

TOWN OF CROMWELL
COLES ROAD RECONSTRUCTION
PHASE 3 FROM RTE 9 TO RTE 3
STATE PROJECT NO. L033-0001
TO BE MAINTAINED BY THE TOWN OF CROMWELL

FROM STA 100+00 TO STA 130+71.65 LENGTH = 3071.65'

SCALES: HORZ: 1" = 40'
VERT: 1" = 4'

MAYOR

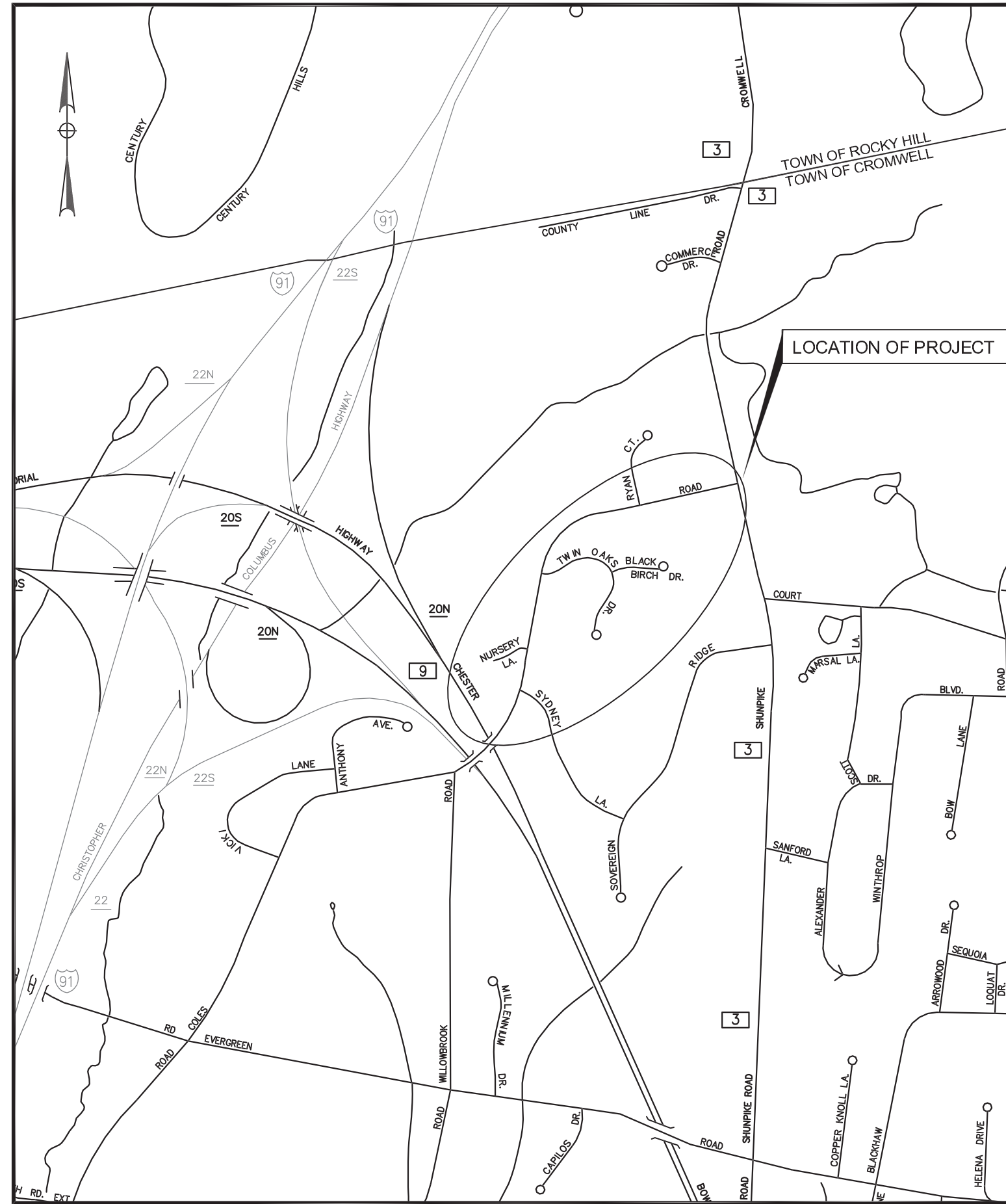
Enzo Faienza

DIRECTOR OF PUBLIC WORKS

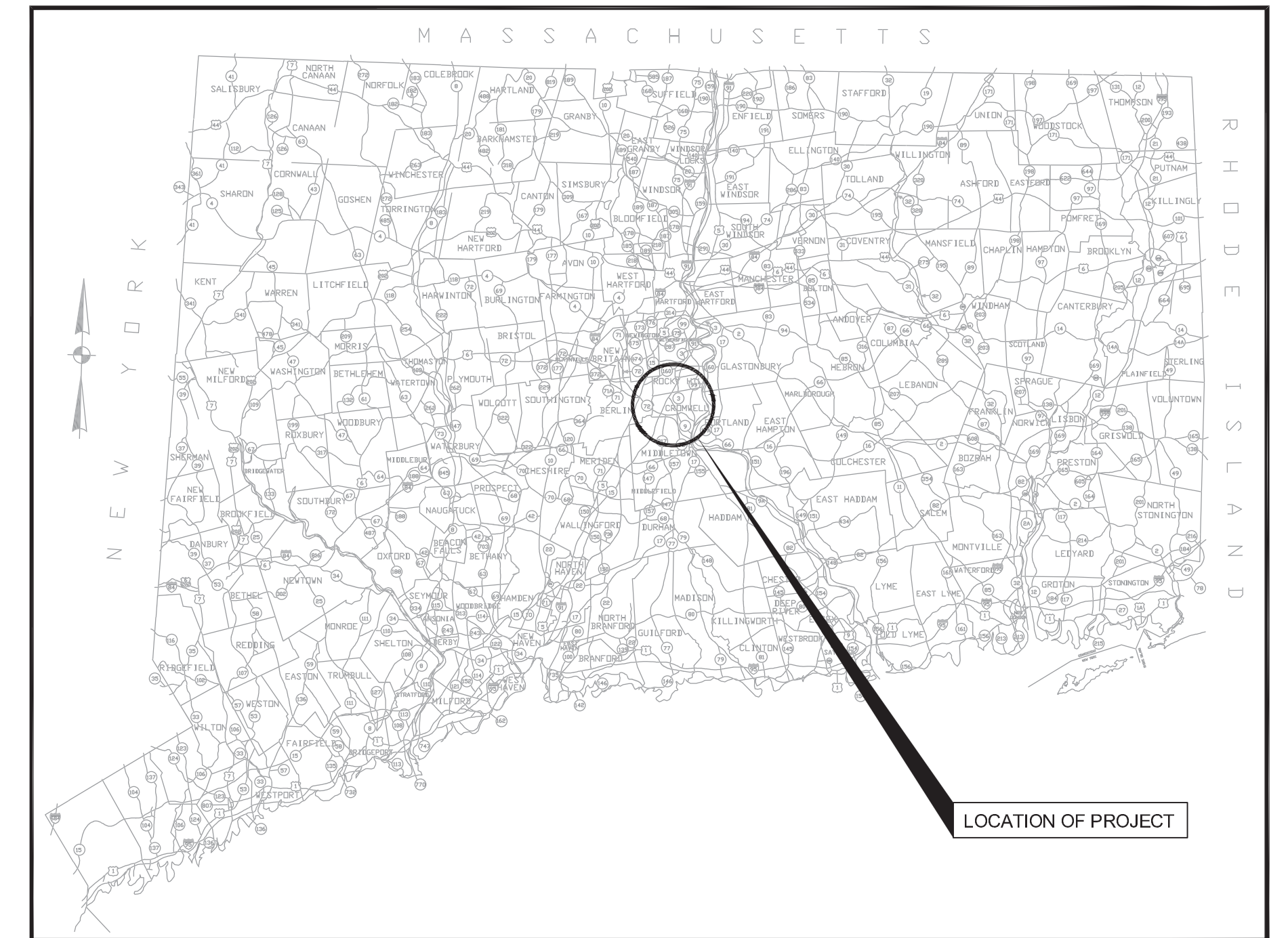
Lou Spina

TOWN ENGINEER

Jon Harriman, P.E.



PROJECT LOCATION PLAN
1" = 1000'



PROJECT VICINITY MAP
NOT TO SCALE

DESIGN DATA

FUNCTIONAL CLASSIFICATION OF COLES ROAD : URBAN COLLECTOR ROAD
DESIGN SPEED: 35 mph

2016 SPECIFICATIONS, FORM 817 INCLUDING JULY 2018 SUPPLEMENT
THERE TO GOVERN.

ALL ELEVATIONS ON THIS PROJECT BASED ON NAVD (1988).

COORDINATES BASED ON CONNECTICUT STATE COORDINATE SYSTEM (NAD 1983)

[illegible]

LIST OF DRAWINGS					
SHEET NO.	TITLE	DRAWING	SHEET NO.	STANDARD DRAWINGS	FHWA APPROVAL DATE
1	TITLE SHEET	TITLE	HW-507_01	TYPE "C", "C-L" & DROP INLET CATCH BASIN	7-24-13
2	DETAILED ESTIMATE SHEET	EST 01	HW-507_02	TYPE "C", "C-L" & DOUBLE GRATE TYPE - I	7-24-13
3	GENERAL NOTES, LEGEND AND ABBREVIATIONS	GEN 01	HW-507_03	TYPE "C", "C-L" & DOUBLE GRATE TYPE - II	7-24-13
4	TYPICAL SECTIONS & EMBANKMENT WALL SECTION	TYP 01	HW-507_04	TYPE "C", "C-L" & ROUND PRECAST CONCRETE CATCH BASIN	11-10-11
5	INTERSECTION GRADING PLAN	GRA 01	HW-507_05	TYPE "C", "C-L" PRECAST CONCRETE CB DBLE GRATE TYPE-I	11-10-11
6	INDEX PLAN & SURVEY LAYOUT	IND 01	HW-507_06	TYPE "C", "C-L" PRECAST CONCRETE CB DBLE GRATE TYPE-II	11-10-11
7 - 9	PLAN AND PROFILE SHEETS	PLN 01 TO PLN 03	HW-507_07	TYPE "C" & "C-L" CATCH BASIN TOPS AND CURBS	11-10-11
10 - 12	DRAINAGE, UTILITY, SEDIMENT/EROSION CONTROL PLAN/PROFILES	UTL 01 TO UTL 03	HW-507_08	CATCH BASIN FRAMES AND GRATES	9-18-09
13 - 53	CROSS SECTIONS	XSC 01 TO XSC 41	HW-507_10	MANHOLE, FRAME & COVER	7-24-13
54	EMBANKMENT WALL SITE NO. 1	STR 01	HW-652_01	PIPE ENDS	7-24-13
55 - 56	SEDIMENT & EROSION CONTROL DETAILS & NOTES	SECD & SECN	TR-1001_01	TRENCHING & BACKFILLING, ELECTRICAL CONDUIT	5-9-12
57 - 61	MISCELLANEOUS DETAILS	MDS 01 TO MDS 05	TR-1002_01	TRAFFIC CONTROL FOUNDATIONS	1/2014
62	DETOUR PLAN	MPT 01	TR-1010_01	CONCRETE HANDHOLE	4-29-14
63	TRAFFIC CONTROL SIGNAL PLAN #033-220		TR-1102_01	PEDESTALS, PEDESTRIAN SIGNALS	5-9-12
64	SIGN FACE SHT ALUMINUM R-SERIES SIGNS TYPICAL DETAILS	TR-GS_01	TR-1107_01	PEDESTRIAN PUSH BUTTONS	8-21-18
65	SIGN FACE SHT ALUMINUM S&W SERIES SIGNS TYP DETAILS	TR-GS_02	TR-1111_01	LOOP VEHICLE DETECTOR AND SAWCUT	4-29-14
66 - 68	FRONTIER COMMUNICATIONS POLE PLAN	PLN 01 TO PLN 03	TR-1208_01	SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS	8-21-18
69 - 70	EVERSOURCE ENERGY GAS MAIN RELOCATION PLAN	UTL 02 TO UTL 03	TR-1208_02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS	6-15-17
			TR-1210_08	PAVEMENT MARKINGS FOR NON FREEWAYS	8-21-18
			TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS	8-21-18
			TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES	8-21-18

TITLE
1



CARDINAL
ENGINEERING ASSOCIATES

3 Colony Street | Meriden, CT 06451 | 203-238-1969

DATE: JUN 24, 2019
SCALE: AS NOTED
DESIGNED BY: AD
DRAWN BY: DR
CHECKED BY: BS
APPROVED BY: JC

GENERAL NOTES

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 817, 2016 INCLUDING JULY 2018 SUPPLEMENT UNLESS OTHERWISE SPECIFIED IN THE TECHNICAL SPECIFICATIONS.
2. ALL DIMENSIONS ARE FEET UNLESS OTHERWISE NOTED.
3. PLANIMETRIC AND TOPOGRAPHIC FEATURES ARE BASED ON FIELD SURVEY PERFORMED BY CARDINAL ENGINEERING ASSOCIATES,IN 2017. SURVEY BASELINE CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY. STREETLINE AND PROPERTY LINE INFORMATION (IF SHOWN) ARE APPROXIMATE AND BASED ON LIMITED FIELD SURVEY. ALL ELEVATIONS ARE BASED ON NAVD88. HORIZONTAL COORDINATES ARE BASED ON THE CONNECTICUT COORDINATE GRID. VERTICAL ACCURACY IS CLASS T-2.
4. ALL DIMENSIONS AND ELEVATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF MANUFACTURING AND CONSTRUCTION, AND NECESSARY ADJUSTMENTS MADE AS ORDERED BY THE ENGINEER.
5. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 817, 2016 WITH LATEST REVISIONS, 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, UNLESS OTHERWISE SPECIFIED IN THE TECHNICAL SPECIFICATIONS.
6. THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE WITH A STAGING PLAN AND SEDIMENT AND EROSION CONTROL PLAN FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
7. ALL DISTURBED AREAS THAT WILL NOT BE PAVED SHALL RECEIVE 4" OF TOPSOIL AND TURF ESTABLISHMENT.
8. THE CONTRACTOR SHALL WALK THE PROJECT PRIOR TO CONSTRUCTION WITH A REPRESENTATIVE FROM THE TOWN AND THE ENGINEER. TREES TO BE REMOVED SHALL BE MARKED IN THE FIELD. EXTREME CARE SHALL BE EXERCISED TO PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL. NO TREES SHALL BE REMOVED UNTIL AUTHORIZATION IS GIVEN BY THE TOWN. COST IS INCLUDED IN THE ITEM "CLEARING AND GRUBBING".
9. ANY PHYSICAL FEATURES DISTURBED BY THE CONTRACTOR SHALL BE REPLACED OR RECONSTRUCTED AS DIRECTED BY THE ENGINEER TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO CONSTRUCTION AT THE CONTRACTORS EXPENSE.
10. THE CONTRACTOR SHALL MAINTAIN ALL ROAD NAME SIGNS AS INDICATED ON THE PLANS AND SHALL MAINTAIN ALL TRAFFIC SIGNS AS NEEDED DURING CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. COST IS INCLUDED IN THE ITEM "REMOVAL AND RELOCATION OF EXISTING SIGNS".
11. THE UTILITY INFORMATION SHOWN ON THESE PLANS IS BASED ON LIMITED INVESTIGATIONS AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OF WORK REQUIRED. LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES HAVE BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION. THIS INFORMATION WAS COMPILED UTILIZING UTILITY COMPANY & TOWN RECORD MAPS AND FIELD SURVEY AND THEREFORE, IS CONSIDERED TO BE APPROXIMATE. ALL UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION OF ALL UTILITIES. THE TOWN SHALL NOTIFY UTILITY COMPANIES OF NECESSARY RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF THE UTILITY COMPANIES. UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND THE COST OF REPAIR WORK SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT CALL BEFORE-J-DIG AT 1-800-922-4455 FOR MARKING OF EXISTING UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF EXCAVATION (MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS).
12. WATER, GAS, AND SANITARY SEWER SERVICE CONNECTION LOCATIONS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL PERFORM THE REQUIRED WATER MAIN AND SEWER AND WATER SERVICE RELOCATIONS AND COORDINATE ANY OTHER REQUIRED RELOCATIONS WITH THE RESPECTIVE UTILITY COMPANIES.
13. CONTRACTOR TO SUPPLY UTILITY COMPANIES WITH SUFFICIENT VERTICAL AND HORIZONTAL STAKEOUT OF PROPOSED STORM DRAINAGE, PROPOSED ROADWAY, AND OTHER PROPOSED IMPROVEMENTS TO PERFORM UTILITY RELOCATIONS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE ITEM "CONSTRUCTION STAKING."
14. UTILITY POLE RELOCATIONS ARE SHOWN ON THE PLANS. ADDITIONAL POLE RELOCATIONS MAY BE REQUIRED. CONTRACTOR TO PROVIDE STAKEOUT OF PROPOSED IMPROVEMENTS PRIOR TO COMMENCEMENT OF WORK TO DETERMINE IF ADDITIONAL POLE RELOCATIONS ARE REQUIRED. POLE RELOCATIONS MAY NOT BE COMPLETED PRIOR TO THE INSTALLATION OF STORM DRAINAGE AND ROADWAY IMPROVEMENTS. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. POLE RELOCATIONS MAY NOT BE COMPLETED PRIOR TO THE INSTALLATION OF STORM DRAINAGE AND ROADWAY IMPROVEMENTS. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. UTILITY POLE NOS. FRONTIER 698, 699 AND 2979 WERE RELOCATED IN 2018. CONTRACTOR TO CONFIRM THAT THE NEW LOCATION OF THESE POLES WILL NOT CONFLICT WITH THE PROPOSED WORK AND TO COORDINATE NECESSARY RELOCATION WITH THE RESPECTIVE UTILITY COMPANIES.
15. ALL REQUIRED UTILITY RELOCATIONS FOR GAS, TELEPHONE, CABLE & ELECTRIC FACILITIES SHALL BE PERFORMED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES PRIOR TO ANY WORK AND COORDINATE HIS WORK WITH THE UTILITY COMPANY WORK. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANY FOR THE UTILITY COMPANY TO HOLD ANY POLES THAT NEED TO BE SUPPORTED DURING THE CONTRACTOR'S TRENCHING OPERATIONS. THE COST TO COORDINATE THIS WORK WITH THE UTILITY COMPANIES SHALL BE INCIDENTAL TO THE PROJECT. THERE WILL BE NO COMPENSATION FOR DELAYS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES TO RESET ALL UTILITY BOXES TO FINISHED GRADE. THERE WILL BE NO SEPARATE PAYMENT TO COORDINATE THIS WORK OR CLAIM FOR TIME EXTENSION.
17. THE UTILITY COMPANIES SHALL RESET ALL WATER AND GAS VALVE BOXES, WATER CURB STOP BOXES AND PRIVATE UTILITY MANHOLES TO FINISHED GRADE. RESETTNG WATER VALVE BOXES AND WATER CURB STOP BOXES AND SANITARY MANHOLES WILL BE PAID UNDER THE CONTRACT UNIT PRICES.
18. FOR LAYOUT PURPOSES, PIPE LENGTHS INDICATED ON THE PLANS ARE FROM CENTER OF CATCH BASIN/MANHOLE TO CENTER OF CATCH BASIN/MANHOLE, FACE OF ENDWALL OR OUTLET END OF FLARED END AND THE LENGTH OF THE FLARED END SECTION IS INCLUDED IN PIPE LENGTH. PAYMENT SHALL BE THE ACTUAL LENGTH INSTALLED MEASURED FROM THE INSIDE FACE OF THE STRUCTURE TO THE INSIDE FACE OF A STRUCTURE OR THE FACE OF AN ENDWALL AND SHALL NOT INCLUDE THE LENGTH OF THE FLARED END. FLARED ENDS ARE PAID SEPARATELY AS PIPE ENDS.
19. ALL TOP OF FRAME ELEVATIONS REFLECT THE ELEVATION WITH THE STANDARD DEPRESSION AS SHOWN ON "DETAILS OF DEPRESSED GUTTER STRIP" AND CTDOT STANDARD SHEETS HW-507_1, HW-507_2, AND HW-507_3 ENTITLED "TYPE "C", "C-L" DROP INLET CATCH BASINS", "TYPE "C", "C-L" DOUBLE GRATE TYPE I" AND "TYPE "C", "C-L" DOUBLE GRATE TYPE II." THE ELEVATION IS APPLIED AT THE FACE OF CURB. OFFSETS NOTED ON THESE PLANS ARE TO THE CENTERLINE OF THE CATCH BASIN STRUCTURE, NOT TO THE FACE OF CURB. THE CENTERLINE OF TYPE "C" CATCH BASINS (SINGLE GRATE AND DOUBLE GRATE TYPE II) ARE 10 3/16 INCHES IN FRONT OF THE FACE OF CURB. THE CENTERLINE OF TYPE "C" CATCH BASIN DOUBLE GRATE TYPE I STRUCTURES ARE 18 INCHES IN FRONT OF THE FACE OF CURB.
20. RCP SHALL BE CLASS IV UNLESS NOTED OTHERWISE. RCP PIPE WITH LESS THAN 2.0 FEET OF COVER SHALL BE CLASS V. ALL RCP SHALL HAVE PREFORMED PLASTIC OR RUBBER-TYPE GASKETS. PVC PIPE SHALL BE SDR-35. ALL HDPE PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M 252 OR M 294 AND SHALL BE TYPE S. HDPE PIPE SHALL HAVE GASKETED INTEGRAL-BELL DESIGN JOINTS. DUCTILE IRON PIPE SHALL BE CLASS 52. PVC AND HDPE PIPE SHALL BE INSTALLED IN A TYPE II INSTALLATION WITH NO. 8 STONE (M.01.01) FOR BEDDING MATERIAL FROM 4" BELOW (IN EARTH, 12" IN ROCK) TO 12" ABOVE THE PIPE.
21. ALL EXISTING CONNECTIONS FROM PRIVATE RESIDENCES TO THE TOWN'S STORM SYSTEM WILL BE EVALUATED BY THE DEPARTMENT OF PUBLIC WORKS AND CONNECTED DIRECTLY TO NEW STORM DRAIN SYSTEM PENDING A SIGNED AGREEMENT BY THE PROPERTY OWNER. CONNECTIONS INTO DRAINAGE PIPE SHALL BE CORED AND A "SEALTITE" SADDLE OR EQUAL SHALL BE USED. NO DISCHARGE WILL BE ALLOWED INTO THE STREET.
22. ALL EXISTING DRAINAGE PIPES AND CULVERTS WITHIN THE PROJECT SLOPE LIMITS THAT ARE DESIGNATED TO BE REMOVED SHALL BE REMOVED AND BACKFILLED AS SPECIFIED IN SECTION 2.05 "TRENCH EXCAVATION" UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. COORDINATE THIS WORK WITH THE RECONNECTION OF ANY EXISTING FOUNDATION AND OTHER DRAINS TO THE PROPOSED DRAINAGE SYSTEM.
23. EXISTING PAVEMENT SHALL BE REMOVED IN FILL AREAS PRIOR TO PLACING FILL. EXISTING PAVEMENT OUTSIDE OF THE CUT AND FILL LIMITS THAT WILL NOT BE USED IN THE PROPOSED CONDITIONS SHALL BE REMOVED. PAYMENT SHALL BE MADE UNDER THE ITEM "EARTH EXCAVATION."
24. ALL TRENCHES SHALL BE BACKFILLED AND PAVED DAILY UNLESS OTHERWISE AUTHORIZED BY THE TOWN.
25. FRAMES AND COVERS ON ABANDONED MANHOLES SHALL BE REMOVED AND SALVAGED. THEY SHALL BE STORED AND TRANSPORTED TO THE TOWN YARD OR DISPOSED OF AS ORDERED BY THE ENGINEER. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK.
26. ALL EXCAVATED MATERIALS, CONSTRUCTION EQUIPMENT AND NEW MATERIALS FOR THE WORK SHALL BE PLACED SO AS NOT TO INJURE THE WORK OR ENDANGER PERSONS AND TO ALLOW FREE ACCESS AT ALL TIMES TO ALL PARTS OF THE WORK INCLUDING PUBLIC UTILITY INSTALLATIONS. MATERIALS SHALL BE STORED AT LOCATIONS WHICH WILL CAUSE A MINIMUM OF INCONVENIENCE TO PUBLIC TRAVEL OR THE ADJOINING TENANTS AND MINIMUM DAMAGE TO GRASSED OR OTHERWISE IMPROVED AREAS. LOCATION OF ALL STORED MATERIALS IS SUBJECT TO APPROVAL OF THE ENGINEER AND OWNER.

STANDARD CONVENTIONS

EXISTING		PROPOSED
	APPROXIMATE LIMIT OF CUT SLOPE	
	APPROXIMATE LIMIT OF FILL SLOPE	
	APPROXIMATE PROPERTY LINE	
	APPROXIMATE STREET LINE	
	BASELINE STATION	
	BITUMINOUS CONCRETE DRIVEWAY AND ADJACENT CONCRETE SIDEWALK RAMPs	
	BORING NUMBER B10 (SEE BID DOCUMENTS)	
	CATCH BASIN	
	CONDUIT	
	CONTROL POINT	
	CONCRETE DRIVEWAY RAMP, FLARE & SLOPED SIDEWALK	
	CULVERT END	
	DRAINAGE DITCH	
	DRAINAGE PIPE	
	EASEMENT LINE (PERMANENT)	
	ELECTRIC LINE (UNDERGROUND)	
	FENCE (CHAIN LINK)	
	FENCE (SPLIT RAIL)	
	FENCE (STOCKADE)	
	GAS LINE	
	GAS TEST PIT	
	GAS VALVE or WATER VALVE	
	HOUSE/ STRUCTURE	
	HYDRANT	
	INLAND WETLAND LIMITS	
	MAILBOX	
	MANHOLE, SANITARY (S), DRAINAGE (D)	
	MONUMENT	
	NORTH ARROW	
	OVER-HEAD TELEPHONE, CABLE AND/OR ELECTRIC	
	RETAINING WALL	
	RIPRAP APRON	
	SANITARY SERVICE CONNECTION	
	SANITARY SEWER	
	SEDIMENTATION CONTROL SYSTEM	
	SIGN	
	SPOT ELEVATION	
	STONE WALL	
	TELEPHONE LINE (UNDERGROUND)	
	TAKING LINE	
	TREE	
	TREE LINE	
	UNDERDRAIN	
	"U" SHAPED STONE DIKE	
	UTILITY POLE	
	WATER COURSE	
	WATER LINE	
	GAS TEST PIT (TP) / WATER VALVE MEASUREMENT (M)	

LIST OF ABBREVIATIONS

AGGR	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NO	NUMBER
A	ALGEBRAIC DIFFERENCE IN GRADES	OF	OUTFALL
APPROX	APPROXIMATE	PERF	PERFORATED
ASPH	ASPHALT	PCPP	PERFORATED CORRUGATED POLYETHYLENE PIPE
BK	BACK	PLNTR	PLANTER
	BASELINE	POB	POINT OF BEGINNING
BM	BENCHMARK	PCC	POINT OF COMPOUND CURVATURE
BIT	BITUMINOUS	PC	POINT OF CURVATURE
BCLC	BITUMINOUS CONCRETE LIP CURBING	POE	POINT OF ENDING
BC	BOTTOM OF CURB	PGA	POINT OF GRADE APPLICATION
OGR	CABLE GUIDERAIL	PI	POINT OF INTERSECTION
CI / CIP	CAST IRON PIPE	PRC	POINT OF REVERSE CURVE
CB	CATCH BASIN	PT	POINT OF TANGENCY
	CENTERLINE	PVC	POINT OF VERTICAL CURVATURE
CC	CONCRETE CURBING	PVCC	POINT OF VERTICAL COMPOUND CURVATURE
CL	CLASS	PVI	POINT OF VERTICAL INTERSECTION
CO	CONDUIT	PVRC	POINT OF VERTICAL REVERSE CURVATURE
CONC	CONCRETE	PVT	POINT OF VERTICAL TANGENCY
CP	CONTROL POINT	PCC	POINT ON CURVE
COR	CORNER	POT	POINT ON TANGENT
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE PIPE
CPFE	CORRUGATED POLYETHYLENE FLARED END		PROPERTY LINE
CPP	CORRUGATED POLYETHYLENE PIPE	R	RADIUS
CY	CUBIC YARD	RR	RAILROAD
DIA	DIAMETER	K	RATE OF VERTICAL CURVATURE
DBL	DOUBLE	REINF	REINFORCED
DRIVE	DRIVEWAY	RCCE	REINFORCED CONCRETE CULVERT END
DI / DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
EA	EACH	REQD	REQUIRED
ESMT	EASEMENT	RT	RIGHT
EOP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EL / ELEV	ELEVATION	RSC	RIGID STEEL CONDUIT
EW	ENDWALL	RD	ROAD
EX / EXIST	EXISTING	SAN	SANITARY
FG	FINISHED GRADE	SS	SANITARY SEWER
FP	FLAGPOLE	SD	SEDIMENTATION
FE	FLARED END	SCB	SEDIMENT CONTROL BALES
FL	FLOW LINE	SCS	SEDIMENT CONTROL SYSTEM
FT	FOOT	SHLDR	SHOULDER
FND	FOUND	SF	SQUARE FOOT
FOUND	FOUNDATION	SY	SQUARE YARD
G	GAS	STD	STANDARD
GV	GAS VALVE	STA	STATION
GSC / GC	GRANITE STONE CURBING	SSD	STOPPING SIGHT DISTANCE
HP	HIGH POINT	ST	STREET
HORIZ	HORIZONTAL	SL	STREET LINE
HRS	HOURS	TBD	TO BE DETERMINED
HYD	HYDRANT	TCB	TOP OF CURB
INV	INVERT	TF	TOP OF FRAME
IE	INVERT ELEVATION	TYP	TYPICAL
IP	IRON PIN	UDRN	UNDERDRAIN
ISD	INTERSECTION SIGHT DISTANCE	VERT	VERTICAL
LT	LEFT	VC	VERTICAL CURVE
L	LENGTH	VF	VERTICAL FEET
LVC	LENGTH OF VERTICAL CURVE	VCP	VITRIFIED CLAY PIPE
LTP	LIGHT POLE	W	WATER
LF	LINEAR FEET	W/F	WOOD FRAME
LP	LOW POINT	WV	WATER VALVE
LS	LUMP SUM		
MB	MAILBOX		
MH	MANHOLE		
MAX	MAXIMUM		
MBR	METAL BEAM RAIL		
MCE	METAL CULVERT END		
MIN	MINIMUM		
MON	MONUMENT		
NF	NOW OR FORMERLY		
NTS	NOT TO SCALE		

COLES ROAD RECONSTRUCTION
CROMWELL, CONNECTICUT

GENERAL NOTES

DATE: MAY 21, 2019
SCALE: AS NOTED
DESIGNED BY: AD
DRAWN BY: DR
CHECKED BY: BS
APPROVED BY: AC

NO. 1

REVISION

DATE

GEN 01

3

CARDINAL
ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1949



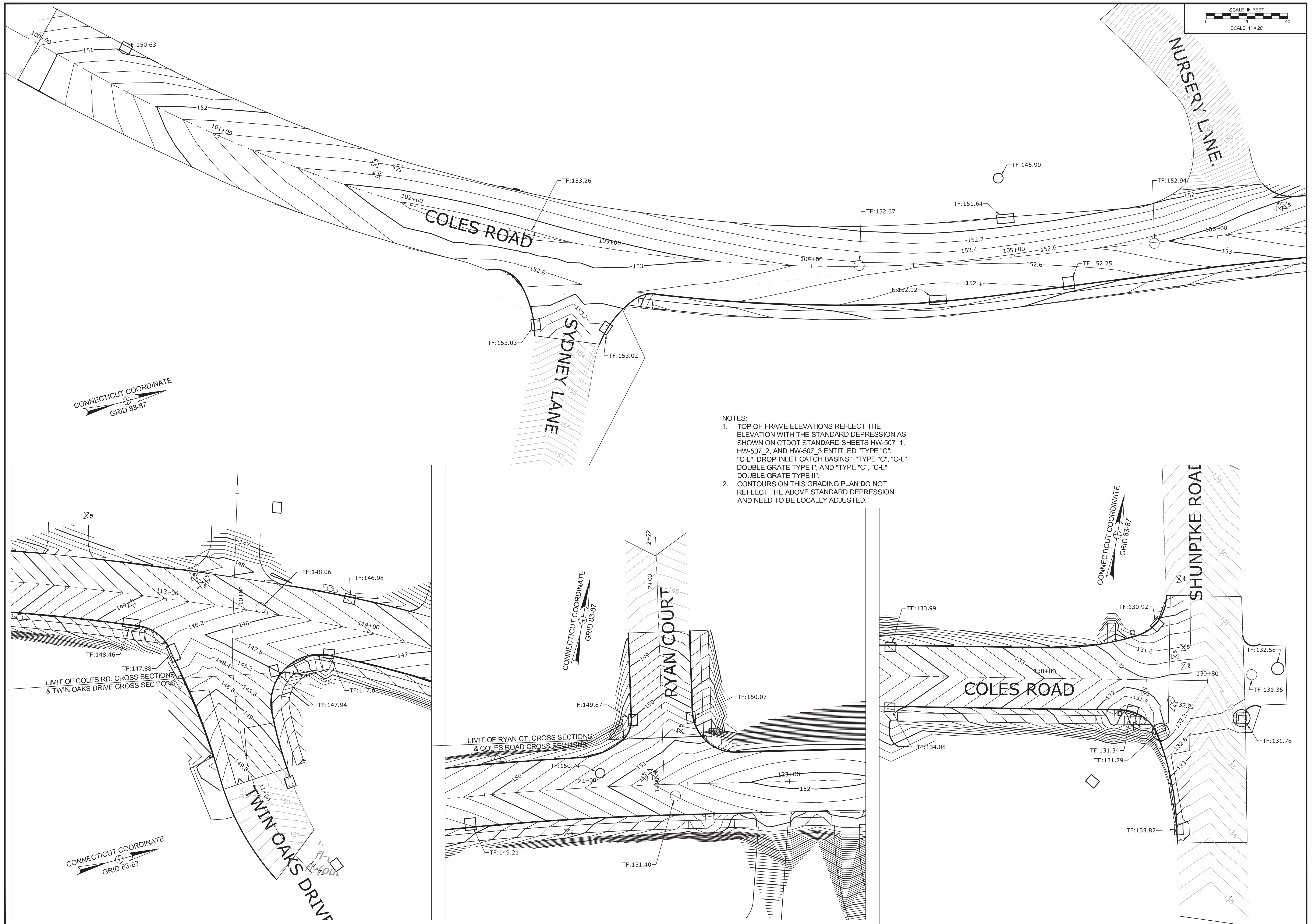
1. THE EMBANKMENT WALL SHALL BE DESIGNED, DETAILED AND CONSTRUCTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS "EMBANKMENT WALL (SITE NO. 1)".
2. TEMPORARY EARTH RETAINING SYSTEM BELOW PAY LIMITS AND ANY TIEBACKS AND BRACING ASSOCIATED WITH THE SHEET PILING SHALL BE INCLUDED IN THE LUMP SUM COST OF THE WALLS.
3. DETAILS SHOWN ON THIS SHEET ARE NOT SPECIFIC. THE CONTRACTOR'S DESIGNER SHOULD MODIFY THE SECTION FOR EACH SPECIFIC SITE.
4. THE CONTRACTOR SHALL SELECT, DESIGN (FOR PROPRIETARY WALLS ONLY) AND CONSTRUCT ONE OF THE WALL OPTIONS AS LISTED IN THE SPECIAL PROVISION "EMBANKMENT WALL (SITE NO. 1)".
5. THE COLOR OF THE DRY CAST BLOCK FOR EMBANKMENT WALL (SITE NO. 1) SHALL BE DETERMINED BY BRINGING ITS SHOP DRAWING APPROVAL BY THE ENGINEER
6. ANY ADDITIONAL NERVOUS STRUCTURE BACKFILL REQUIRED OUTSIDE THIS LIMIT SHALL ALSO BE INCLUDED IN THE LUMP SUM PRICE
7. FOR WORKING POINT COORDINATES, STATIONS & OFFSETS, SEE PLANS
8. THE FOLLOWING DESIGN PARAMETERS (SEE PRELIMINARY GEOTECHNICAL REPORT) CAN BE USED FOR THE DESIGN OF THE RETAINING WALLS:

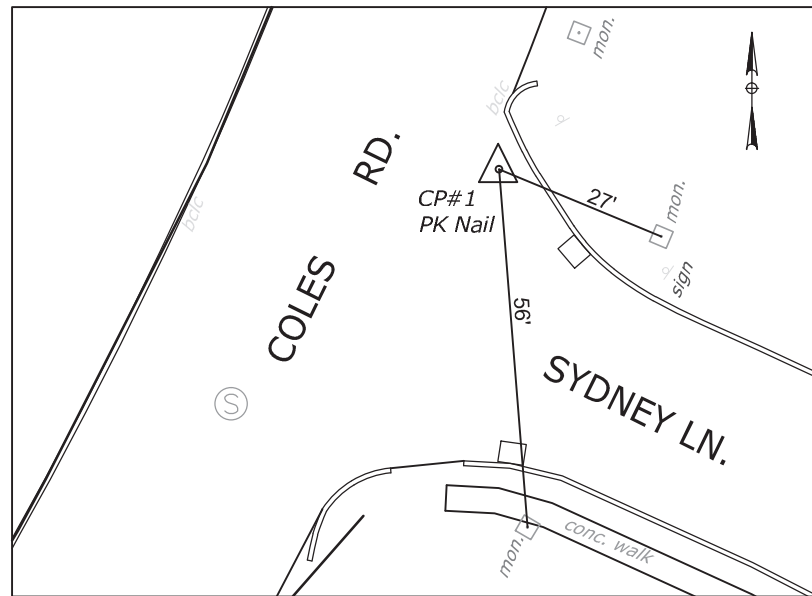
ALLOWABLE BEARING	2 TONS/SF
SOIL WEIGHT (BACKFILL)*	125 PCF
ACTIVE PRESSURE COEFFICIENT	0.28
(FOR LEVEL AREA AT TOP OF WALL)*	
SLIDING COEFFICIENT	0.6
MIN. EMBEDMENT DEPTH BELOW FIN. GRADE	2.0 FEET

LEGEND

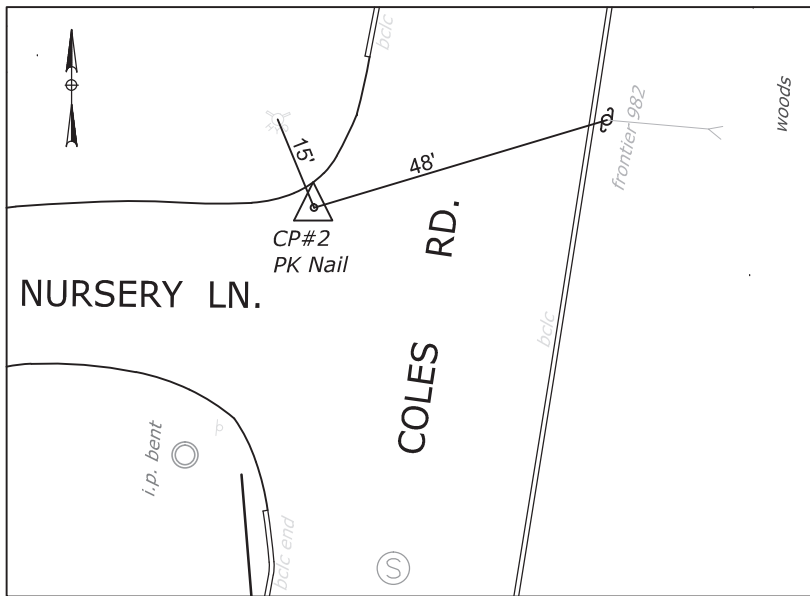
- (A) 2" HMA S0.50
- (B) 4" HMA S0.50 PLACED IN TWO EQUAL LIFTS
- (C) 6" PROCESSED AGGREGATE BASE
- (D) 12" SUBBASE, 18" SUBBASE ON ROCK
- (E) WEDGE COURSE HMA S0.375 THICKNESS VARIES 0 TO 2"
- (F) COMPACTED SUBGRADE
- (G) BITUMINOUS CONCRETE LIP CURBING
- (H) 4" TOPSOIL (8" ABOVE SUBBASE) & TURF ESTABLISHMENT
- (I) VARIES SEE PLAN, CROSS SECTIONS & INTERSECTION GRADING PLAN FOR DIMENSIONS & CROSS SLOPES
- (J) EXISTING METAL BEAM RAIL TYPE R-B 350 TO REMAIN
- (K) CONCRETE SIDEWALK
- (L) MATERIAL FOR TACK COAT
- (M) EXISTING BITUMINOUS CONCRETE CURB TO REMAIN
- (N) TYPE OF RIPRAP INDICATED ON PLAN
- (O) 6" GRANULAR FILL
- (P) SUITABLE FILL FROM ON-SITE EXCAVATION
- (Q) 6" HDPE (TYPE SP) UNDERDRAIN HOLES DOWN
- (R) AGGREGATE FOR UNDERDRAIN SHALL BE BROKEN STONE & SCREENED GRAVEL CONFORMING TO THE GRADATION REQUIREMENTS FOR SIZE NO. 8 UNDER ARTICLE M.01.01



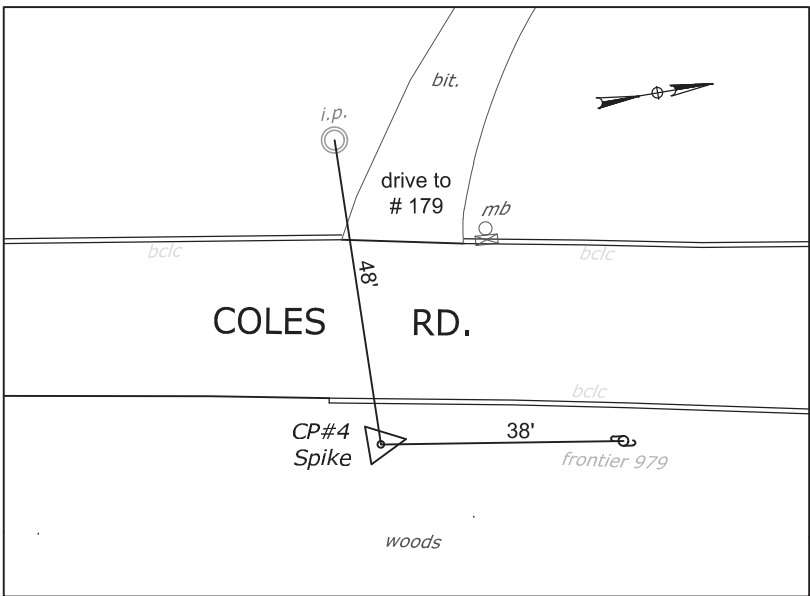




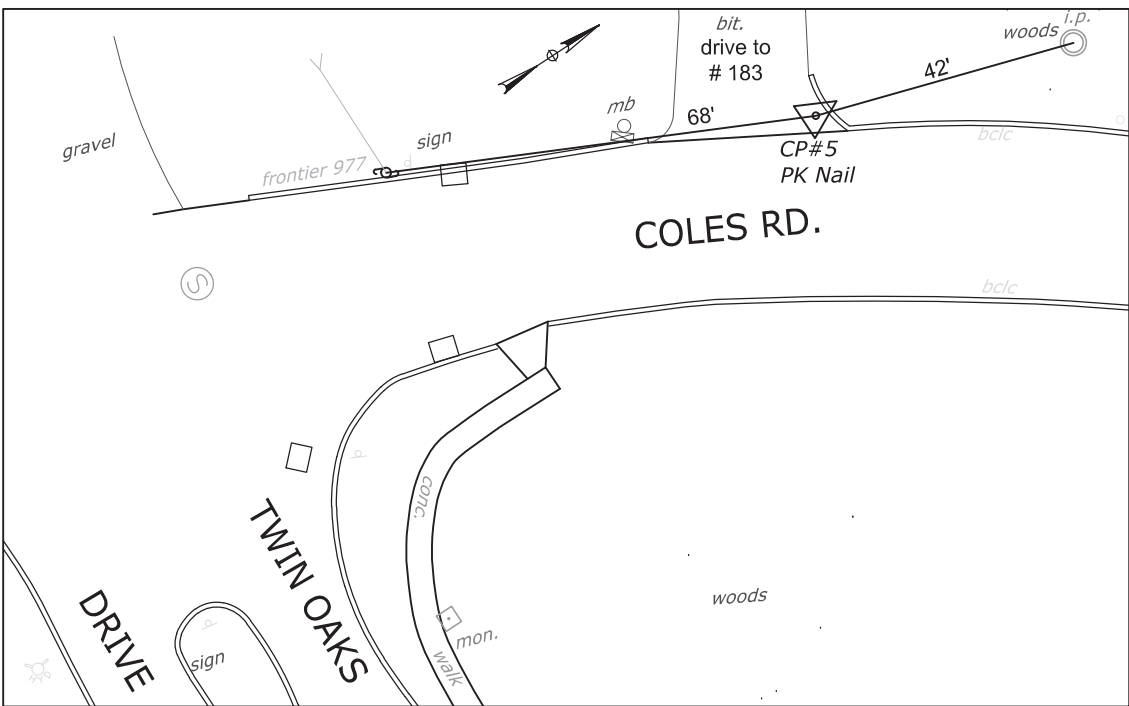
CONTROL POINT #1
N 787,309.70
E 1,018,401.63
NOT TO SCALE



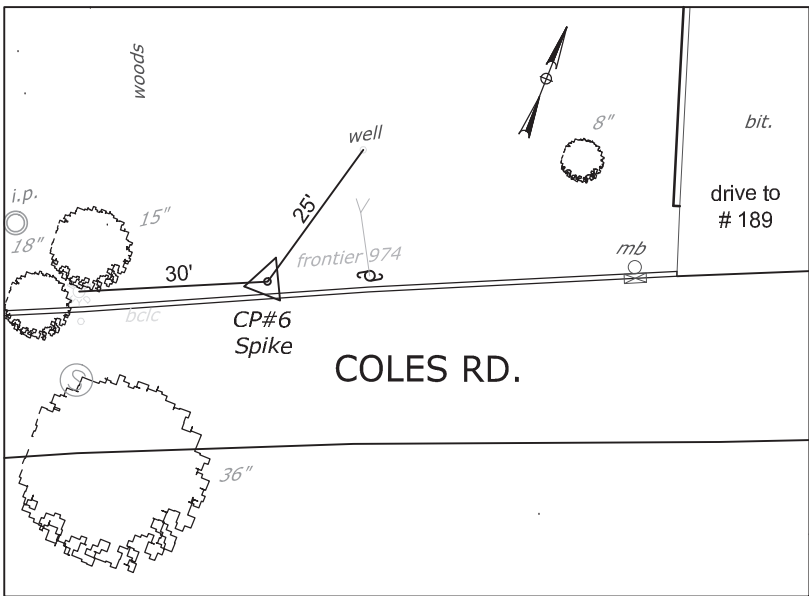
CONTROL POINT #2
N 787,624.77
E 1,018,431.17
NOT TO SCALE



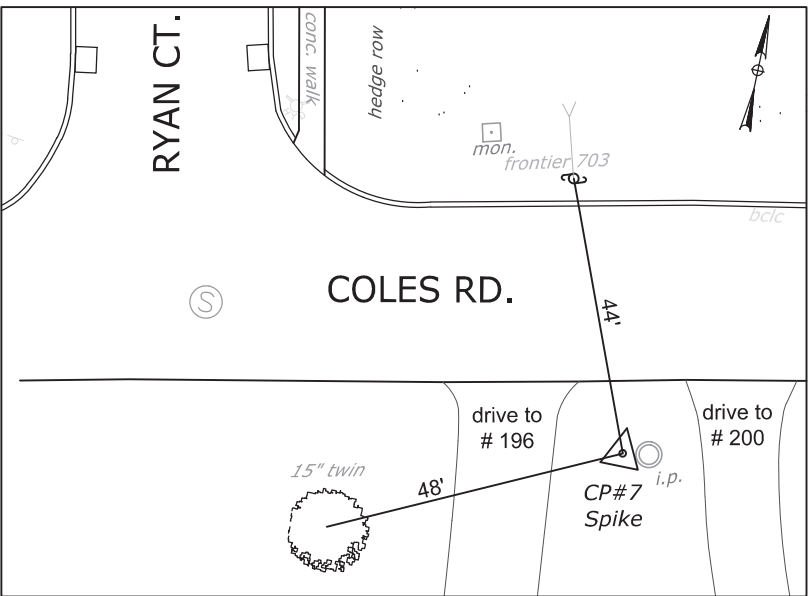
CONTROL POINT #4
N 788,035.56
E 1,018,538.63
NOT TO SCALE



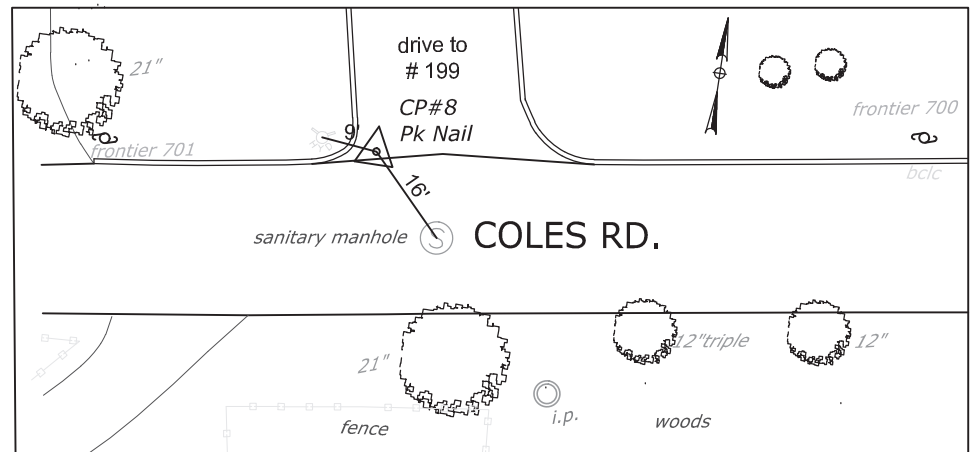
CONTROL POINT #5
N 788,421.96
E 1,018,635.08
NOT TO SCALE



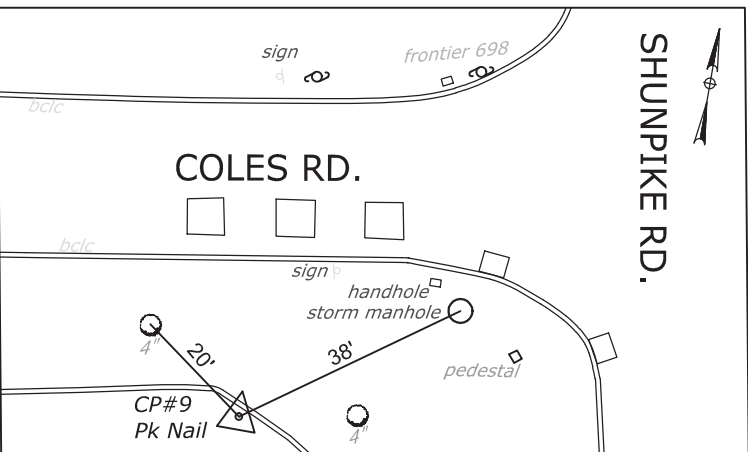
CONTROL POINT #6
N 788,657.21
E 1,018,975.73
NOT TO SCALE



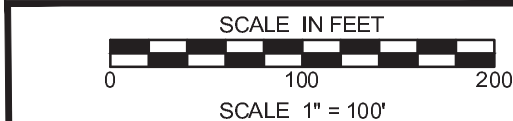
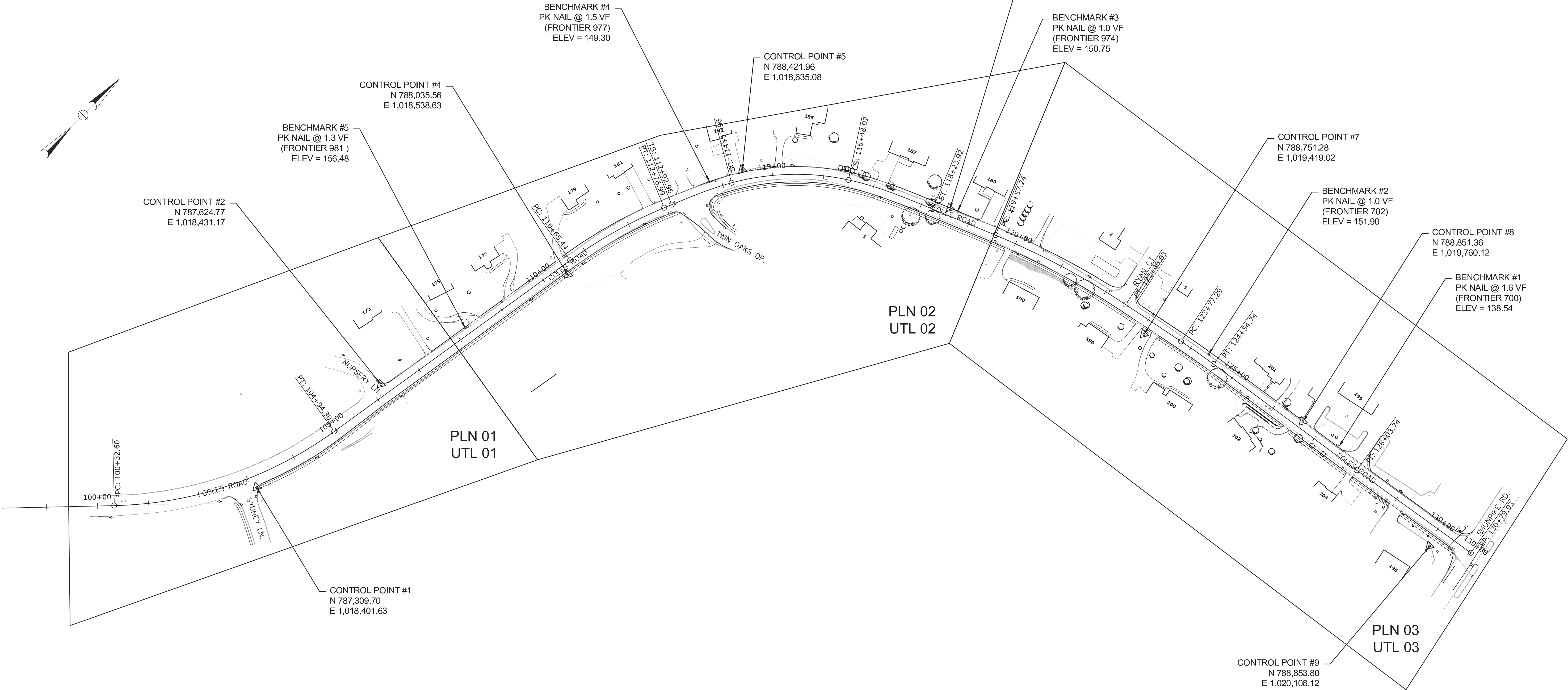
CONTROL POINT #7
N 788,751.28
E 1,019,419.02
NOT TO SCALE



CONTROL POINT #8
N 788,851.36
E 1,019,760.12
NOT TO SCALE



CONTROL POINT #9
N 788,853.80
E 1,020,108.12
NOT TO SCALE



IND 01		6	
INDEX & SURVEY LAYOUT PLAN		COLES ROAD RECONSTRUCTION CROMWELL, CONNECTICUT	
3 Colony Street Meriden, CT 06451 203-238-1969		CARDINAL ENGINEERING ASSOCIATES	
APPROVED BY: JC		DESIGNED BY: AD	
CHECKED BY: BS		SCALE: AS NOTED	
NO.		DATE: APR 30, 2019	
REVISION		BY	

(A) EASEMENT TO SLOPE FOR THE SUPPORT OF THE HIGHWAY REQUIRED

(B) EASEMENT TO SLOPE FOR THE SAFETY OF THE HIGHWAY & REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED

(D) EASEMENT TO EXCAVATE (RELOCATED) CHANNEL, (DITCH) PLACE RIPRAP AND REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED

(E) DRAINAGE RIGHT OF WAY REQUIRED

(G) RIGHT TO GRADE REQUIRED

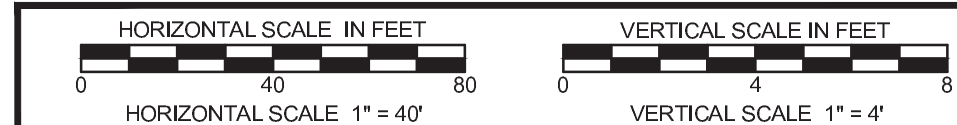
(H) RIGHT TO CONSTRUCT/RELOCATE DRIVEWAY REQUIRED

① EASEMENT TO INSTALL M.B.R. AND MAINTAIN GUIDE RAILING AND END ANCHORAGE REQUIRED
① RIGHT TO INSTALL SEDIMENTATION CONTROL SYSTEM REQUIRED
~~② RIGHT TO CONSTRUCT WALK AND/OR STEPS REQUIRED~~
~~③ RIGHT TO INSTALL, RESET OR RELOCATE STONE WALL, FENCE OR LIGHT REQUIRED~~
~~④ EASEMENT OR RIGHT TO INSTALL LAWN DRAIN & PIPE REQUIRED~~
⑤ EASEMENT TO CONSTRUCT AND MAINTAIN RETAINING WALL REQUIRED

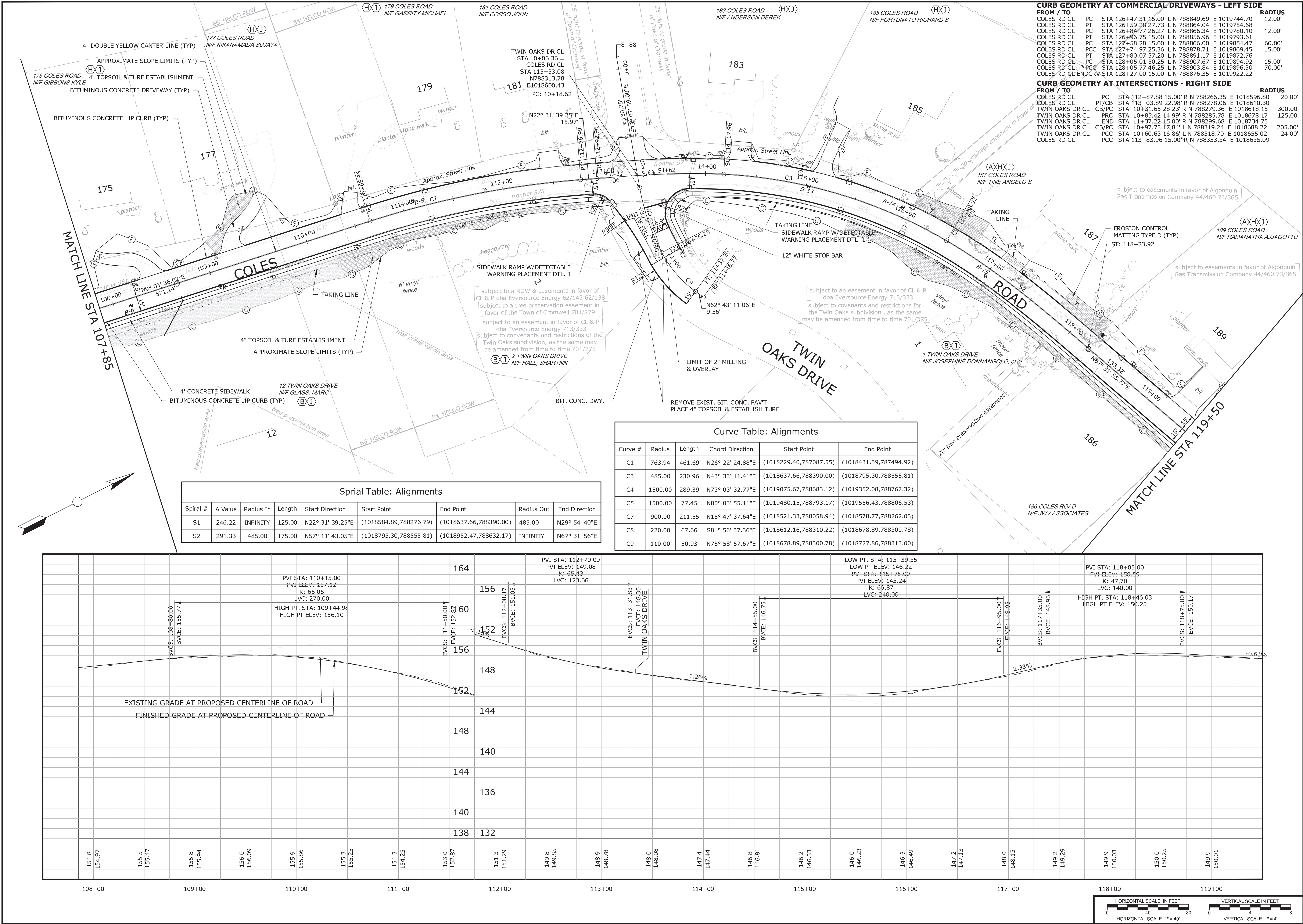
BEGIN MILLING BITUMINOUS CONCRETE 0" TO 4"
BITUMINOUS CONCRETE OVERLAY 2" TO 4"
MATCH EXISTING PAVEMENT
N 787,063.97 E 1,018,206.88

FROM / TO						RADIUS
COLES RD CL	PCC	STA 106+24.99	22.99' L N	787627.60	E 1018429.27	19.17'
COLES RD CL	PT	STA 106+39.70	15.33' L N	787640.93	E 1018439.15	

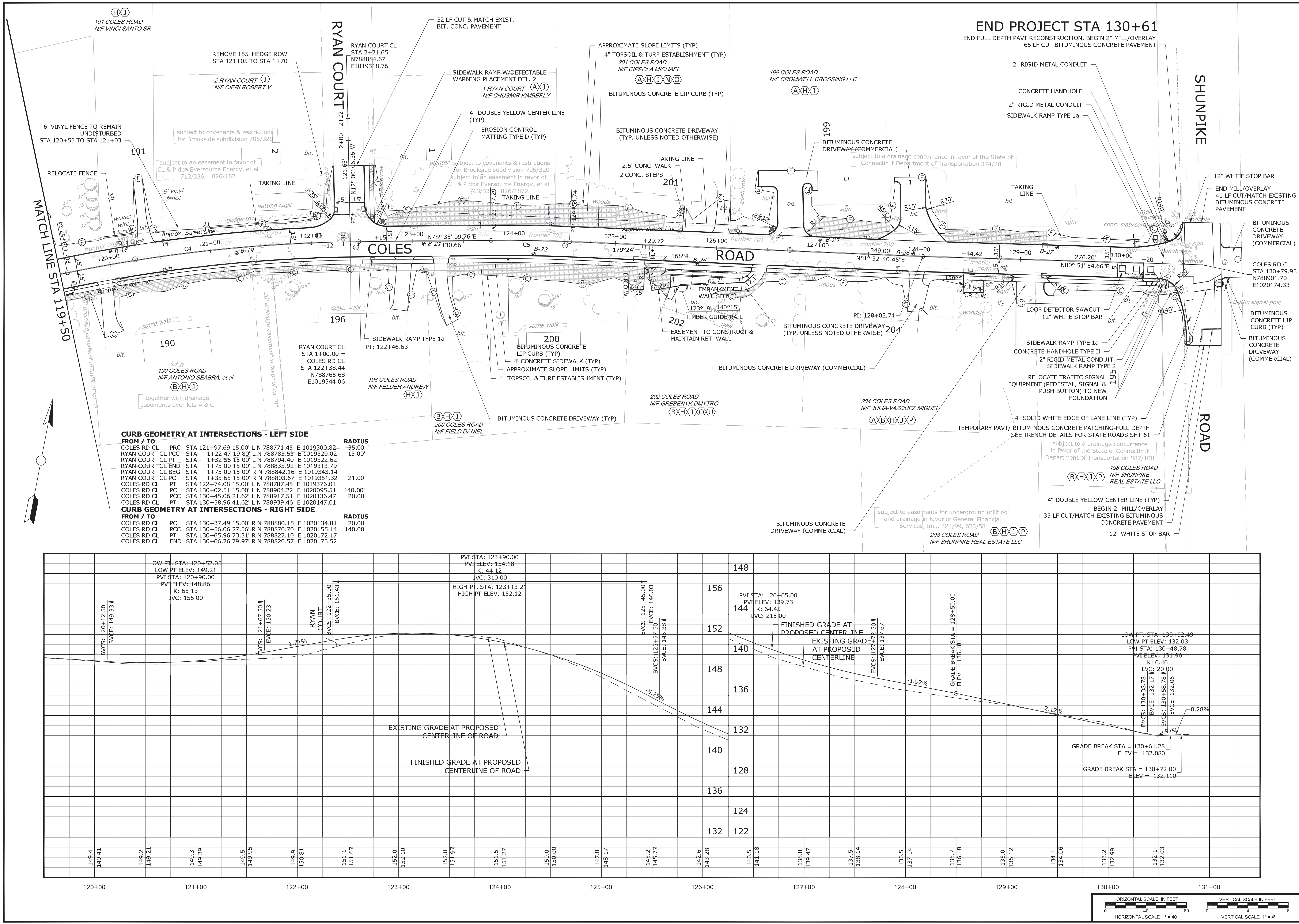
FROM / TO		RADIUS				
COLES RD CL	BEG	STA 102+44.13	21.39' R	N 787248.68 E	1018371.53	15' 00"
COLES RD CL	PCC	STA 102+61.40	25.35' R	N 787262.71 E	1018383.18	60' 00"
COLES RD CL	PCC	STA 102+69.73	39.80' R	N 787264.11 E	1018399.97	40' 00"
COLES RD CL	PCC	STA 102+72.05	48.26' R	N 787262.64 E	1018408.66	
COLES RD CL	PCC	STA 103+02.27	47.06' R	N 787292.33 E	1018420.93	50' 00"
COLES RD CL	PCC	STA 103+15.36	23.10' R	N 787314.29 E	1018404.21	15' 00"
COLES RD CL	PRC	STA 103+25.29	19.00' R	N 787325.28 E	1018404.26	



P:\Civil 3d Projects\2019\Cromwell\Colebrook\Source Drawings\WG - COLES RD CL - (2) - (0).dwg, PLN 02, 5/2/2019 9:13:09 AM,
DWG to PDF.pc3, ARCT expand D (3600 x 24.00 inches)



P:\Civil 3d Projects\2019\Cromwell\Colebrook\Source Drawings\WG - COLES RD CL - (2) - (0).dwg, PLN 03, 5/21/2019 4:10:33 PM
DWG to PDF.pc3, ARCT expand D (3600 x 24.00 inches)



DATE: MAY 21, 2019
SCALE: AS NOTED
DESIGNED BY: AD
DRAWN BY: DK
CHECKED BY: EG
APPROVED BY: JC

CARDINAL
ENGINEERING ASSOCIATES

3 Colony Street | Meriden, CT 06451 | 203-238-1969

COLES ROAD RECONSTRUCTION
CROMWELL, CONNECTICUT

PLAN & PROFILE

PLN 03

9

SCHEDULE OF RIGHTS AND EASEMENTS:

- (A) EASEMENT TO SLOPE FOR THE SUPPORT OF THE HIGHWAY REQUIRED
(B) EASEMENT TO SLOPE FOR THE SAFETY OF THE HIGHWAY & REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED
(D) EASEMENT TO EXCAVATE (RELOCATED) CHANNEL, (DITCH) PLACE RIPRAP AND REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED
(E) DRAINAGE RIGHT OF WAY REQUIRED
(G) RIGHT TO GRADE REQUIRED
(H) RIGHT TO CONSTRUCT/RELOCATE DRIVEWAY REQUIRED

- (I) EASEMENT TO INSTALL M.B.R. AND MAINTAIN GUIDE RAILING AND END ANCHORAGE REQUIRED
(J) RIGHT TO INSTALL SEDIMENTATION CONTROL SYSTEM REQUIRED
(N) RIGHT TO CONSTRUCT WALK AND/OR STEPS REQUIRED
(O) RIGHT TO INSTALL, RESET OR RELOCATE STONE WALL, FENCE OR LIGHT REQUIRED
(P) EASEMENT OR RIGHT TO INSTALL LAWN DRAIN & PIPE REQUIRED
(U) EASEMENT TO CONSTRUCT AND MAINTAIN RETAINING WALL REQUIRED

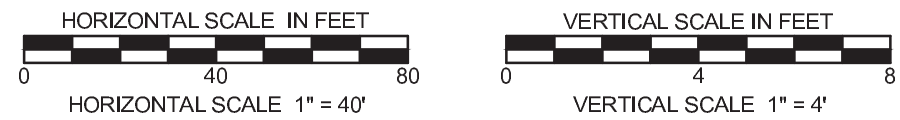
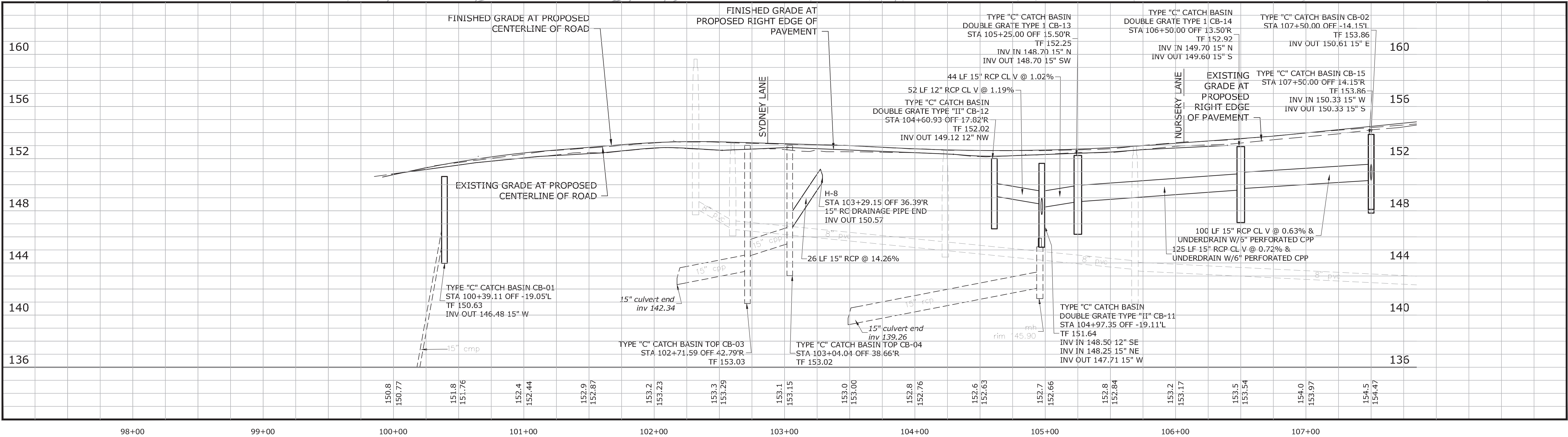
NOTES:

1. ALL PROPOSED CATCH BASINS, MANHOLES AND STORM PIPES AND REMOVAL OF EXISTING DRAINAGE STRUCTURES AND PIPES ARE 0' - 10' DEEP UNLESS NOTED OTHERWISE.
2. HDPE PIPE SHALL MEET REQUIREMENTS OF AASHTO M252 OR M294, SHALL BE TYPE S & SHALL HAVE GASKETED, INTEGRAL-BELL DESIGN JOINTS.
3. REMOVABLE END CAP, FOR CLEANOUT, SHALL BE INSTALLED AT UPSTREAM END OF UNDERDRAIN, WITHIN EACH CATCH BASIN.

UTILITY TEST PIT DATA

TEST PIT#	ROADWAY	BASELINE		NORTHING	EASTING	GROUND ELEVATION		TOP OF PIPE ELEVATION	UTILITY DESCRIPTION	RELOCATION ANTICIPATED
		STATION	OFFSET			EXISTING	PROPOSED			
G-1	COLES RD	STA 130+51.62	23.37'R	N788874.13	E1020150.09	133.16	132.47	128.50	6" PE-IP 1991	
G-2	COLES RD	STA 126+38.96	18.40'R	N788815.42	E1019741.36	141.46	141.52	139.13	.5" PE-IP 2014	YES @15" RCP
G-2	COLES RD	STA 126+38.86	18.93'R	N788814.88	E1019741.34	141.52	141.54	139.56		YES 40" RT
G-3	COLES RD	STA 121+46.25	12.39'R	N788732.22	E1019257.68	149.25	149.52	146.89	4" PL-IP 1999	
G-3	COLES RD	STA 121+46.40	12.36'R	N788732.29	E1019257.82	149.25	149.52	146.87		
G-4	COLES RD	STA 121+00.20	9.20'R	N788722.59	E1019212.88	149.03	149.11	145.89	4" PL-IP 1999	
G-4	COLES RD	STA 121+00.49	9.25'R	N788722.63	E1019213.17	149.03	149.11	145.90		
G-5	COLES RD	STA 120+92.20	14.08'R	N788715.58	E1019206.73	148.62	148.92	145.22	1" PE-IP 2015	YES
G-5	COLES RD	STA 120+92.22	14.28'R	N788715.40	E1019206.81	148.60	148.92	145.25		
G-6	COLES RD	STA 115+91.54	13.86'L	N788532.63	E1018740.18	145.60	146.01	143.00	.5" PE-IP 2011	YES
G-6	COLES RD	STA 115+91.50	13.65'L	N788532.44	E1018740.29	145.61	146.02	143.03		

THIS UTILITY INFORMATION IS BASED ON LIMITED FIELD INVESTIGATION AND IS PRESENTED FOR INFORMATIONAL PURPOSES ONLY. IN SOME CASES THE FACILITY WAS NOT COMPLETELY EXPOSED TO POSITIVELY VERIFY ITS SIZE OR MATERIAL TYPE. THE CONTRACTOR IS STILL REQUIRED TO COORDINATE ITS CONSTRUCTION ACTIVITIES SO THAT THE UTILITIES ARE PROTECTED AT ALL TIMES.



CARDINAL
ENGINEERING ASSOCIATES

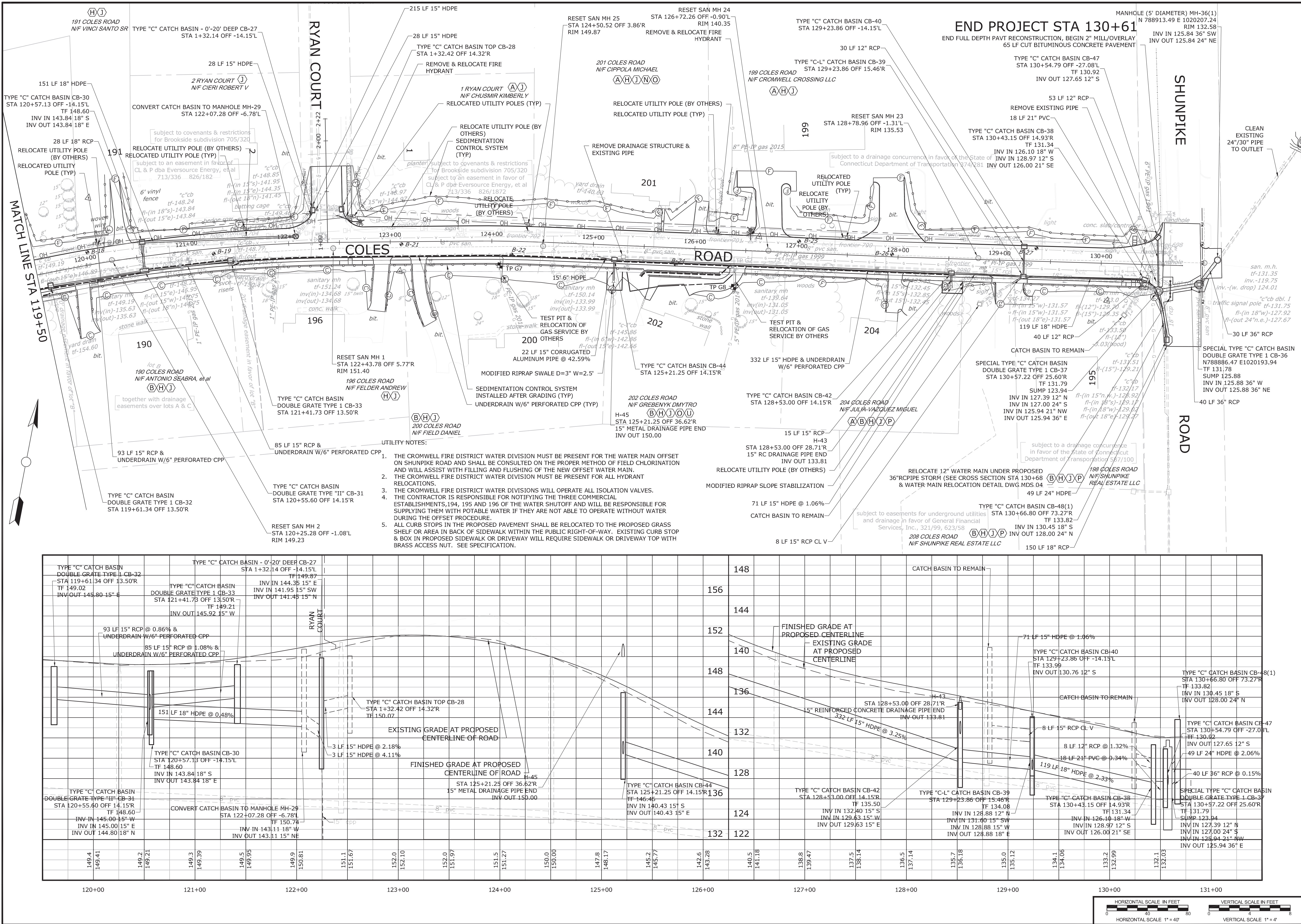
3 Colony Street | Meriden, CT 06451 | 203-238-1969

COLES ROAD RECONSTRUCTION
CROMWELL, CONNECTICUT
DRAINAGE, UTILITY, SEDIMENTATION & EROSION
CONTROL PLAN & PROFILE

UTL 01

10

P:\Civil 3d Projects\2019\Cardinal\Civil3d\Source Drawings\WG - COLES RD CL - (2) - (0).dwg, UTL 03, 5/21/2019 4:43:14 PM.
DWG to PDF.pc3, ARCT expand D (3600 x 2400 inches)



DATE: MAY 21, 2019

SCALE: AS NOTED

DESIGNED BY: AD

DRAWN BY: DK

CHECKED BY: BE

APPROVED BY: JC

NO.

REVISION

DATE

CARDINAL

ENGINEERING ASSOCIATES

3 Colony Street | Meriden, CT 06451 | 203-238-1969

COLES ROAD RECONSTRUCTION
CROMWELL, CONNECTICUT

DRAINAGE, UTILITY, SEDIMENTATION & EROSION
CONTROL PLAN & PROFILE

UTL 03

12