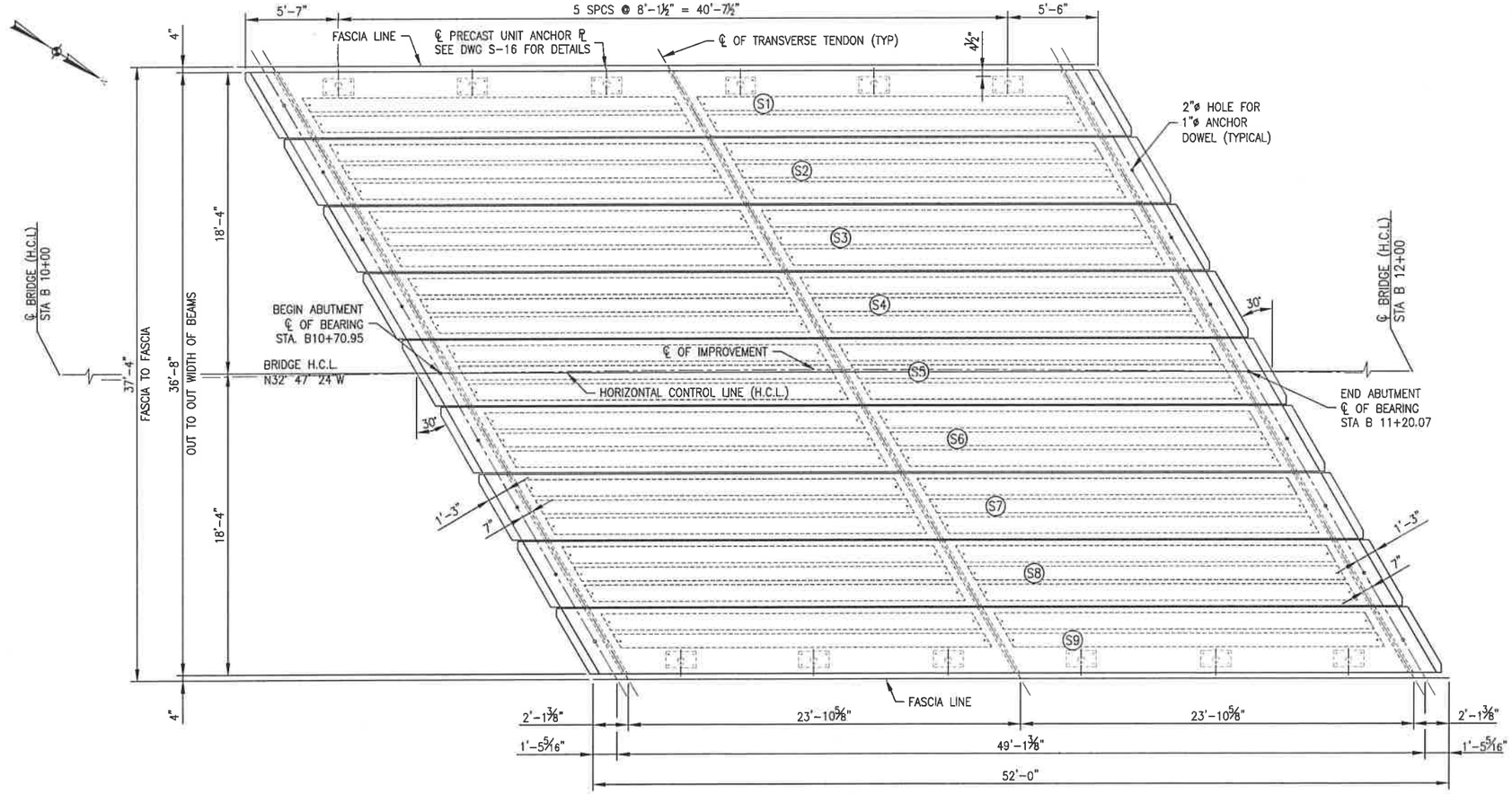
SCALE: 1" = 1'-0



ELEVATION A–A

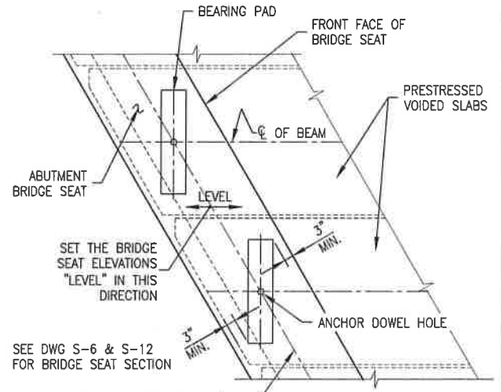
(DRIP GROOVE DETAIL)

SCALE: 1" = 1'-0



BEAM LAYOUT

SCALE: ¼" = 1'-0



PARTIAL BRIDGE SEAT PLAN

SCALE: ½" = 1'-0

NOTES:

1. FOR RAIL ANCHORAGE DETAILS, REFER TO DRAWING S-16
2. FOR DECK PLACEMENT AND REINFORCING, REFER TO DRAWING S-12
3. FOR THE THEORECTICAL SLAB THICKNESS TABLE AND TOP OF SLAB ELEVATIONS, REFER TO DRAWING S-10 & S-11.
4. ALL EXPOSED SURFACES OF THE DECK SLAB SHALL BE COATED WITH PROTECTIVE SEALER, INCLUDING FASCIAS. PAID UNDER ITEM 559.18960118.

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(716) 633-4844 FAX (716) 633-4940

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DRAWN BY: BSB
CHECKED BY: JAB
JOB NO.: 90050

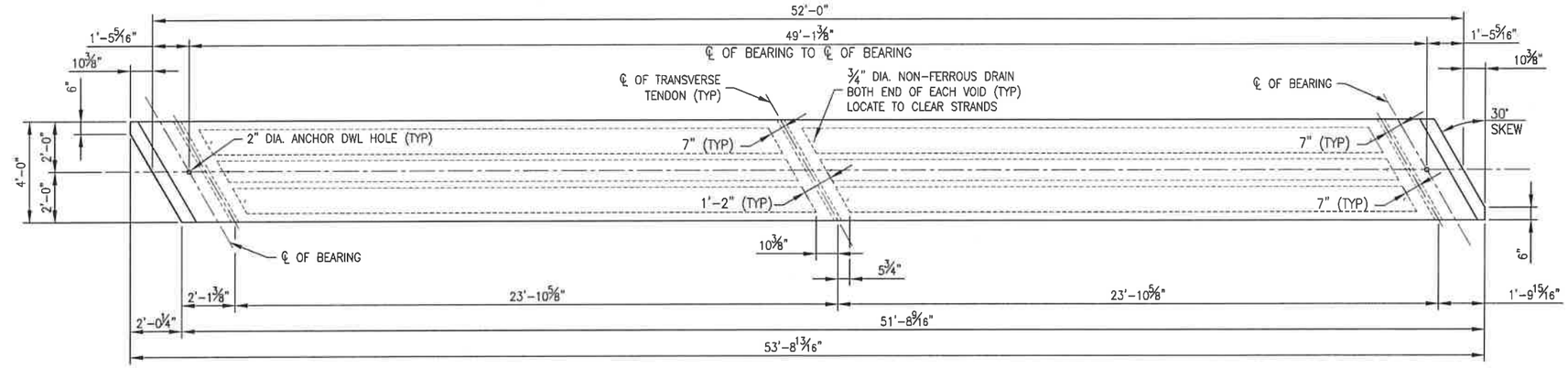
NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	HSB	2-17-2017

SCALE: AS NOTED
DATE: MARCH 2016
DRAWING NO.: 19-TRANSVERSE

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

TRANSVERSE SECTION, VOIDED SLAB LAYOUT & DETAILS

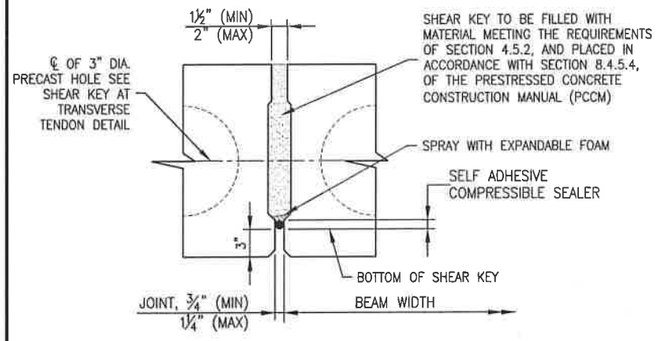
SHEET NO.
S-7



NOTE: THE ENDS OF BEAMS AND ANCHOR DOWEL HOLES SHALL BE MADE VERTICAL ±¼" UNDER DEAD LOAD AND GRADE.

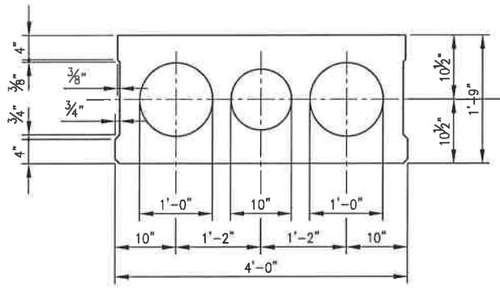
PLAN – TYPICAL VOIDED SLAB

SCALE: ⅜" = 1'-0



SLAB UNIT SHEAR KEY DETAIL

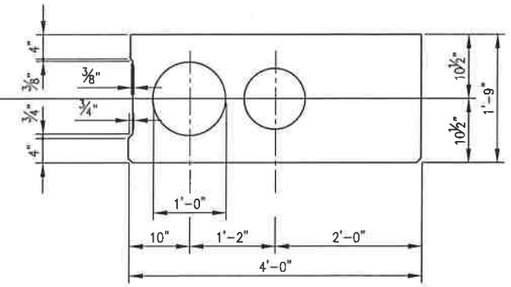
NOT TO SCALE



TYPICAL SECTION SLAB UNIT

(S2 THRU S8)

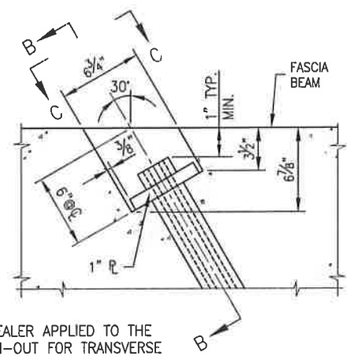
SCALE: 1" = 1'-0"



TYPICAL SECTION FASCIA SLAB UNIT

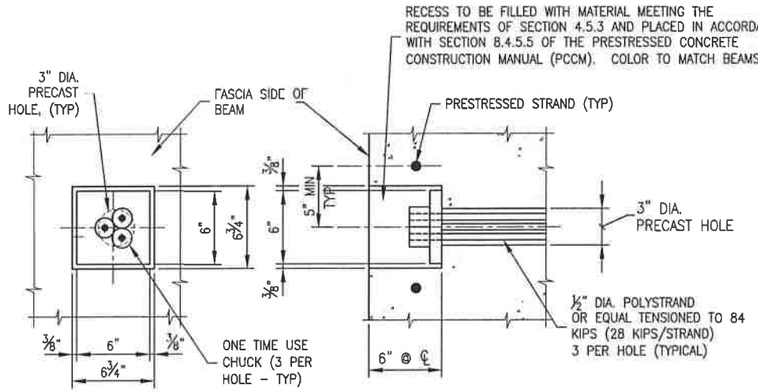
(S9 SHOWN, S1 OPPOSITE HAND)

SCALE: 1" = 1'-0"



NOTE:
NO SEALER APPLIED TO THE NOTCH-OUT FOR TRANSVERSE TENDONS

PLAN



SECTION C–C

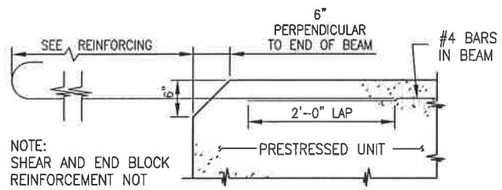
SECTION B–B

NOTES:
6"x6"x1" PLATES SHALL BE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE TENDON IN ALL PLANES AND SHALL HAVE THREE HOLES TO ACCOMMODATE STRANDS.

BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

TRANSVERSE TENDON RECESS DETAIL @ 30° SKEW

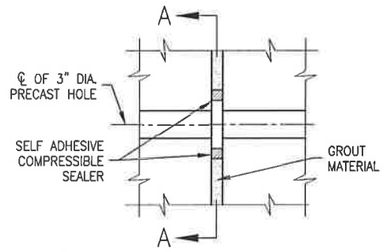
NOT TO SCALE

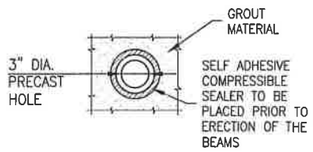


NOTE:
SHEAR AND END BLOCK REINFORCEMENT NOT SHOWN.

NOTCHOUT DETAIL

SCALE: N.T.S.





SECTION A–A

SHEAR KEY AT TRANSVERSE TENDON DETAIL

NO SCALE

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(716) 633-4844 FAX (716) 633-4940

GPI

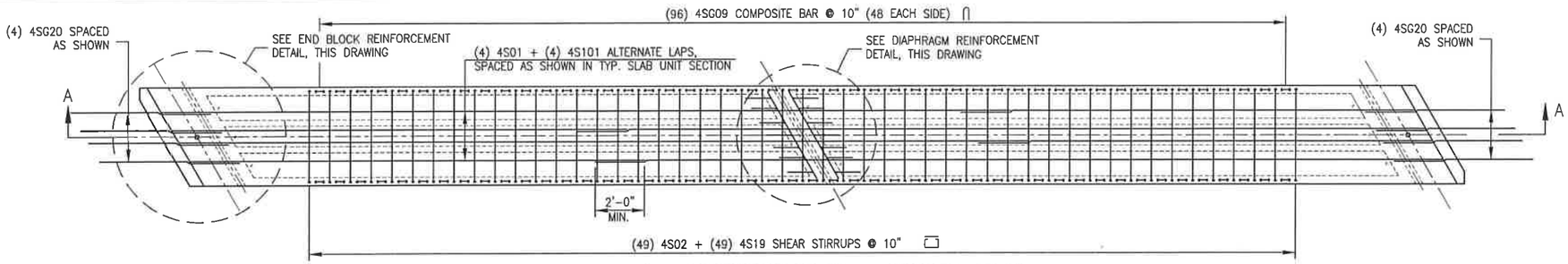
SCALE: AS NOTED
DATE: MARCH 2016
DRAWN BY: BSB
CHECKED BY: JAH
JOB NO.: 30060

NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

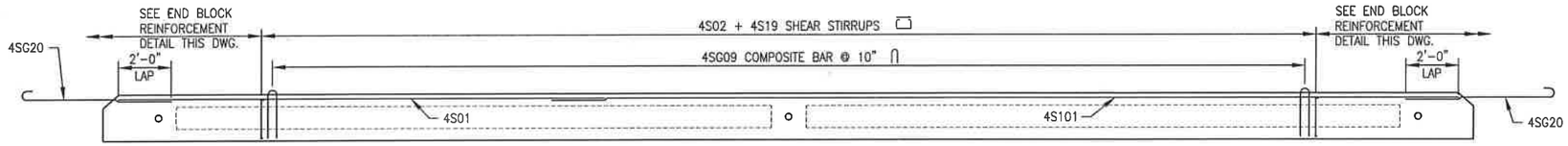
PRESTRESSED VOIDED SLAB DETAILS

SHEET NO.
S–8



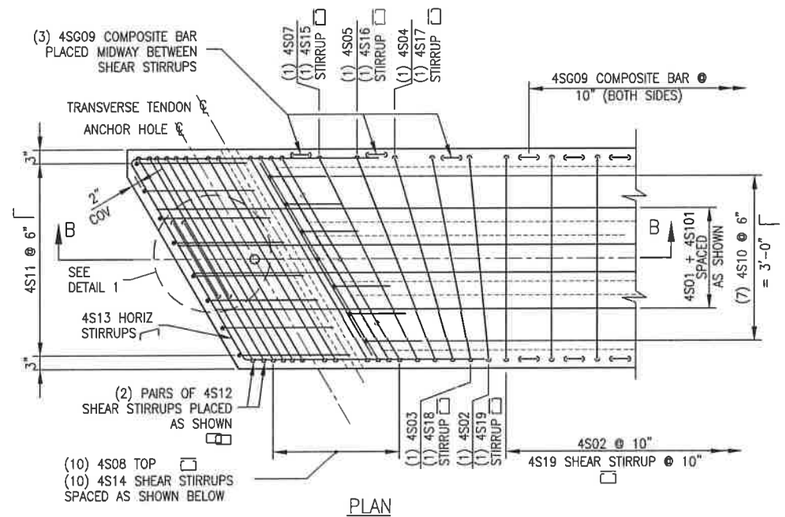
REINFORCEMENT PLAN – VOIDED SLAB

SCALE: 3/8" = 1'-0

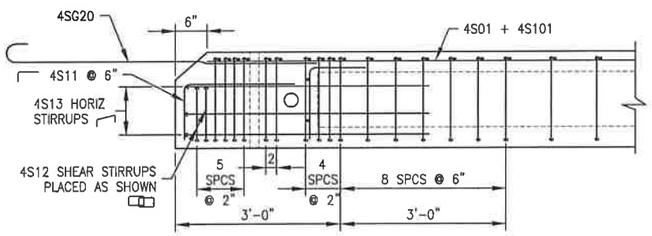


SECTION A–A

SCALE: 3/8" = 1'-0



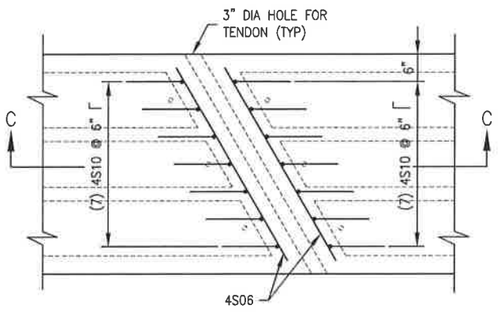
PLAN



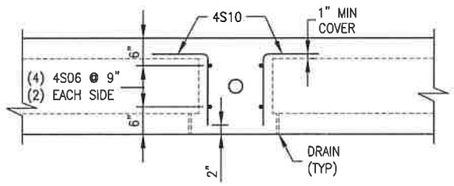
SECTION B–B

END BLOCK REINFORCEMENT DETAIL

SCALE: 3/4" = 1'-0



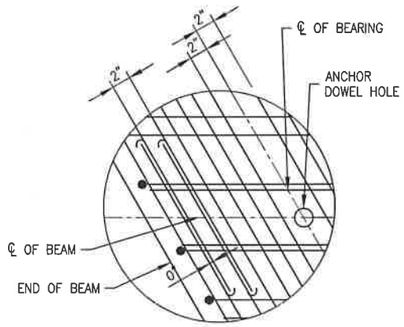
PLAN



SECTION C–C

DIAPHRAGM REINFORCEMENT DETAIL

SCALE: 3/4" = 1'-0



DETAIL 1

NO SCALE

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(716) 633-4844 FAX (716) 633-4940

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DRAWN BY: BSB
CHECKED BY: AEE
JOB NO.: 30050

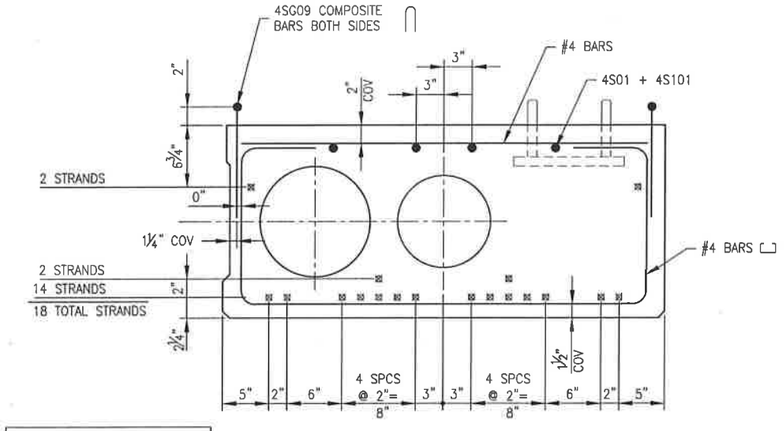
NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

SCALE: AS NOTED
DATE: MARCH 2015
DRAWING NO.: R:\PROJECTS\30050\Bridge Drawings - 2016\12-VSlabReinfDtls\DtlsDtls.dwg Thursday, 16 February 2017 3:39PM

CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

VOIDED SLAB REINFORCING
PLAN & DETAILS

SHEET NO.
S–9



NOTE:

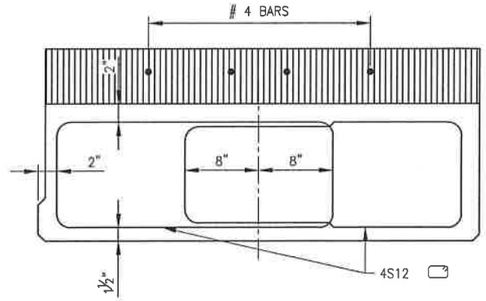
S9 SHOWN S1 OPPOSITE HAND.

- ⊠ BONDED FULL LENGTH – 18 STRANDS
- ⊡ SHIELD FOR 48" FROM END – 0 STRANDS
- ◬ SHIELD FOR 72" FROM END – 0 STRANDS
- ◈ SHIELD FOR 24" FROM END – 0 STRANDS

18 STRANDS TOTAL

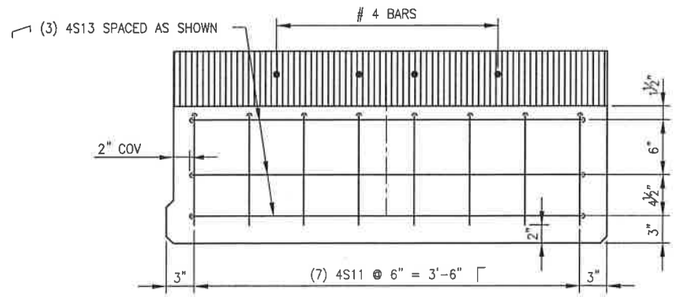
TYPICAL SECTION – SLAB UNIT
(S1 AND S9)

SCALE: 1½" = 1'-0"



TYPICAL END BLOCK REINFORCING
(S1 & S9)

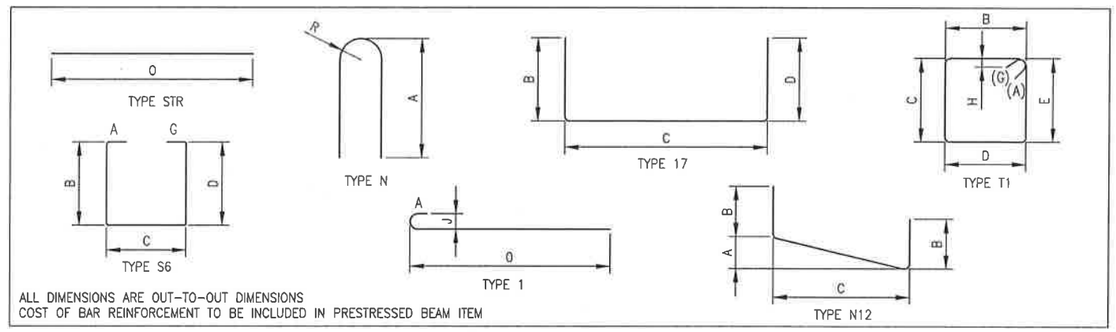
SCALE: 1½" = 1'-0"



TYPICAL END BLOCK FACE REINFORCEMENT
(S1 & S9 SHOWN)

SCALE: 1½" = 1'-0"

PRESTRESSED CONCRETE SLAB UNIT REINFORCEMENT (S1 & S9)																		
MARK	NO PER BEAM	TOTAL BEAMS S1 & S9	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	UNCOATED BARS (LBS)	GALVANIZED COATED BARS (LBS)
4S01	4	8	34'-5	STR											34'-5		184	
4S101	4	8	18'-5	STR											18'-5		98	
4S02	51	102	3'-8	STR											3'-8		250	
4S03	2	4	3'-9	STR											3'-9		10	
4S04	2	4	3'-10	STR											3'-10		10	
4S05	2	4	3'-11	STR											3'-11		10	
4S06	8	16	4'-0	STR											4'-0		43	
4S07	2	4	4'-1	STR											4'-1		11	
4S08	20	40	4'-2	STR											4'-2		111	
4SG09	102	204	2'-0	N	1'-0											1½		273
4S10	28	56	2'-4	17		1'-4	1'-0										87	
4S11	14	28	3'-0	17		1'-0	2'-0										56	
4S12	8	16	8'-5	T1	4½	2'-10	1'-0	2'-10	1'-0		4½	3					90	
4S13	6	12	12'-7	N12	2'-0	4'-6	3'-7	4'-6									101	
4S14	20	40	8'-4	S6	8	1'-5	4'-2	1'-5			8						223	
4S15	2	4	8'-3	S6	8	1'-5	4'-1	1'-5			8						22	
4S16	2	4	8'-1	S6	8	1'-5	3'-11	1'-5			8						22	
4S17	2	4	8'-0	S6	8	1'-5	3'-10	1'-5			8						21	
4S18	2	4	7'-11	S6	8	1'-5	3'-9	1'-5			8						21	
4S19	51	102	7'-10	S6	8	1'-5	3'-8	1'-5			8						534	
4SG20	8	16	6'-2	1	6								4		5'-8			66
															TOTAL WEIGHT (LBS)		1904	339
															TOTAL WEIGHT (TONS)		0.95	0.17



NOTES:

THE PRESTRESSING STRANDS SHALL BE 0.6 INCHES DIAMETER WITH A GUARANTEED ULTIMATE STRENGTH OF 270 KSI.
- JACKING FORCE = 44 KIPS PER STRAND
- REQUIRED MINIMUM CONCRETE STRENGTH AT TRANSFER = 8 KSI
- REQUIRED MINIMUM CONCRETE STRENGTH AT 56 DAYS = 10 KSI
- THE ALLOWABLE TENSION IN THE PRESTRESSED CONCRETE UNITS:
  - AT TRANSFER = 0.635 KSI
  - AT SERVICE LIMIT STATE = 0.300 KSI

ALL EXPOSED CORNERS, EXCEPT THE TOP, SHALL BE CHAMFERED 3/4" INCH.

ALL TEMPORARY INSERTS SHALL BE APPROVED BY THE ENGINEER AND DETAILED ON THE PRESTRESSED CONCRETE "SHOP DRAWINGS"

BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. THE TOPS OF THE PRESTRESSED UNITS SHALL RECEIVE A TRANSVERSE ROUGHENED FINISH WITH AN AMPLITUDE OF 1/4 INCH.

CAMBER TABLE	
CAMBER DUE TO PRESTRESSED FORCE AND BEAM D.L. (WITHOUT GROWTH) @ TRANSFER	0.633 ↑
DEFLECTION DUE TO SLAB DEAD LOAD	0.410 ↓
DEFLECTION DUE TO SUPERIMPOSED D.L.	0.110 ↓

TOP OF SLAB ELEVATIONS					
UNIT	℄ BRGS.	¼ PT.	MIDSPAN	¾ PT.	℄ BRGS.
S1	1497.31	1497.21	1497.12	1497.02	1496.92
S9	1495.46	1495.36	1495.27	1495.17	1495.08

DESIGN LOAD TABLE LRFD STRENGTH 1			
	UNIT	REACTION AT ABUTMENT kips	MAX. MOM. MIDSPAN kip-ft.
D.L.	BEAM	28.5	340.5
	SLAB	8.5	103.9
S.D.L.	RAILINGS	0.5	5.9
	FUTURE W.S.	2.8	34.2
L.L.	HL-93	82.7	553.6
	NYSDOT PV*	65.5	396.3

* NYSDOT PERMIT VEHICLE DESIGN LOADS ARE BASED ON LRFD SERVICE III

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JOB NO.: 30050

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SCALE: AS NOTED
DATE: MARCH 2016
DRAWING NO.: 14-PLAN REHP STLJPC

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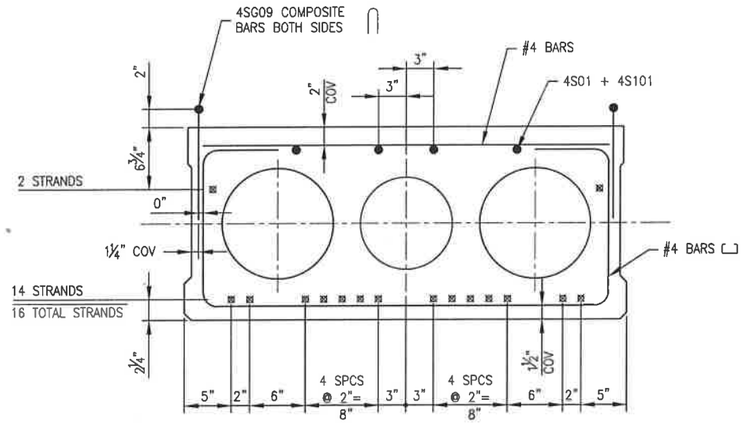
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

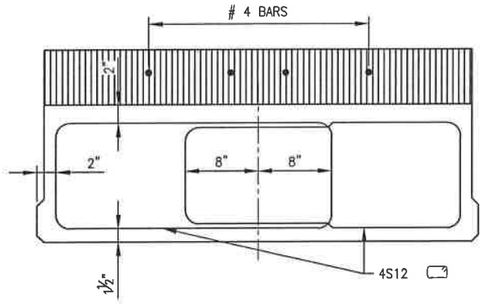
VOIDED SLAB REINFORCING
(S1 AND S9)

SHEET NO.
S-10

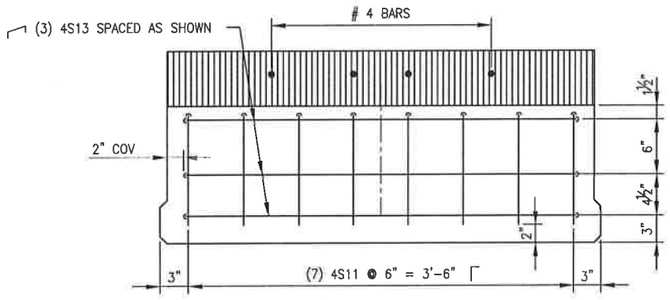


▣ BONDED FULL LENGTH – 16 STRANDS
▨ SHIELD FOR 48" FROM END – 0 STRANDS
◬ SHIELD FOR 72" FROM END – 0 STRANDS
◈ SHIELD FOR 24" FROM END – 0 STRANDS
16 STRANDS TOTAL

TYPICAL SECTION – SLAB UNIT
(S2 THRU S8)
SCALE: 1½" = 1'–0"



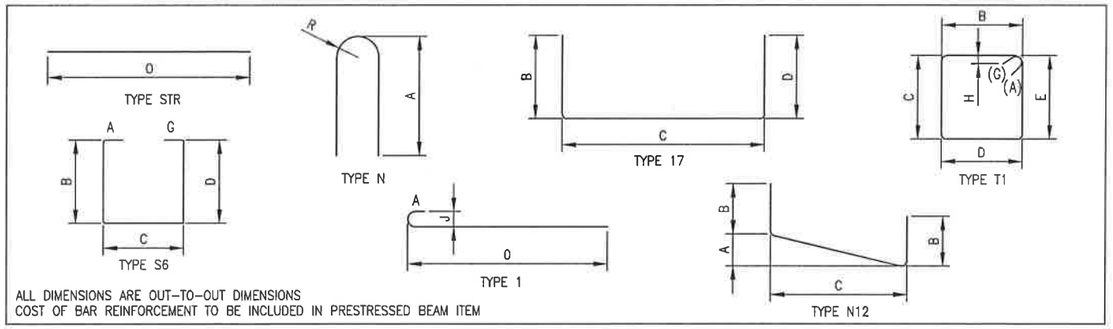
TYPICAL END BLOCK REINFORCING
(S2 THRU S8 SHOWN)
SCALE: 1½" = 1'–0"



TYPICAL END BLOCK FACE REINFORCEMENT
(S2 THRU S8 SHOWN)
SCALE: 1½" = 1'–0"

PRESTRESSED CONCRETE SLAB UNIT REINFORCEMENT (S2 THRU S8)

MARK	NO PER BEAM	TOTAL BEAMS S2 – S8	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	UNCOATED BARS (LBS)	GALVANIZED COATED BARS (LBS)
4S01	4	28	18'–5	STR											18'–5		344	
4S101	4	28	34'–5	STR											34'–5		644	
4S02	51	357	3'–8	STR											3'–8		874	
4S03	2	14	3'–9	STR											3'–9		35	
4S04	2	14	3'–10	STR											3'–10		36	
4S05	2	14	3'–11	STR											3'–11		37	
4S06	8	56	4'–0	STR											4'–0		150	
4S07	2	14	4'–1	STR											4'–1		38	
4S08	20	140	4'–2	STR											4'–2		390	
4SG09	102	714	2'–0	N	1'–0											1½		954
4S10	28	196	2'–4	17		1'–4	1'–0										305	
4S11	14	98	3'–0	17		1'–0	2'–0										196	
4S12	8	56	8'–5	T1	4½	2'–10	1'–0	2'–10	1'–0		4½	3					315	
4S13	6	42	12'–7	N12	2'–0	4'–6	3'–7	4'–6									353	
4S14	20	140	8'–4	S6	8	1'–5	4'–2	1'–5			8						779	
4S15	2	14	8'–3	S6	8	1'–5	4'–1	1'–5			8						77	
4S16	2	14	8'–1	S6	8	1'–5	3'–11	1'–5			8						76	
4S17	2	14	8'–0	S6	8	1'–5	3'–10	1'–5			8						75	
4S18	2	14	7'–11	S6	8	1'–5	3'–9	1'–5			8						74	
4S19	51	357	7'–10	S6	8	1'–5	3'–8	1'–5			8						1868	
4SG20	8	56	6'–2	1	6								4		5'–8			230
															TOTAL WEIGHT (LBS)		6,666	1,184
															TOTAL WEIGHT (TONS)		3.33	0.59



NOTES:

THE PRESTRESSING STRANDS SHALL BE 0.6 INCHES DIAMETER WITH A GUARANTEED ULTIMATE STRENGTH OF 270 KSI.
JACKING FORCE = 44 KIPS PER STRAND
REQUIRED MINIMUM CONCRETE STRENGTH AT TRANSFER = 8 KSI
REQUIRED MINIMUM CONCRETE STRENGTH AT 56 DAYS = 10 KSI
THE ALLOWABLE TENSION IN THE PRESTRESSED CONCRETE UNITS:
AT TRANSFER = 0.635 KSI
AT SERVICE LIMIT STATE = 0.300 KSI

ALL EXPOSED CORNERS, EXCEPT THE TOP, SHALL BE CHAMFERED 3/4" INCH.

ALL TEMPORARY INSERTS SHALL BE APPROVED BY THE ENGINEER AND DETAILED ON THE PRESTRESSED CONCRETE "SHOP DRAWINGS"

BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. THE TOPS OF THE PRESTRESSED UNITS SHALL RECEIVE A TRANSVERSE ROUGHENED FINISH WITH AN AMPLITUDE OF 1/4 INCH.

CAMBER TABLE	
CAMBER DUE TO PRESTRESSED FORCE AND BEAM D.L. (WITHOUT GROWTH) @ TRANSFER	0.604 ↑
DEFLECTION DUE TO SLAB DEAD LOAD	0.378 ↓
DEFLECTION DUE TO SUPERIMPOSED D.L.	0.112 ↓

TOP OF SLAB ELEVATIONS

UNIT	℄ BRGS.	¼ PT.	MIDSPAN	¾ PT.	℄ BRGS.
S2	1497.08	1496.98	1496.88	1496.79	1496.69
S3	1496.85	1496.75	1496.65	1496.56	1496.46
S4	1496.62	1496.52	1496.42	1496.33	1496.23
S5	1496.39	1496.29	1496.19	1496.10	1496.00
S6	1496.15	1496.06	1495.96	1495.86	1495.77
S7	1495.92	1495.83	1495.73	1495.63	1495.54
S8	1495.69	1495.60	1495.50	1495.40	1495.31

DESIGN LOAD TABLE
LRFD STRENGTH 1

	UNIT	REACTION AT ABUTMENT kips	MAX. MOM. MIDSPAN kip–ft.
D.L.	BEAM	23.1	274.5
	SLAB	7.8	95.9
S.D.L.	RAILINGS	0.5	5.9
	FUTURE W.S.	2.8	34.2
L.L.	HL–93	121.1	518.1
	NYSDOT PV*	95.9	353.2

* NYSDOT PERMIT VEHICLE DESIGN LOADS ARE BASED ON LRFD SERVICE III

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DRAWN BY: BSB
CHECKED BY: JAH
JOB NO.: 30050
SCALE: AS NOTED
DATE: MARCH 2016
DRAWING NO.: 18-YEAR BRIDGE PLANS

NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

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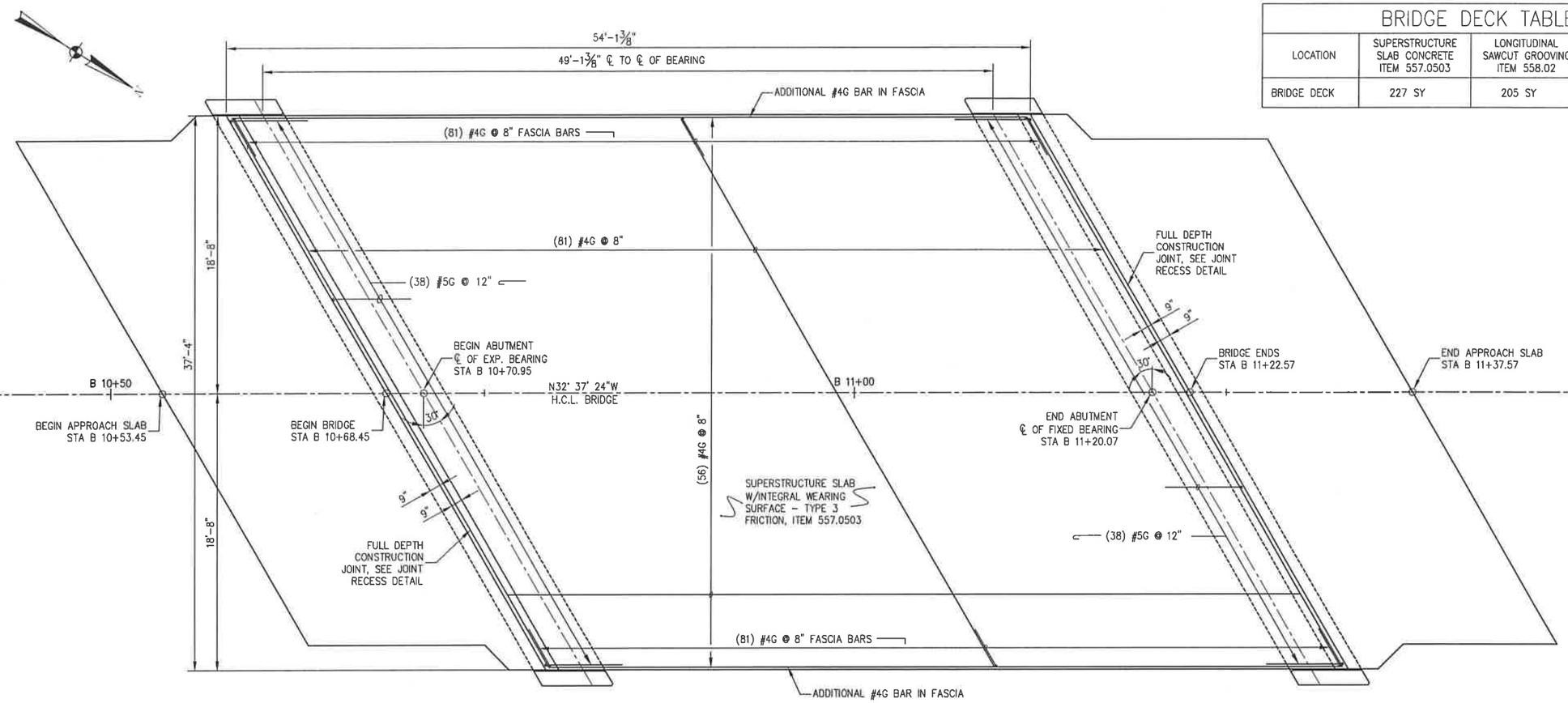
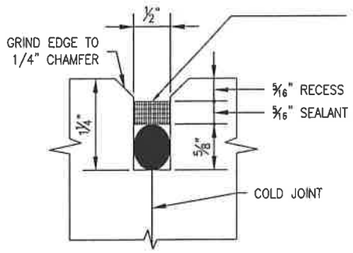
VOIDED SLAB REINFORCING
(S2 THRU S8)

SHEET NO.
S–11

BRIDGE DECK TABLE			
LOCATION	SUPERSTRUCTURE SLAB CONCRETE ITEM 557.0503	LONGITUDINAL SAWCUT GROOVING ITEM 558.02	PROTECTIVE SEALER ITEM 559.18960118
BRIDGE DECK	227 SY	205 SY	2,120 SF

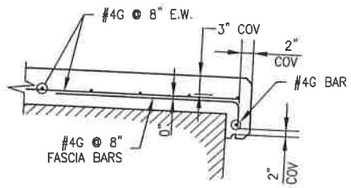


BRIDGE DECK PLAN
SCALE: ¼" = 1'-0"

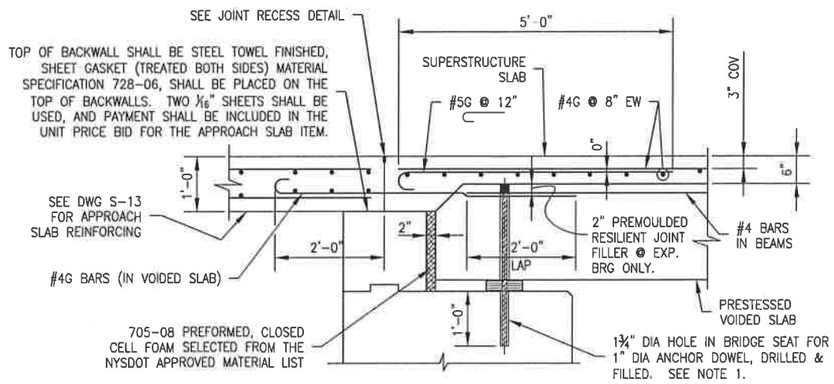


FILL THE RECESS WITH A STRUCTURAL JOINT MATERIAL, LIQUID SEALANT, FROM THE NYSDOT APPROVED LIST. IF THE RECESS IS SAW CUT, WATER BLAST IMMEDIATELY FOLLOWING CUTTING TO REMOVE ANY RESIDUAL SLURRY BEFORE IT DRIES. CLEAN THE VERTICAL FACES OF THE RECESS BY ABRASIVE BLAST, AND AIR BLOW THE RESIDUE FROM THE RECESS. PRIME THE VERTICAL FACES WITH THE MANUFACTURER'S RECOMMENDED PRIMER, AND ALLOW TO DRY. PLACE A 5/8" DIA. SOFT CLOSED CELL BACKER ROD IN THE BOTTOM OF THE RECESS. POUR THE SILICONE SEALANT TO THE DEPTH SHOWN. INCLUDE IN THE UNIT PRICE BID FOR THE APPROACH SLAB.

JOINT RECESS DETAIL
SCALE: NONE



FASCIA REINFORCING DETAIL
SCALE: 1" = 1'-0"



BRIDGE DECK SECTION @ ABUTMENT
SCALE: 1" = 1'-0"

NOTES:

1. ANCHOR DOWELS TO BE PAID FOR UNDER BEARING ITEM. DOWEL HOLE FILL MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ELASTOMERIC BEARING ITEM AND SHALL MEET MATERIAL REQUIREMENTS BELOW

   EXPANSION END MATERIAL OPTION:

   N.Y.S. MAT. SPEC. 702-0700 – ASPHALT FILLER
   FED. MAT. SPEC. SS-S-200E – ELASTOMERIC POLYMER TYPE, TWO COMPONENT JET RESISTANT, COLD APPLIED

   FIXED END MATERIAL OPTION:

   **N.Y.S. MAT. SPEC. 721-03 – EPOXY POLYSULFIDE GROUT WITH SAND
   **N.Y.S. MAT. SPEC. 721-01 – EPOXY RESIN SYSTEM WITH SAND
   N.Y.S. MAT. SPEC. 701-05 – CONCRETE GROUTING MATERIAL
   N.Y.S. MAT. SPEC. 701-06 – CEMENT BASED GROUT MATERIALS FOR SHEAR KEYS

   **MOISTURE FREE, SANDBLAST SAND SHALL BE ADDED IN THE RATIO OF (1) PART FPOXY TO (2) PARTS SAND.

2. PREMOULDED RESILIENT JOINT FILLER SHALL MEET THE REQUIREMENTS OF 705-07 AND BE PAID UNDER BEARING ITEM.

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SCALE: ⅜" = 1'-0
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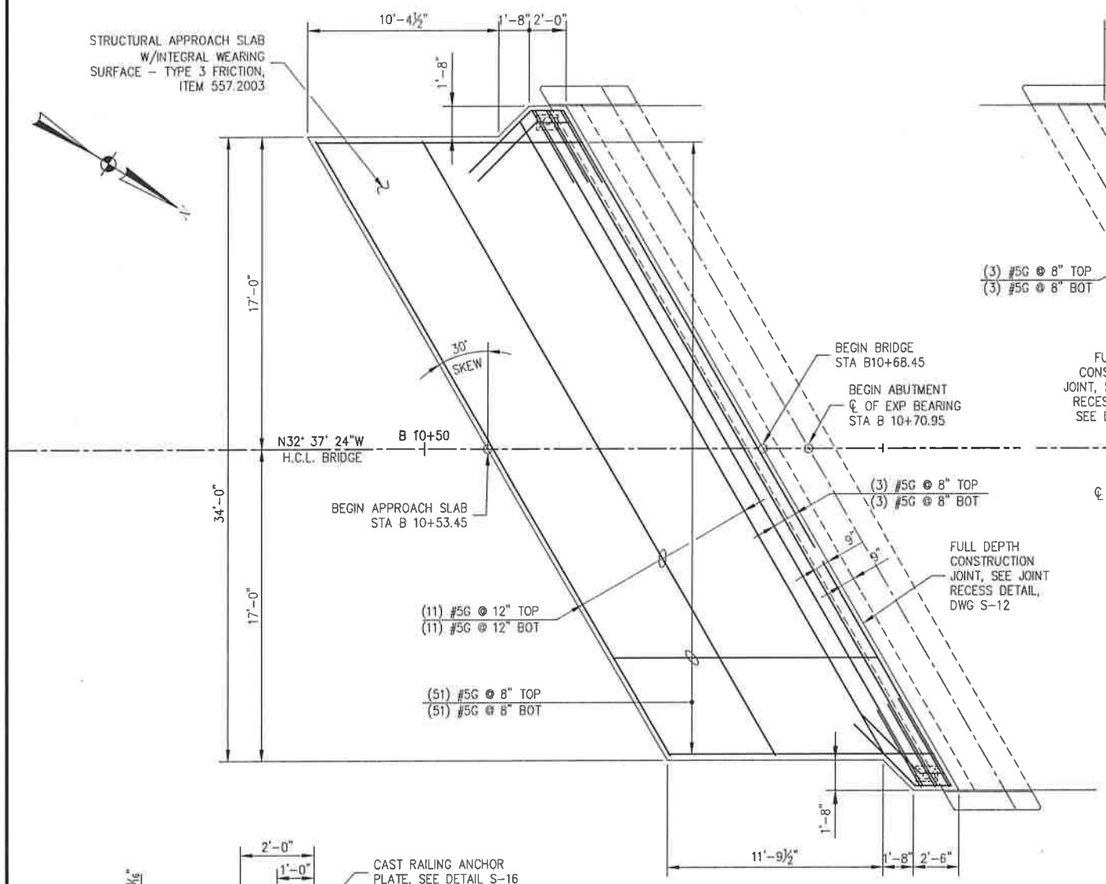
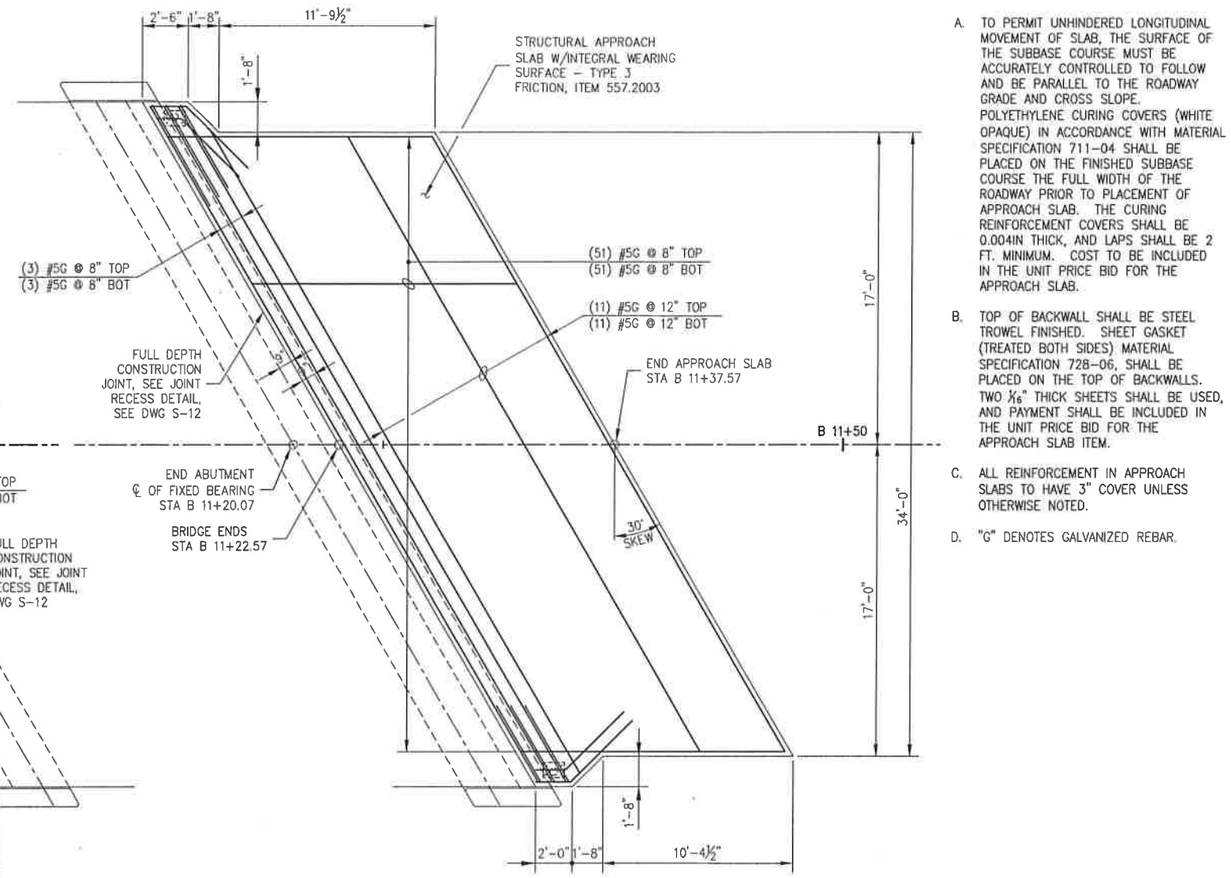
BRIDGE DECK PLAN & DETAILS

SHEET NO.
S-12

X:\Data\Job 30050 - Cattaraugus Co-Mansfield\Bridge Drawings - 2016\15-BridgeDeckPlan.dwg Thursday, 16 February 2017 3:08PM





APPROACH SLAB PLAN

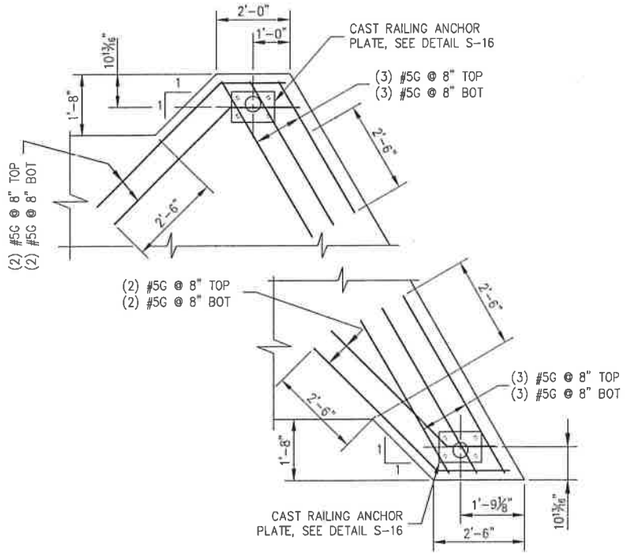
SCALE: ¼" = 1'-0"

A. TO PERMIT UNHINDERED LONGITUDINAL MOVEMENT OF SLAB, THE SURFACE OF THE SUBBASE COURSE MUST BE ACCURATELY CONTROLLED TO FOLLOW AND BE PARALLEL TO THE ROADWAY GRADE AND CROSS SLOPE. POLYETHYLENE CURING COVERS (WHITE OPAQUE) IN ACCORDANCE WITH MATERIAL SPECIFICATION 711-04 SHALL BE PLACED ON THE FINISHED SUBBASE COURSE THE FULL WIDTH OF THE ROADWAY PRIOR TO PLACEMENT OF APPROACH SLAB. THE CURING REINFORCEMENT COVERS SHALL BE 0.004IN THICK, AND LAPS SHALL BE 2 FT. MINIMUM. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB.

B. TOP OF BACKWALL SHALL BE STEEL TROWEL FINISHED. SHEET GASKET (TREATED BOTH SIDES) MATERIAL SPECIFICATION 728-06, SHALL BE PLACED ON THE TOP OF BACKWALLS. TWO $\frac{1}{16}$" THICK SHEETS SHALL BE USED, AND PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.

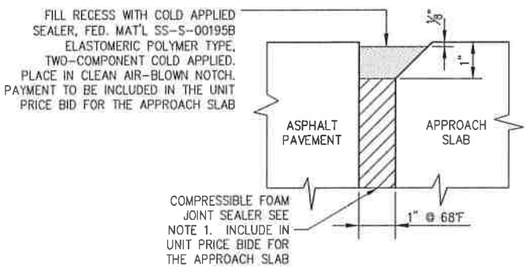
C. ALL REINFORCEMENT IN APPROACH SLABS TO HAVE 3" COVER UNLESS OTHERWISE NOTED.

D. "G" DENOTES GALVANIZED REBAR.



CORNER APPROACH SLAB REINFORCING

SCALE: ½" = 1'-0"

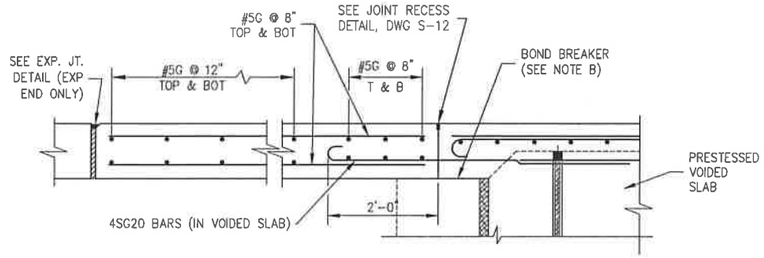


APPROACH SLAB EXPANSION JOINT

SCALE: NONE

NOTE 1:

SAWCUT RECESS JOINT AT THE END OF APPROACH SLAB; CLEAN THE RECESS WITH A HIGH PRESSURE AIR AND INSTALL THE CLOSED-CELL FOAM AND FILL THE TOP OF THE RECESS WITH COLD APPLIED SEALER. COMPRESSIBLE FOAM JOINT SEALER SHALL CONFORM TO SPECIFICATION 705-08.01 PREFORMED CLOSED CELL FOAM MATERIAL.



LONGITUDINAL APPROACH SLAB SECTION

SCALE: ¼" = 1'-0"

APPROACH SLAB TABLE			
LOCATION	STRUCTURAL APPROACH SLAB ITEM 557.2003	LONGITUDINAL SAWCUT GROOVING ITEM 558.02	PROTECTIVE SEALER ITEM 559.18960118
BEGIN APPROACH	58 SY	57 SY	521 SF
END APPROACH	58 SY	57 SY	521 SF
TOTAL	116 SY	114 SY	1,042 SF

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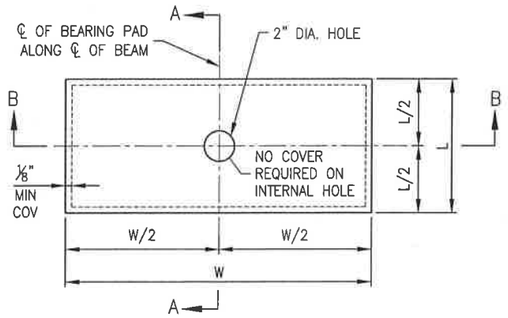
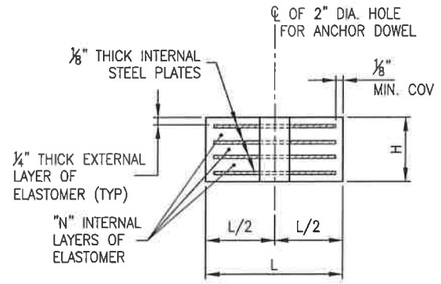
APPROACH SLAB PLAN
SECTION & DETAILS

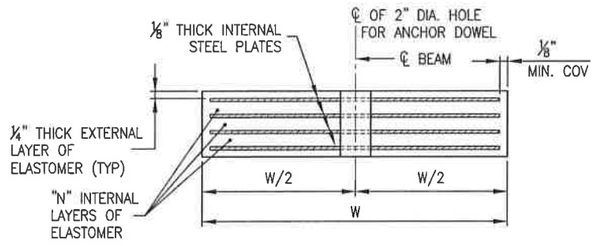
SHEET NO.
S-13



PLAN – TYPICAL RECTANGULAR STEEL LAMINATED ELASTOMERIC BEARING (TYPE E.L.)



SECTION A–A



SECTION B–B

STEEL LAMINATED ELASTOMERIC BEARING (TYPE E.L.) TABLE																
LOCATION	FIX/EXP	ITEM NO.	QUANITY REQUIRED	D.L. + S.D.L (KIPS)	LL WITHOUT IMPACT (KIPS)	TOTAL DESIGN REACTION (KIPS)	SHAPE FACTOR	INTERNAL ELASTOMER LAYER				hrt (in.)	COMP. AREA SQ. IN	SHEAR AREA (SQ. IN.)	BRG. H	ANCHOR DOWEL DIAMETER
								THK/LAYER	NO. LAYERS	L	W					
NORTH	FIX	565.1922	9	49.7	54.9	104.6	5.956	0.5	3	8	34	2	261.56	272	2.5	1
SOUTH	EXP	565.1922	9	49.7	54.9	104.6	5.956	0.5	3	8	34	2	261.56	275	2.5	1

NOTES:

1. THE BEARINGS SHALL MEET THE REQUIREMENTS OF N.Y.S. STANDARD SPECIFICATION SECTION 565 UNLESS OTHERWISE NOTED.
2. ALL ELASTOMER SHALL BE 50 DUROMETER HARDNESS ON THE SHORE A SCALE.
3. INSTALLATION ALIGNMENT:
   THE MAXIMUM VARIATION FROM PERFECT ALIGNMENT UNDER FULL DEAD LOAD SHALL NOT EXCEED $\frac{3}{16}$ in. THIS VARIATION SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CENTERLINE OF THE HIGHEST ELASTOMER SURFACE AND THE CENTERLINE OF THE LOWEST ELASTOMER SURFACE.
4. CONCRETE SURFACES UNDER THE BEARINGS SHALL CONFORM TO SUBSECTION 565–3.02 "CONCRETE BEARING SURFACE PREPARATION" OF THE N.Y.S. STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS.
5. FOR TYPE E.L. BEARINGS:
   ALL EXTERNAL ELASTOMER LAYERS ARE ONE–HALF THE THICKNESS OF THE INTERNAL ELASTOMER LAYERS.
6. DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

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CHECKED BY: BJC
JOB NO.: 30050

REVISIONS:			
NO.		BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

SCALE: NONE
DATE: MARCH 2016
DRAWING NO.: 14-BRIDGE STATE

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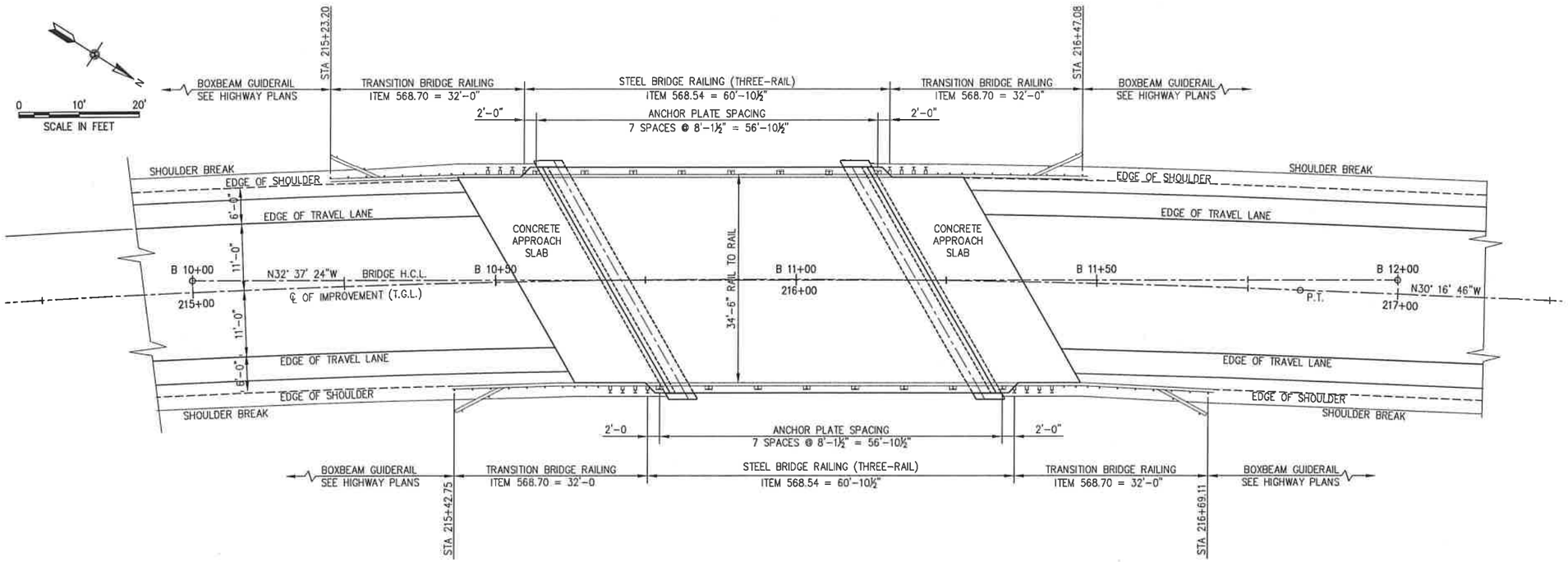
BEARING DETAILS AND NOTES

SHEET NO.
S–14



BRIDGE RAIL LAYOUT

SCALE: ⅛" = 1'-0

LOCATION	STEEL BRIDGE RAILING (THREE-RAIL) ITEM 568.54 L.F.	TRANSITION RAILING ITEM 568.70 L.F.
BEGIN APPROACH LEFT	–	32'-0
BEGIN APPROACH RIGHT	–	32'-0
BRIDGE LEFT	60'-10½"	–
BRIDGE RIGHT	60'-10½"	–
END APPROACH LEFT	–	32'-0
END APPROACH RIGHT	–	32'-0
TOTAL	121'-9"	128'-0

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DRAWN BY: BSB
CHECKED BY: BAC
JOB NO.: 30050
SCALE: ⅛" = 1'-0
DATE: MARCH 2016
DRAWING NO.: 17-BRIDGERAILS.DWG

NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

CATT. COUNTY DEPT. OF PUBLIC WORKS
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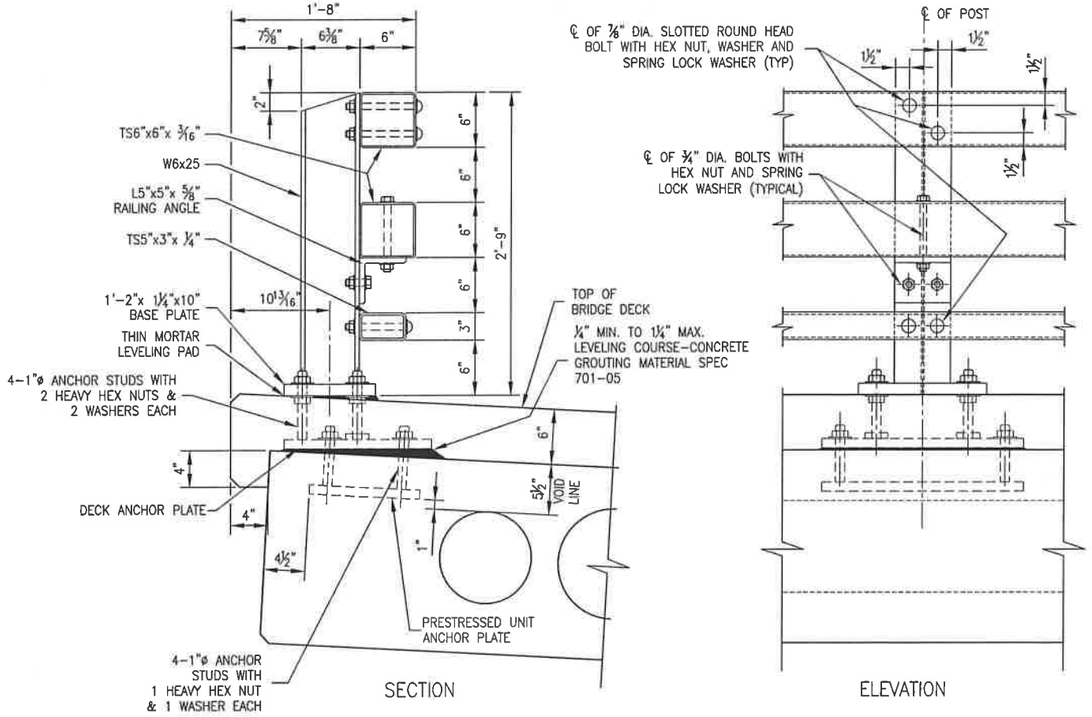
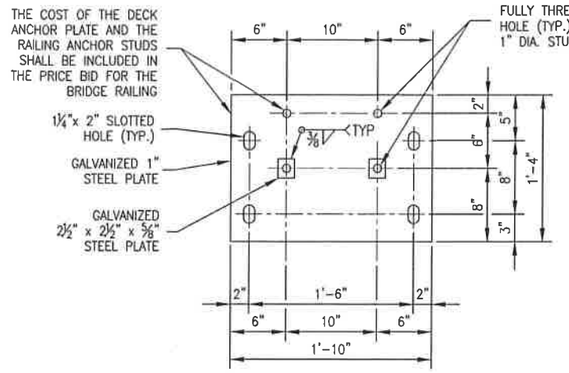
BRIDGE RAILING PLAN AND TABLES

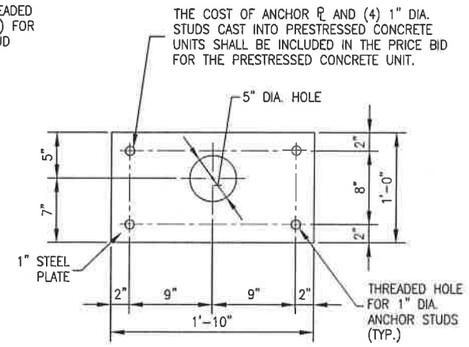
SHEET NO.
S-15



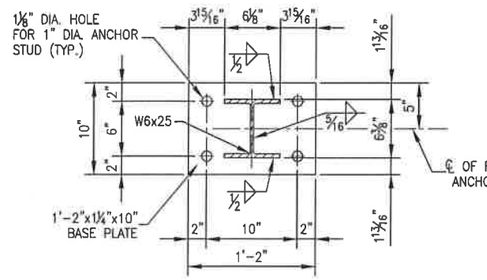
STEEL BRIDGE RAILING (THREE-RAIL CURBLESS)
RAILING ANCHORAGE FOR PRESTRESSED CONCRETE BRIDGE



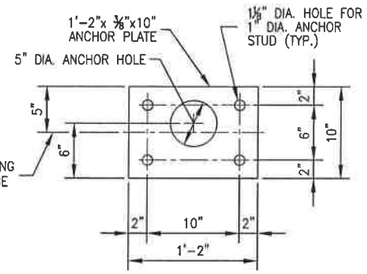
DECK ANCHOR PLATE



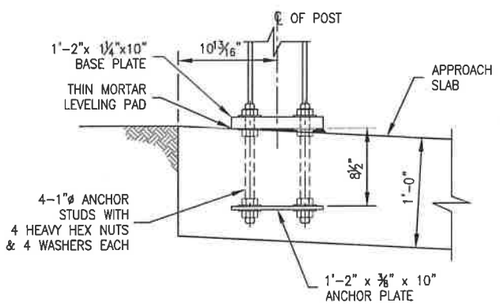
PRESTRESSED UNIT
ANCHOR PLATE



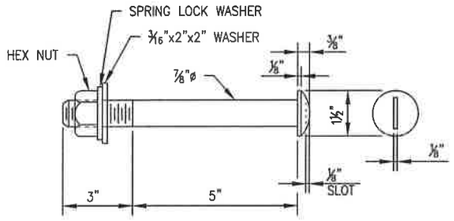
BASE PLATE



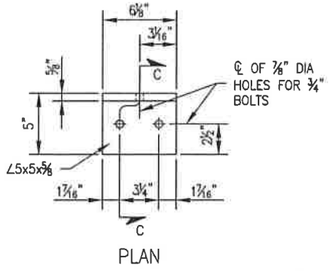
ANCHOR PLATE

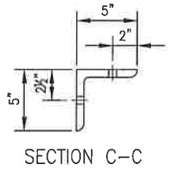


RAILING ANCHORAGE AT
APPROACH SLAB



ROUND HEAD BOLT





RAILING ANGLE DETAILS

NOTES:

1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE STANDARD SPECIFICATIONS.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1⁄16".
3. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: BJC
JOB NO.: 30050

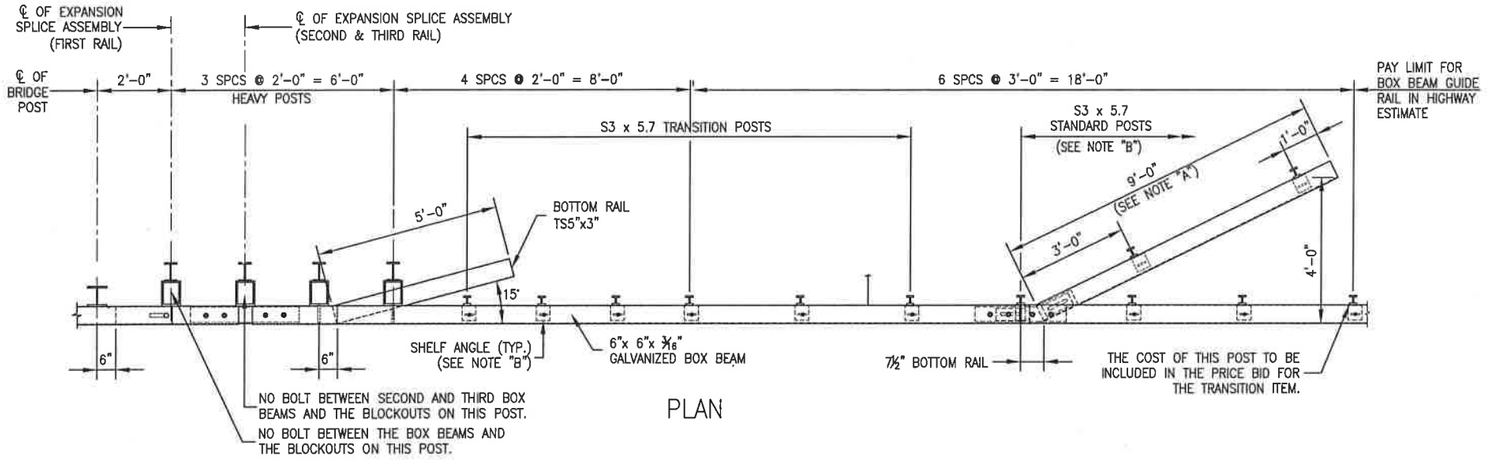
NO.	REVISIONS:	BY	DATE
1	ISSUED FOR BID	BSB	2-17-2017

SCALE: NONE
DATE: MARCH 2016
DRAWING NO.: 19-BRIDRAIL.DWG

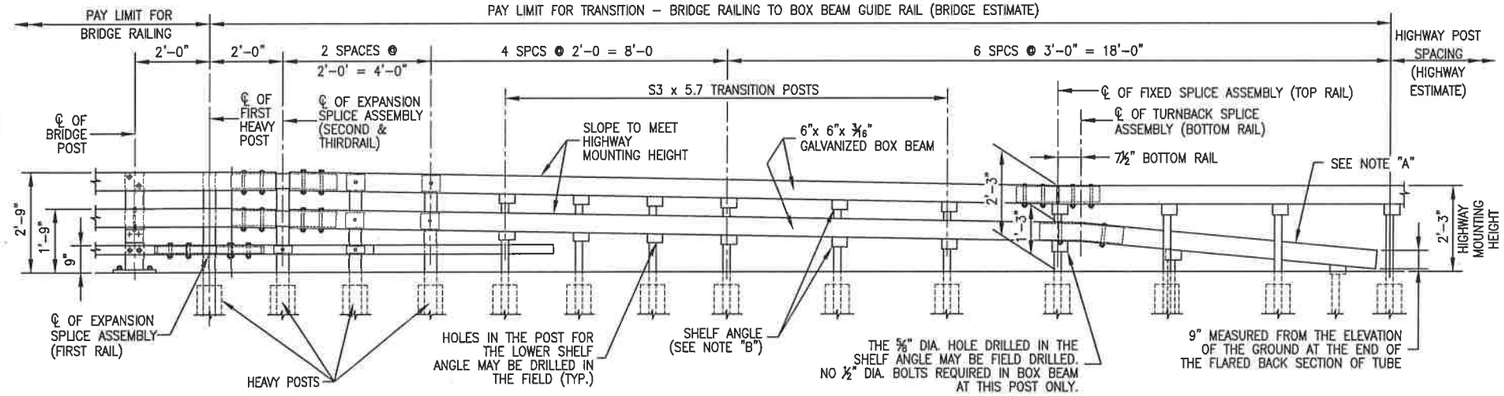
CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

STEEL BRIDGE RAILING
THREE-RAIL DETAILS

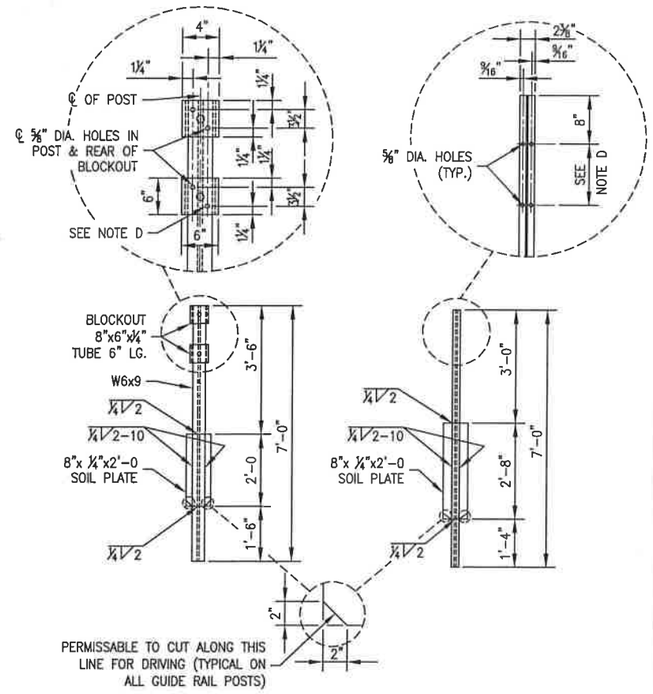
SHEET NO.
S-16



PLAN

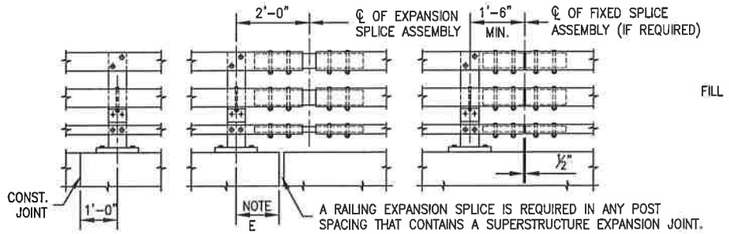


ELEVATION

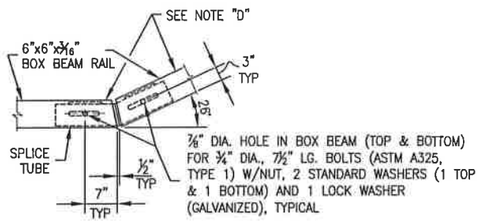


HEAVY POST DETAIL

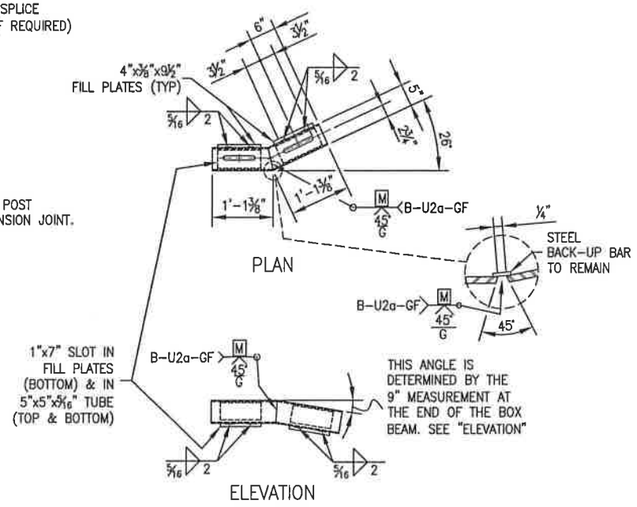
TRANSITION POST DETAIL



STEEL BRIDGE RAILING SPLICE DETAILS

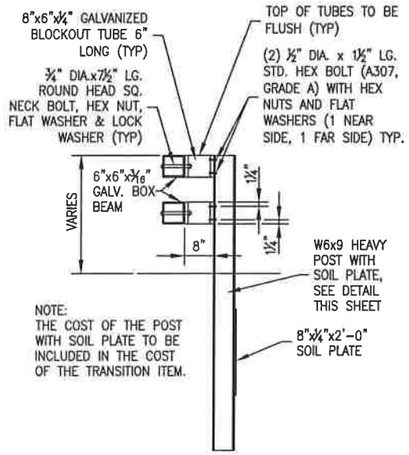


SPLICE DETAIL AT TURN BACK IN LOWER TRANSITION GUIDE RAIL



ELEVATION

SPLICE TUBE DETAIL FOR TURN BACK



HEAVY POST ELEVATION

NOTES:

NOTE "A":
THE COST OF THE POSTS, SPLICE TUBE AND RAIL FOR THE LOWER TUBE FLARE SECTION IS INCLUDED IN THE PRICE BID FOR THE TRANSITION ITEM.

NOTE "B":
SEE TYPICAL RAIL TO POST CONNECTION DETAIL ON CURRENT HIGHWAY STANDARD SHEET TITLED "BOX BEAM GUIDE RAIL".

NOTE "C":
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.

NOTE "D":
HOLES IN THE POST FOR THE LOWER RAIL MAY BE LOCATED AND DRILLED IN THE FIELD. IF SO, THE GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH SUBSECTION 719-01.

NOTE "E"
THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR.

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940
GPI

DRAWN BY: BSB
CHECKED BY: BJC
JOB NO.: 30050
SCALE: NONE
DATE: MARCH 2016
DRAWING NO.:S-BRIDGERAIL.DWG

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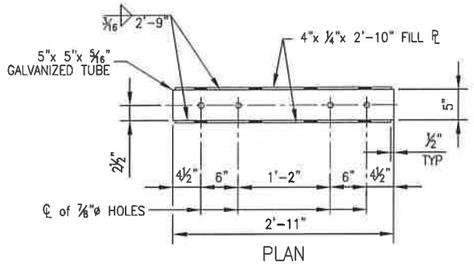
1	ISSUED FOR BID	BSB	2-17-2017

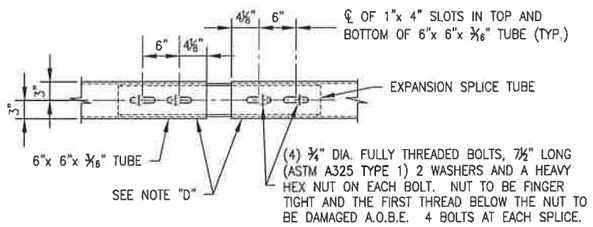
CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

STEEL BRIDGE RAILING TO BOX BEAM GUIDE RAIL TRANSITION

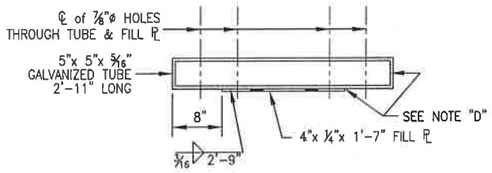
SHEET NO.
S-17



PLAN

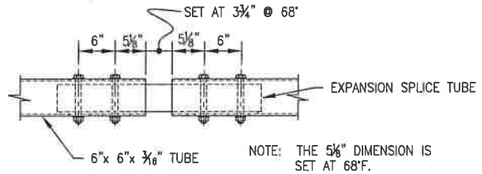


PLAN



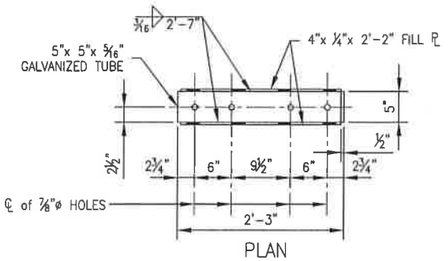
ELEVATION

EXPANSION SPLICE TUBE

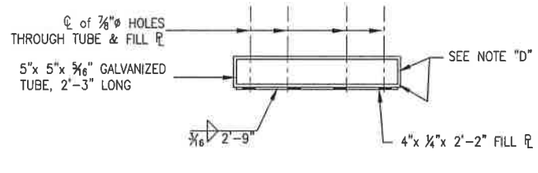


ELEVATION

EXPANSION SPLICE ASSEMBLY

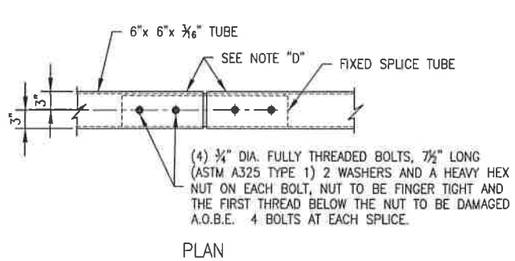


PLAN

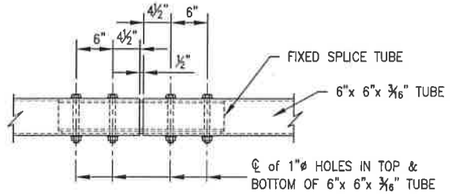


ELEVATION

FIXED SPLICE TUBE



PLAN



ELEVATION

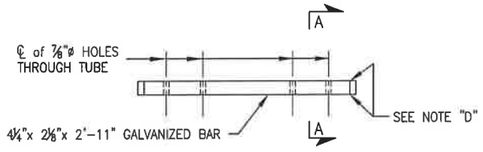
FIXED SPLICE ASSEMBLY

PLAN

PLAN

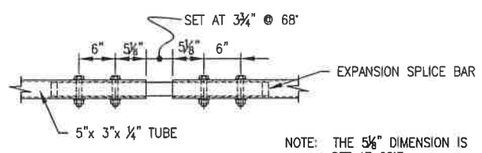
PLAN

PLAN



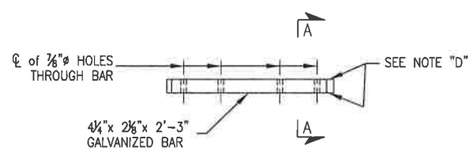
ELEVATION

EXPANSION SPLICE BAR



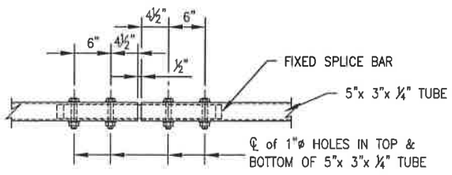
ELEVATION

EXPANSION SPLICE ASSEMBLY



ELEVATION

FIXED SPLICE BAR

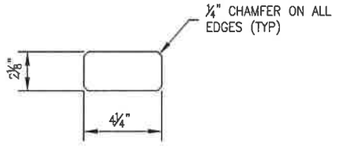


ELEVATION

FIXED SPLICE ASSEMBLY

NOTES:

NOTE "D":
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.



SECTION A–A

GREENMAN-PEDERSEN, INC.
CONSULTING ENGINEERS
ENGINEERING • SURVEYING • PLANNING
4950 GENESEE ST., SUITE 100, BUFFALO, NY 14225
(716) 633-4844 FAX (716) 633-4940

GPI

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SCALE: NONE
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DRAWING NO.: 12-RAILSPLICES.DWG

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CATT. COUNTY DEPT. OF PUBLIC WORKS
TOWN OF MANSFIELD - C.R. 13 IMPROVEMENTS

SPLICE DETAILS FOR BOX BEAM AND RAILS ON BRIDGES AND TRANSITIONS

SHEET NO.
S-18