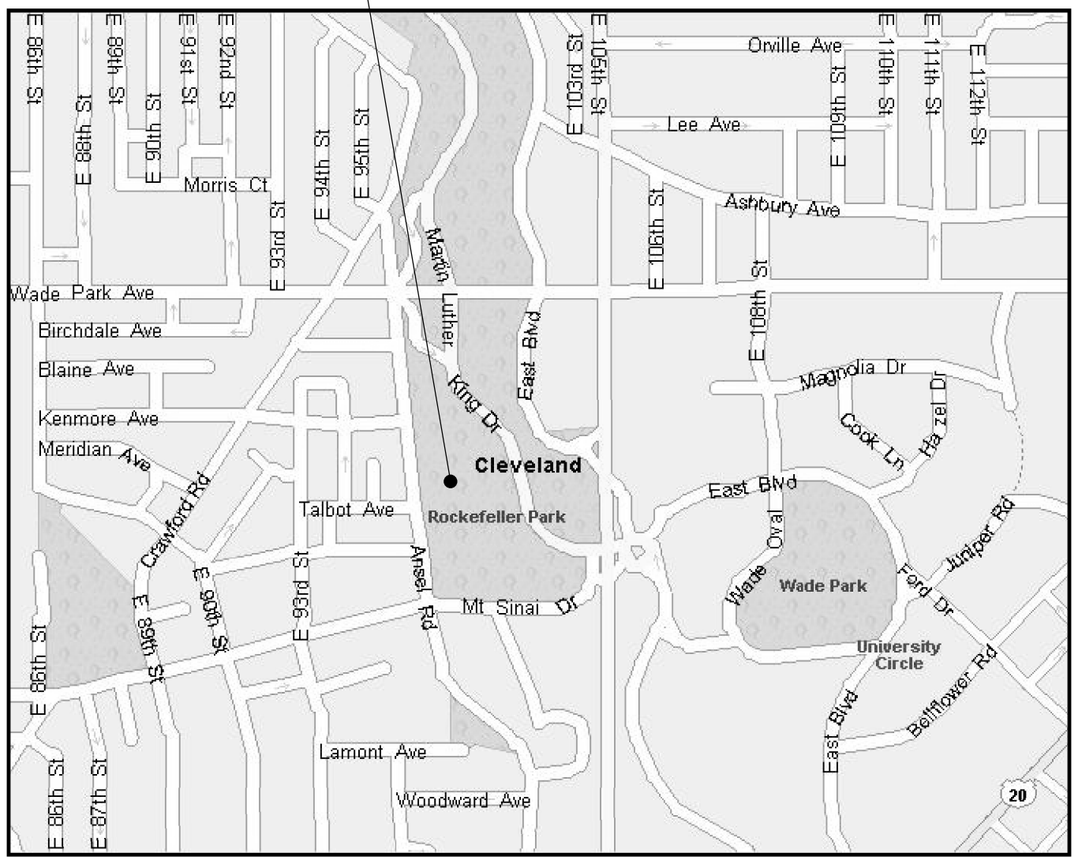
NORTHEAST OHIO REGIONAL SEWER DISTRICT

CLEVELAND, OHIO

DOAN BROOK REHABILITATION DESIGN PROJECT

PROJECT NO.: 1131

PROJECT LOCATION



VICINITY MAP

NOT TO SCALE

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AUGUST 2012

APPROVED BY _____ DATE _____
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PROJECT SET:	01 OF 60
G SHEET:	01 OF 05
SHEET NO.:	G-01

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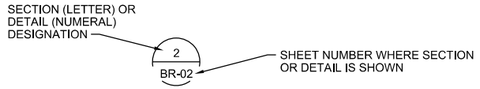
SCREENED DRAWINGS - NOT USED

DETAIL AND SECTION DESIGNATION



CIVIL LEGEND

- EXISTING STREAM CENTERLINE (℄ CREEK)
- CONSTRUCTION LIMITS
- ORANGE BARRIER FENCING/ TREE PROTECTION FENCING
- EXISTING CONTOUR (850)
- PROPOSED CONTOUR (5' MAJOR) (850)
- PROPOSED CONTOUR (1' MINOR)
- EXISTING FENCE LINE
- SILT FENCE
- EXISTING STORM PIPE (12" CMP)
- EXISTING SANITARY SEWER LINE (SS)
- EXISTING OVERHEAD POWER LINE (OHP)
- EXISTING TREE LINE
- EXISTING TREE (OR T-1790 T-1792)
- PROPOSED CASCADE/CONSTRUCTED RIFFLE
- PROPOSED J-HOOK VANE
- DIRECTION OF FLOW
- RIP RAP
- PROPOSED SOIL ENCAPSULATED LIFT
- PROPOSED SANDSTONE BLOCK WALL
- OVERHEAD LIGHT
- TREE REMOVAL
- BENCHMARK

ABBREVIATIONS

AC	ACRE
ABBR.	ABBREVIATION
APPROX	APPROXIMATE
ASPH	ASPHALT
B&B	BALLED AND BURLAPPED
BH	BOREHOLE (GEOTECH EXPLORATION)
BM	BENCHMARK
CB	CATCH BASIN
CI	CURB INLET
CIP	CAST IN PLACE
CMP	CORRUGATE METAL PIPE
CONC	CONCRETE
CONT	CONTINUED
CPP	CORRUGATED PLASTIC PIPE
CSO	COMBINED SEWER OVERFLOW
DBH	DIAMETER AT BREACH HEIGHT
D/W	DRIVEWAY
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
EL, ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EXST ,EXIST	EXISTING
EIP	EXISTING IRON PIN
FH	FIRE HYDRANT
FT	FEET
GL	GAS LINE
HT	HEIGHT
IE	INVERT ELEVATION
IN	INCHES
INV	INVERT
IP	IRON PIN
LBS/AC	POUNDS PER ACRE
LF	LINEAR FEET
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MOD	MODIFY/MODIFIED
N	RUN
NO.	NUMBER
O.C.	ON CENTER
ODOT	OHIO DEPARTMENT OF TRANSPORTATION
OD	OUTSIDE DIAMETER
P	POOL
PROP	PROPOSED
PVMT	PAVEMENT
R	RIFFLE
RC	RADIUS OF CURVE
RCBC	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCED
REQD	REQUIRED
R/W	RIGHT-OF-WAY
S	IN-STREAM STRUCTURE
S.E.L.	SOIL ENCAPSULATED LIFT
SF/SQFT	SQUARE FEET
SS	SANITARY SEWER
SSMH, SAN MH	SANITARY SEWER MANHOLE
S/W	SIDEWALK
STD	STANDARD
STA	STATION
TBM	TEMPORARY BENCH MARK
TEMP	TEMPORARY
THRU	THROUGH
TYP	TYPICAL
UGT	UNDERGROUND TELEPHONE CABLE
VCP	VITRIFIED CLAY PIPE
W.M.	WATER MAIN
WL	WATER LINE
WS	WATER SURFACE
WSEL	WATER SURFACE ELEVATION
WWF	WELDED WIRE FORM

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: C HAMBLEN
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GENERAL
INDEX OF DRAWINGS, CIVIL LEGEND, AND ABBREVIATIONS

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 02 OF 60
G SHEET: 02 OF 05
SHEET NO.: G-02

FILENAME: 000-g-0002_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:10:38 AM

GENERAL NOTES

CONTRACTOR REQUIREMENTS:

1. WORK REQUIRED UNDER THIS CONTRACT INCLUDES FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE CONSTRUCTION OF THE DOAN BROOK REHABILITATION DESIGN PROJECT. THE PURPOSE OF THIS PROJECT IS TO CREATE IN-STREAM HABITAT FOR AQUATIC BIOTA (FISH AND BUGS), STABILIZE STREAM BANKS, AND IMPROVE WATER QUALITY. WORK SHALL INCLUDE GRADING, STREAM CHANNEL EXCAVATION, CONSTRUCTION OF IN-STREAM STRUCTURES, REPAIRING STORM DRAIN OUTFALL, PLANTING, APPLICABLE PERMITS, AND EROSION CONTROL MEASURES.

2. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF THE EXISTING SUBSURFACE CONDITIONS. ANY SUBSURFACE INVESTIGATION REPORTS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. EXISTING SOIL CONDITIONS ON THE PROJECT SITE MAY INCLUDE AREAS OF SATURATED SOILS. CONTRACTOR SHALL INCLUDE PROVISIONS FOR WORKING ON WET SOILS IN HIS BID.

3. CONTRACTOR SHALL VERIFY WORK IN FIELD AND SHALL SATISFY HIMSELF AS TO THE ACCURACY BETWEEN WORK SET FORTH ON THESE PLANS AND THE WORK REQUIRED IN FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING AT LEAST SEVEN DAYS PRIOR TO THE START OF CONSTRUCTION.

4. CONTRACTOR SHALL HAVE AN APPROVED SET OF PLANS, SHOP DRAWINGS, AND SPECIFICATIONS AND PERMITS ON THE JOB SITE AT ALL TIMES. SURVEY EQUIPMENT MUST BE KEPT ON SITE DURING CONSTRUCTION.

SURVEY INFORMATION:

1. TOPOGRAPHIC DATA SHOWN ON THESE PLANS IS FOR THE INFORMATION OF THE CONTRACTOR. THE CONTRACTOR SHALL MAKE SUCH ADDITIONAL INVESTIGATIONS AS REQUIRED TO ACQUAINT HIMSELF ADEQUATELY WITH THE SITE TOPOGRAPHY AND SUBSURFACE CONDITIONS FOR THE PREPARATION OF HIS BID AND FOR THE SUCCESSFUL EXECUTION OF HIS WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEY REQUIREMENTS OF THIS PROJECT AND SHALL USE AN OHIO LICENSED LAND SURVEYOR.

3. THE BASE SURVEY INFORMATION FOR THIS SITE WAS PERFORMED BY KS ASSOCIATES ON APRIL 26, 2012. CONTACT MARK YAEGER AT 440-365-4790.

4. SURVEY HORIZONTAL AND VERTICAL CONTROL BASED ON OHIO STATE PLANE FEET NAD83 AND NAVD 88. ALL STATIONING AND DISTANCES INDICATED ON THE DRAWINGS ARE BASED ON HORIZONTAL MEASUREMENTS.

5. SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF OHIO. PRIOR TO DISTURBANCE, CONTACT MONUMENT OWNER TO VERIFY LOCATION OF EXISTING MONUMENT.

PERMITTING/STORMWATER MANAGEMENT:

1. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL PERMITS. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND OWNER PRIOR TO STARTING WORK.

CONTRIBUTING TREES AND WALLS:

1. THE PROJECT SITE INCLUDES SEVERAL TREES AND SANDSTONE BLOCK WALLS THAT HAVE HISTORICAL SIGNIFICANCE TO THE STATE AND CITY. THESE TREES AND WALLS ARE THEREFORE TERMED "CONTRIBUTING". THERE SHALL BE NO IMPACTS TO THESE UNLESS NOTED ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

UTILITY NOTES:

1. THE EXISTING UTILITIES SHOWN AND INDICATED ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR DISRUPTION OF UTILITY SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT UTILITIES PROTECTION CENTER IN OHIO (811) AND/OR OWNERS OF THE UTILITIES TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

2. CONTRACTOR IS TO MAINTAIN CONTINUOUS UTILITY SERVICES TO ALL LOCATIONS IN THE PROJECT AREA.

3. THE CONTRACTOR SHALL PROVIDE ACCESS TO UTILITY COMPANIES FOR MAINTENANCE AND WORK ON THEIR UTILITIES DURING THE COURSE OF CONSTRUCTION.

4. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES WHOSE LINES ARE WITHIN THE PROJECT AREA, PRIOR TO CONSTRUCTION, AND SHALL COORDINATE ANY RELOCATION OF THE EXISTING UTILITIES, UNLESS OTHERWISE SPECIFIED ON THE PLANS. ANY CONFLICTS WITH THE EXISTING UTILITIES WHICH ARE NOT NOTED ON THE PLANS SHALL BE RESOLVED BETWEEN THE CONTRACTOR AND THE RESPECTIVE UTILITY COMPANY AT NO COST TO THE OWNER. ALL SUCH RELOCATIONS SHALL BE NOTED ON THE AS-BUILT DRAWINGS.

5. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY CONTRACTOR OPERATIONS AND/OR RELATED WORK OF THE CONTRACTOR OR HIS AGENT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO DAMAGED UTILITIES AT HIS OWN EXPENSE. CONTRACTOR SHALL HOLD HARMLESS THE ENGINEER AND THE OWNER FOR ANY INCONVENIENCE OR DELAY CAUSED BY THE OPERATIONS OF OTHERS IN PERFORMING THE ABOVE WORK. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS TO PROVIDE SATISFACTORY PROGRESS IN THE PROJECT AREA.

6. UTILITY LATERALS ARE SPECIFICALLY EXCLUDED FROM THESE DRAWINGS. THESE UTILITY LATERALS INCLUDE BURIED WATER, SEWER, GAS, ELECTRIC, TELEVISION AND TELEPHONE SERVICES, STREET LIGHTING AND TRAFFIC DETECTOR LOOPS. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL SUCH FACILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL SUCH FACILITIES THAT ARE DAMAGED DURING CONSTRUCTION. PAYMENT FOR LOCATING, PROTECTING, COORDINATING, AND REPAIRING EXISTING FACILITIES WILL BE INCLUDED IN OTHER ITEMS OF WORK AND NO ADDITIONAL COMPENSATION WILL BE MADE THEREFORE. ALL REPAIRS SHALL BE MADE IN ACCORDANCE WITH STANDARDS AND REQUIREMENTS OF THE UTILITY OWNER. UTILITY SUPPORT METHODS WILL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.

VEGETATION DISTURBANCE:

1. TREES SHALL NOT BE DAMAGED OR REMOVED UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. LANDSCAPING NOT DESIGNATED FOR REMOVAL THAT IS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED WITH THE SAME VARIETIES AND AGE OF EXISTING LANDSCAPE VEGETATION AND PLANTS. THE CONTRACTOR SHALL NOT DISTURB AND SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CONSTRUCTION LIMITS, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS INSIDE PROJECT LIMITS.

2. THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT INJURY TO EXISTING VEGETATION THAT IS TO REMAIN GROWING. IF ANY INJURIES TO VEGETATION OCCUR AS DETERMINED BY THE ENGINEER, BROKEN BRANCHES SHALL BE REMOVED AND ROUGH EDGES AND SCARRED LIMBS SHALL BE SHAPED, MADE SMOOTH, AND OTHERWISE REPAIRED AS APPROVED BY THE ENGINEER. ANY VEGETATION THAT IS DAMAGED TO SUCH AN EXTENT AS TO DESTROY THEIR VALUE FOR LANDSCAPE PURPOSES SHALL BE REMOVED, DISPOSED OF, AND REPLACED BY THE GRASS OR GROUND COVER THAT IS DAMAGED SHALL BE SEEDED AND MULCHED AND/OR SODDED TO MATCH EXISTING AGE AND SPECIES BY THE CONTRACTOR AT HIS OWN EXPENSE.

3. CONSTRUCTION DEBRIS AND TREES THAT HAVE BEEN DAMAGED OR FELLED SHALL BE REMOVED OFF SITE BY THE CONTRACTOR.

4. ALL WASTE, SEDIMENT, DEBRIS, BRUSH, DISCARDED MATERIALS, AND RUBBISH SHALL BE HAULED OFF THE PROJECT SITE NO LESS THAN ONCE PER WEEK. EXISTING SITE MAY CONTAIN RUBBISH THAT SHALL BE REMOVED PRIOR TO SITE GRADING. ANY MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN A LAWFUL MANNER AT ONLY STATE OR COUNTY APPROVED AND PERMITTED DISPOSAL SITE(S).

5. THINNING IS ALLOWED AND MAY INCLUDE MANUAL REMOVAL OF NON-CONTRIBUTING TREES WITHIN THE CRITICAL ROOT ZONE OR DRIPLINE OF THE SPECIMEN TREE IN THE LANDSCAPE INSTALLATION PHASE OF DEVELOPMENT ONLY. THINNING INCLUDES MANUAL REMOVAL (NO MOTORIZED/ WHEELED OR TRACK VEHICLES WITHIN THE CRITICAL ROOT ZONE OF THE SPECIMEN TREE).

6. A COMMERCIAL APPLICATOR LICENSE AND A PESTICIDE CONTRACTOR LICENSE ARE REQUIRED BY THE CONTRACTOR IF THE USE OF HERBICIDES ARE NECESSARY FOR NOXIOUS PLANT MATERIAL REMOVAL. ALL CHEMICAL USE SHALL BE APPROVED BY THE ENGINEER AND NO CHEMICALS ARE ALLOWED NEAR CONTRIBUTING TREES.

JOB SITE CONDITIONS:

1. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

2. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE WORK SITE AGAINST TRESPASS, VANDALISM, DUMPING, AND THEFT.

3. CONTRACTOR SHALL MAINTAIN STORM DRAINAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO AND THROUGH EXISTING DRAINAGE FACILITIES FROM ALL DISTURBED AREAS BOTH DURING AND AT THE COMPLETION OF THE PROJECT.

EASEMENT NOTES:

1. ALL EASEMENTS THAT LIE WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE DRAWINGS HAVE BEEN SECURED FOR THIS PROJECT. THE CONTRACTOR'S ACTIVITIES SHALL OCCUR ONLY WITHIN THE CONSTRUCTION LIMITS.

2. THE CONTRACTOR SHALL NOT ACCESS THE WORK FOR THIS PROJECT EXCEPT OVER PUBLIC RIGHT-OF-WAYS OR OVER ROUTES AT SPECIFIC ACCESS POINTS THAT ARE AGREED UPON IN WRITING BETWEEN THE CONTRACTOR AND PROPERTY OWNERS.

CONSTRUCTION METHODS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC DETOUR/STAGING PLAN, AS WELL AS A DETAILED TRAFFIC CONTROL PLAN. TRAFFIC CONTROL SIGNS AND BARRICADES SHALL BE INSTALLED AND MAINTAINED IN ORDER TO ALLOW LOCAL TRAFFIC ROADWAY ACCESS DURING CONSTRUCTION PERIODS. THE CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL MAINTAIN ADEQUATE INGRESS AND EGRESS TO ALL PROPERTIES/DRIVEWAYS AT ALL TIMES.

2. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUITABLE SIGNAGE, BARRICADES, AND LIGHTS FOR PROTECTION OF TRAFFIC. ANY EXISTING ROAD SIGN REMOVED FOR CONSTRUCTION SHALL BE REPLACED BY THE END OF THE WORKING DAY.

3. THE CONTRACTOR SHALL NOT CLOSE OR BLOCK ANY HIGHWAY, STREET, OR ROADWAY WITHOUT OBTAINING PRIOR WRITTEN PERMISSION FROM THE PROPER AUTHORITIES. BLOCKING MARTIN LUTHER KING DRIVE IS NOT ALLOWED EXCEPT TO TEMPORARILY STOP TRAFFIC TO ALLOW CONSTRUCTION EQUIPMENT TO ACCESS THE SITE.

4. THE CONTRACTOR WILL COORDINATE ALL TRAFFIC CONTROL ISSUES WITH THE COUNTY DOT, ENGINEER, AND OWNER (INCLUDING ALL TRAFFIC CONTROL PLANS AND COORDINATION OF ROAD CLOSURES). CONTRACTOR TO HAVE TRAFFIC CONTROL PLAN APPROVED BY THE CITY OF CLEVELAND PRIOR TO ANY CONSTRUCTION.

TRAFFIC NOTES:

1. CONTRACTOR SHALL EXECUTE THE WORK DURING WEEKDAYS, MONDAY THROUGH FRIDAY, BETWEEN THE HOURS OF 7:00 A.M. AND 6:00 P.M. WITH THE EXCEPTION OF BYPASS PUMPING AND DEWATERING UNLESS OTHERWISE NOTED OR AS DETERMINED BY THE ENGINEER.

2. CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER OF ALL ACTIVITIES THAT SIGNIFICANTLY AFFECT NOISE LEVELS OR TRAFFIC IN THE AREA.

3. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL SUBMIT CALCULATIONS FOR THE PROPER SIZING OF THE BYPASS PUMPING SYSTEM AND TEMPORARY DAM TO PASS BASEFLOW FOR REVIEW BY THE ENGINEER.

4. PRIOR TO CHANNEL CONSTRUCTION, CONTRACTOR SHALL PROVIDE STAKEOUT OF CHANNEL CENTERLINE, STRUCTURES, AND BANKFULL CHANNEL BY OHIO LICENSED LAND SURVEYOR FOR REVIEW AND APPROVAL BY THE ENGINEER AND OWNER AS REQUIRED PER THE SPECIFICATIONS. ENGINEER TO PROVIDE ELECTRONIC FILES FOR CONTRACTOR'S USE IN ESTABLISHING STAKING.

5. ALL WORK ACTIVITIES SHOULD ALLOW FOR THE REMOVAL OF EQUIPMENT AND BARRIERS THAT MAY RESTRICT STREAM FLOW FROM THE EXISTING CHANNEL AND/OR ANY PART OF THE PROPOSED CHANNEL WHICH HAS BEEN "ACTIVATED" DURING "NON-WORKING" HOURS, WEEKENDS, AND STORM EVENTS.

6. THE CONTRACTOR SHALL DISPOSE OF WASTE SOIL OFF SITE, AT AN APPROVED SITE THAT MEETS ALL STATE AND LOCAL PERMITTING REQUIREMENTS.

7. CONTRACTOR SHALL ACCESS THE STREAM CHANNEL VIA THE ACCESS ROADS SHOWN ON DRAWINGS.

8. TREE REMOVAL FOR STAGING AREAS AND ACCESS TO STREAM WILL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS, OR APPROVED IN WRITING BY THE ENGINEER AND OWNER. THE CONTRACTOR SHALL STAKE OUT CONSTRUCTION LIMITS AND STAGING AREAS FOR APPROVAL BY ENGINEER PRIOR TO CLEARING.

9. CONTRACTOR SHALL PROTECT EXISTING UTILITIES WHEN CROSSING FOR ACCESS.

10. GRADES, ELEVATIONS, AND LOCATIONS SHOWN ON THE PLANS FOR DRAINAGE STRUCTURES MAY BE MINIMALLY ADJUSTED DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE AS DIRECTED BY THE ENGINEER TO ACCOMMODATE UNFORESEEN EXISTING CONDITIONS.

11. ALL FINAL GRADES SHALL SLOPE TOWARD THE PROPOSED CHANNEL, LEAVING NO DEPRESSIONS THAT WILL POND WATER UNLESS SPECIFICALLY INDICATED ON THE GRADING PLANS.

ZONES:

1. THE PROJECT HAS SIX ZONES THAT EACH INCLUDE UNIQUE GEOTECHNICAL DESIGNS. THE EXTENTS OF THESE ZONES ARE SHOWN ON SHEETS CG-01 AND CG-02.

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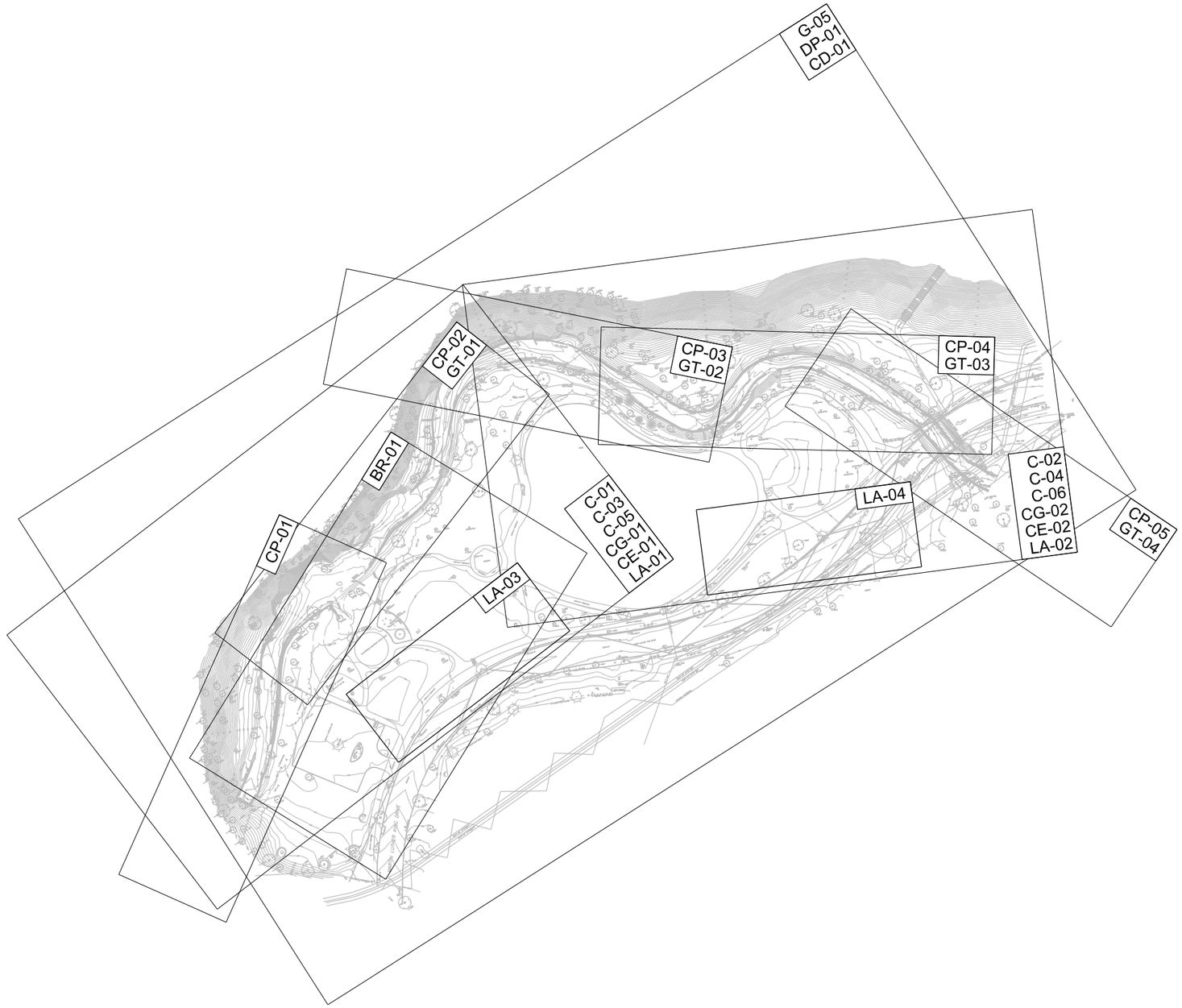

N

0 100 200 300
1" = 100'

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: C HAMBLEN
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

GENERAL
OVERALL SITE PLAN
AND KEY MAP

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 04 OF 60
G SHEET: 04 OF 05
SHEET NO.: G-04

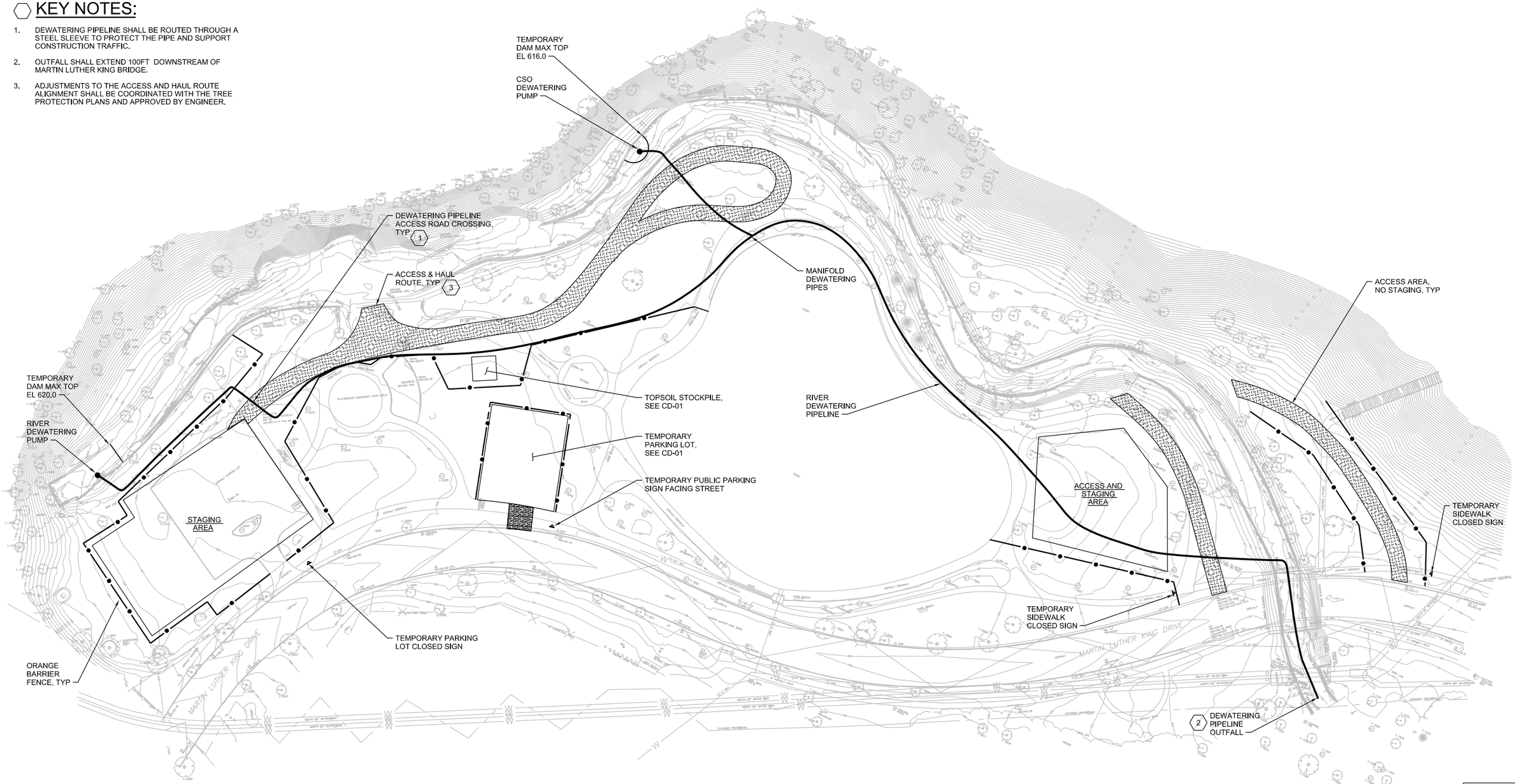
FILENAME: 000-g-0004_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 12:57:56 PM

GENERAL NOTE:

1. REMOVE ALL TRASH CANS, LIGHTS, PARK BENCHES AND INFORMATIONAL SIGNS WITHIN CONSTRUCTION LIMITS FENCE THAT WILL BE IMPACTED BY CONSTRUCTION ACTIVITIES. STORE ON-SITE AND REINSTALL AT PROJECT COMPLETION.

KEY NOTES:

1. DEWATERING PIPELINE SHALL BE ROUTED THROUGH A STEEL SLEEVE TO PROTECT THE PIPE AND SUPPORT CONSTRUCTION TRAFFIC.
2. OUTFALL SHALL EXTEND 100FT DOWNSTREAM OF MARTIN LUTHER KING BRIDGE.
3. ADJUSTMENTS TO THE ACCESS AND HAUL ROUTE ALIGNMENT SHALL BE COORDINATED WITH THE TREE PROTECTION PLANS AND APPROVED BY ENGINEER.



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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: C HAMBLEN
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GENERAL

STAGING AND ACCESS PLAN

WARNING
0 1/2 1
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PROJECT SET: 05 OF 60
G SHEET: 05 OF 05
SHEET NO.: G-05

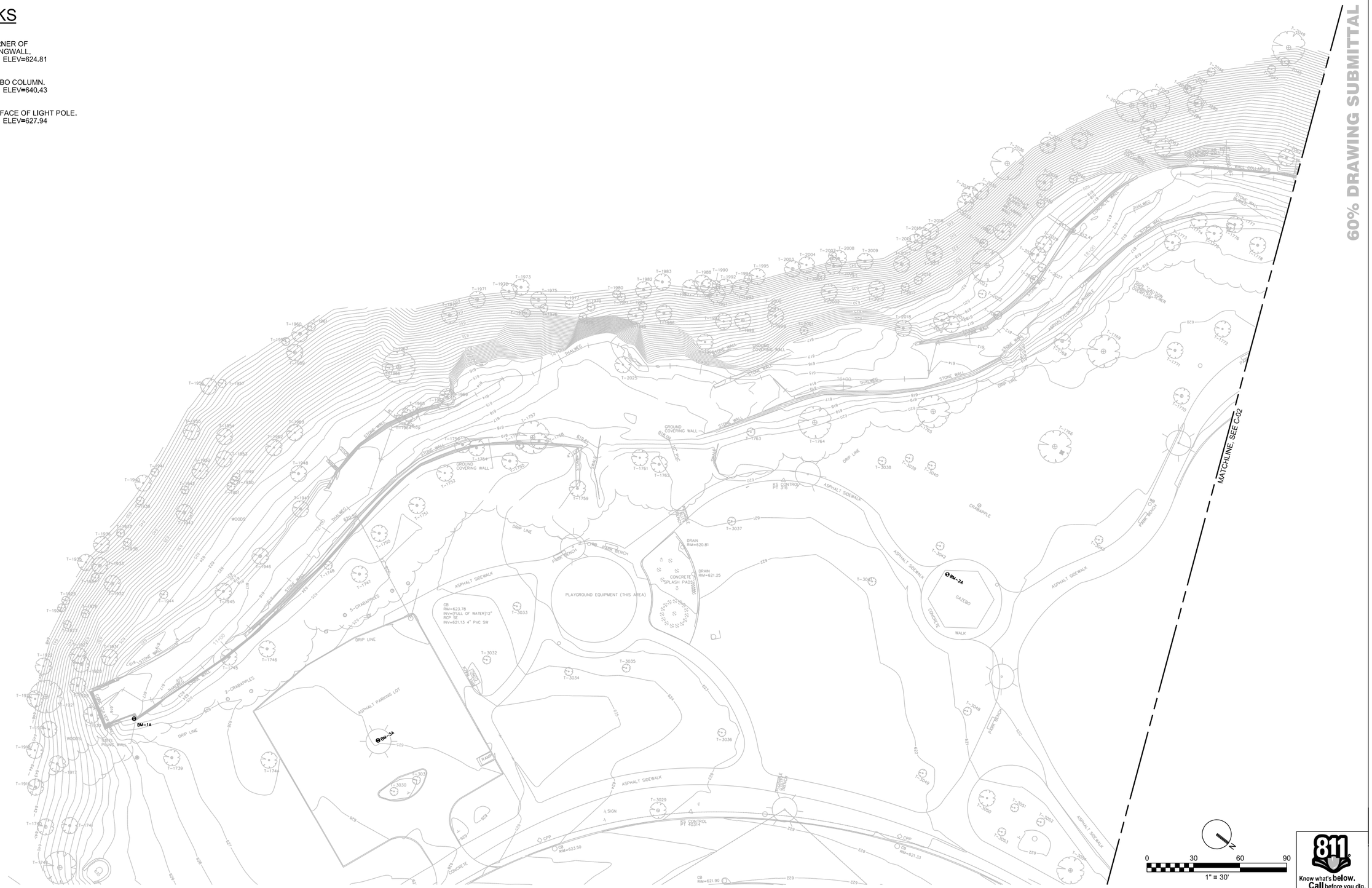
FILENAME: 000-g-0005_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:13:42 AM

BENCH MARKS

BENCH MARK 1A:
MAGNAIL IN TOP NE CORNER OF
WESTERLY CULVERT WINGWALL.
N=73211.70 E=110532.52 ELEV=624.81

BENCH MARK 2A:
MAGNAIL NEXT TO GAZEBO COLUMN.
N=73570.79 E=110139.81 ELEV=640.43

BENCH MARK 3A:
METAL BASE ON SOUTH FACE OF LIGHT POLE.
N=73344.87 E=110447.88 ELEV=627.94



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Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: C HAMBLEN
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

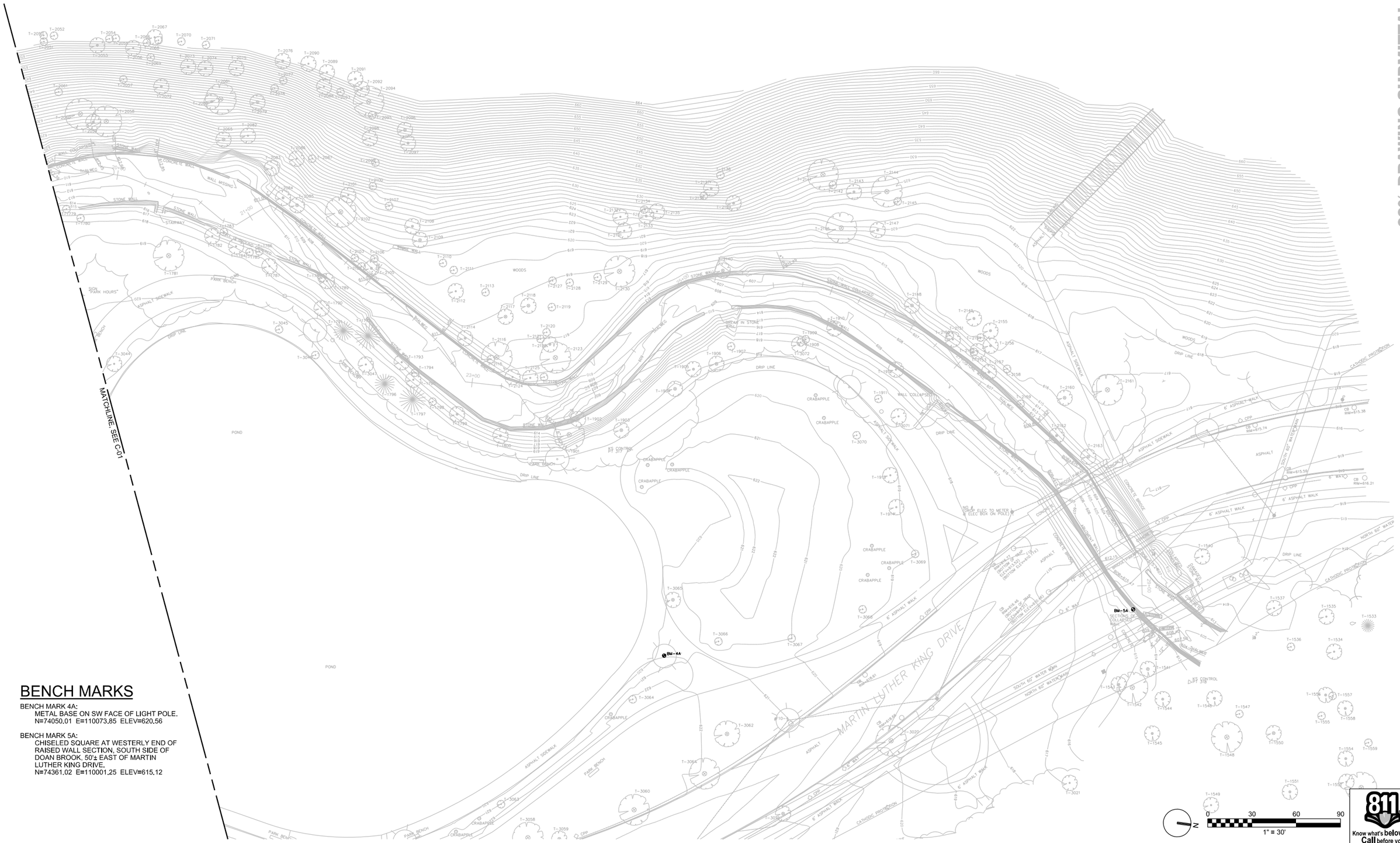
CIVIL
EXISTING CONDITIONS
SITE SURVEY
(1 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 06 OF 60
C SHEET: 01 OF 08
SHEET NO.: C-01

FILENAME: 000-c-2001_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:29:18 PM

60% DRAWING SUBMITTAL



BENCH MARKS

BENCH MARK 4A:
METAL BASE ON SW FACE OF LIGHT POLE.
N=74050.01 E=110073.85 ELEV=620.56

BENCH MARK 5A:
CHISELED SQUARE AT WESTERLY END OF RAISED WALL SECTION, SOUTH SIDE OF DOAN BROOK, 50'± EAST OF MARTIN LUTHER KING DRIVE.
N=74361.02 E=110001.25 ELEV=615.12

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: C HAMBLEN
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
EXISTING CONDITIONS SITE SURVEY (2 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 07 OF 60
C SHEET: 02 OF 08
SHEET NO.: C-02

FILENAME: 000-c-2002_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:30:23 PM

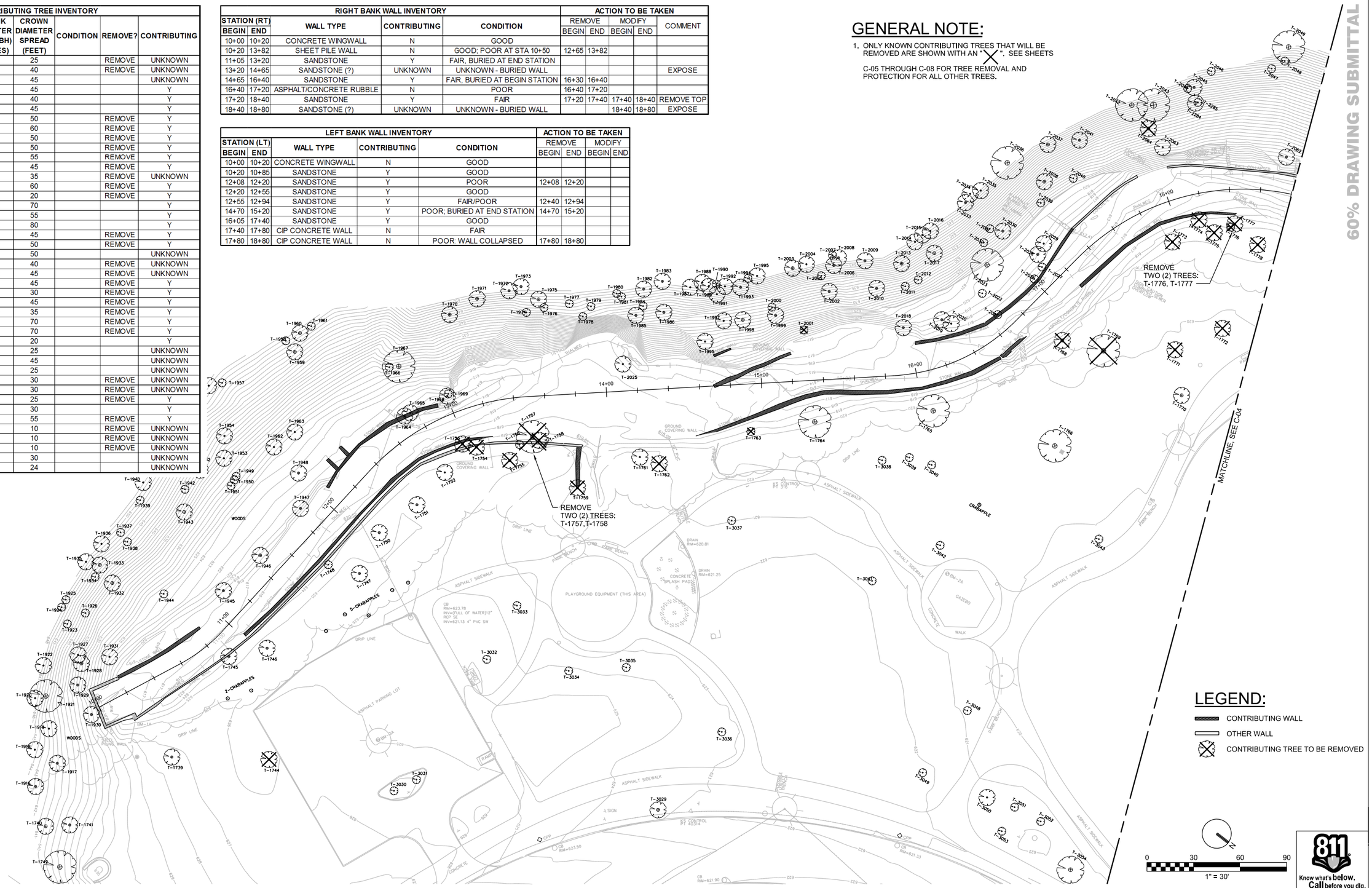
CONTRIBUTING TREE INVENTORY						
TAG NO.	TREE TYPE	TRUNK DIAMETER SIZE (DBH) (INCHES)	CROWN DIAMETER SPREAD (FEET)	CONDITION	REMOVE?	CONTRIBUTING
1744	ENGLISH OAK	11.5	25		REMOVE	UNKNOWN
1745	ELM	13	40		REMOVE	UNKNOWN
1746	ENGLISH OAK	25.5	45			UNKNOWN
1747	SCARLET OAK	18	45			Y
1750	SCARLET OAK	22	40			Y
1751	SCARLET OAK	21.5	45			Y
1753	BLACK WILLOW	25	50		REMOVE	Y
1754	BLACK WILLOW	24	60		REMOVE	Y
1755	BLACK OAK	18	50		REMOVE	Y
1757	BLACK WILLOW	36	50		REMOVE	Y
1758	BLACK WILLOW	20	55		REMOVE	Y
1759	AMERICAN ELM	17	45		REMOVE	Y
1761	SILVER MAPLE	11	35		REMOVE	UNKNOWN
1762	SCARLET OAK	24	60		REMOVE	Y
1763	COTTONWOOD	8.5	20		REMOVE	Y
1764	SCARLET OAK	38.5	70			Y
1765	SHINGLE OAK	35	55			Y
1766	SCARLET OAK	32.5	80			Y
1768	PIN OAK	25.5	45		REMOVE	Y
1769	SCARLET OAK	29.5	50		REMOVE	Y
1770	ENGLISH OAK	22	50			UNKNOWN
1771	ENGLISH OAK	16	40		REMOVE	UNKNOWN
1772	WILLOW OAK	14.5	45		REMOVE	UNKNOWN
1773	TULIP POPLAR	19	45		REMOVE	Y
1774	AMERICAN ELM	13	30		REMOVE	Y
1775	TULIP POPLAR	18	45		REMOVE	Y
1776	AMERICAN ELM	10.5	35		REMOVE	Y
1777	COTTONWOOD	21	70		REMOVE	Y
1778	ENGLISH OAK	20	70		REMOVE	Y
1945	EASTERN SYCAMORE	42	20			Y
1954	SYCAMORE	11.5	25			UNKNOWN
1960	COTTONWOOD	25	45			UNKNOWN
1961	ASH	10	25			UNKNOWN
1977	NORWAY MAPLE	9	30		REMOVE	UNKNOWN
1979	NORWAY MAPLE	8.5	30		REMOVE	UNKNOWN
2001	BLACK WALNUT	8	25		REMOVE	Y
2026	AMERICAN ELM	8	30			Y
2064	COTTONWOOD	21	55		REMOVE	Y
3038	CRABAPPLE	4	10		REMOVE	UNKNOWN
3039	CRABAPPLE	4	10		REMOVE	UNKNOWN
3040	CRABAPPLE	4	10		REMOVE	UNKNOWN
3042	SCARLET OAK	10	30			UNKNOWN
3043	WILLOW	8	24			UNKNOWN

RIGHT BANK WALL INVENTORY					ACTION TO BE TAKEN				
STATION (RT)		WALL TYPE	CONTRIBUTING	CONDITION	REMOVE		MODIFY		COMMENT
BEGIN	END				BEGIN	END	BEGIN	END	
10+00	10+20	CONCRETE WINGWALL	N	GOOD					
10+20	13+82	SHEET PILE WALL	N	GOOD; POOR AT STA 10+50	12+65	13+82			
11+05	13+20	SANDSTONE	Y	FAIR, BURIED AT END STATION					
13+20	14+65	SANDSTONE (?)	UNKNOWN	UNKNOWN - BURIED WALL					EXPOSE
14+65	16+40	SANDSTONE	Y	FAIR, BURIED AT BEGIN STATION	16+30	16+40			
16+40	17+20	ASPHALT/CONCRETE RUBBLE	N	POOR	16+40	17+20			
17+20	18+40	SANDSTONE	Y	FAIR	17+20	17+40	17+40	18+40	REMOVE TOP
18+40	18+80	SANDSTONE (?)	UNKNOWN	UNKNOWN - BURIED WALL			18+40	18+80	EXPOSE

LEFT BANK WALL INVENTORY					ACTION TO BE TAKEN			
STATION (LT)		WALL TYPE	CONTRIBUTING	CONDITION	REMOVE		MODIFY	
BEGIN	END				BEGIN	END	BEGIN	END
10+00	10+20	CONCRETE WINGWALL	N	GOOD				
10+20	10+85	SANDSTONE	Y	GOOD				
12+08	12+20	SANDSTONE	Y	POOR	12+08	12+20		
12+20	12+55	SANDSTONE	Y	GOOD				
12+55	12+94	SANDSTONE	Y	FAIR/POOR	12+40	12+94		
14+70	15+20	SANDSTONE	Y	POOR; BURIED AT END STATION	14+70	15+20		
16+05	17+40	SANDSTONE	Y	GOOD				
17+40	17+80	CIP CONCRETE WALL	N	FAIR				
17+80	18+80	CIP CONCRETE WALL	N	POOR WALL COLLAPSED	17+80	18+80		

GENERAL NOTE:

1. ONLY KNOWN CONTRIBUTING TREES THAT WILL BE REMOVED ARE SHOWN WITH AN "X". SEE SHEETS C-05 THROUGH C-08 FOR TREE REMOVAL AND PROTECTION FOR ALL OTHER TREES.



LEGEND:

- CONTRIBUTING WALL
- OTHER WALL
- CONTRIBUTING TREE TO BE REMOVED

0 30 60 90
1" = 30'

Know what's below. Call before you dig.

60% DRAWING SUBMITTAL

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: B BROWN
DRAWN BY: M REICHER
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
CONTRIBUTING TREE AND WALL SURVEY (1 OF 2)

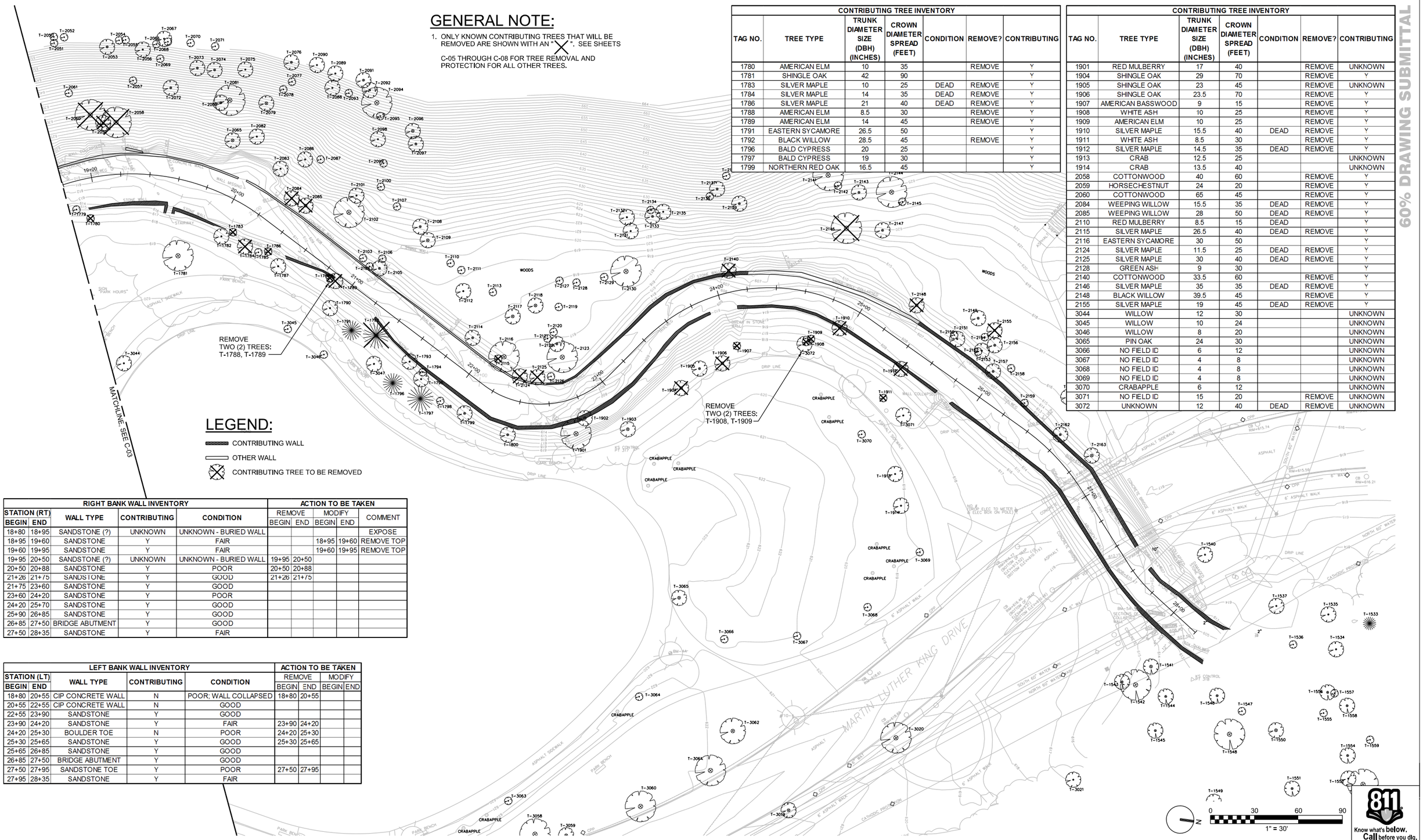
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 08 OF 60
C SHEET: 03 OF 08
SHEET NO.: C-03

FILENAME: 000-c-2003_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:34:06 PM

GENERAL NOTE:

1. ONLY KNOWN CONTRIBUTING TREES THAT WILL BE REMOVED ARE SHOWN WITH AN "X". SEE SHEETS C-05 THROUGH C-08 FOR TREE REMOVAL AND PROTECTION FOR ALL OTHER TREES.



LEGEND:

- CONTRIBUTING WALL
- OTHER WALL
- CONTRIBUTING TREE TO BE REMOVED

CONTRIBUTING TREE INVENTORY						
TAG NO.	TREE TYPE	TRUNK DIAMETER SIZE (DBH) (INCHES)	CROWN DIAMETER SPREAD (FEET)	CONDITION	REMOVE?	CONTRIBUTING
1780	AMERICAN ELM	10	35		REMOVE	Y
1781	SHINGLE OAK	42	90			Y
1783	SILVER MAPLE	10	25	DEAD	REMOVE	Y
1784	SILVER MAPLE	14	35	DEAD	REMOVE	Y
1786	SILVER MAPLE	21	40	DEAD	REMOVE	Y
1788	AMERICAN ELM	8.5	30		REMOVE	Y
1789	AMERICAN ELM	14	45		REMOVE	Y
1791	EASTERN SYCAMORE	26.5	50			Y
1792	BLACK WILLOW	28.5	45		REMOVE	Y
1796	BALD CYPRESS	20	25			Y
1797	BALD CYPRESS	19	30			Y
1799	NORTHERN RED OAK	16.5	45			Y

CONTRIBUTING TREE INVENTORY						
TAG NO.	TREE TYPE	TRUNK DIAMETER SIZE (DBH) (INCHES)	CROWN DIAMETER SPREAD (FEET)	CONDITION	REMOVE?	CONTRIBUTING
1901	RED MULBERRY	17	40		REMOVE	UNKNOWN
1904	SHINGLE OAK	29	70		REMOVE	Y
1905	SHINGLE OAK	23	45		REMOVE	UNKNOWN
1906	SHINGLE OAK	23.5	70		REMOVE	Y
1907	AMERICAN BASSWOOD	9	15		REMOVE	Y
1908	WHITE ASH	10	25		REMOVE	Y
1909	AMERICAN ELM	10	25		REMOVE	Y
1910	SILVER MAPLE	15.5	40	DEAD	REMOVE	Y
1911	WHITE ASH	8.5	30		REMOVE	Y
1912	SILVER MAPLE	14.5	35	DEAD	REMOVE	Y
1913	CRAB	12.5	25			UNKNOWN
1914	CRAB	13.5	40			UNKNOWN
2058	COTTONWOOD	40	60		REMOVE	Y
2059	HORSECHESTNUT	24	20		REMOVE	Y
2060	COTTONWOOD	65	45		REMOVE	Y
2084	WEEPING WILLOW	15.5	35	DEAD	REMOVE	Y
2085	WEEPING WILLOW	28	50	DEAD	REMOVE	Y
2110	RED MULBERRY	8.5	15	DEAD		Y
2115	SILVER MAPLE	26.5	40	DEAD	REMOVE	Y
2116	EASTERN SYCAMORE	30	50			Y
2124	SILVER MAPLE	11.5	25	DEAD	REMOVE	Y
2125	SILVER MAPLE	30	40	DEAD	REMOVE	Y
2128	GREEN ASH	9	30			Y
2140	COTTONWOOD	33.5	60		REMOVE	Y
2146	SILVER MAPLE	35	35	DEAD	REMOVE	Y
2148	BLACK WILLOW	39.5	45		REMOVE	Y
2155	SILVER MAPLE	19	45	DEAD	REMOVE	Y
3044	WILLOW	12	30			UNKNOWN
3045	WILLOW	10	24			UNKNOWN
3046	WILLOW	8	20			UNKNOWN
3065	PIN OAK	24	30			UNKNOWN
3066	NO FIELD ID	6	12			UNKNOWN
3067	NO FIELD ID	4	8			UNKNOWN
3068	NO FIELD ID	4	8			UNKNOWN
3069	NO FIELD ID	4	8			UNKNOWN
3070	CRABAPPLE	6	12			UNKNOWN
3071	NO FIELD ID	15	20		REMOVE	UNKNOWN
3072	UNKNOWN	12	40	DEAD	REMOVE	UNKNOWN

RIGHT BANK WALL INVENTORY					ACTION TO BE TAKEN				
STATION (RT)		WALL TYPE	CONTRIBUTING	CONDITION	REMOVE		MODIFY		COMMENT
BEGIN	END				BEGIN	END	BEGIN	END	
18+80	18+95	SANDSTONE (?)	UNKNOWN	UNKNOWN - BURIED WALL					EXPOSE
18+95	19+60	SANDSTONE	Y	FAIR			18+95	19+60	REMOVE TOP
19+60	19+95	SANDSTONE	Y	FAIR			19+60	19+95	REMOVE TOP
19+95	20+50	SANDSTONE (?)	UNKNOWN	UNKNOWN - BURIED WALL	19+95	20+50			
20+50	20+88	SANDSTONE	Y	POOR	20+50	20+88			
21+26	21+75	SANDSTONE	Y	GOOD	21+26	21+75			
21+75	23+60	SANDSTONE	Y	GOOD					
23+60	24+20	SANDSTONE	Y	POOR					
24+20	25+70	SANDSTONE	Y	GOOD					
25+90	26+85	SANDSTONE	Y	GOOD					
26+85	27+50	BRIDGE ABUTMENT	Y	GOOD					
27+50	28+35	SANDSTONE	Y	FAIR					

LEFT BANK WALL INVENTORY					ACTION TO BE TAKEN			
STATION (LT)		WALL TYPE	CONTRIBUTING	CONDITION	REMOVE		MODIFY	
BEGIN	END				BEGIN	END	BEGIN	END
18+80	20+55	CIP CONCRETE WALL	N	POOR; WALL COLLAPSED	18+80	20+55		
20+55	22+55	CIP CONCRETE WALL	N	GOOD				
22+55	23+90	SANDSTONE	Y	GOOD				
23+90	24+20	SANDSTONE	Y	FAIR	23+90	24+20		
24+20	25+30	BOULDER TOE	N	POOR	24+20	25+30		
25+30	25+65	SANDSTONE	Y	GOOD	25+30	25+65		
25+65	26+85	SANDSTONE	Y	GOOD				
26+85	27+50	BRIDGE ABUTMENT	Y	GOOD				
27+50	27+95	SANDSTONE TOE	Y	POOR	27+50	27+95		
27+95	28+35	SANDSTONE	Y	FAIR				

60% DRAWING SUBMITTAL

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: B BROWN
DRAWN BY: M REICHER
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

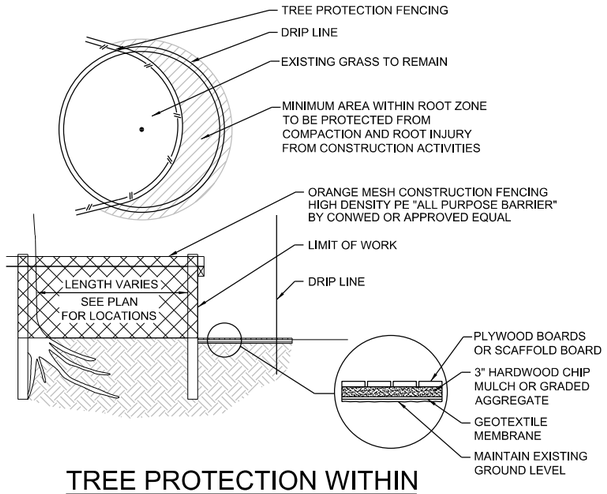
DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
CONTRIBUTING
TREE AND WALL SURVEY
(2 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 09 OF 60
C SHEET: 04 OF 08
SHEET NO.: C-04

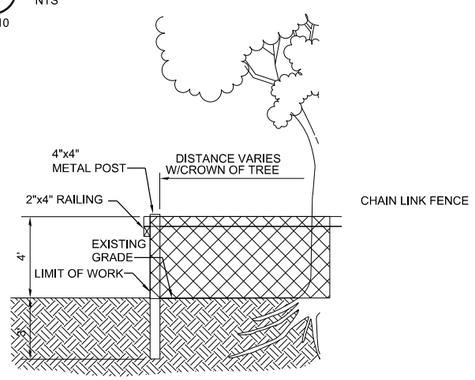
FILENAME: 000-c-2004_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:37:34 PM



1 TREE PROTECTION WITHIN DRIPLINE DETAIL

NTS

CP-10



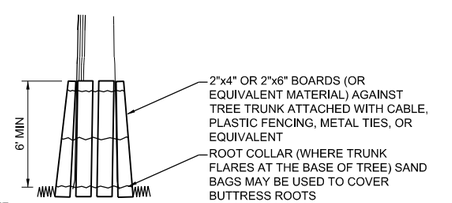
NOTES:

1. TREES WITH A CROWN CANOPY DIAMETER OF 30' OR LESS SHALL HAVE PROTECTION FENCING TO THE DRIPLINE, UNLESS OTHERWISE NOTED.
2. NO CONSTRUCTION TRAFFIC, CUTTING, FILLING OR TRENCHING OR ROOT COMPACTION WITHIN TREE BARRICADE.

2 TREE PROTECTION FENCING DETAIL

NTS

C-06



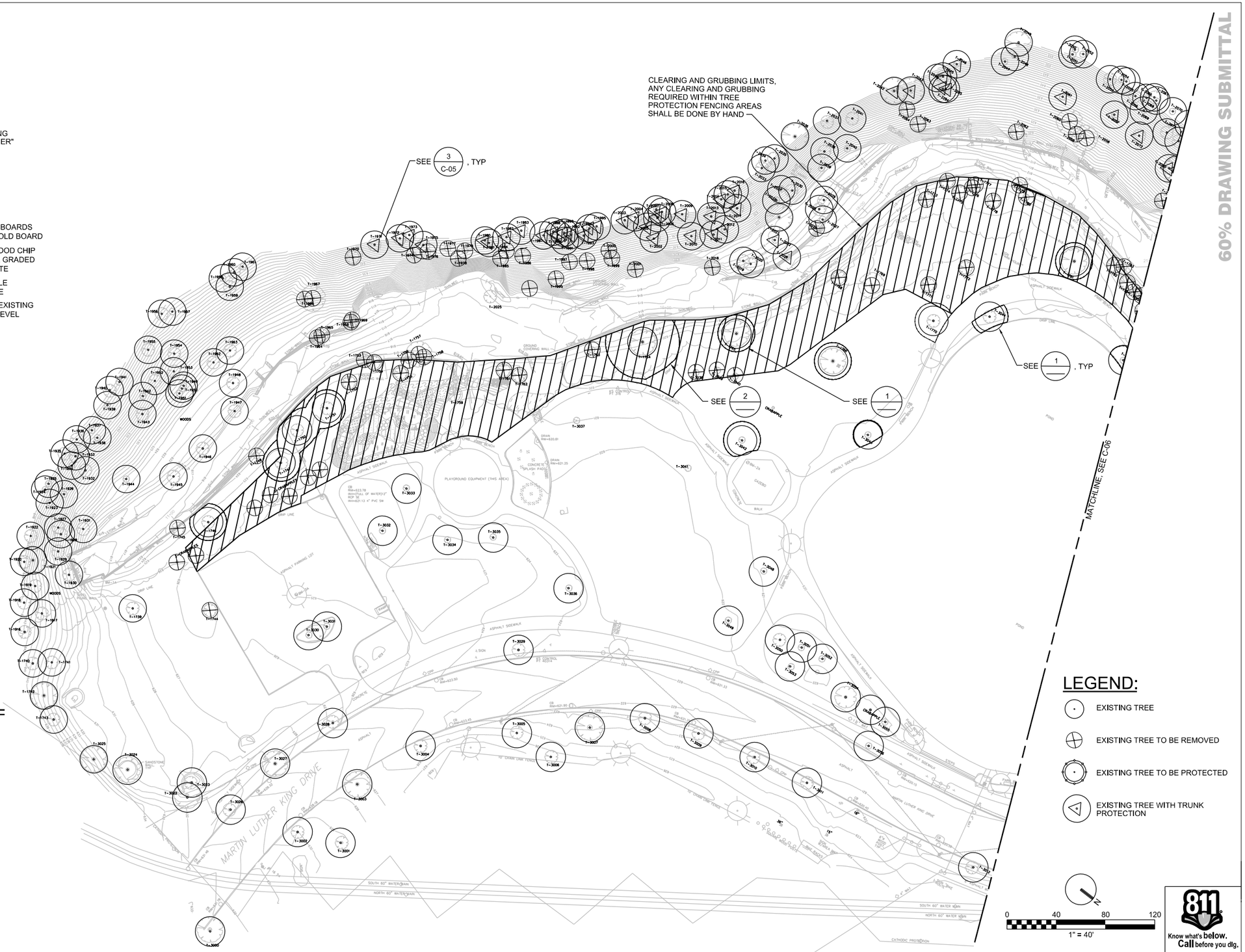
NOTE:

1. PLACE BOARDS AGAINST TREE TRUNK AND ATTACH AT TOP, BOTTOM, AND CENTER. BOARDS SHOULD COMPLETELY SURROUND TREE, GAPS BETWEEN BOARDS SHOULD NOT EXCEED 4 INCHES

3 TREE TRUNK PROTECTION DETAIL

NTS

C-06



LEGEND:

- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE PROTECTED
- EXISTING TREE WITH TRUNK PROTECTION

0 40 80 120

1" = 40'

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
TREE REMOVAL AND PROTECTION PLAN (1 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 10 OF 60
C SHEET: 05 OF 08
SHEET NO.: C-05

FILENAME: 000-c-2005_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:39:28 PM

60% DRAWING SUBMITTAL

SEE 3/C-05, TYP

SEE 1/C-05, TYP

SEE 1/C-05, TYP

SEE 2/C-05, TYP

MATCHLINE: SEE C-05

CLEARING AND GRUBBING LIMITS ANY CLEARING AND GRUBBING REQUIRED WITHIN TREE PROTECTION FENCING AREAS SHALL BE DONE BY HAND

MARTIN LUTHER KING DRIVE

WOODS

LEGEND:

- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE PROTECTED
- EXISTING TREE WITH TRUNK PROTECTION

N

0 40 80 120

1" = 40'

811 Know what's below. Call before you dig.

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
TREE REMOVAL AND PROTECTION PLAN (2 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 11 OF 60
C SHEET: 06 OF 08
SHEET NO.: C-06

FILENAME: 000-c-2006_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:40:40 PM

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
1533	Red Pine	13	20	Pinus Rubra	Outside Construction Limits		Unknown
1534	Red Mulberry	12.5	30	Morus Rubra	Outside Construction Limits		Unknown
1535	Sugar Maple	14.5	25	Acer Saccharum	Outside Construction Limits		Unknown
1536	Red Mulberry	9	30	Morus Rubra	Outside Construction Limits		Unknown
1537	Ash	11	20	Fraxinus	Outside Construction Limits		Unknown
1540	Littleleaf Linden	11	50	Tilia Chordata	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1541	Black Oak	32.5	60	Quercus Velutina	Outside Construction Limits		Unknown
1542	Black Oak	31	60	Quercus Velutina	Outside Construction Limits		Unknown
1543	Ash	20	45	Fraxinus	Outside Construction Limits		Unknown
1544	Pin Oak	20.5	40	Quercus Palustris	Outside Construction Limits		Unknown
1545	Sugar Maple	20	40	Acer Saccharum	Outside Construction Limits		Unknown
1546	Sugar Maple	15.5	25	Acer Saccharum	Outside Construction Limits		Unknown
1547	Sugar Maple	10	20	Acer Saccharum	Outside Construction Limits		Unknown
1548	Black Oak	36.5	60	Quercus Velutina	Outside Construction Limits		Unknown
1549	Norway Maple	12.5	40	Acer Platanoides	Outside Construction Limits		Unknown
1550	Black Oak	27	40	Quercus Velutina	Outside Construction Limits		Unknown
1551	Sugar Maple	20	50	Acer Saccharum	Outside Construction Limits		Unknown
1552	Sugar Maple	11	35	Acer Saccharum	Outside Construction Limits		Unknown
1553	Black Oak	41	60	Quercus Velutina	Outside Construction Limits		Unknown
1554	Sugar Maple	21	50	Acer Saccharum	Outside Construction Limits		Unknown
1555	Elm	9.5	20	Ulmus	Dead-Outside Construction Limits		Unknown
1556	Elm	15.5	30	Ulmus	Outside Construction Limits		Unknown
1557	Black Cherry	9	15	Prunus Serotina	Outside Construction Limits		Unknown
1558	Cottonwood	21	45	Populus Deltoides	Outside Construction Limits		Unknown
1559	Elm	10	30	Ulmus	Outside Construction Limits		Unknown
1739	Norway Maple	17	40	Acer Platanoides	Outside Construction Limits		Unknown
1740	Pin Oak	23.5	45	Quercus Palustris	Outside Construction Limits		Unknown
1741	Pin Oak	20.5	40	Quercus Palustris	Outside Construction Limits		Unknown
1742	Pin Oak	32	50	Quercus Palustris	Outside Construction Limits		Unknown
1743	Pin Oak	26.5	50	Quercus Palustris	Outside Construction Limits		Unknown
1744	English Oak	11.5	25	Quercus Robar	Construction Staging Conflicts	R	Unknown
1745	Elm	13	40	Ulmus	Stream grading conflict	R	Unknown
1746	English Oak	25.5	45	Quercus Robar	15' Max Radius Streambank Grading	P	Unknown
1747	Scarlet Oak	18	45	Quercus Coccinea	15' Max Radius Streambank and Detention Grading	P	Y
1748	Black Cherry	8	15	Prunus Serotina	Stream grading conflict	R	N
1750	Scarlet Oak	22	40	Quercus Coccinea	15' Max Radius Streambank and Detention Grading	P	Y
1751	Scarlet Oak	21.5	45	Quercus Coccinea	15' Max Radius Streambank and Detention Grading	P	Y
1752	Sweet Cherry	11.5	35	Prunus Avium	Stream grading conflict	R	N
1753	Black Willow	25	50	Salix Nigra	Stream grading conflict - in sediment	R	Y
1754	Black Willow	24	60	Salix Nigra	Stream grading conflict	.....	Y
1755	Black Oak	18	50	Quercus Velutina	Stream grading conflict	R	Y
1756	Norway Maple	9	25	Acer Platanoides	Stream grading conflict	R	N
1757	Black Willow	36	50	Salix Nigra	Stream grading conflict - in sediment	R	Y
1758	Black Willow	20	55	Salix Nigra	Stream grading conflict - in sediment	R	Y
1759	American Elm	17	45	Ulmus Americana	Stream grading conflict	R	Y
1761	Silver Maple	11	35	Acer Saccharinum	Stream grading conflict	R	Unknown
1762	Scarlet Oak	24	60	Quercus Coccinea	Stream grading conflict	R	Y
1763	Cottonwood	8.5	20	Populus Deltoides	Stream grading conflict	R	Y
1764	Scarlet Oak	38.5	70	Quercus Coccinea	Rockefeller Oak - Protect 30' Radius/May have to work in dripline on stream side - Air Spade recommended	P	Y
1765	Shingle Oak	35	55	Quercus Imbricaria	15' Max Radius for Construction Staging	P	Y
1766	Scarlet Oak	32.5	80	Quercus Coccinea	15' Max Radius for Construction Staging	P	Y
1768	Pin Oak	25.5	45	Quercus Palustris	Stream grading conflict	R	Y
1769	Scarlet Oak	29.5	50	Quercus Coccinea	Tree in Poor Health	R	Y
1770	English Oak	22	50	Quercus Robar	15' Max Radius for Construction Staging	P	Unknown
1771	English Oak	16	40	Quercus Robar	Construction Staging Conflicts	R	Unknown
1772	Willow Oak	14.5	45	Quercus Phellos	Construction Staging Conflicts	R	Unknown
1773	Tulip Poplar	19	45	Liriodendron Tulipifera	Stream grading conflict	R	Y
1774	American Elm	13	30	Ulmus Americana	Stream grading conflict	R	Y
1775	Tulip Poplar	18	45	Liriodendron Tulipifera	Stream grading conflict	R	Y
1776	American Elm	10.5	35	Ulmus Americana	Stream grading conflict	R	Y
1777	Cottonwood	21	70	Populus Deltoides	Stream grading conflict	R	Y
1778	American Elm	20	70	Quercus Robar	Stream grading conflict	R	Y
1779	American Elm	10.5	35	Ulmus Americana	Stream grading conflict	R	Y
1780	American Elm	10	35	Ulmus Americana	Stream grading conflict	R	Y
1781	Shingle Oak	42	90	Quercus Imbricaria	May Air Spade/Work in Dripline/Max 15' Radius All Around	P	Y
1782	Red Mulberry	11	30	Morus Rubra	Dead	R	N
1783	Silver Maple	10	25	Acer Saccharinum	Dead	R	Y
1784	Silver Maple	14	35	Acer Saccharinum	Dead	R	Y
1785	Sweet Cherry	9	20	Prunus Avium	Dead	R	N
1786	Silver Maple	21	40	Acer Saccharinum	Dead	R	Y
1787	Red Mulberry	35.5	45	Morus Rubra	Stream grading conflict	R	N
1788	American Elm	8.5	30	Ulmus Americana	Stream grading conflict	R	Y
1789	American Elm	14	45	Ulmus Americana	Stream grading conflict	R	Y
1790	Black Cherry	13.5	30	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	N
1791	Eastern Sycamore	26.5	50	Platanus Occidentalis	Air Spade/Work in Dripline Stream grading conflict	P	Y
1792	Black Willow	28.5	45	Salix Nigra	Stream grading conflict	R	Y
1793	Red Mulberry	13	25	Morus Rubra	Dead	R	N

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
1794	Black Cherry	10.5	35	Prunus Serotina	Stream grading conflict	R	N
1795	Black Cherry	11.5	30	Prunus Serotina	Stream grading conflict	R	N
1796	Bald Cypress	20	25	Taxodium Distichum	Air Spade/Work in Dripline Stream grading conflict	P	Y
1797	Bald Cypress	19	30	Taxodium Distichum	Air Spade/Work in Dripline Stream grading conflict	P	Y
1798	Black Cherry	9.5	15	Prunus Serotina	Stream grading conflict	R	N
1799	Northern Red Oak	16.5	45	Quercus Rubra	Stream grading conflict	P	Y
1800	Red Mulberry	24	45	Morus Rubra	Dead	R	N
1901	Red Mulberry	17	40	Morus Rubra	Amphitheater grading conflict	R	
1902	Red Mulberry	23	30	Morus Rubra	Stream grading conflict	R	N
1903	Shingle Oak	29.5	70	Quercus Imbricaria	Amphitheater grading conflict	R	N
1904	Shingle Oak	29	70	Quercus Imbricaria	Amphitheater grading conflict	R	Y
1905	Shingle Oak	23	45	Quercus Imbricaria	Amphitheater grading conflict	R	Unknown
1906	Shingle Oak	23.5	70	Quercus Imbricaria	Air Spade/Work in Dripline Stream grading conflict	R	Y
1907	American Basswood	9	15	Tilia Americana	Air Spade/Work in Dripline Stream grading conflict	R	Y
1908	White Ash	10	25	Fraxinus Americana	Amphitheater grading	R	Y
1909	American Elm	10	25	Ulmus Americana	Amphitheater grading	R	Y
1910	Silver Maple	15.5	40	Acer Saccharinum	Dead	R	Y
1911	White Ash	8.5	30	Fraxinus Americana	Air Spade/Work in Dripline	R	Y
1912	Silver Maple	14.5	35	Acer Saccharinum	Dead	R	Y
1913	Crab	12.5	25	Malus	Dripline Protection	P	Unknown
1914	Crab	13.5	40	Malus	2nd trunk = 10.5"	P	Unknown
1916	Pin Oak	19	40	Quercus Palustris	Outside Construction Limits		Unknown
1917	Pin Oak	21	40	Quercus Palustris	Outside Construction Limits		Unknown
1918	Littleleaf Linden	11	25	Tilia Chordata	Outside Construction Limits		Unknown
1919	Elm	13.5	45	Ulmus	Outside Construction Limits		Unknown
1920	Norway Maple	12	30	Acer Platanoides	Outside Construction Limits		Unknown
1921	Black Locust	36	45	Robinia Pseudoacacia	Outside Construction Limits		Unknown
1922	Red Mulberry	13	40	Morus Rubra	Outside Construction Limits		Unknown
1923	Red Mulberry	10.5	30	Morus Rubra	Outside Construction Limits		Unknown
1924	Norway Maple	10.5	35	Acer Platanoides	Outside Construction Limits		Unknown
1925	Norway Maple	10.5	30	Acer Platanoides	Outside Construction Limits		Unknown
1926	Norway Maple	8	25	Acer Platanoides	Outside Construction Limits		Unknown
1927	American Elm	8	30	Ulmus Americana	Outside Construction Limits		Unknown
1928	Pin Oak	11	45	Quercus Palustris	Outside Construction Limits		Y
1929	Pin Oak	23	40	Quercus Palustris	Outside Construction Limits		Y
1930	Pin Oak	24	50	Quercus Palustris	Outside Construction Limits		Unknown
1931	Norway Maple	13	30	Acer Platanoides	Outside Construction Limits		N
1932	Black Oak	26	60	Quercus Velutina	Outside Construction Limits		Unknown
1933	Norway Maple	11	30	Acer Platanoides	Outside Construction Limits		Unknown
1934	Norway Maple	8	20	Acer Platanoides	Outside Construction Limits		Unknown
1935	Ash	11	30	Fraxinus	Outside Construction Limits		Unknown
1936	Norway Maple	12	40	Acer Platanoides	Outside Construction Limits		Unknown
1937	Cottonwood	8.5	25	Populus Deltoides	Outside Construction Limits		Unknown
1938	Cottonwood	10.5	30	Populus Deltoides	Outside Construction Limits		Unknown
1939	Black Cherry	8.5	10	Prunus Serotina	Outside Construction Limits		Unknown
1940	Cottonwood	13.5	35	Populus Deltoides	Outside Construction Limits		Unknown
1941	Norway Maple	9.5	25	Acer Platanoides	Outside Construction Limits		Unknown
1942	Cottonwood	10.5	20	Populus Deltoides	Outside Construction Limits		Unknown
1943	Ash	26	50	Fraxinus	Outside Construction Limits		Unknown
1944	Norway Maple	9	30	Acer Platanoides	Outside Construction Limits		N
1945	Eastern Sycamore	42	20	Platanus Occidentalis	Outside Construction Limits		Y
1946	Norway Maple	25	60	Acer Platanoides	Outside Construction Limits	P	N
1947	Norway Maple	21.5	50	Acer Platanoides	Outside Construction Limits	P	N
1948	Green Ash	15.5	35	Fraxinus Pennsylvanica	Outside Construction Limits		Y
1949	Norway Maple	8.5	30	Acer Platanoides	Outside Construction Limits		Unknown
1950	Norway Maple	6	30	Acer Platanoides	Outside Construction Limits		Unknown
1951	Norway Maple	8.5	30	Acer Platanoides	Outside Construction Limits		Unknown
1952	Norway Maple	13	30	Acer Platanoides	Outside Construction Limits		Unknown
1953	Norway Maple	14	35	Acer Platanoides	Outside Construction Limits		Unknown
1954	Sycamore	11.5	25	Platanus Occidentalis	Outside Construction Limits	P	Unknown
1955	Norway Maple	12	25	Acer Platanoides	Outside Construction Limits		Unknown
1956	Ash	11	35	Fraxinus	Outside Construction Limits		Unknown
1957	Norway Maple	8	25	Acer Platanoides	Outside Construction Limits		Unknown
1958	Black Cherry	10.5	25	Prunus Serotina	Outside Construction Limits		Unknown
1959	Cottonwood	22	50	Populus Deltoides	Outside Construction Limits		Unknown
1960	Cottonwood	25	45	Populus Deltoides	Outside Construction Limits	P	Unknown
1961	Ash	10	25	Fraxinus	Outside Construction Limits	P	Unknown
1962	Norway Maple	11	30	Acer Platanoides	Outside Construction Limits		Unknown
1963	Norway Maple	13	40	Acer Platanoides	Outside Construction Limits		Unknown
1964	Norway Maple	14.5	30	Acer Platanoides	Outside Construction Limits	R	N
1965	Norway Maple	11	25	Acer Platanoides	Stream grading conflict	R	N
1966	Norway Maple	8	20	Acer Platanoides	Stream grading conflict	R	N
1967	Eastern Sycamore	28	50	Platanus Occidentalis	Outside Construction Limits	R	Y
1968	Norway Maple	11	30	Acer Platanoides	Stream grading conflict	R	N
1969	Norway Maple	15	20	Acer Platanoides	Stream grading conflict	R	N
1970	Black Walnut	21	60	Juglans Nigra	Stream grading conflict	R	Unknown
1971	Black Locust	22	50	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1972	Black Locust	16.5	40	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1973	Black Locust	18.5	30	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1974	Norway Maple	9	35	Acer Platanoides	Stream grading conflict	R	Unknown
1975	Black Locust	21.5	45	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1976	Norway Maple	8.5	25	Acer Platanoides	Stream grading conflict	R	Unknown
1977	Norway Maple	9	30	Acer Platanoides	Air Spade/Work in Dripline Stream grading conflict	R	Unknown
1978	Norway Maple	10	30	Acer Platanoides	Stream grading conflict	R	Unknown
1979	Norway Maple	8.5	30	Acer Platanoides	Stream grading conflict	R	Unknown

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
1980	Norway Maple	10	30	Acer Platanoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1981	Norway Maple	10.5	30	Acer Platanoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1982	Norway Maple	16	40	Acer Platanoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1983	Black Locust	17	40	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1984	Norway Maple	10	25	Acer Platanoides	Stream grading conflict	R	Unknown
1985	Black Locust	19.5	45	Robinia Pseudoacacia	Stream grading conflict	R	Unknown
1986	Black Locust	17	40	Robinia Pseudoacacia	Stream grading conflict	R	Unknown
1987	Black Locust	11	30	Robinia Pseudoacacia	Stream grading conflict	P	Unknown
1988	Black Locust	13	30	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1989	Black Locust	11.5	25	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1990	Black Locust	9.5	20	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1991	Black Locust	12	30	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1992	Black Locust	14	35	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1993	Black Locust	16.5	45	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1994	Black Locust	9.5	25	Robinia Pseudoacacia	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
1995	Black Locust	13.5	40	Robinia Pseudoacacia	Dead	R	N
1996	Ash	14.5	45	Fraxinus	Stream grading conflict	R	Unknown
1997	Sycamore	14	40	Platanus Occidentalis	Stream grading conflict	R	Unknown
1998	Black Locust	21.5	45	Robinia Pseudoacacia	Stream grading conflict	R	Unknown
1999	Sycamore	21	50	Platanus Occidentalis	Stream grading conflict	R	Unknown
2000	Sycamore	9	40	Platanus Occidentalis	Stream grading conflict	R	Unknown
2001	Black Walnut	8	25	Juglans Nigra	Stream grading conflict	R	Y
2002	Red Mulberry	17	40	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2003	Black Locust	22.5	50	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2004	Black Locust	11.5	40	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2005	Norway Maple	8	30	Acer Platanoides	Outside Construction Limits	P	Unknown
2006	Black Locust	16	45	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2007	Elm	9	25	Ulmus	Outside Construction Limits	P	Unknown
2008	Black Locust	17.5	40	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2009	Black Locust	16	40	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2010	Red Mulberry	11	30	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2011	Red Mulberry	10.5	45	Morus Rubra	Outside Construction Limits	P	Unknown
2012	Norway Maple	9.5	30	Acer Platanoides	Outside Construction Limits	P	Unknown
2013	Sycamore	22	60	Platanus Occidentalis	Outside Construction Limits	P	Unknown
2014	Black Locust	13.5	40	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2015	Black Locust	14.5	40	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2016	Black Locust	14	30	Robinia Pseudoacacia	Outside Construction Limits	P	Unknown
2017	Sycamore	26	30	Platanus Occidentalis	Outside Construction Limits	P	Unknown
2018	Black Cherry	13	30	Prunus Serotina	Stream grading conflict	R	N
2019	Norway Maple	17.5	45	Acer Platanoides	Stream grading conflict		N
2020	Norway Maple	11.5	30	Acer Platanoides	Stream grading conflict		N
2021	Norway Maple	9.5	25	Acer Platanoides	Stream grading conflict		N
2022	Black Cherry	10	30	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	N
2023	Eastern Sycamore	60	70	Platanus Occidentalis	Outside Construction Limits		Y
2024	Norway Maple	9	25	Acer Platanoides	Removed		N
2025	Norway Maple	8	25	Acer Platanoides	Stream grading conflict	R	N
2026	American Elm	8	30	Ulmus Americana	Outside Construction Limits		Y
2027	Norway Maple	17.5	30	Acer Platanoides	Outside Construction Limits		N
2028	White Ash	12	35	Fraxinus Americana	Outside Construction Limits		Y
2029	Red Mulberry	18	30	Morus Rubra	Outside Construction Limits		N
2030	Cottonwood	18	45	Populus Deltoides	Outside Construction Limits		Y
2031	American Elm	9	25	Ulmus Americana	Outside Construction Limits		Y
2032	Norway Maple	9.5	30	Acer Platanoides	Outside Construction Limits		N
2033	Sycamore	15.5	40	Platanus Occidentalis	Outside Construction Limits		Unknown
2034	Black Locust	12	5	Robinia Pseudoacacia	Outside Construction Limits		Unknown
2035	Red Mulberry	11.5	30	Morus Rubra	Outside Construction Limits		Unknown
2036	Cottonwood	32	70	Populus Deltoides	Outside Construction Limits		Unknown
2037	Sycamore	24	50	Platanus Occidentalis	Outside Construction Limits		Unknown
2038	Cottonwood	50.5	70	Populus Deltoides	Outside Construction Limits		Y
2039	Red Mulberry	9	30	Morus Rubra	Outside Construction Limits		Unknown
2040	White Ash	10.5	20	Fraxinus Americana	Outside Construction Limits		Y
2041	Eastern Sycamore	18	50	Platanus Occidentalis	Outside Construction Limits		Y
2042	Cottonwood	30	70	Populus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2043	Cottonwood	47.5	80	Populus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2044	Red Mulberry	10	25	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2045	Cottonwood	20.5	70	Populus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2046	Red Mulberry	9	15	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2047	Elm	10.5	30	Ulmus	Outside Construction Limits		Unknown
2048	Elm	8.5	25	Ulmus	Outside Construction Limits		Unknown
2049	White Oak	30.5	60	Quercus Alba	Outside Construction Limits		Unknown
2050	Red Mulberry	8	25	Morus Rubra	Outside Construction Limits		Unknown
2051	Red Mulberry	8.5	25	Morus Rubra	Outside Construction Limits		Unknown
2052	Elm	9	15	Ulmus	Outside Construction Limits		Unknown
2053	Red Mulberry	16	45	Morus Rubra	Outside Construction Limits		Unknown
2054	Elm	8	15	Ulmus	Outside Construction Limits		Unknown
2055	Elm	9.5	20	Ulmus	Outside Construction Limits		Unknown
2056	Red Mulberry	14	25	Morus Rubra	Outside Construction Limits		Unknown

60% DRAWING SUBMITTAL

Know what's below. Call before you dig.

CH2MHILL®

Northeast Ohio Regional Sewer District
Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
TREE REMOVAL AND PROTECTION PLAN (3 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 12 OF 60
C SHEET: 07 OF 08
SHEET NO.: C-07

FILENAME: 000-c-2007_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 1:06:54 PM

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
2057	Norway Maple	10.5	30	Acer Platanoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2058	Cottonwood	40	60	Populus Deltoides	Stream grading conflict	R	Y
2059	Horsechestnut	24	20	Aesculus Hippocastanum	Stream grading conflict	R	Y
2060	Cottonwood	65	45	Populus Deltoides	Stream grading conflict	R	Y
2061	Red Mulberry	9	15	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	
2062	Weeping Willow	16	40	Salix Babylonica	Stream grading conflict	R	Y
2063	Norway Maple	11	30	Acer Platanoides	Dead	R	N
2064	Cottonwood	21	55	Populus Deltoides	Stream grading conflict	R	Y
2065	Red Mulberry	24	30	Morus Rubra	Dead	R	N
2066	Elm	8	20	Ulmus	Outside Construction Limits		Unknown
2067	Elm	13	25	Ulmus	Outside Construction Limits		Unknown
2068	Elm	8.5	25	Ulmus	Outside Construction Limits		Unknown
2069	Black Oak	8	25	Quercus Velutina	Outside Construction Limits		Unknown
2070	Elm	8	20	Ulmus	Outside Construction Limits		Unknown
2071	Elm	10.5	25	Ulmus	Outside Construction Limits		Unknown
2072	Silver Maple	17	40	Acer Saccharinum	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2073	Silver Maple	19	40	Acer Saccharinum	Outside Construction Limits		Unknown
2074	Red Mulberry	15.5	35	Morus Rubra	Outside Construction Limits		Unknown
2075	Red Mulberry	14	25	Morus Rubra	Outside Construction Limits		Unknown
2076	Red Mulberry	19.5	30	Morus Rubra	Outside Construction Limits		Unknown
2077	Norway Maple	8	25	Acer Platanoides	Outside Construction Limits		Unknown
2078	Norway Maple	9.5	30	Acer Platanoides	Outside Construction Limits		Unknown
2079	Red Mulberry	28	30	Morus Rubra	Outside Construction Limits	P	Unknown
2080	Red Mulberry	20.5	35	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2081	Cottonwood	38.5	55	Populus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2082	Norway Maple	13	25	Acer Platanoides	Stream grading conflict	R	N
2083	Red Mulberry	14	15	Morus Rubra	Stream grading conflict	R	N
2084	Weeping Willow	15.5	35	Salix Babylonica	Dead	R	Y
2085	Weeping Willow	28	50	Salix Babylonica	Dead	R	Y
2086	Sweet Cherry	11	25	Prunus Avium	Dead	R	N
2087	Red Mulberry	8	15	Morus Rubra	Dead	R	N
2088	Red Mulberry	16.5	25	Morus Rubra	Outside Construction Limits		Unknown
2089	Elm	8.5	20	Ulmus	Outside Construction Limits		Unknown
2090	Elm	11.5	25	Ulmus	Outside Construction Limits		Unknown
2091	Silver Maple	19.5	30	Acer Saccharinum	Outside Construction Limits		Unknown
2092	Red Mulberry	12.5	20	Morus Rubra	Outside Construction Limits		Unknown
2093	Red Mulberry	10.5	20	Morus Rubra	Outside Construction Limits		Unknown
2094	Black Oak	38	60	Quercus Velutina	Outside Construction Limits		Unknown
2095	Elm	9	20	Ulmus	Outside Construction Limits		Unknown
2096	Silver Maple	26.5	45	Acer Saccharinum	Outside Construction Limits		Unknown
2097	Red Mulberry	15.5	25	Morus Rubra	Outside Construction Limits		Unknown
2098	Red Mulberry	12	20	Morus Rubra	Outside Construction Limits		Unknown
2099	Black Cherry	9	15	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2100	Black Cherry	10	20	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	N
2101	Sweet Cherry	11.5	20	Prunus Avium	Air Spade/Work in Dripline Stream grading conflict	P	N
2102	Cottonwood	39.5	60	Populus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Y
2103	Norway Maple	9	25	Acer Platanoides	Outside Construction Limits		N
2104	Norway Maple	8	25	Acer Platanoides	Outside Construction Limits		N
2105	Black Locust	19	35	Robinia Pseudoacacia	Dead-Outside Construction Limits	R	N
2106	Red Mulberry	9	20	Morus Rubra	Dead-Outside Construction Limits	R	N
2107	Boxelder	8.5	10	Acer Negundo	Dead-Outside Construction Limits		N
2108	Sweet Cherry	15	25	Prunus Avium	Dead-Outside Construction Limits		N
2109	Sweet Cherry	28.5	50	Prunus Avium	Dead-Outside Construction Limits		N
2110	Red Mulberry	8.5	15	Morus Rubra	Dead-Outside Construction Limits		Y
2111	Ash	9	20	Fraxinus	Outside Construction Limits		Y
2112	White Ash	12	25	Fraxinus Americana	Outside Construction Limits		Y
2113	Ash	8.5	25	Fraxinus Americana	Outside Construction Limits		Y
2114	Red Mulberry	19	25	Morus Rubra	Dead-Outside Construction Limits	R	N
2115	Silver Maple	26.5	40	Acer Saccharinum	Dead-Outside Construction Limits	R	Y
2116	Eastern Sycamore	30	50	Platanus Occidentalis	Outside Construction Limits		Y
2117	Sugar Maple	23	25	Acer Saccharum	Outside Construction Limits		Y
2118	Sugar Maple	25	50	Acer Saccharum	Outside Construction Limits		Y
2119	White Ash	8.5	20	Fraxinus Americana	Outside Construction Limits		Y
2120	Black Cherry	9	15	Prunus Serotina	Outside Construction Limits		N
2121	Sugar Maple	10	25	Acer Saccharum	Outside Construction Limits		Y
2122	Cottonwood	17	25	Populus Deltoides	Outside Construction Limits		Y
2123	Cottonwood	34.5	60	Populus Deltoides	Outside Construction Limits		Y
2124	Silver Maple	11.5	25	Acer Saccharinum	Dead-Outside Construction Limits	R	Y
2125	Silver Maple	30	40	Acer Saccharinum	Dead-Outside Construction Limits	R	Y
2126	Red Mulberry	14	20	Morus Rubra	Outside Construction Limits		N
2127	Green Ash	8	20	Fraxinus Pennsylvanica	Outside Construction Limits		Y
2128	Green Ash	9	30	Fraxinus Pennsylvanica	Outside Construction Limits		Y
2129	Green Ash	8.5	25	Fraxinus Pennsylvanica	Outside Construction Limits		Y
2130	Eastern Sycamore	36.5	60	Platanus Occidentalis	Outside Construction Limits		Y
2131	Catalpa	11.5	25	Catalpa Speciosa	Outside Construction Limits		Y
2132	Norway Maple	14	25	Acer Platanoides	Outside Construction Limits		N
2133	Black Cherry	15.5	25	Prunus Serotina	Outside Construction Limits		N
2134	Black Cherry	9	15	Prunus Serotina	Outside Construction Limits		N
2135	Black Cherry	11	15	Prunus Serotina	Outside Construction Limits		N
2136	Red Mulberry	10	20	Morus Rubra	Dead-Outside Construction Limits		N
2137	Black Cherry	21.5	15	Prunus Serotina	Outside Construction Limits		N
2138	Tree	8	15		Dead-Outside Construction Limits		N
2139	Black Cherry	6.5		Prunus Serotina	Outside Construction Limits		N
2140	Cottonwood	33.5	60	Populus Deltoides	Stream grading conflict	R	Y

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
2141	Sycamore	39	80	Platanus Occidentalis	Outside Construction Limits		Unknown
2142	Black Cherry	9	15	Prunus Serotina	Outside Construction Limits		Unknown
2143	Linden	17	20	Tilia Americana	Outside Construction Limits		Unknown
2144	Cottonwood	34.5	60	Populus Deltoides	Outside Construction Limits		Unknown
2145	Ash	9	25	Fraxinus	Outside Construction Limits		Unknown
2146	Silver Maple	35	35	Acer Saccharinum	Dead-Outside Construction Limits	R	Y
2147	Silver Maple	22.5	45	Acer Saccharinum	Stream grading conflict	R	Unknown
2148	Black Willow	39.5	45	Salix Nigra	Stream grading conflict	R	Y
2149	Silver Maple	19	45	Acer Saccharinum	Air Spade/Work in Dripline Stream grading conflict	P	Y
2150	Red Mulberry	8.5	15	Morus Rubra	Stream grading conflict	R	N
2151	Red Mulberry	11.5	20	Morus Rubra	Stream grading conflict	R	N
2152	Red Mulberry	9.5	20	Morus Rubra	Stream grading conflict	R	N
2153	Red Mulberry	11	20	Morus Rubra	Stream grading conflict	R	N
2154	Black Cherry	9.5	20	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	N
2155	Silver Maple	19	45	Acer Saccharinum	Dead	R	Y
2156	Black Cherry	14	30	Prunus Serotina	Air Spade/Work in Dripline Stream grading conflict	P	N
2157	Norway Maple	16	40	Acer Platanoides	Trunk Protection	P	N
2158	Cherry	8	25	Prunus	Air Spade/Work in Dripline Stream grading conflict	P	N
2159	Norway Maple	25.5	40	Acer Platanoides	Trunk Protection	P	N
2160	Northern Red Oak	25	50	Quercus Rubra	Dripline Protection	P	Y
2161	Northern Red Oak	38.5	60	Quercus Rubra	Dripline Protection	P	Y
2162	Black Cherry	15	25	Prunus Serotina	Trunk Protection	P	N
2163	Northern Red Oak	21	50	Quercus Rubra	Outside Construction Limits		Y
2284	Cottonwood	23.5	25	Prunus Deltoides	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
2285	Red Mulberry	9	15	Morus Rubra	Air Spade/Work in Dripline Stream grading conflict	P	Unknown
3000	Pin Oak	36	64	Quercus Palustris	Outside Construction Limits		Unknown
3001	Sugar Maple	24	50	Acer Saccharum	Outside Construction Limits		Unknown
3002	Pin Oak	28	60	Quercus Palustris	Outside Construction Limits		Unknown
3003	Pin Oak	36	60	Quercus Palustris	Outside Construction Limits		Unknown
3004	Pin Oak	30	70	Quercus Palustris	Outside Construction Limits		Unknown
3005	Pin Oak	12	20	Quercus Palustris	Outside Construction Limits		Unknown
3006	Sugar Maple	12	14	Acer Saccharum	Outside Construction Limits		Unknown
3007	Beech	50	64	Fagus	Outside Construction Limits		Unknown
3008	Pin Oak	30	54	Quercus Palustris	Outside Construction Limits		Unknown
3009	Pin Oak	28	50	Quercus Palustris	Outside Construction Limits		Unknown
3010	Pin Oak	30	50	Quercus Palustris	Outside Construction Limits		Unknown
3011	Pin Oak	18	40	Quercus Palustris	Outside Construction Limits		Unknown
3012	Pin Oak	28	60	Quercus Palustris	Outside Construction Limits		Unknown
3013	Pin Oak	20	50	Quercus Palustris	Outside Construction Limits		Unknown
3014	unknown	27	70		Outside Construction Limits		Unknown
3015	Pin Oak	27	60	Quercus Palustris	Outside Construction Limits		Unknown
3016	Pin Oak	28	60	Quercus Palustris	Outside Construction Limits		Unknown
3017	Sweet Birch	24	50	Betula Lenta	Outside Construction Limits		Unknown
3018	American Basswood	24	50	Tilia Americana	Outside Construction Limits		Unknown
3019	Pin Oak	30	62	Quercus Palustris	Outside Construction Limits		Unknown
3020	Pin Oak	36	72	Quercus Palustris	Outside Construction Limits		Unknown
3021	Horsechestnut	15	40	Aesculus Hippocastanum	Outside Construction Limits		Unknown
3022	Pin Oak	36	40	Quercus Palustris	Outside Construction Limits		Unknown
3023	Pin Oak	24	30	Quercus Palustris	Outside Construction Limits		Unknown
3024	Pin Oak	36	40	Quercus Palustris	Outside Construction Limits		Unknown
3025	Pin Oak	36	40	Quercus Palustris	Outside Construction Limits		Unknown
3026	Pin Oak	18	40	Quercus Palustris	Outside Construction Limits		Unknown
3027	Pin Oak	36	65	Quercus Palustris	Outside Construction Limits		Unknown
3028	Pin Oak	21	60	Quercus Palustris	Outside Construction Limits		Unknown
3029	Pin Oak	24	50	Quercus Palustris	Outside Construction Limits		Unknown
3030	no field id	5	18		Outside Construction Limits		Unknown
3031	no field id	5	10		Outside Construction Limits		Unknown
3032	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3033	Ash	6	15	Fraxinus	Outside Construction Limits		Unknown
3034	Ash	6	16	Fraxinus	Outside Construction Limits		Unknown
3035	Ash	6	20	Fraxinus	Outside Construction Limits		Unknown
3036	American Basswood	10	24	Tilia Americana	Outside Construction Limits		Unknown
3037	no field id	4	14		Outside Construction Limits		Unknown
3038	Crabapple	4	10	Malus Coronaria	Construction Staging Conflicts	R	Unknown
3039	Crabapple	4	10	Malus Coronaria	Construction Staging Conflicts	R	Unknown
3040	Crabapple	4	10	Malus Coronaria	Construction Staging Conflicts	R	Unknown
3041	Scarlet Oak	6	20	Quercus Coccinea	Outside Construction Limits		Unknown
3042	Scarlet Oak	10	30	Quercus Coccinea	Dripline Protection	P	Unknown
3043	Willow	8	24	Salix	Dripline Protection	P	Unknown
3044	Willow	12	30	Salix	Dripline Protection	P	Unknown
3045	Willow	10	24	Salix	Dripline Protection	P	Unknown
3046	Willow	8	20	Salix	Dripline Protection	P	Unknown
3047	Crabapple	12	20	Malus Coronaria	Outside Construction Limits		Unknown
3048	Ash	6	20	Fraxinus	Outside Construction Limits		Unknown
3049	Ash	8	20	Fraxinus	Outside Construction Limits		Unknown
3050	Norway Maple	12	30	Acer Platanoides	Outside Construction Limits		Unknown
3051	Crabapple	4	6	Malus Coronaria	Outside Construction Limits		Unknown
3052	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3053	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3054	Yellow Buckeye	30	30	Aesculus Octandra	Outside Construction Limits		Unknown
3055	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3056	no field id	4	10		Outside Construction Limits		Unknown
3057	Pin Oak	36	40	Quercus Palustris	Outside Construction Limits		Unknown
3058	Northern Red Oak	36	40	Quercus Rubra	Outside Construction Limits		Unknown
3059	Black Oak	24	30	Quercus Velutina	Outside Construction Limits		Unknown
3060	Swamp White Oak	36	50	Quercus Bicolor	Outside Construction Limits		Unknown
3061	Pin Oak	36	40	Quercus Palustris	Outside Construction Limits		Unknown
3062	Yellow Buckeye	30	40	Aesculus Octandra	Outside Construction Limits		Unknown

TAG NO.	COMMON NAME	INCHES (DBH)	CROWN DIA. FEET	BOTANICAL NAME	STATUS	R OR P?	CONTRIBUTING TREE
3063	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3064	Crabapple	4	8	Malus Coronaria	Outside Construction Limits		Unknown
3065	Pin Oak	24	30	Quercus Palustris	Dripline Protection	P	Unknown
3066	no field id	6	12		Dripline Protection	P	Unknown
3067	no field id	4	8		Dripline Protection	P	Unknown
3068	no field id	4	8		Dripline Protection	P	Unknown
3069	no field id	4	8		Dripline Protection	P	Unknown
3070	Crabbapple	6	12	Malus Coronaria	Dripline Protection	P	Unknown
3071	no field id	15	20		Multiple trunks	R	Unknown
3072	unknown	12	40		Dead	R	Unknown

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
TREE REMOVAL AND PROTECTION PLAN (4 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 13 OF 60
C SHEET: 08 OF 08
SHEET NO.: C-08

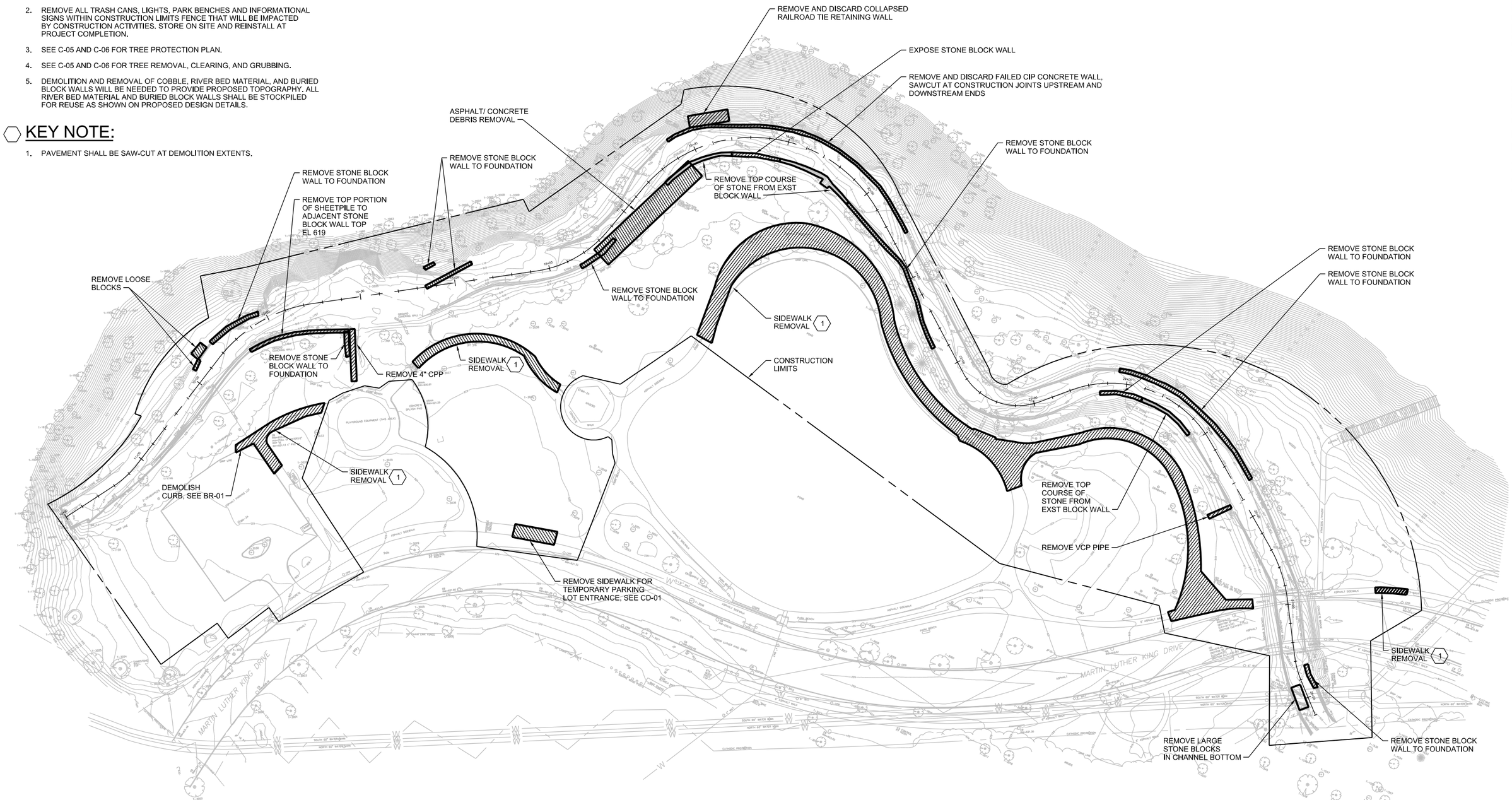
FILENAME: 000-c-2008_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 1:12:41 PM

GENERAL NOTES:

1. ALL DEMOLISHED EXISTING ROCK SHALL BE STOCKPILED FOR RE-USE ON SITE.
2. REMOVE ALL TRASH CANS, LIGHTS, PARK BENCHES AND INFORMATIONAL SIGNS WITHIN CONSTRUCTION LIMITS FENCE THAT WILL BE IMPACTED BY CONSTRUCTION ACTIVITIES. STORE ON SITE AND REINSTALL AT PROJECT COMPLETION.
3. SEE C-05 AND C-06 FOR TREE PROTECTION PLAN.
4. SEE C-05 AND C-06 FOR TREE REMOVAL, CLEARING, AND GRUBBING.
5. DEMOLITION AND REMOVAL OF COBBLE, RIVER BED MATERIAL, AND BURIED BLOCK WALLS WILL BE NEEDED TO PROVIDE PROPOSED TOPOGRAPHY. ALL RIVER BED MATERIAL AND BURIED BLOCK WALLS SHALL BE STOCKPILED FOR REUSE AS SHOWN ON PROPOSED DESIGN DETAILS.

KEY NOTE:

1. PAVEMENT SHALL BE SAW-CUT AT DEMOLITION EXTENTS.



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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL

DEMOLITION PLAN

WARNING
0 1/2 1
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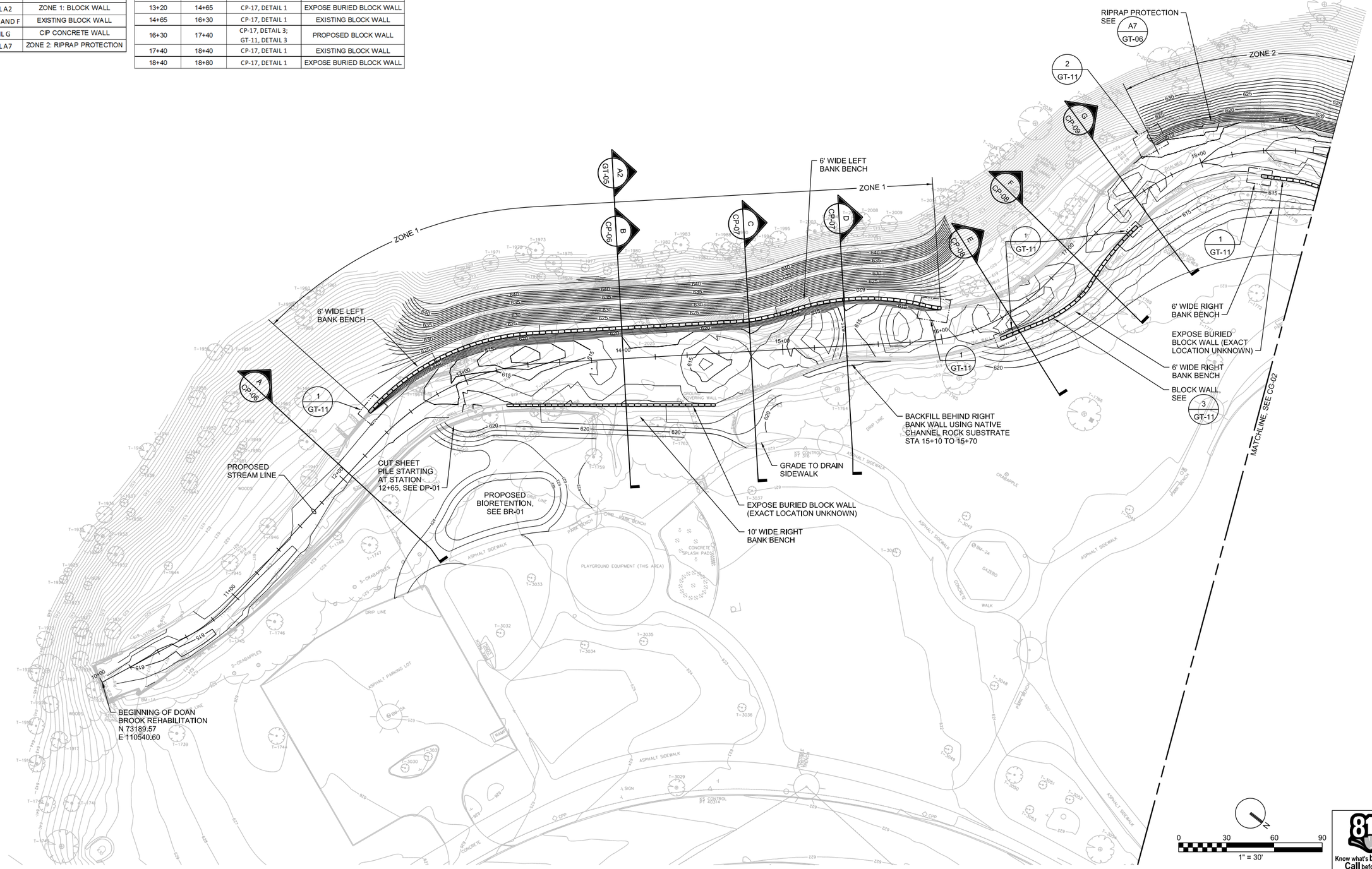
PROJECT SET: 14 OF 60
DP SHEET: 01 OF 01
SHEET NO.: DP-01

FILENAME: 005-c-1001_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:44:08 PM

LEFT BANK RESTORATION TABLE			
STATION START	STATION END	DETAIL	BANK TYPE
12+20	12+40	CP-17, DETAIL 1	EXISTING BLOCK WALL
12+40	16+05	GT-05, DETAIL A2	ZONE 1: BLOCK WALL
16+05	17+40	CP-08, DETAIL E AND F	EXISTING BLOCK WALL
17+40	17+80	CP-09, DETAIL G	CIP CONCRETE WALL
17+80	18+80	GT-06, DETAIL A7	ZONE 2: RIPRAP PROTECTION

RIGHT BANK RESTORATION TABLE			
STATION START	STATION END	DETAIL	BANK TYPE
12+65	13+20	CP-17, DETAIL 1	EXISTING BLOCK WALL
13+20	14+65	CP-17, DETAIL 1	EXPOSE BURIED BLOCK WALL
14+65	16+30	CP-17, DETAIL 1	EXISTING BLOCK WALL
16+30	17+40	CP-17, DETAIL 3; GT-11, DETAIL 3	PROPOSED BLOCK WALL
17+40	18+40	CP-17, DETAIL 1	EXISTING BLOCK WALL
18+40	18+80	CP-17, DETAIL 1	EXPOSE BURIED BLOCK WALL



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DESIGNED BY: C HAMBLEN
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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
SITE LAYOUT AND GRADING (1 OF 2)

WARNING
0 1/2 1
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PROJECT SET: 15 OF 60
CG SHEET: 01 OF 02
SHEET NO.: CG-01

FILENAME: 005-c-2001_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:47:18 PM

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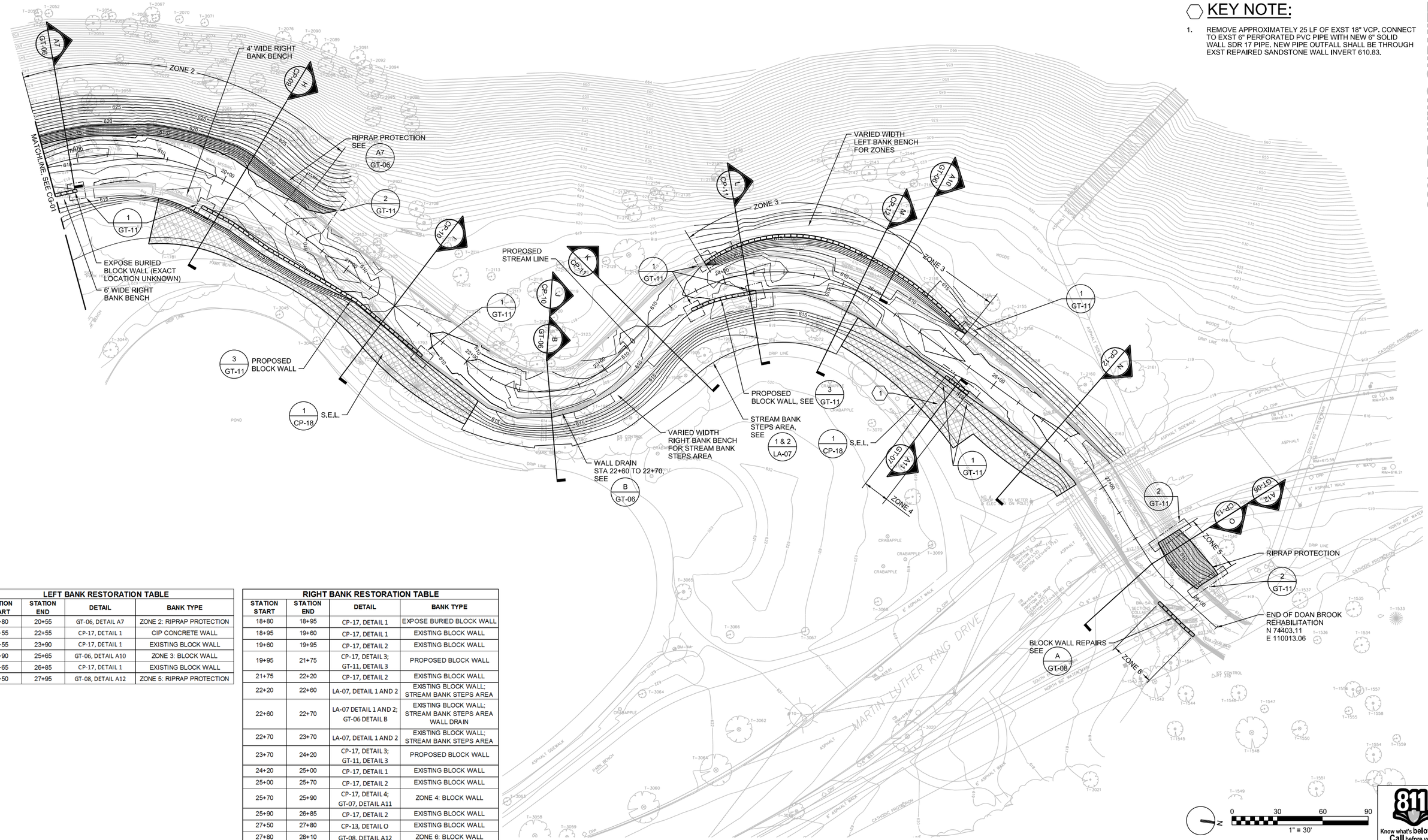
KEY NOTE:

1. REMOVE APPROXIMATELY 25 LF OF EXST 18" VCP. CONNECT TO EXST 6" PERFORATED PVC PIPE WITH NEW 6" SOLID WALL SDR 17 PIPE. NEW PIPE OUTFALL SHALL BE THROUGH EXST REPAIRED SANDSTONE WALL INVERT 610.83.



LEFT BANK RESTORATION TABLE			
STATION START	STATION END	DETAIL	BANK TYPE
18+80	20+55	GT-06, DETAIL A7	ZONE 2: RIPRAP PROTECTION
20+55	22+55	CP-17, DETAIL 1	CIP CONCRETE WALL
22+55	23+90	CP-17, DETAIL 1	EXISTING BLOCK WALL
23+90	25+65	GT-06, DETAIL A10	ZONE 3: BLOCK WALL
25+65	26+85	CP-17, DETAIL 1	EXISTING BLOCK WALL
27+50	27+95	GT-08, DETAIL A12	ZONE 5: RIPRAP PROTECTION

RIGHT BANK RESTORATION TABLE			
STATION START	STATION END	DETAIL	BANK TYPE
18+80	18+95	CP-17, DETAIL 1	EXPOSE BURIED BLOCK WALL
18+95	19+60	CP-17, DETAIL 1	EXISTING BLOCK WALL
19+60	19+95	CP-17, DETAIL 2	EXISTING BLOCK WALL
19+95	21+75	CP-17, DETAIL 3; GT-11, DETAIL 3	PROPOSED BLOCK WALL
21+75	22+20	CP-17, DETAIL 2	EXISTING BLOCK WALL
22+20	22+60	LA-07, DETAIL 1 AND 2	EXISTING BLOCK WALL; STREAM BANK STEPS AREA
22+60	22+70	LA-07 DETAIL 1 AND 2; GT-06 DETAIL B	EXISTING BLOCK WALL; STREAM BANK STEPS AREA WALL DRAIN
22+70	23+70	LA-07, DETAIL 1 AND 2	EXISTING BLOCK WALL; STREAM BANK STEPS AREA
23+70	24+20	CP-17, DETAIL 3; GT-11, DETAIL 3	PROPOSED BLOCK WALL
24+20	25+00	CP-17, DETAIL 1	EXISTING BLOCK WALL
25+00	25+70	CP-17, DETAIL 2	EXISTING BLOCK WALL
25+70	25+90	CP-17, DETAIL 4; GT-07, DETAIL A11	ZONE 4: BLOCK WALL
25+90	26+85	CP-17, DETAIL 2	EXISTING BLOCK WALL
27+50	27+80	CP-13, DETAIL O	EXISTING BLOCK WALL
27+80	28+10	GT-08, DETAIL A12	ZONE 6: BLOCK WALL

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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
SITE LAYOUT AND GRADING (2 OF 2)

WARNING
0 1/2 1
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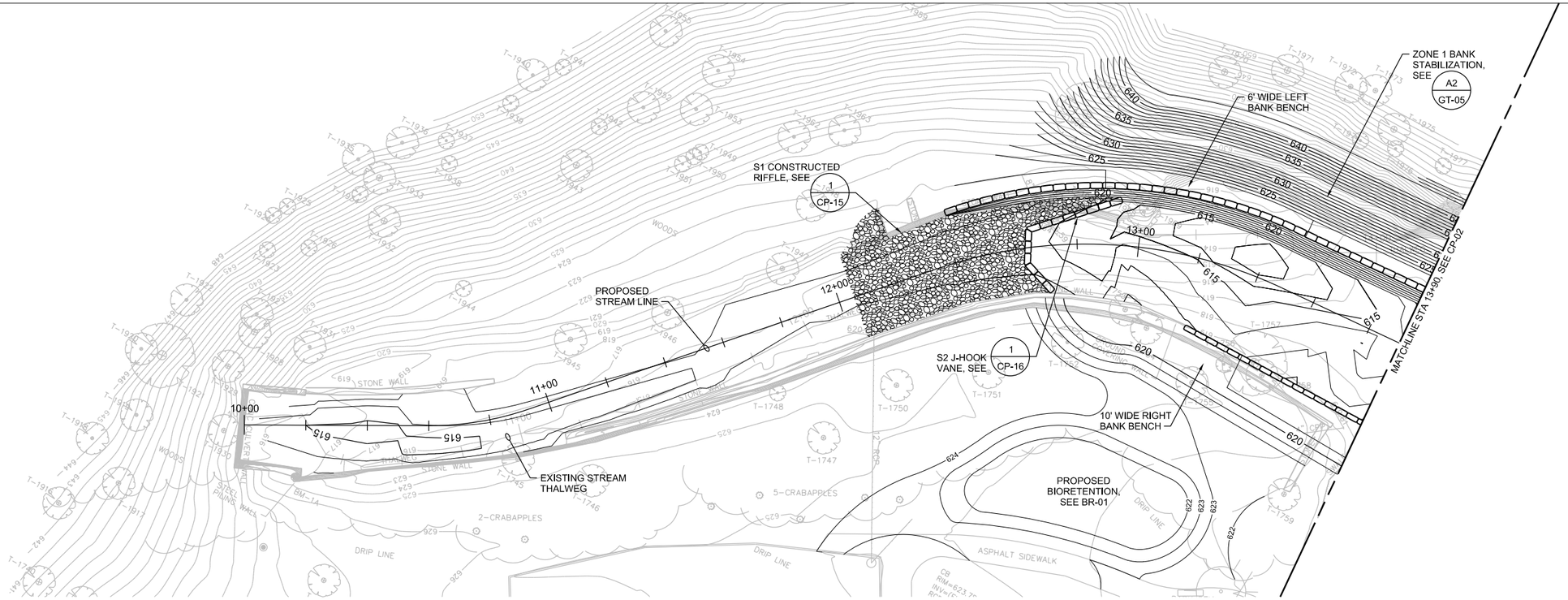
PROJECT SET: 16 OF 60
CG SHEET: 02 OF 02
SHEET NO.: CG-02

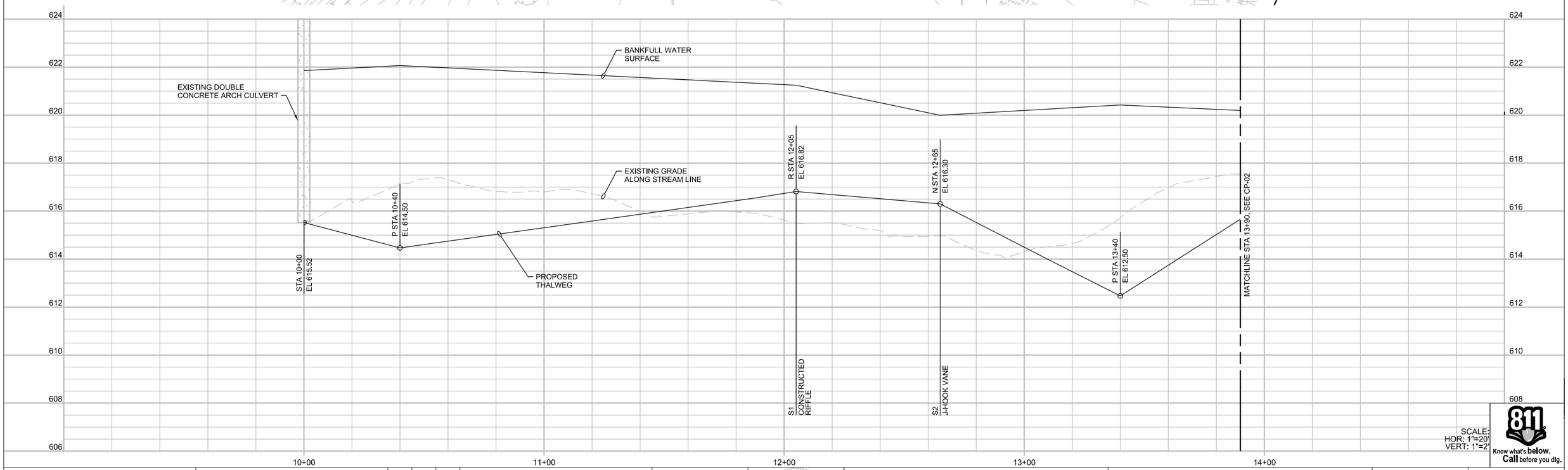
FILENAME: 005-c-2002_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 2:59:26 PM

GENERAL NOTE:

1. R = RIFFLE
   N = RUN STATION
   P = POOL STATION
   S = STRUCTURE



0 20 40 60
1" = 20'



SCALE:
HOR: 1"=20'
VERT: 1"=2'

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CROSS CHK'D BY: S MILLER
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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM PLAN AND PROFILE (1 OF 5)

WARNING
0 1/2 1
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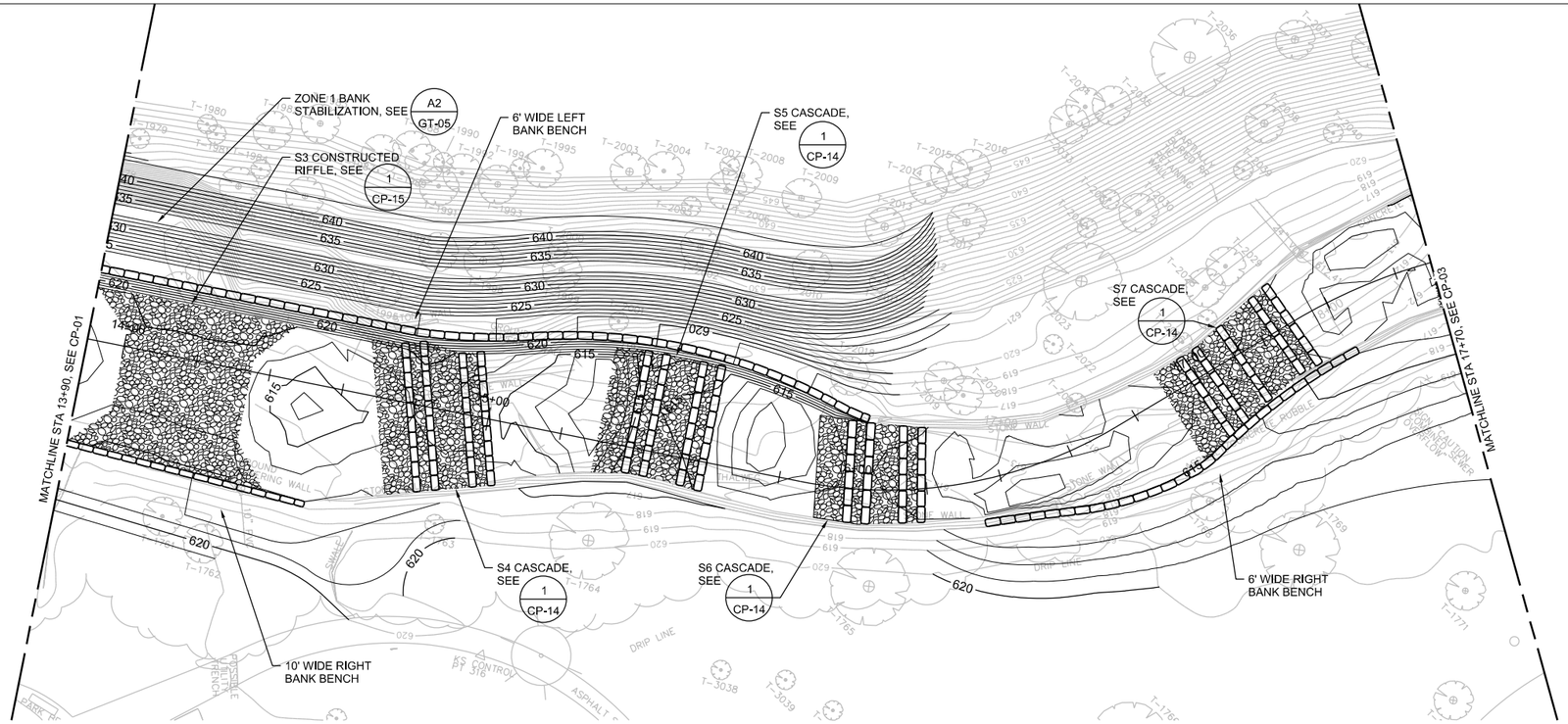
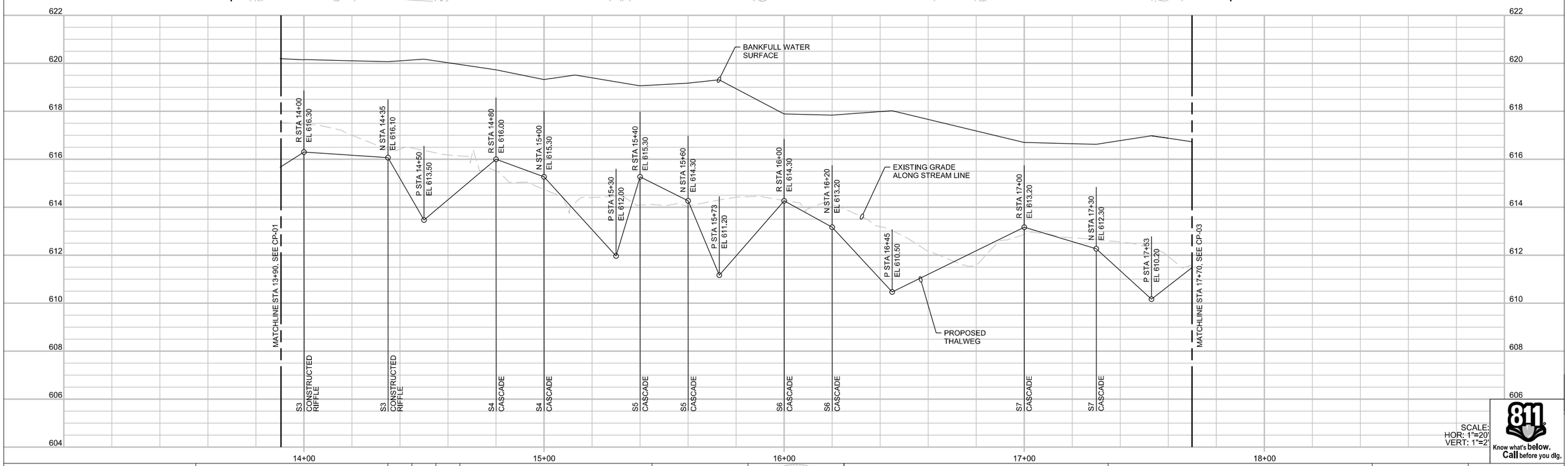
PROJECT SET: 17 OF 60
CP SHEET: 01 OF 18
SHEET NO.: CP-01

FILENAME: 005-c-2101_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 12:51:21 PM

GENERAL NOTES:

1. R = RIFFLE
   N = RUN STATION
   P = POOL STATION
   S = STRUCTURE
2. SEE CP-14 FOR ADDITIONAL STATIONING INFORMATION RELATED TO CASCADES.





SCALE:
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VERT: 1"=2'

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM PLAN AND PROFILE (2 OF 5)

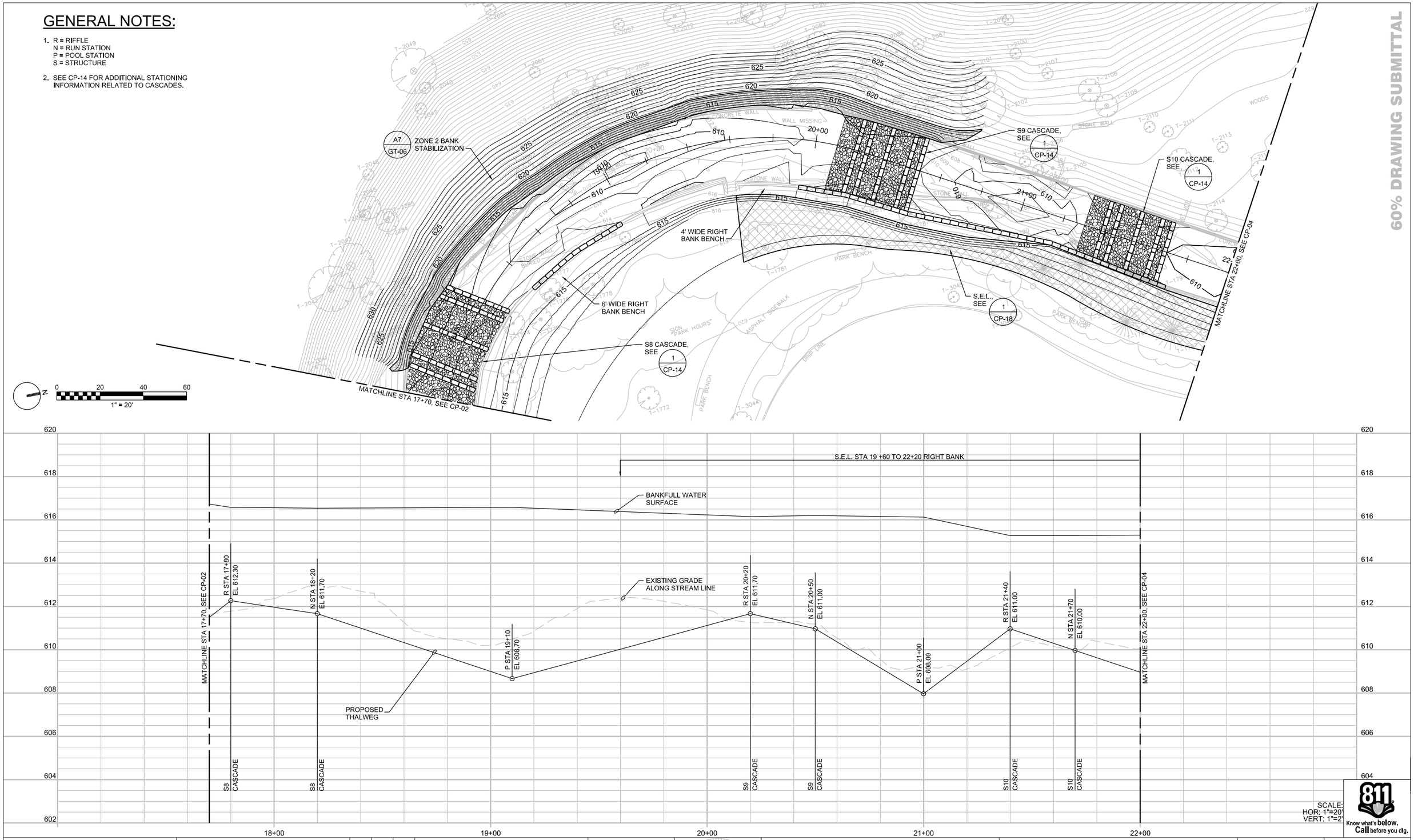
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 18 OF 60
CP SHEET: 02 OF 18
SHEET NO.: CP-02

FILENAME: 005-c-2102_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:01:45 PM

GENERAL NOTES:

1. R = RIFFLE
   N = RUN STATION
   P = POOL STATION
   S = STRUCTURE
2. SEE CP-14 FOR ADDITIONAL STATIONING INFORMATION RELATED TO CASCADES.



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REV NO	DATE	ISSUED BY	REMARKS

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DRAWN BY: S METCALF
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM PLAN AND PROFILE (3 OF 5)

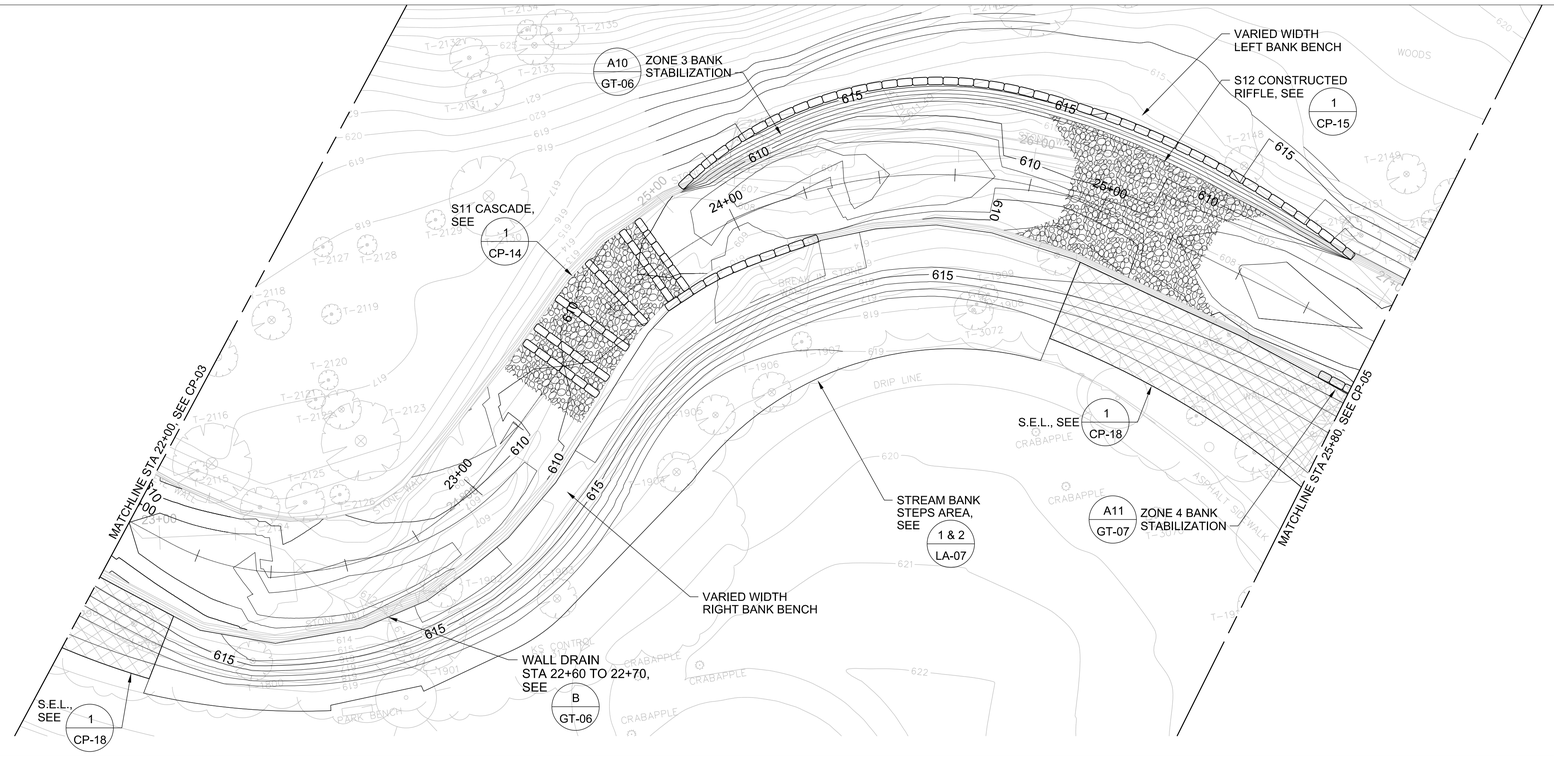
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

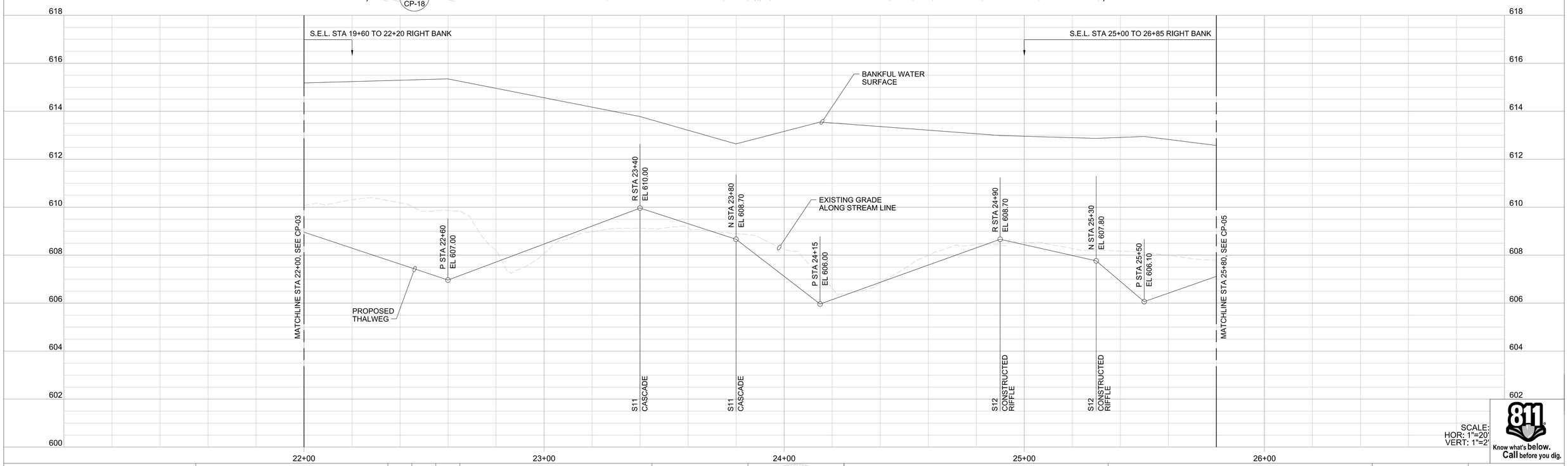
PROJECT SET: 19 OF 60
CP SHEET: 03 OF 18
SHEET NO.: CP-03

FILENAME: 005-c-2103_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:03:39 PM

GENERAL NOTES:

1. R = RIFFLE
   N = RUN STATION
   P = POOL STATION
   S = STRUCTURE
2. SEE CP-14 FOR ADDITIONAL STATIONING INFORMATION RELATED TO CASCADES.





SCALE:
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VERT: 1"=2'

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CROSS CHK'D BY: S MILLER
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ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM PLAN AND PROFILE (4 OF 5)

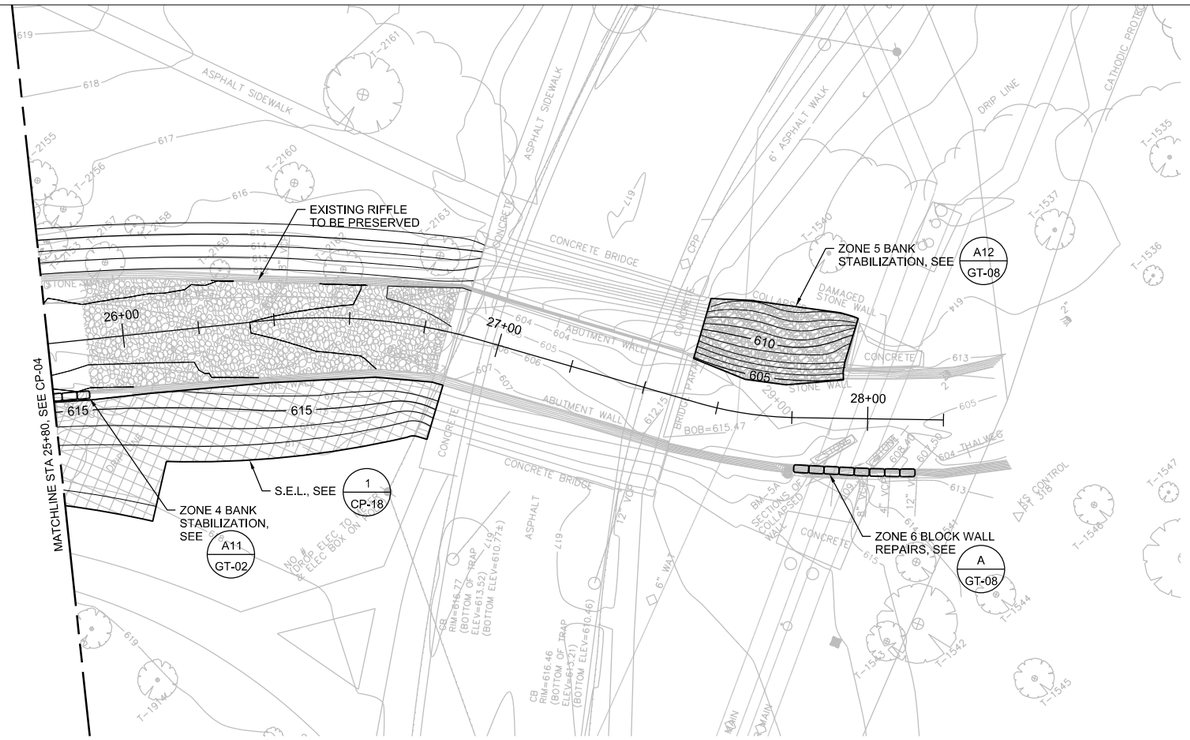
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

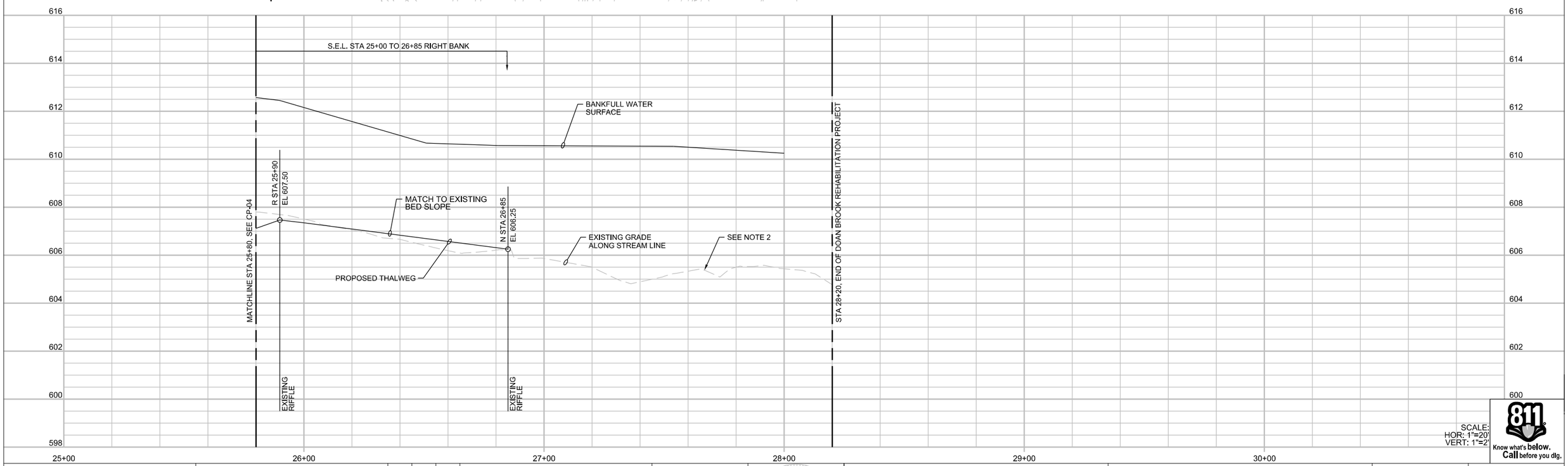
PROJECT SET: 20 OF 60
CP SHEET: 04 OF 18
SHEET NO.: CP-04

FILENAME: 005-c-2104_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:04:51 PM

GENERAL NOTES:

1. R = RIFFLE
   N = RUN STATION
   P = POOL STATION
   S = STRUCTURE
2. DISTURBANCES TO THE STREAM BED DOWNSTREAM OF THE MARTIN LUTHER KING DRIVE BRIDGE DURING CONSTRUCTION SHALL BE REGRADED TO MATCH PRECONSTRUCTION TOP GRADING.





60% DRAWING SUBMITTAL

SCALE:
HOR: 1"=20'
VERT: 1"=2'

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DRAWN BY: S METCALF
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM PLAN AND PROFILE (5 OF 5)

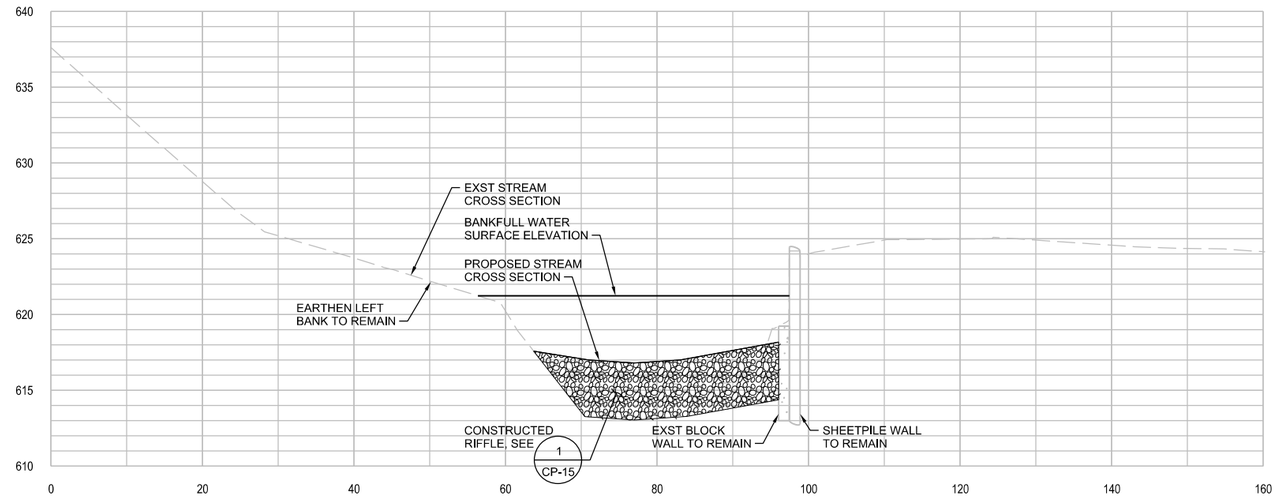
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 21 OF 60
CP SHEET: 05 OF 18
SHEET NO.: CP-05

FILENAME: 005-c-2105_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:06:24 PM

GENERAL NOTE:

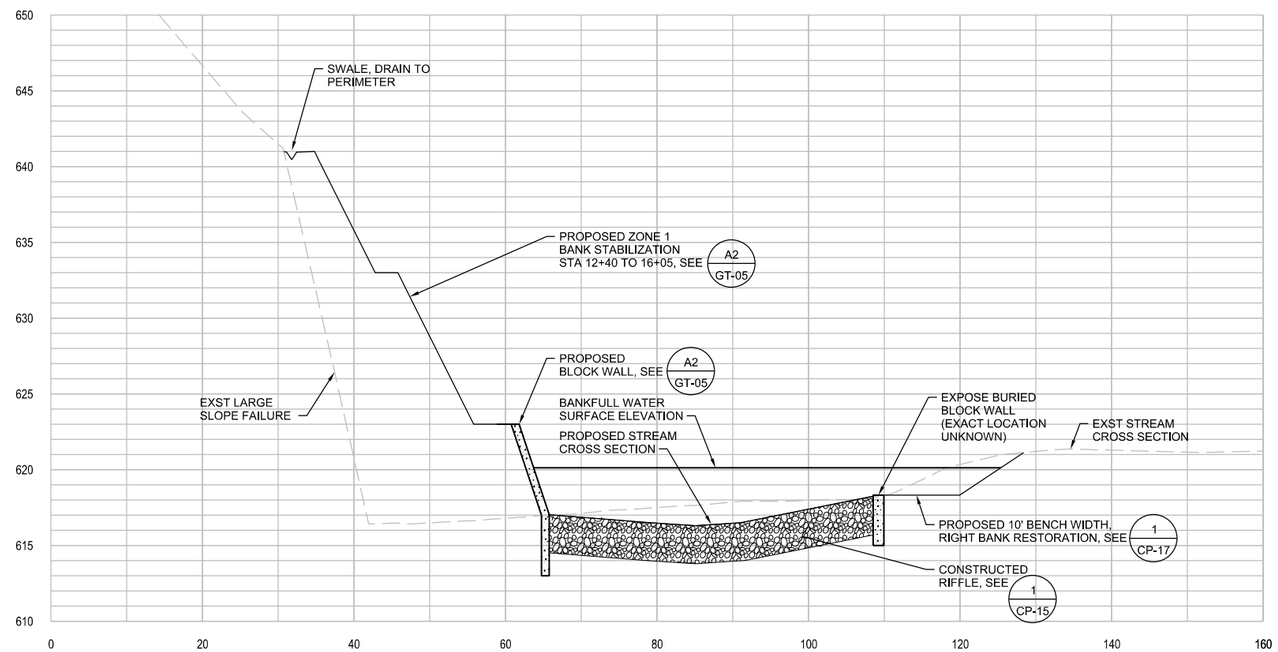
1. DEPTH OF EXISTING WALLS UNVERIFIED.



A CROSS SECTION @ STATION 12+05

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-01



B CROSS SECTION @ STATION 14+00

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-02

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS (1 OF 8)

WARNING
0 1/2 1
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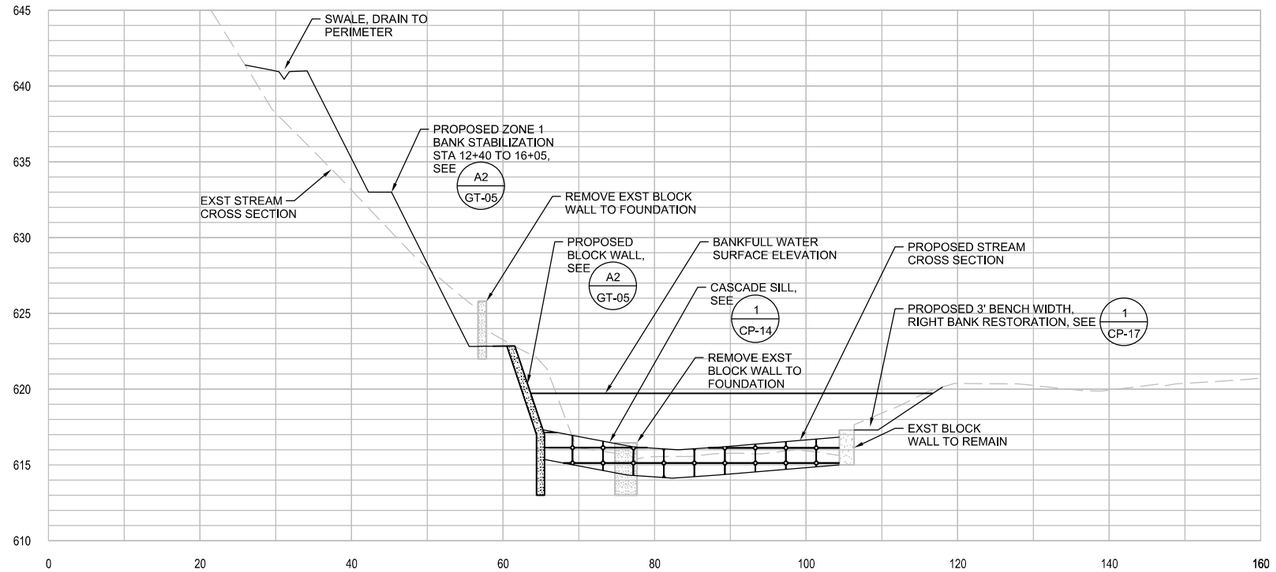
PROJECT SET: 22 OF 60
CP SHEET: 06 OF 18
SHEET NO.: CP-06

FILENAME: 005-c-2301_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:07:31 PM

GENERAL NOTE:

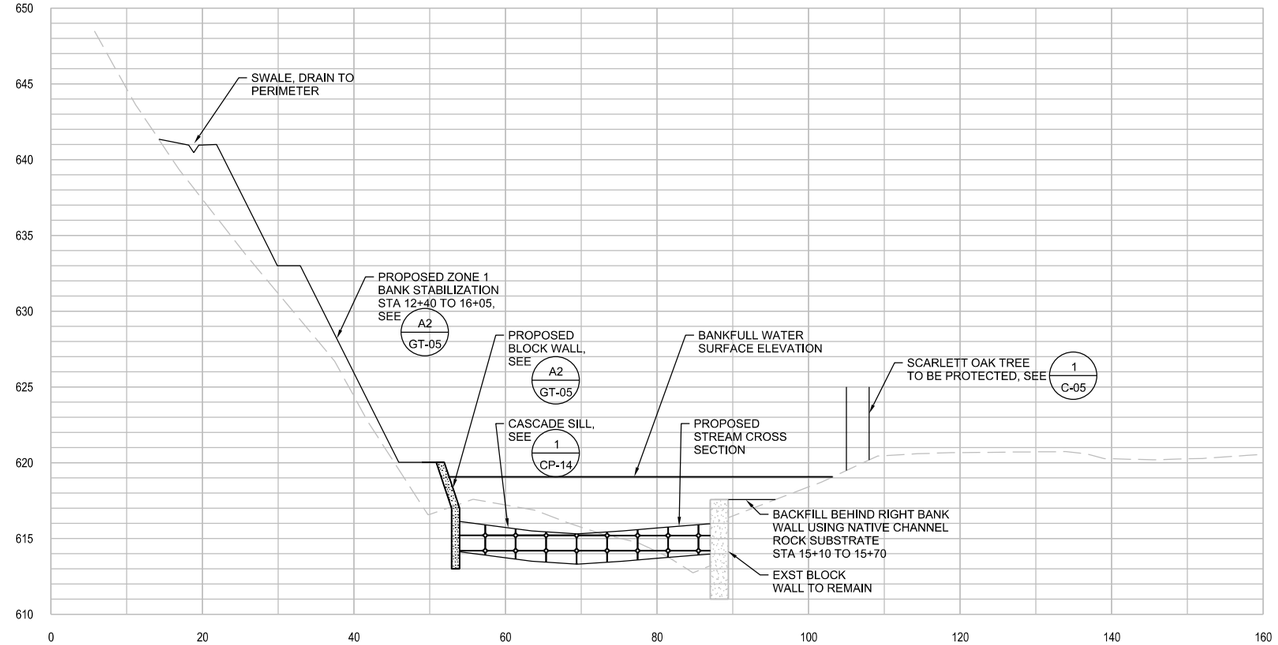
1. DEPTH OF EXISTING WALLS UNVERIFIED.



C CROSS SECTION @ STATION 14+80

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-02



D CROSS SECTION @ STATION 15+40

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-02

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DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS
(2 OF 8)

WARNING
0 1/2 1
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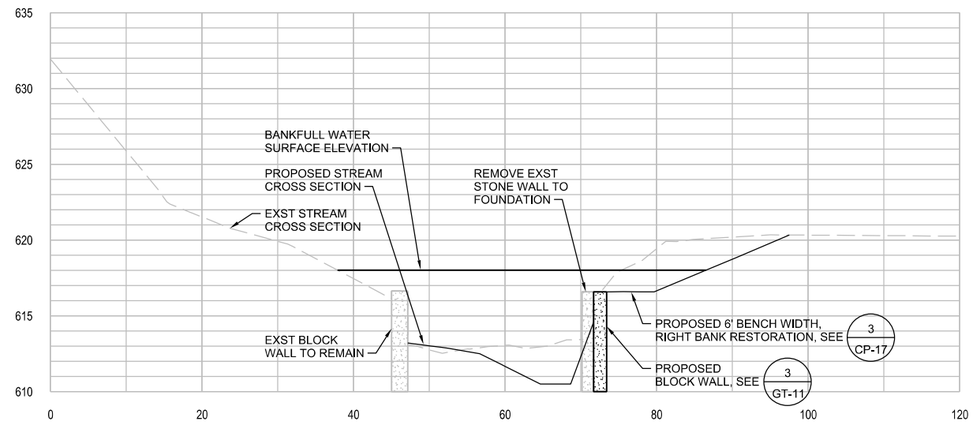
PROJECT SET: 23 OF 60
CP SHEET: 07 OF 18
SHEET NO.: CP-07

FILENAME: 005-c-2302_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:09:16 PM

GENERAL NOTE:

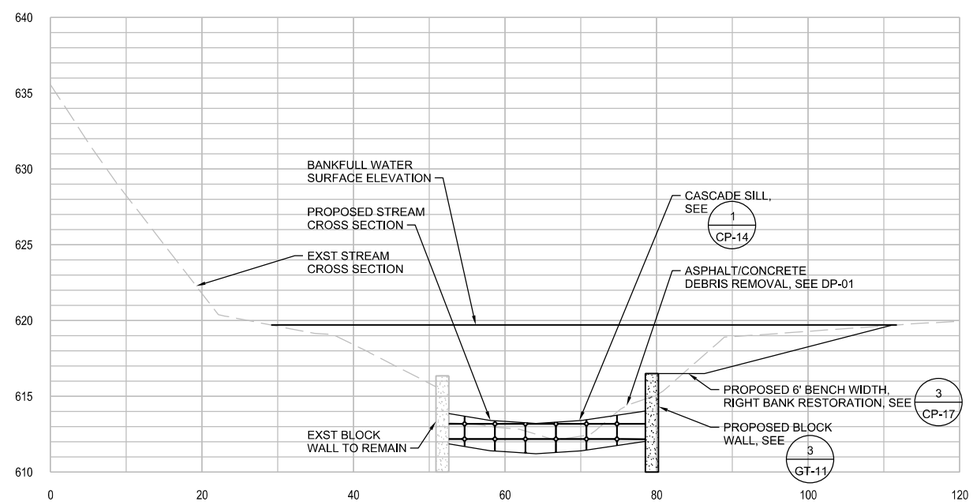
1. DEPTH OF EXISTING WALLS UNVERIFIED.



E CROSS SECTION @ STATION 16+45

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-02



F CROSS SECTION @ STATION 17+00

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-01, CP-02

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PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS (3 OF 8)

WARNING
0 1/2 1
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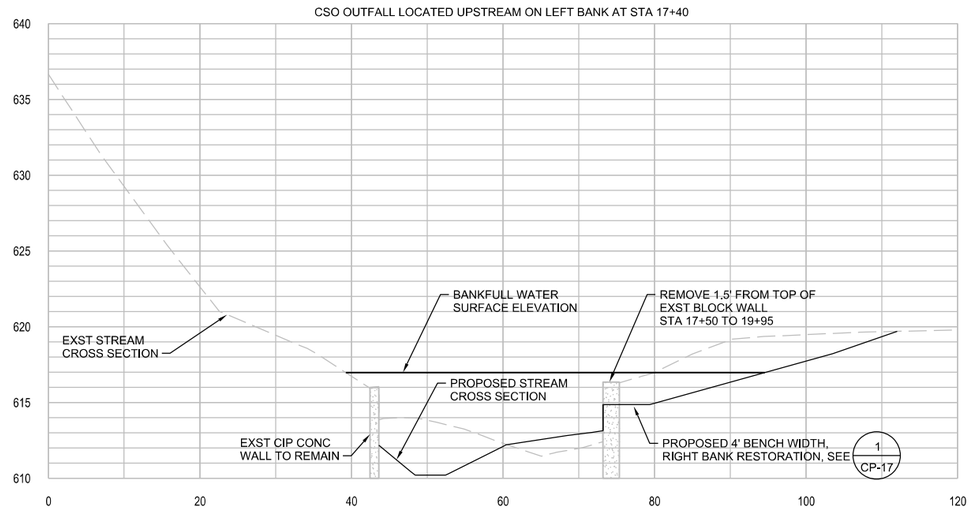
PROJECT SET: 24 OF 60
CP SHEET: 08 OF 18
SHEET NO.: CP-08

FILENAME: 005-c-2303_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:10:21 PM

GENERAL NOTE:

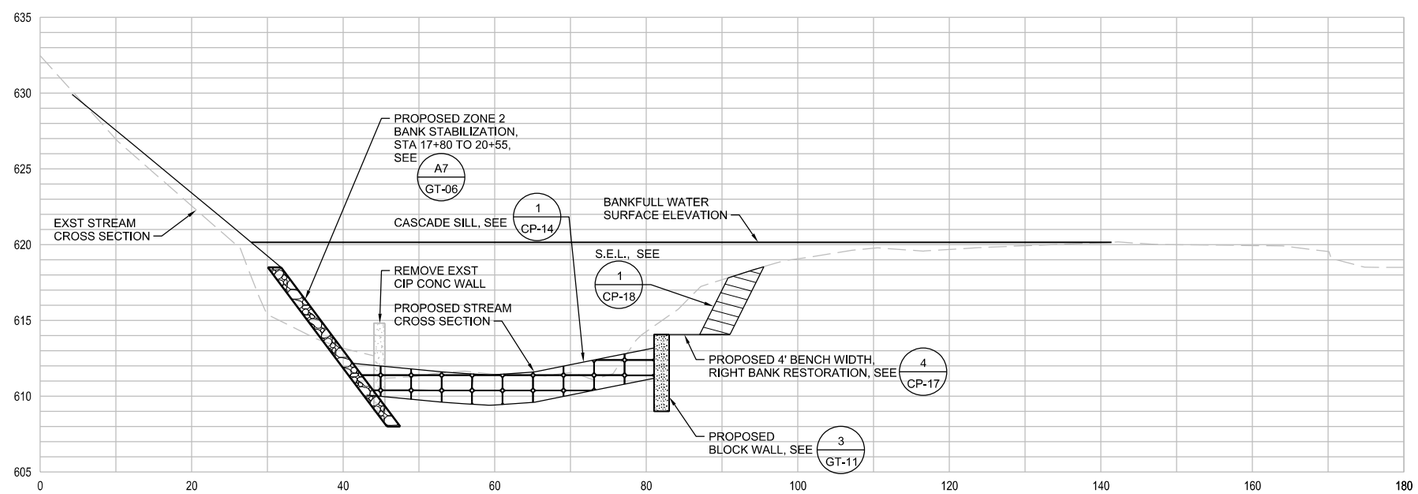
1. DEPTH OF EXISTING WALLS UNVERIFIED.



G CROSS SECTION @ STATION 17+53

CG-01, CP-02

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'



H CROSS SECTION @ STATION 20+08

CG-02, CP-03

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

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PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS (4 OF 8)

WARNING
0 1/2 1
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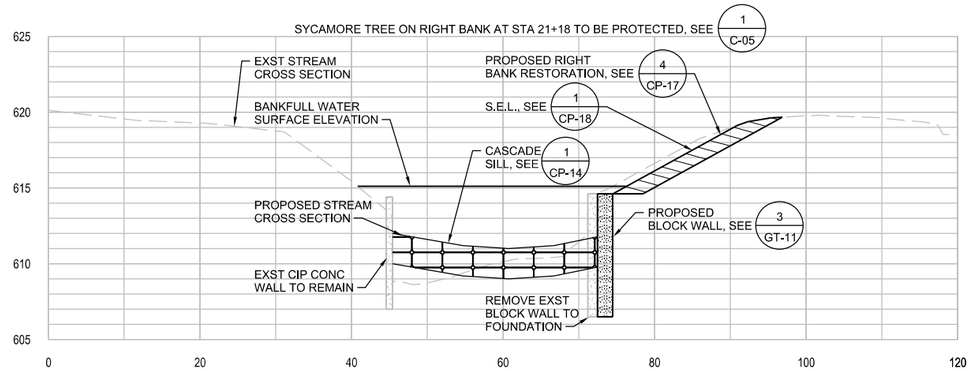
PROJECT SET: 25 OF 60
CP SHEET: 09 OF 18
SHEET NO.: CP-09

FILENAME: 005-c-2304_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:11:27 PM

GENERAL NOTE:

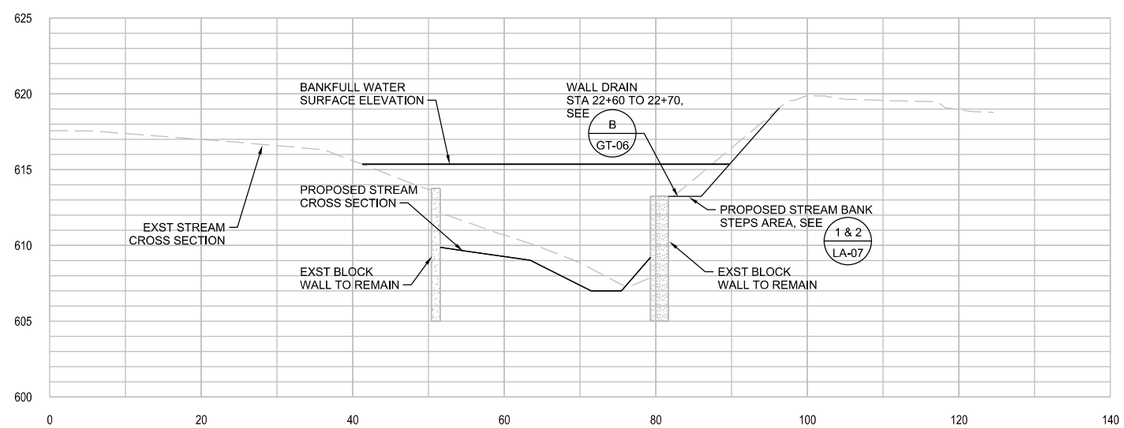
1. DEPTH OF EXISTING WALLS UNVERIFIED.



I — CROSS SECTION @ STATION 21+40

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-03



J — CROSS SECTION @ STATION 22+60

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-04

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PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS (5 OF 8)

WARNING
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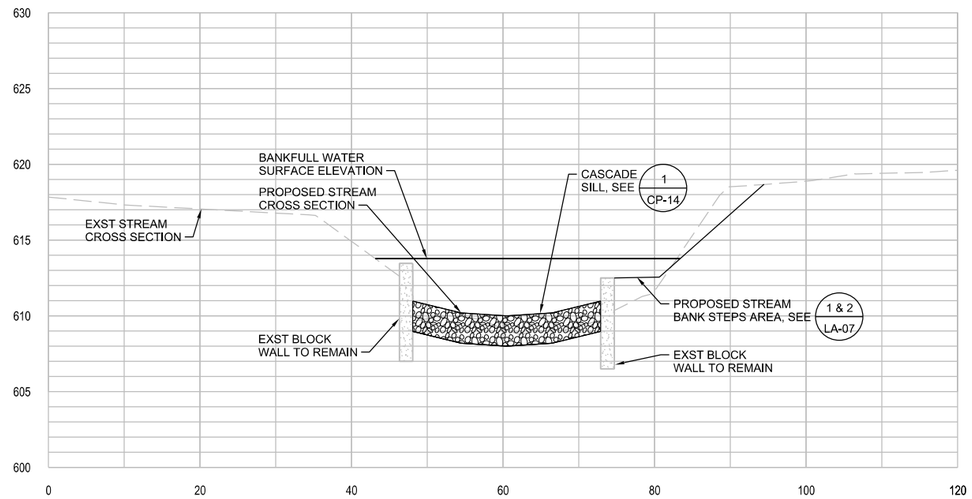
PROJECT SET: 26 OF 60
CP SHEET: 10 OF 18
SHEET NO.: CP-10

FILENAME: 005-c-2305_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:12:30 PM

GENERAL NOTE:

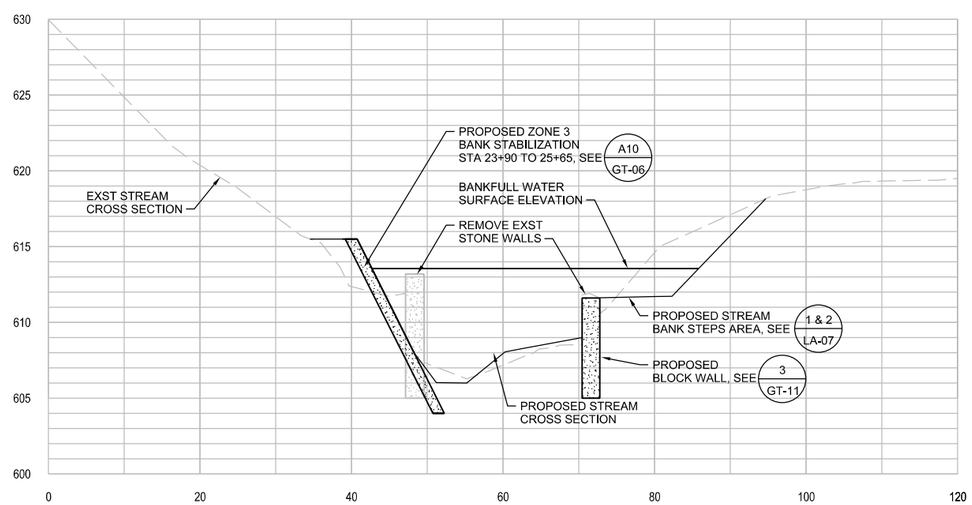
1. DEPTH OF EXISTING WALLS UNVERIFIED.



K CROSS SECTION @ STATION 23+40

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-04



L CROSS SECTION @ STATION 24+15

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-04

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ISSUED DATE: AUGUST 2012

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DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS
(6 OF 8)

WARNING
0 1/2 1
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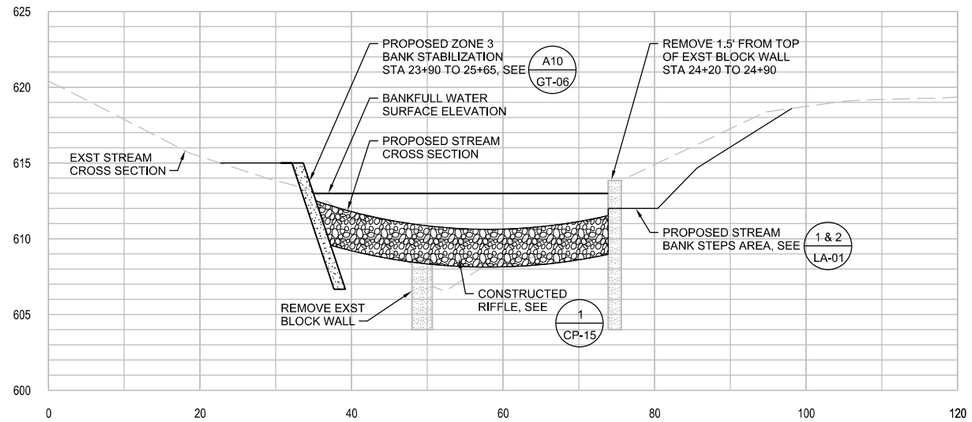
PROJECT SET: 27 OF 60
CP SHEET: 11 OF 18
SHEET NO.: CP-11

FILENAME: 005-c-2306_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:13:26 PM

GENERAL NOTE:

1. DEPTH OF EXISTING WALLS UNVERIFIED.

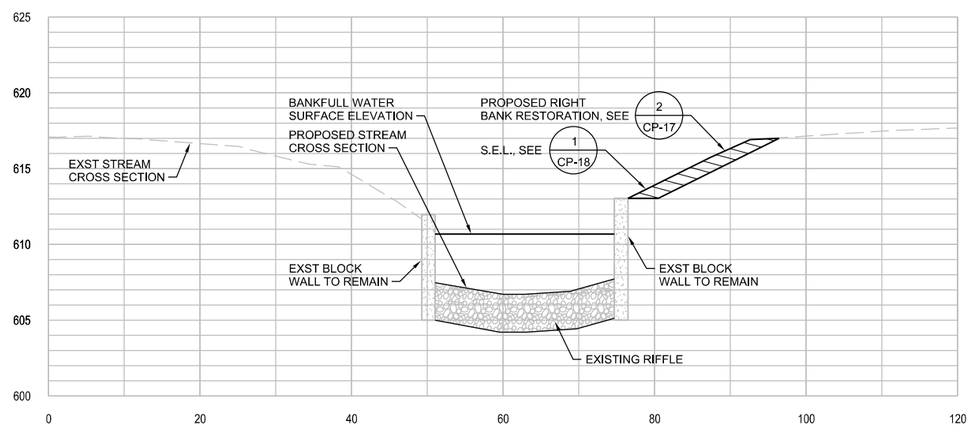


M

CROSS SECTION @ STATION 24+90

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-04



N

CROSS SECTION @ STATION 26+51

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

CG-02, CP-05

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS
(7 OF 8)

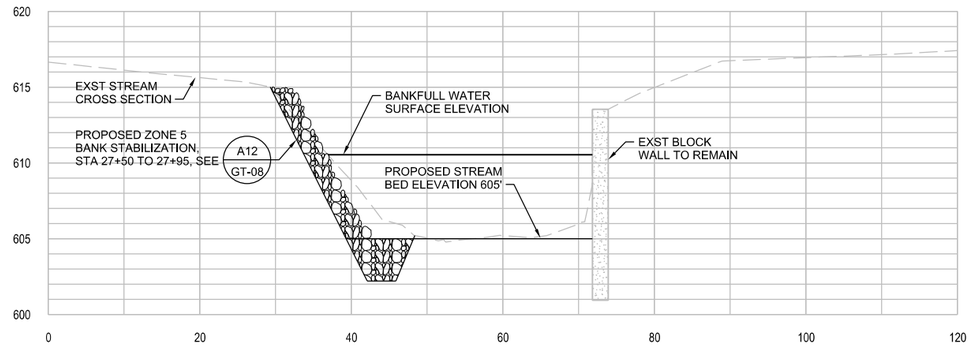
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 28 OF 60
CP SHEET: 12 OF 18
SHEET NO.: CP-12

FILENAME: 005-c-2307_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 1:14:29 PM

GENERAL NOTE:

1. DEPTH OF EXISTING WALLS UNVERIFIED.



O CROSS SECTION @ STATION 27+60

CG-02, CP-05

HORIZONTAL : 1" = 10'
VERTICAL : 1" = 5'

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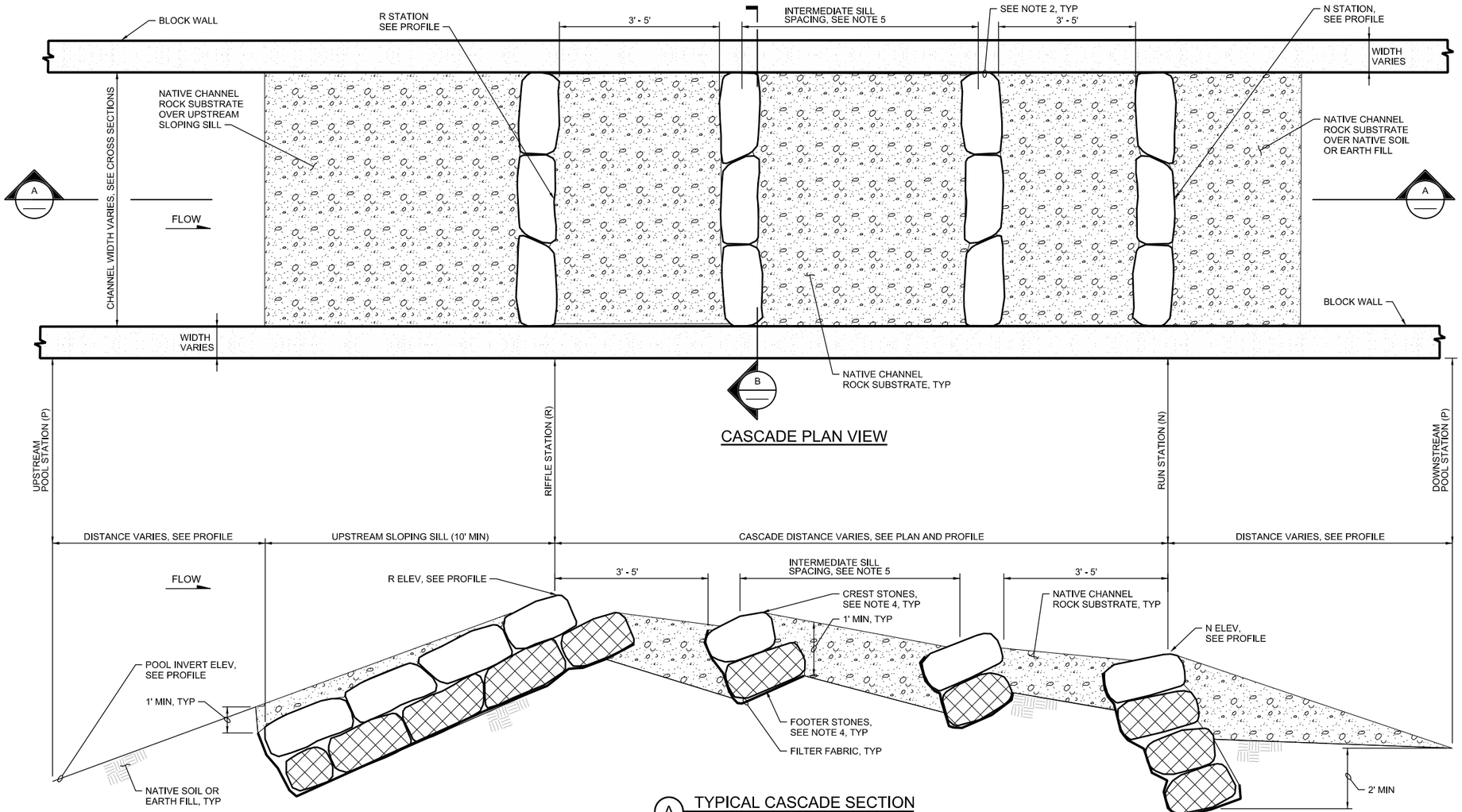
PROJECT NO.: 1131

CIVIL
STREAM CROSS SECTIONS (8 OF 8)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

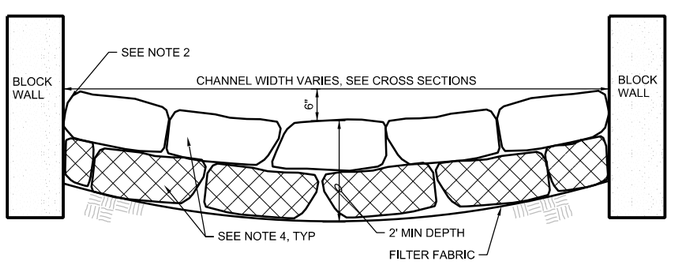
PROJECT SET: 29 OF 60
CP SHEET: 13 OF 18
SHEET NO.: CP-13

FILENAME: 005-c-2308_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:49:38 AM



CASCADE PLAN VIEW

A TYPICAL CASCADE SECTION
NTS



B TYPICAL SILL SECTION
NTS

1 CASCADE DETAIL
NTS

CP-02, CP-03, CP-04,
CP-07, CP-08, CP-09,
CP-10, CP-11

GENERAL NOTES:

1. SEE PROFILE FOR STATIONS AND ELEVATION OF RIFFLES, RUNS, AND POOLS.
2. ABUT SILL CREST AND FOOTER STONES FIRMLY AGAINST EXISTING AND/OR PROPOSED BLOCK WALLS AT BANKS.
3. INSTALL SILL STONES SUCH THAT THEY ARE IN COMPRESSION AGAINST FORCE OF WATER FLOW.
4. CREST AND FOOTER STONES SHALL BE LIMESTONE BLOCKS MIN 4'x2'x1' FOR CASCADE CONSTRUCTION.
5. EVENLY SPACE INTERMEDIATE SILLS BETWEEN RIFFLE AND RUN SILLS. INTERMEDIATE SILL CREST ELEVATION UNIFORMLY SLOPED BETWEEN RIFFLE AND RUN ELEVATION

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DRAWN BY: R GRAY
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

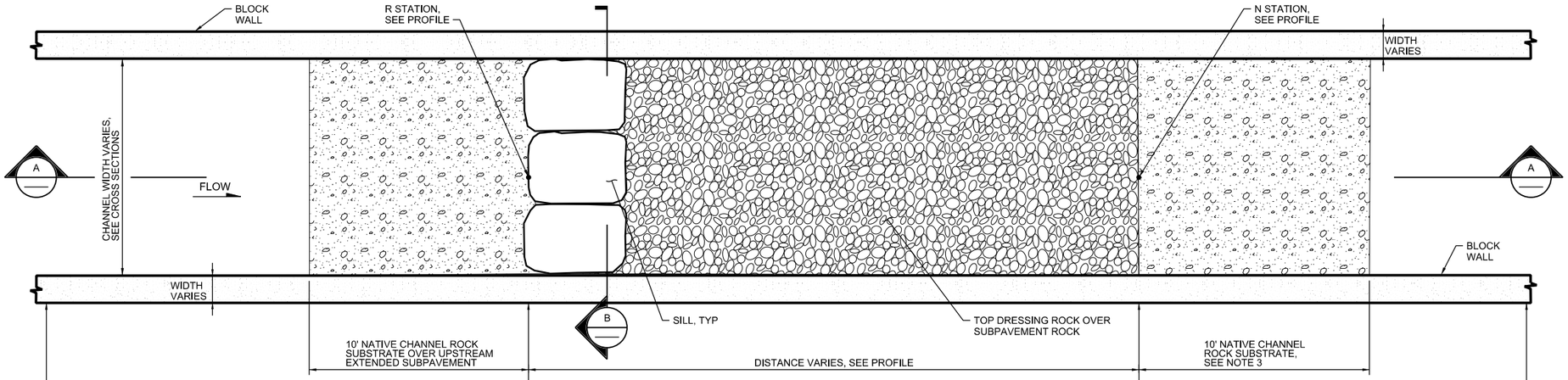
DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM STABILIZATION DETAILS
(1 OF 5)

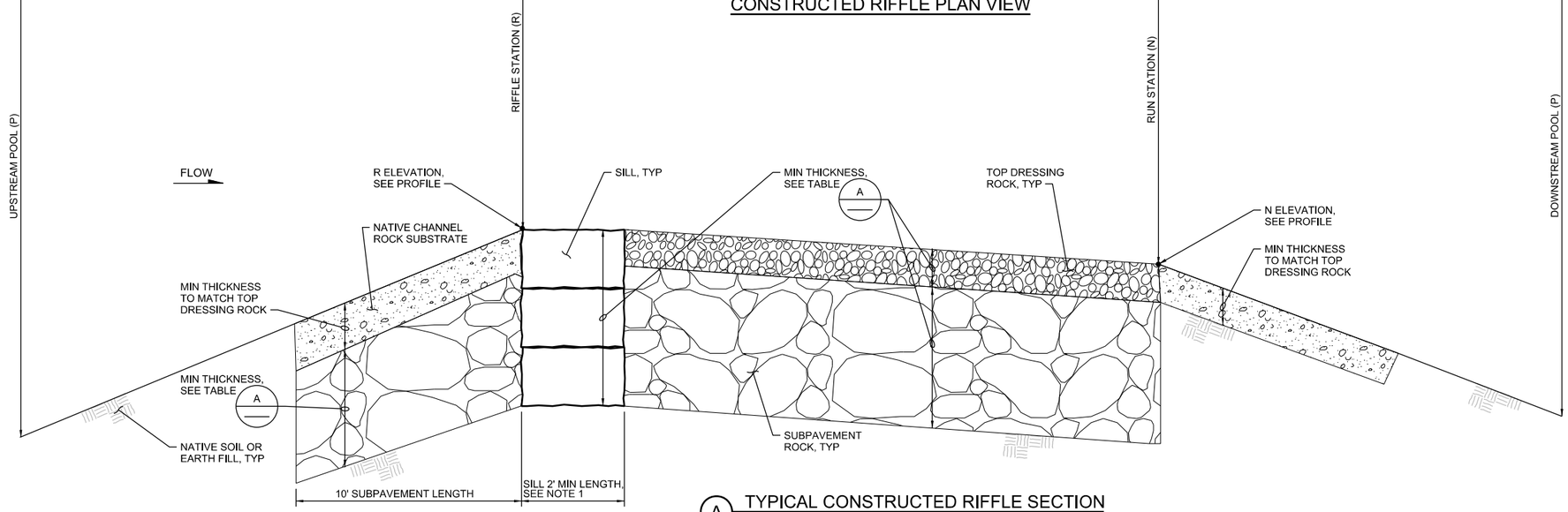
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 30 OF 60
CP SHEET: 14 OF 18
SHEET NO.: CP-14

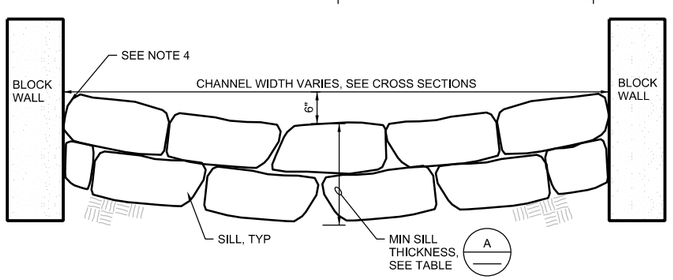
FILENAME: 005-c-2309_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:04:52 PM



CONSTRUCTED RIFFLE PLAN VIEW



A TYPICAL CONSTRUCTED RIFFLE SECTION
NTS



B TYPICAL SILL SECTION
NTS

1 CONSTRUCTED RIFFLE DETAIL
NTS

CP-01, CP-02, CP-04, CP-06, CP-12, CP-16

GENERAL NOTES:

1. FOR SILL ROCK, SELECT LARGEST ROCKS FROM SUBPAVEMENT ROCK TYPE IN TABLE, SEE A.
2. SEE PROFILE FOR STATIONS AND ELEVATIONS OF RIFFLES, RUNS AND POOLS.
3. AT STA 12+65 NATIVE CHANNEL ROCK SUBSTRATE WILL BE REPLACED BY J-HOOK VANE, SEE 1 CP-16.
4. ABUT STONES FOR SILL FIRMLY AGAINST EXISTING AND/OR PROPOSED BLOCK WALLS AT BANKS.

RIFFLE COMPONENT	ODOT LIMESTONE ROCK TYPE STARTING AT STATION:		MIN THICKNESS	
	12+05 (J-HOOK)	14+00 AND 24+90 (NON J-HOOK)	12+05	14+00 24+90
SILL	TYPE B SELECT >18" MEDIAN DIAMETER STONES	TYPE C SELECT >12" MEDIAN DIAMETER STONES	48"	30"
SUBPAVEMENT ROCK	TYPE B	TYPE C	36"	18"
TOP DRESSING ROCK	TYPE C	NATIVE CHANNEL ROCK SUBSTRATE	12"	12"

A ROCK TYPE TABLE

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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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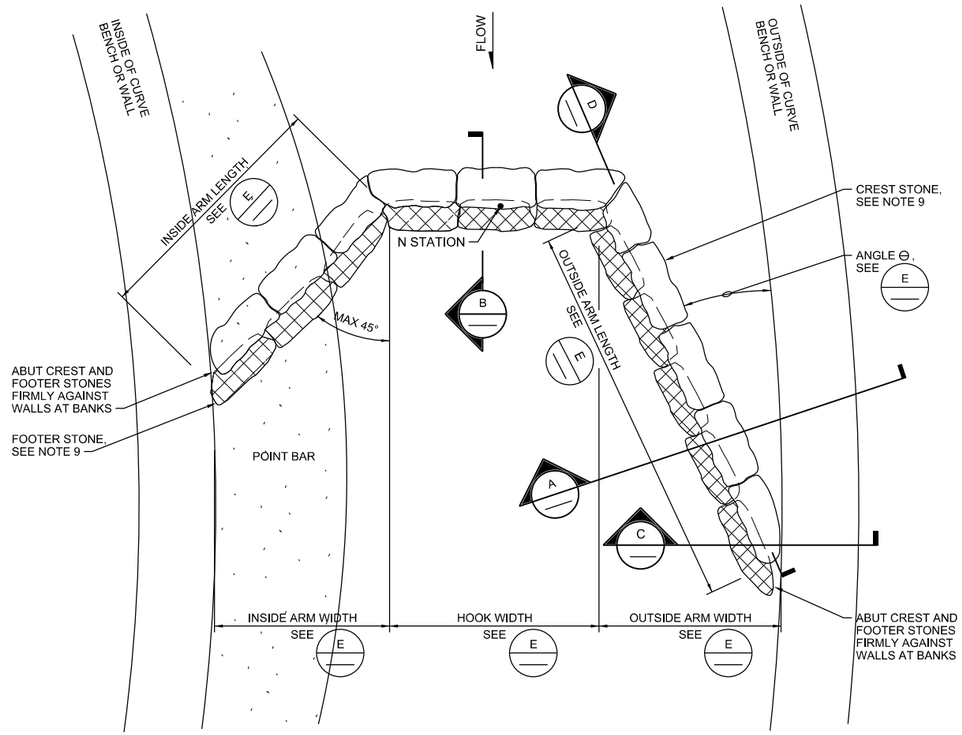
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM STABILIZATION DETAILS (2 OF 5)

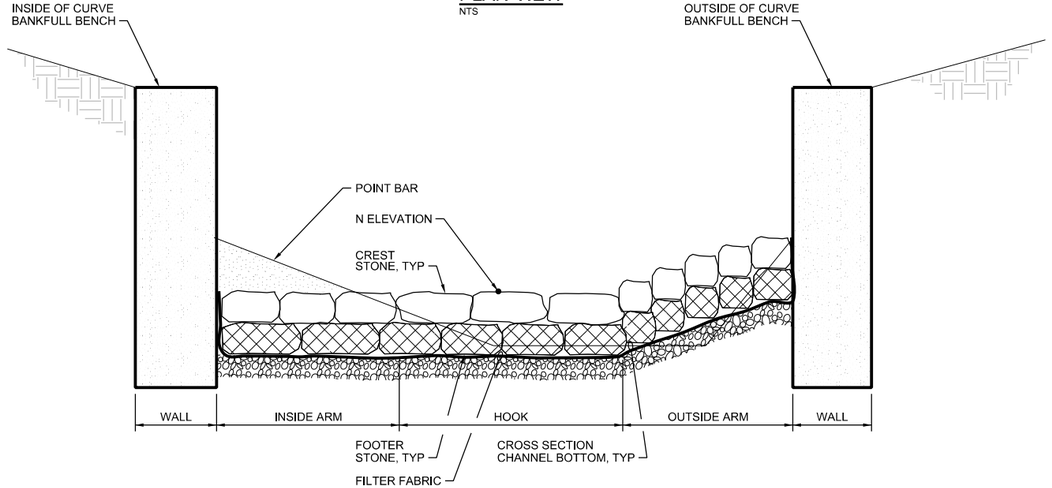
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 31 OF 60
CP SHEET: 15 OF 18
SHEET NO.: CP-15

FILENAME: 005-c-2310_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:05:55 PM

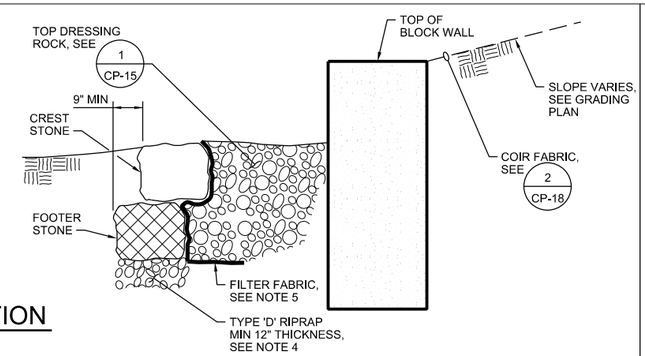


PLAN VIEW
NTS

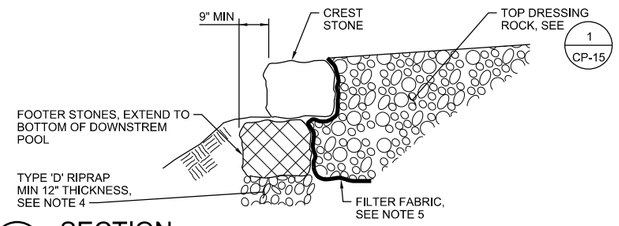


FRONT ELEVATION (LOOKING UPSTREAM)
NTS

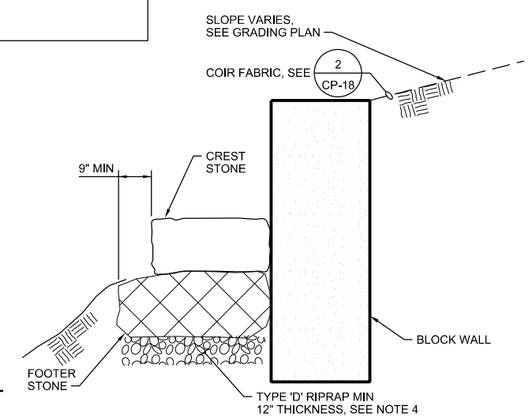
1 J-HOOK VANE DETAIL
NTS
CP-01, CP-16



A SECTION
NTS



B SECTION
NTS



C SECTION
NTS

GENERAL NOTES:

1. FOR RUN STATIONS AND ELEVATIONS SEE CP-01 TO CP-05.
2. RUN STATION AND ELEVATIONS SHOWN ARE SET AT THE TOP FRONT EDGE OF THE CREST STONES AS SHOWN IN THE FRONT ELEVATION VIEW. ALL HOOK AND INSIDE ARM CREST STONES SHALL BE INSTALLED PER THE DESIGN ELEVATION TOLERANCE WITH RESPECT TO THE CENTER CREST STONE TOP FACE ELEVATION, BUT NO LOWER THAN THE CENTER CREST STONE.
3. EXCAVATION FOR THE STRUCTURE BELOW FINAL GRADE WILL BE FROM THE FRONT FACE (I.E. DOWNSTREAM) OF THE STRUCTURE TO THE BACK (I.E. UPSTREAM) FACE OF THE STRUCTURE AS ILLUSTRATED IN THE PROFILE SECTION SERIES.
4. INSTALL A LIFT OF TYPE 'D' RIPRAP WITH A MINIMUM THICKNESS OF 12" AS THE FOUNDATION BELOW THE FOOTER STONES OF J-HOOK VANE.
5. FILTER FABRIC SHALL EXTEND TO BOTTOM OF FOOTER STONE AND 1 FT BEYOND FOOTER STONE. TRIM EXPOSED FILTER FABRIC TO WITHIN 1 INCH OF CREST STONE TOP.
6. J-HOOK VANE SHALL BE CONSTRUCTED WITH CREST STONES AND FOOTER STONES TO AVOID GAPS BETWEEN THE STONES.
7. WEDGE CENTER CREST STONES FROM UPSTREAM OF ARM STONES TO PREVENT DOWNSTREAM MOVEMENT OF CENTER CREST STONES.
8. ALL GAPS SHALL BE FILLED USING SMALLER PIECES OF STONE HAND-CHINKED UNTIL FLUSH WITH THE EDGES OF ADJACENT CREST STONES OR FOOTER STONES.
9. CREST AND FOOTER STONES SHALL BE LIMESTONE BLOCKS MIN 4'x2'x1' FOR J-HOOK VANE CONSTRUCTION.

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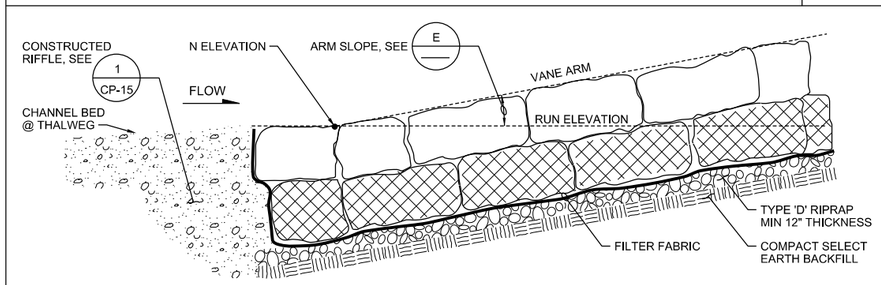
FEATURE	STRUCTURE DIMENSIONS
CHANNEL WIDTH (FT)	30 MIN
ARM ANGLE Θ	20° MAX
HOOK WIDTH (FT)	10 MAX
INSIDE ARM WIDTH (FT)	10 MIN
OUTSIDE ARM WIDTH (FT)	10 MIN
INSIDE ARM LENGTH (FT)	30 MIN
OUTSIDE ARM LENGTH (FT)	14 MIN
RISE ACROSS OUTSIDE ARM (FT)	1.85 MIN
OUTSIDE ARM SLOPE (%)	6.0 MAX
FOOTER THICKNESS (FT)	3.0 MIN

E J-HOOK DIMENSION TABLE
NTS



D ARM SIDE PROFILE
NTS

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DRAWN BY: R GRAY
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

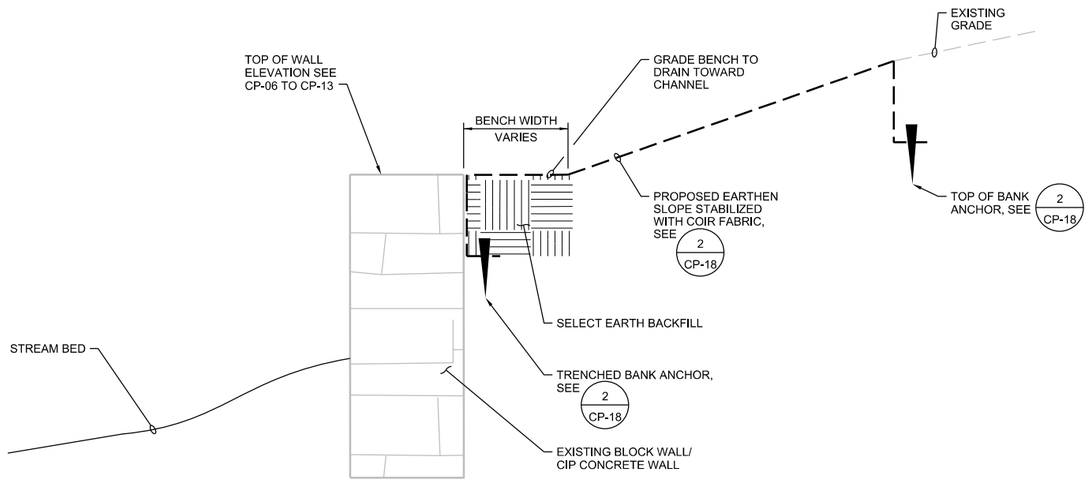
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM STABILIZATION DETAILS (3 OF 5)

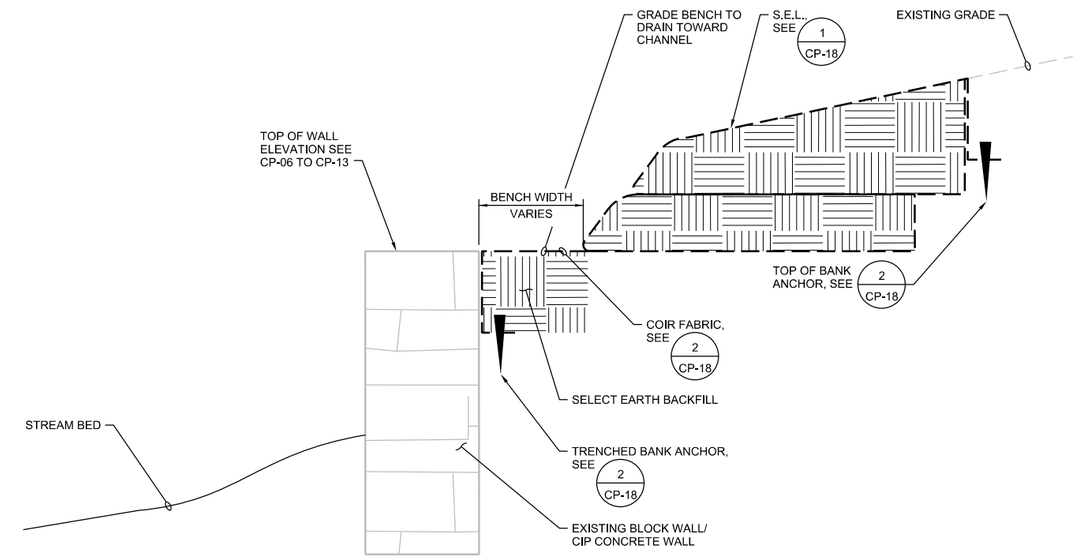
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 32 OF 60
CP SHEET: 16 OF 18
SHEET NO.: CP-16

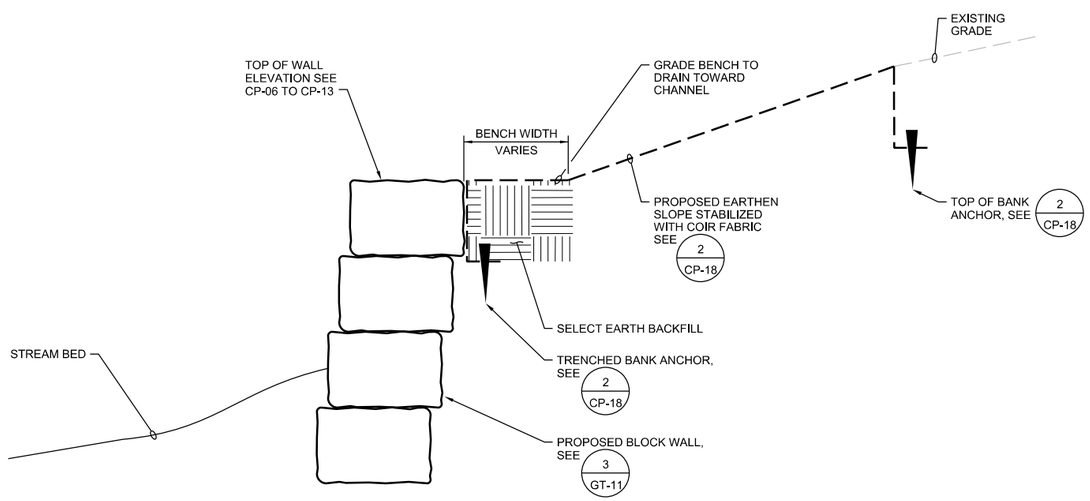
FILENAME: 005-c-2311_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:06:59 PM



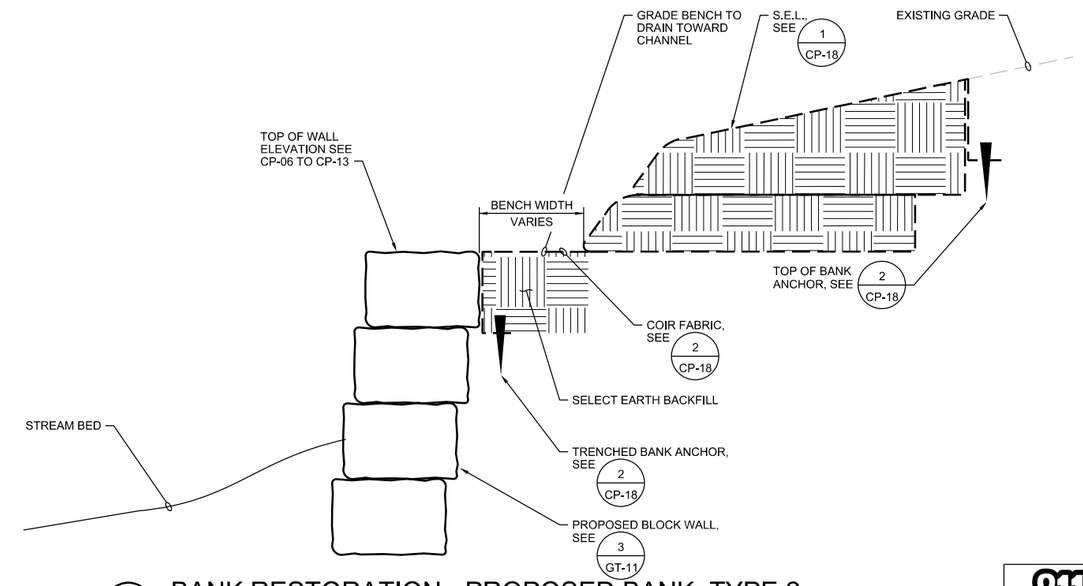
1 BANK RESTORATION - EXISTING WALL, TYPE 1
NTS
CP-06, CP-07, CP-09



2 BANK RESTORATION - EXISTING WALL, TYPE 2
NTS
CP-12



3 BANK RESTORATION - PROPOSED BANK, TYPE 1
NTS
CP-08



4 BANK RESTORATION - PROPOSED BANK, TYPE 2
NTS
CP-09, CP-10

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM STABILIZATION DETAILS (4 OF 5)

WARNING
0 1/2 1
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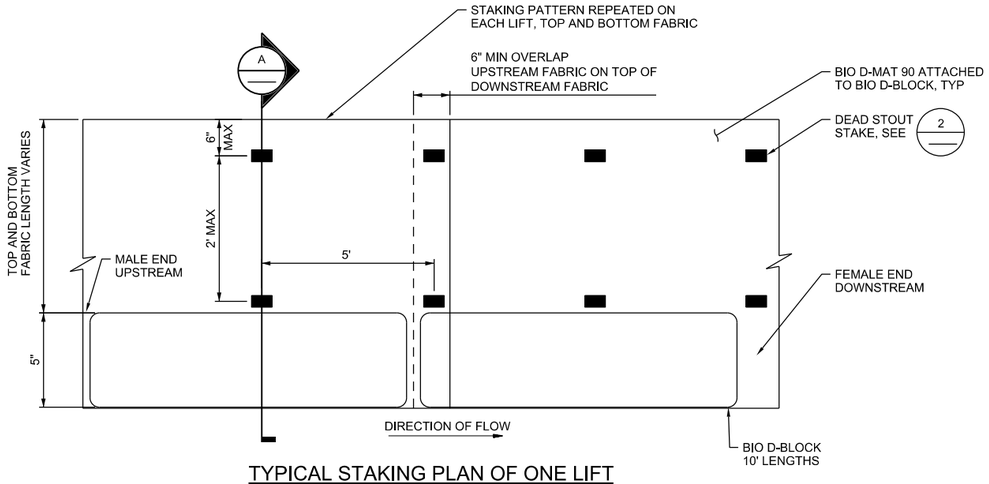
PROJECT SET: 33 OF 60
CP SHEET: 17 OF 18
SHEET NO.: CP-17

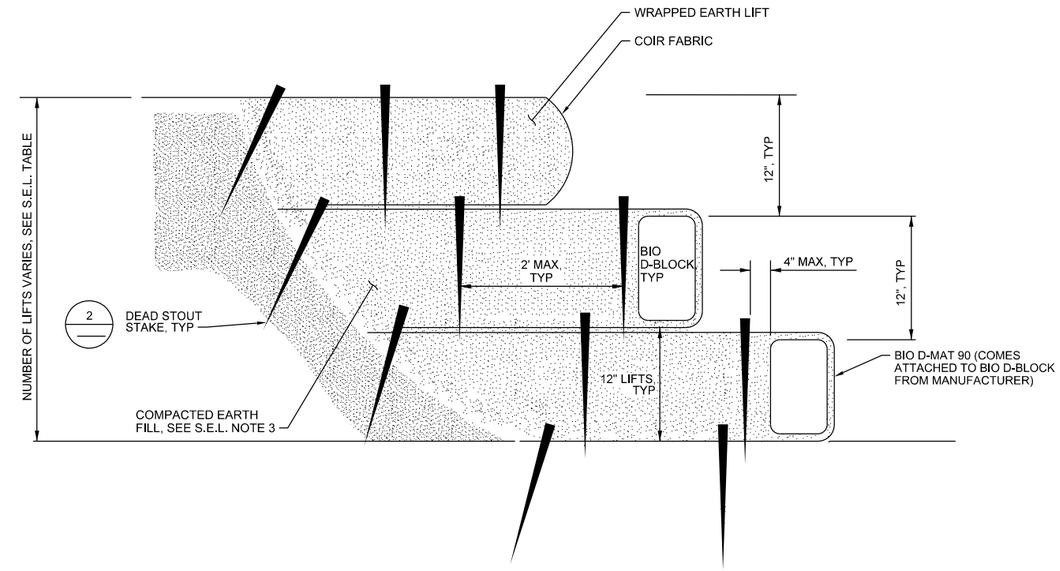
FILENAME: 005-c-2312_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:08:21 PM



TYPICAL STAKING PLAN OF ONE LIFT

CHANNEL BANK	APPROXIMATE UPSTREAM STATION	APPROXIMATE DOWNSTREAM STATION	APPROXIMATE NO. OF LIFTS		APPROXIMATE S.E.L. LENGTH (LF)
			BIO D-BLOCK LIFT	WRAPPED EARTH LIFT	
RIGHT	19+60	22+20	2	2	260
RIGHT	25+00	26+80	2	2	180

S.E.L. DIMENSION TABLE



A SECTION
NTS

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STAKING PLAN NOTES:

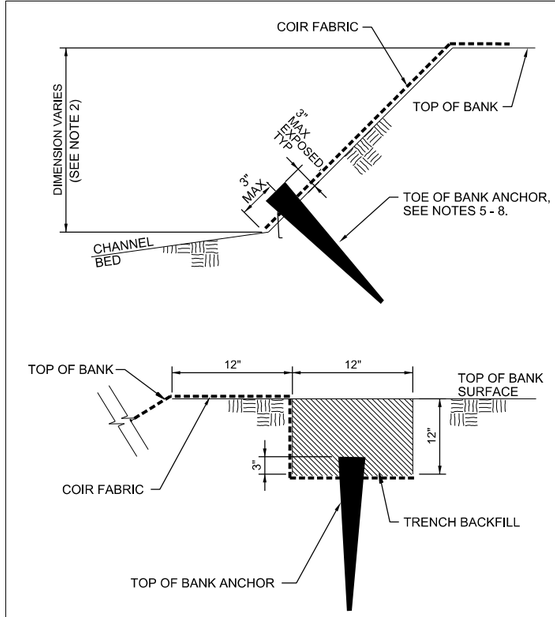
1. STAKES WILL BE SPACED ACROSS THE LENGTH OF BIO D-BLOCK. LEAVE AT LEAST 2" OF THE DEAD STAKE ABOVE GROUND.
2. INSERT MALE END OF SECOND BIO D-BLOCK INTO FEMALE END (DOWNSTREAM END) OF BIO D-BLOCK AND DRIVE STAKES THROUGH OVERLAPPING FABRICS AS SHOWN. ADD ADDITIONAL BLOCKS UNTIL THE DESIGN LENGTH IS ACHIEVED.
3. BACKFILL BOTTOM AND BACK OF BIO-D BLOCKS AND COMPACT PER INSTALLATION NOTES.
4. REPEAT STEPS AS NECESSARY FOR A MAX OF 2 BIO D-BLOCK LIFTS TOPPED WITH WRAPPED EARTH LIFTS UNTIL DESIRED HEIGHT IS ACHIEVED.

SECTION NOTES:

1. S.E.L. ARE TO BE CONSTRUCTED WITH A PREFABRICATED COIR BIO-D BLOCK 12-300 OR EQUAL TO MATCH DESIGN SLOPE AND TO PROVIDE OVERLAP OF FABRIC FOR PROPER INSTALLATION OF STAKES. SEE STAKING PLAN OF LIFT. BEFORE INSTALLING S.E.L., CLEAN AND GRADE BASE OF PROPOSED BANK. INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS - SEE WWW.ROLANKA.COM.
2. THE S.E.L. IS INSTALLED IN A SERIES OF INDIVIDUAL LIFTS (12" HIGH) WITH EACH SUCCESSIVE LIFT INSTALLED DIRECTLY ON TOP OF AND OFFSET LANDWARD FROM THE PREVIOUS LIFT. EACH SUCCESSIVE LIFT WILL BE INSTALLED DIRECTLY ON TOP OF AND OFFSET LANDWARD FROM THE PREVIOUS LIFT AS SHOWN.
3. COMPACT EACH LAYER OF BACKFILL, IN 6" MAXIMUM LIFTS, TO 90% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) AND / OR FILTER FABRIC.
4. REFER TO S.E.L. TABLE IN THIS DETAIL FOR NUMBER OF LIFTS. UP TO THE FIRST TWO LIFTS SHALL BE BIO-D BLOCK LIFTS. WRAPPED EARTH LIFTS SHALL BE SOIL LIFTS WRAPPED IN COIR FABRIC.
5. AFTER EACH LIFT HAS BEEN COMPACTED, BUT PRIOR TO COVERING WITH BIO-D MAT 90 ATTACHED TO BLOCK, BROADCAST APPLY A LAYER OF SEED OVER THE EXPOSED FACE OF THE S.E.L., INCLUDING THE COIR BLOCK. AFTER SEEDING, COVER WITH COIR FABRIC AND STAKE AS SHOWN. SEE LA-07 FOR PLANTING SCHEDULES.

1 SOIL ENCAPSULATED LIFT DETAIL
NTS (REVERSE FOR OPPOSITE BANK)

CP-03, CP-04, CP-05, CP-09, CP-10, CP-12, CP-16, CP-17, GT-06, GT-08



COIR FABRIC INSTALLATION NOTES:

1. DETAIL IS SHOWN FOR RIGHT BANK (LOOKING DOWNSTREAM) INSTALLATION. REVERSE FOR LEFT BANK INSTALLATION. CLEAN SOIL BACKFILL SHALL BE USED TO SECURE DEAD STOUT STAKES AND FABRIC INTO THE SOIL.
2. SEE STREAM CROSS SECTIONS FOR LENGTH OF COIR FABRIC WITHIN CHANNEL.
3. DEAD STOUT STAKES SHALL BE FASHIONED FROM UNTREATED 2"x2"x24" MIN PINE OR HARDWOOD WEDGE.
4. DEAD STOUT STAKES TO BE USED FOR SECURING ALL COIR FABRIC.
5. NAIL BARB STAKES REQUIRED IN THE TOE OF BANK ANCHOR ROW, UNLESS TRENCHED AS SPECIFIED.
6. NAIL HEAD DIAMETER SHALL BE ≥ 0.2 INCHES, PROTRUDING 2" FROM DEAD STOUT STAKE, AT 3" FROM HEAD OR USING PRE-DRILLED HOLE LOCATION.
7. NAIL SHALL ANGLE DOWNWARD AS SHOWN TO PRODUCE A "BARB" EFFECT.
8. DRIVE STAKE INTO GROUND SUCH THAT HEAD OF NAIL CATCHES ON COIR FABRIC AND BASE OF BARB IS FLUSH WITH THE GROUND.
9. COIR FABRIC SHALL BE INSTALLED ON ALL PREPARED, MULCHED AND SEEDED BANKS IMMEDIATELY AFTER GRADING. COIR FABRIC SHALL BE LAID IN THE DIRECTION OF FLOW ON CHANNEL BANKS "LOOSE" TO CONFORM TO IRREGULARITIES IN STREAM BANK AND TO ALLOW FOR TIGHTENING OF THE COIR FABRIC ON THE PROJECT AT ANY TIME. DETAILED INSTALLATION GUIDELINES ARE CONTAINED IN THE PROJECT SPECIFICATIONS.
10. REPEAT TOE OF BANK ANCHORS AT 3' SPACING DOWN THE CHANNEL. REPEAT ALL OTHER DEAD STOUT STAKES AT 6' SPACING.

2 COIR FABRIC INSTALLATION
NTS

CP-16, CP-17

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
STREAM STABILIZATION DETAILS (5 OF 5)

WARNING
0 1/2 1
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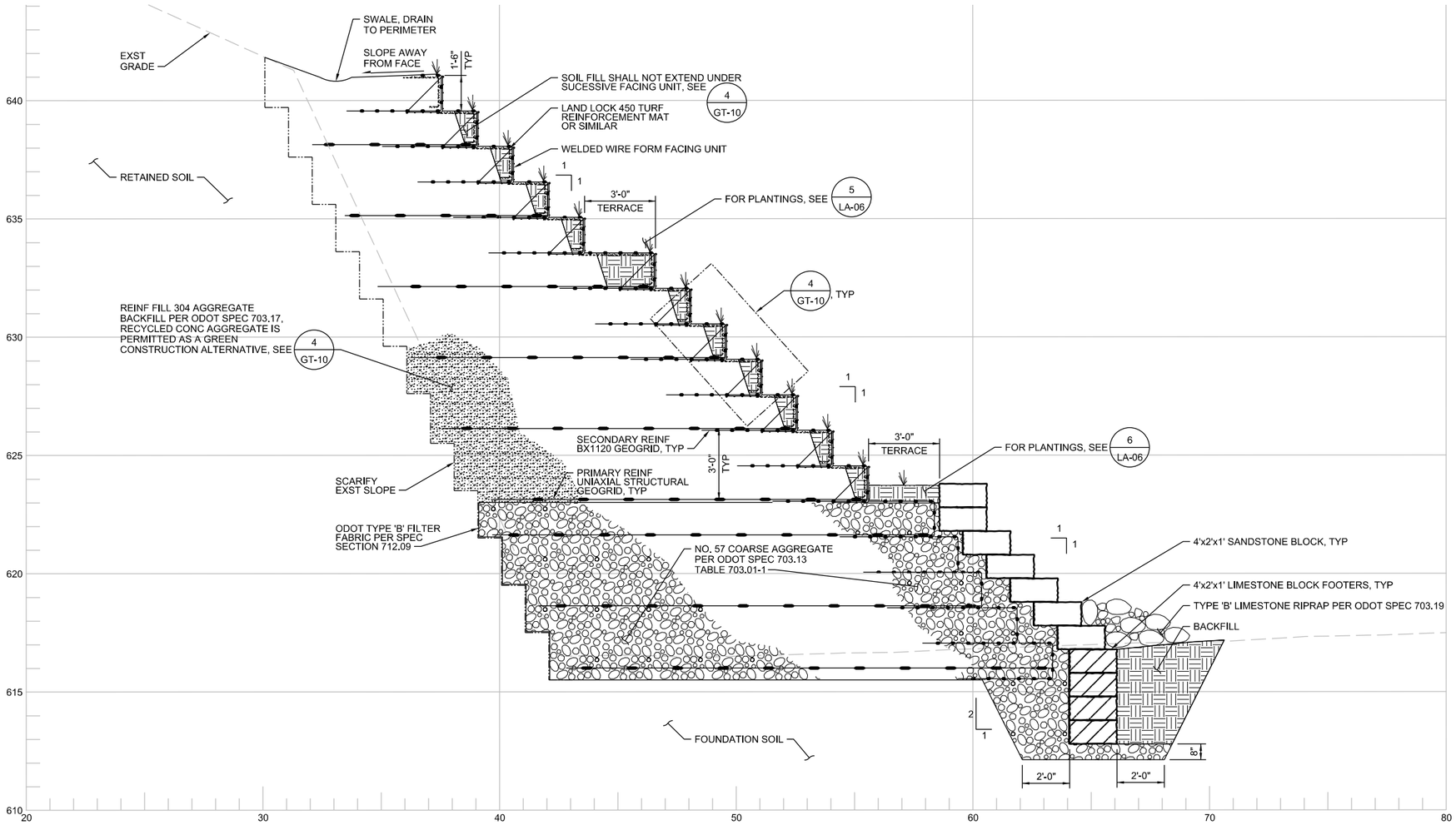
PROJECT SET: 34 OF 60
CP SHEET: 18 OF 18
SHEET NO.: CP-18

FILENAME: 005-c-2313_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:09:23 PM



ZONE 1 SECTION

A2 3/8"=1'-0"

CG-01, CP-01, CP-02, CP-06, CP-07

REINFORCED SOIL SLOPE						
MAX SLOPE ANGLE (DEGREES)	RETAINED SOIL ANGLE (DEGREES)	LEVEL	LENGTH	PRIMARY REINFORCEMENT ULTIMATE STRENGTH (LB/FT)	COVERAGE	PULLOUT INTERACTION FACTOR C
45		23.50	9.24	3974	100.0	0.800
		21.67	10.26	3974	100.0	0.800
		18.67	11.93	3974	100.0	0.800
		15.67	13.59	3974	100.0	0.800
		12.67	15.25	3974	100.0	0.800
		9.67	16.92	3974	100.0	0.800
		6.67	18.58	3974	100.0	0.800
		3.67	20.25	3974	100.0	0.800
		0.67	21.91	3974	100.0	0.800

NOTES:

1. GRID COORDINATES LEVELS ARE MEASURED FROM THE DATUM ------- AND HORIZONTAL LOCATION IS MEASURED FROM THE TOE OF THE WALL.
2. SECONDARY REINFORCEMENT SHALL HAVE A MINIMUM LONG TERM STRENGTH OF 400 PLF.

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APPROVED BY:
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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL SECTIONS (1 OF 4)

WARNING
0 1/2 1
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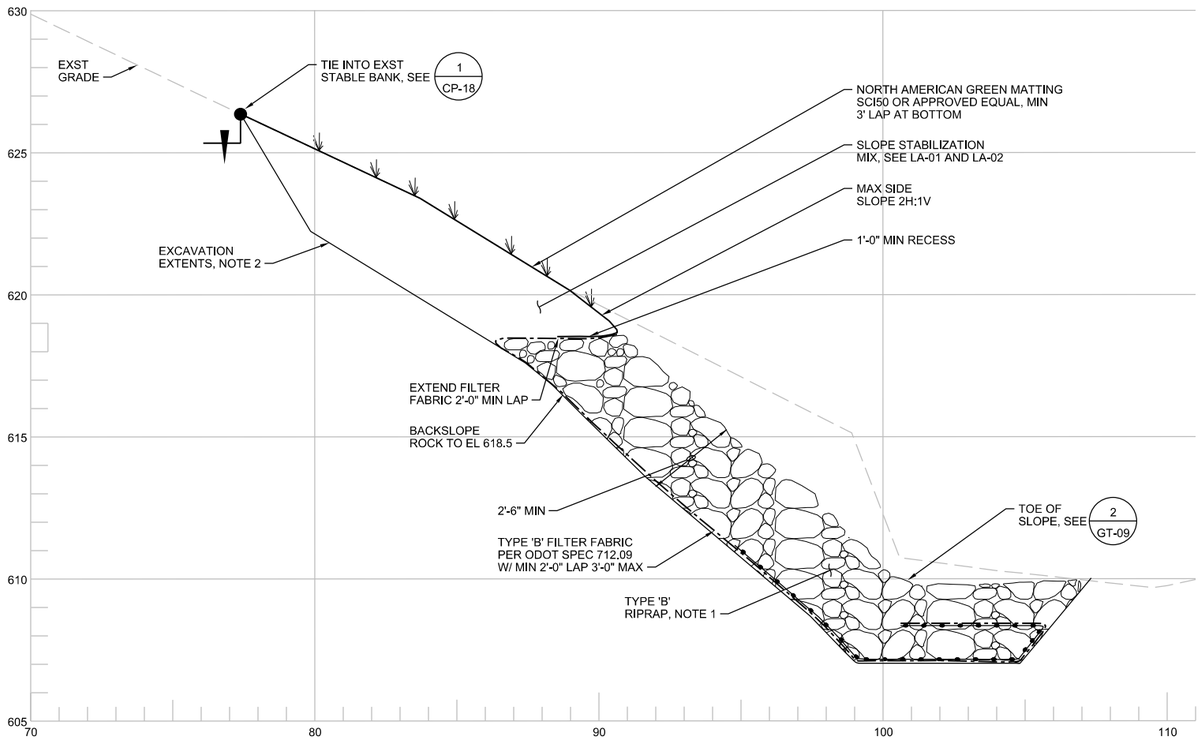
PROJECT SET: 39 OF 60
GT SHEET: 05 OF 11
SHEET NO.: GT-05

FILENAME: 005-b-3001_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:20:02 AM



NOTES:

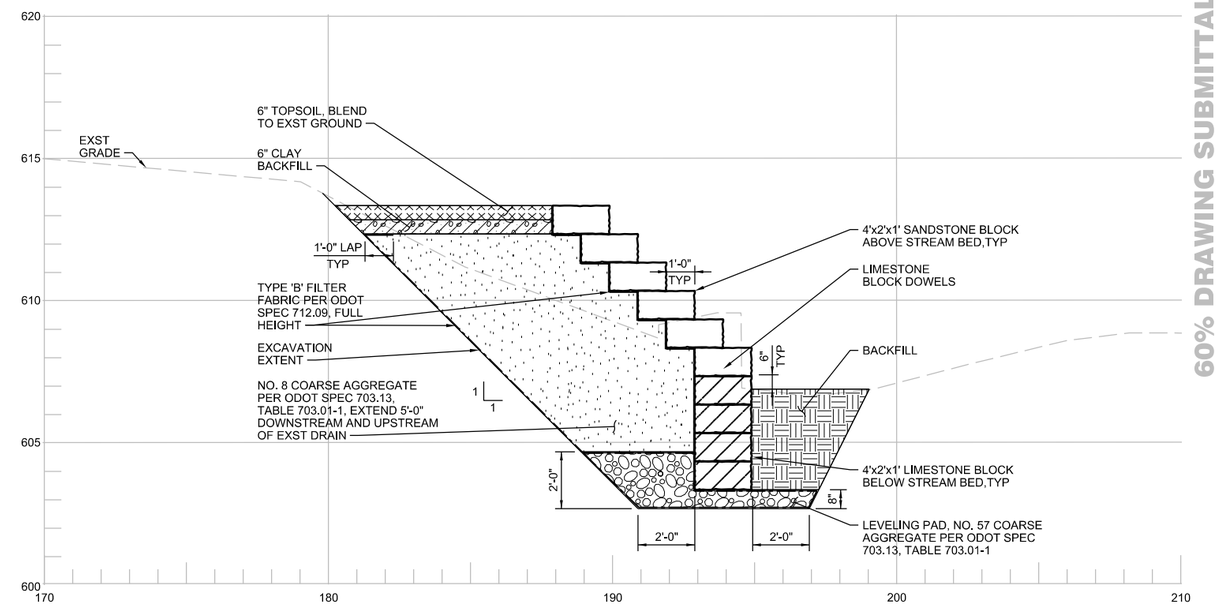
1. RIPRAP AND FABRIC PER ODOT SPEC 703.19 AND 712.09 RESPECTIVELY. MINIMUM DEPTH OF ROCK ALONG BANK SHALL BE 1.5 TIMES THE MINIMUM SPECIFIED ROCK THICKNESS, MEASURED PERPENDICULAR FROM THE EXCAVATED BANK FACE.
2. STEEPER SLOPE AT EXCAVATION EXTENTS ABOVE ROCK TO MINIMIZE CUT. MAINTAIN 2-FT MINIMUM AT TOP OF BANK.

ZONE 2 SECTION

A7

3/8"=1'-0"

CG-01, CG-02
CP-03



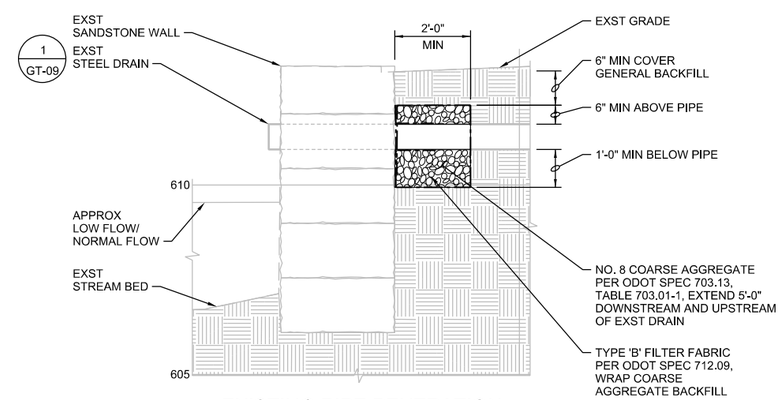
ZONE 3 SECTION

A10

3/8"=1'-0"

CG-02, CP-04,
CP-11, CP-12

60% DRAWING SUBMITTAL



EXISTING PIPE PENTRATION

SECTION

B

3/8"=1'-0"

CG-02, CP-04,
CP-10

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CROSS CHK'D BY: S MILLER
APPROVED BY:
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DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL SECTIONS
(2 OF 4)

WARNING
0 1/2 1
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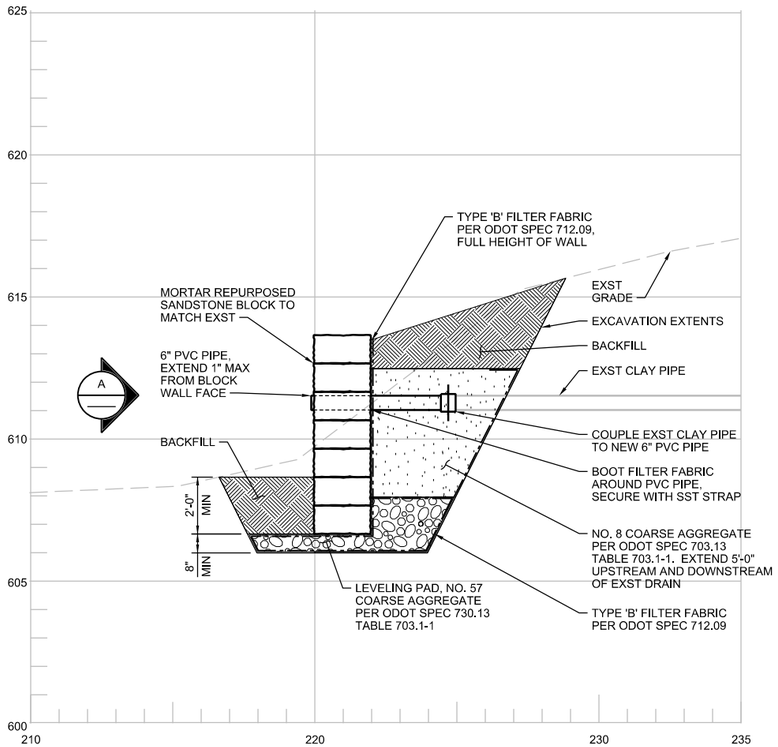
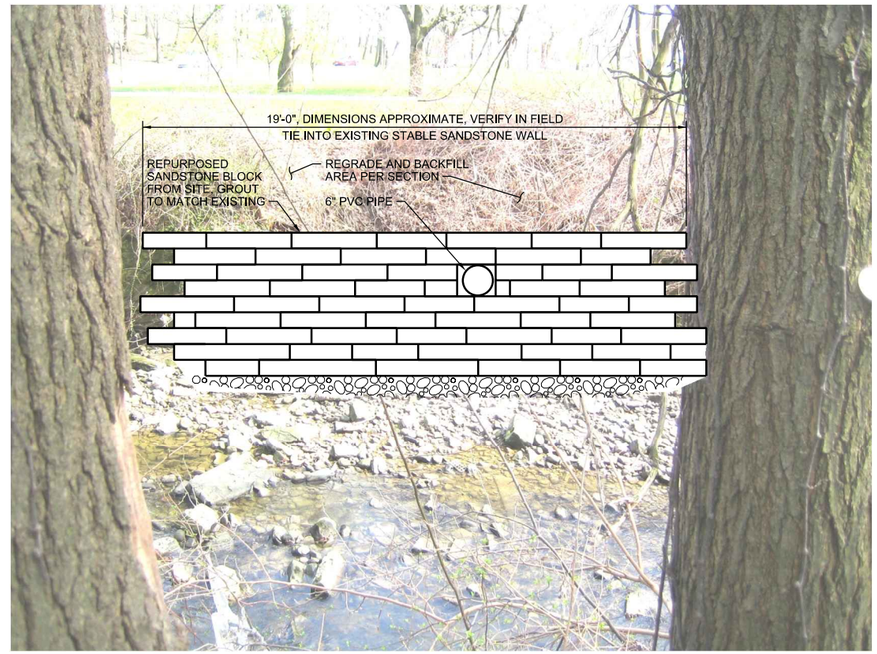
PROJECT SET: 40 OF 60
GT SHEET: 06 OF 11
SHEET NO.: GT-06

FILENAME: 005-b-3002_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:23:10 AM



A11 ZONE 4 SECTION
3/8"=1'-0"
CG-02, CP-04
CP-05



A ELEVATION
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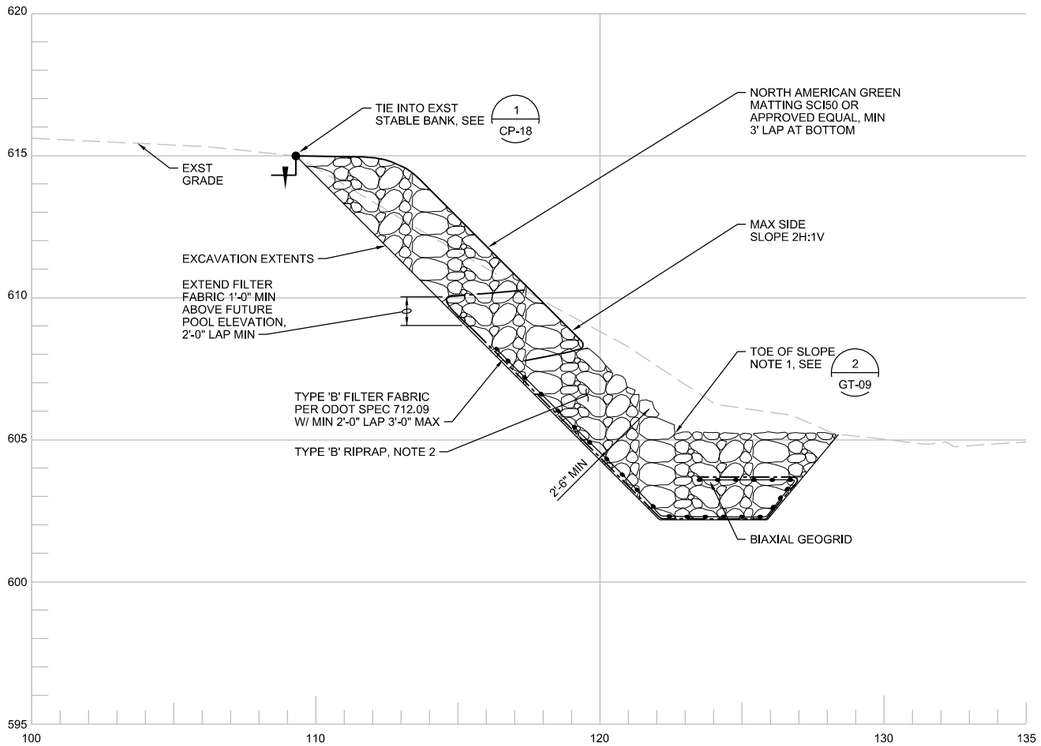
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL SECTIONS (3 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 41 OF 60
GT SHEET: 07 OF 11
SHEET NO.: GT-07

FILENAME: 005-b-3003_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:29:29 AM



NOTES:

1. LOCATE TOE OF SLOPE TO PROVIDE MINIMUM CHANNEL WIDTH.
2. RIPRAP AND FABRIC PER ODOT SPEC 703.19 AND 712.09 RESPECTIVELY. MINIMUM DEPTH OF ROCK ALONG BANK SHALL BE 1.5 TIMES THE MINIMUM SPECIFIED ROCK THICKNESS MEASURED PERPENDICULAR FROM THE EXCAVATED BANK FACE.

ZONE 5 SECTION

A12 — 3/8"=1'-0"

CG-02, CP-05
CP-13

NOTE:

1. FILL VOIDS BEHIND WALL WITH PEA GRAVEL DURING REPAIR OF EXISTING SANDSTONE WALL.

ZONE 6 ELEVATION

A — NTS

CG-02, CP-05
CP-13

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ISSUED DATE: AUGUST 2012

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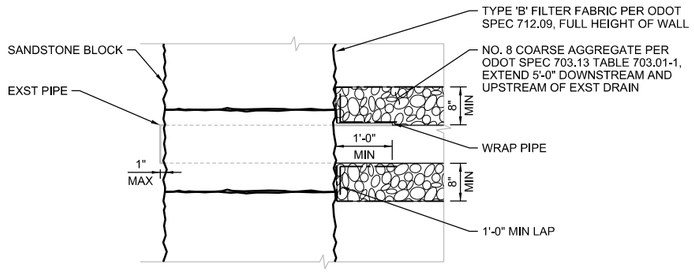
DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL SECTIONS
(4 OF 4)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 42 OF 60
GT SHEET: 08 OF 11
SHEET NO.: GT-08

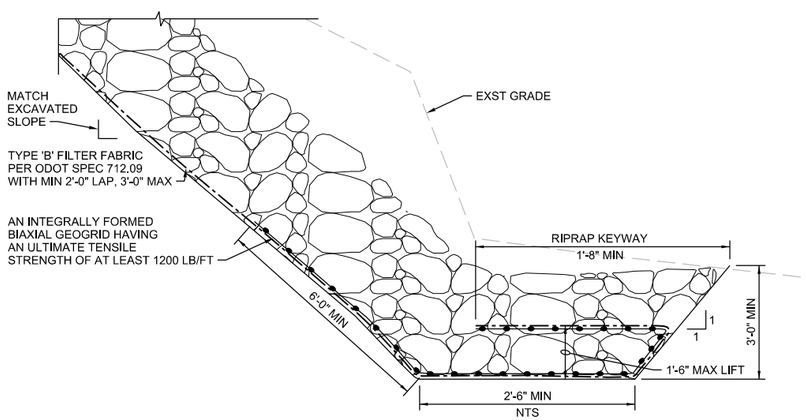
FILENAME: 005-b-3004_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:53:37 AM



1 TYPICAL PIPE PENETRATION DETAIL

NTS

CG-02



NTS

2 TOE DETAIL

1/2"=1'-0"

GT-06, GT-08

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Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: R MARTIN
DRAWN BY: C DAHL
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

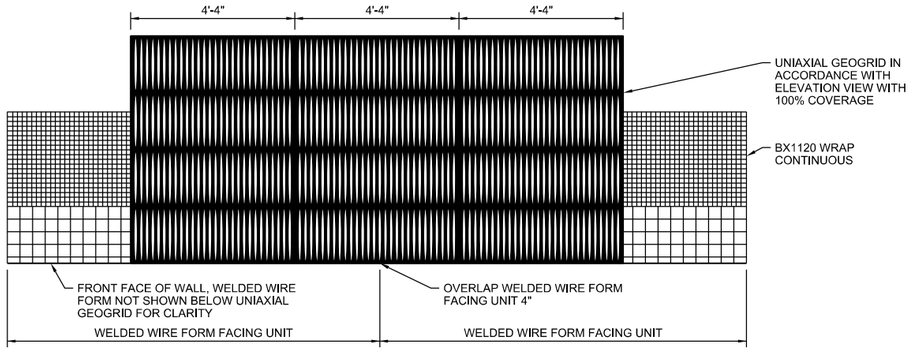
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL DETAILS (1 OF 3)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 43 OF 60
GT SHEET: 09 OF 11
SHEET NO.: GT-09

FILENAME: 005-b-5001_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 9:57:09 AM

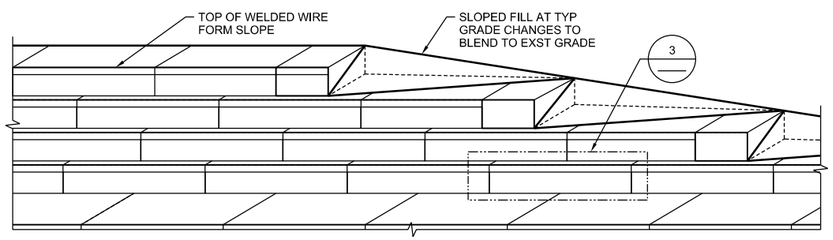


NOTES:

1. SEE WELDED WIRE FORM FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
2. INSTALL ADJACENT WELDED WIRE FORM FACING UNITS TO PROVIDE 4" OVERLAP OF HORIZONTAL WIRES.
3. GEOGRID GAPS DENOTED BY 'X' SHALL BE CENTERED OVER THE CENTERLINE OF A GEOGRID ROLL WIDTH IN THE LAYER BELOW.
4. WHEN WALL LAYOUT INCLUDES A CORNER/TURN, FULL GEOGRID COVERAGE IS REQUIRED. REFER TO ELEVATION VIEW FOR LIMITS OF FULL GEOGRID COVERAGE.

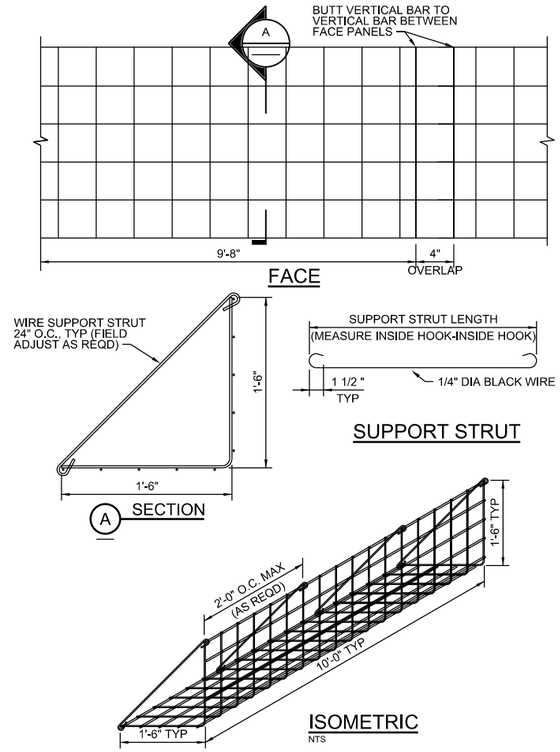
1 TYPICAL WELDED WIRE FORM GEOGRID COVERAGE PLAN DETAIL

NTS



2 TOP OF WELDED WIRE FORM SLOPE FINISHING DETAIL

NTS

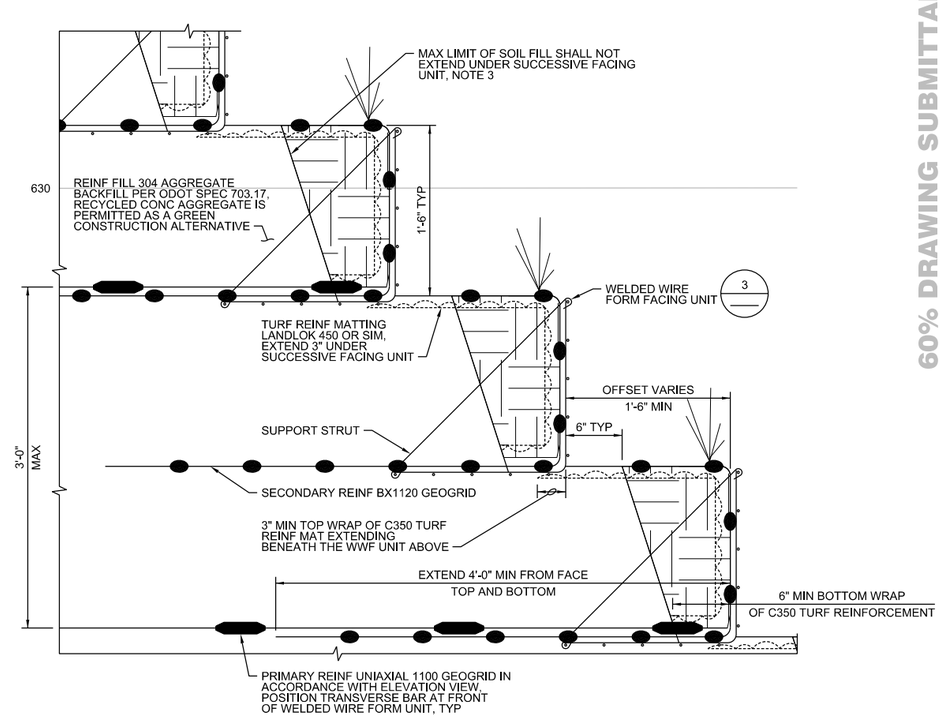


NOTES:

1. FACING TO CONSIST OF PREFABRICATED WELDED WIRE FORMS.
2. ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
3. OVERALL LENGTH OF WIRE FORMS IS 10'-0". EFFECTIVE CONSTRUCTED WIDTH IS 9'-8", WITH 4" OVER LAPPING AT ENDS.

3 TYPICAL WELDED WIRE FORM FACING UNIT DETAIL

1 1/2"=1'-0"



NOTES:

1. SEE WELDED WIRE FORM FACING UNIT DETAIL FOR FACING MATERIAL AND DIMENSIONS.
2. ALL FACING UNITS SHALL BE FABRICATED FROM BLACK STEEL.
3. SOIL FILL SHALL BE LOAMY SAND OR FINER GRADATION WITH 10% - 15% ORGANIC CONTENT OR MATERIAL APPROVED BY A QUALIFIED LANDSCAPE ARCHITECT. VEGETATION IS SPECIFIED ON SHEET LA-06.

4 WELDED WIRE FORM FACING PLANTABLE FACE FILL DETAIL

1 1/2"=1'-0"

GT-05

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

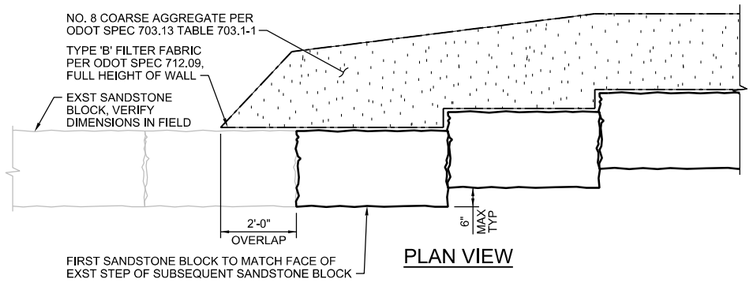
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL DETAILS (2 OF 3)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 44 OF 60
GT SHEET: 10 OF 11
SHEET NO.: GT-10

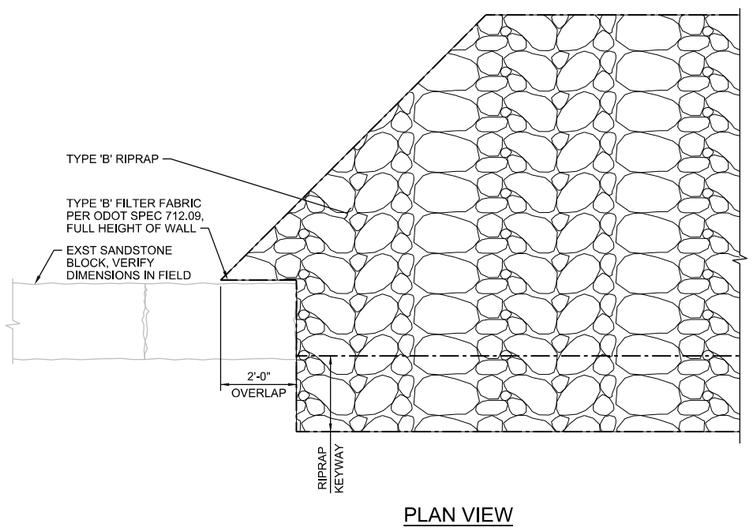
FILENAME: 005-b-5002_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:03:38 AM



WALL TRANSITION FROM HISTORIC SANDSTONE ABUTEMENT TO SANDSTONE BLOCK DETAIL

1 NTS

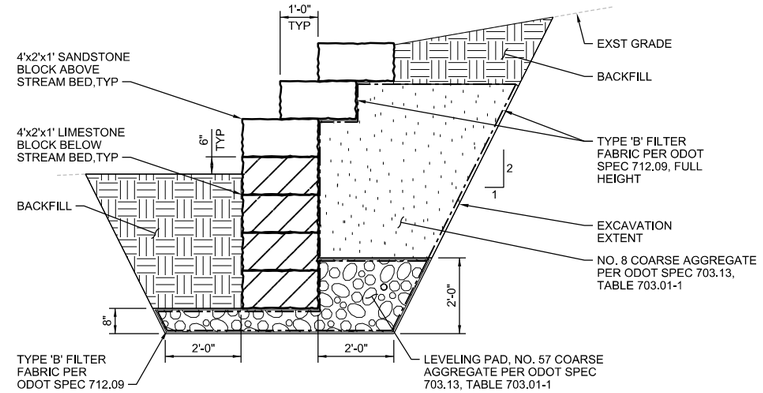
CG-01, CG-02



WALL TRANSITION FROM HISTORIC SANDSTONE ABUTEMENT / CIP CONCRETE TO RIPRAP DETAIL

2 NTS

CG-01, CG-02



BANK STABILIZATION DETAIL

3 NTS

CG-01, CG-02, CP-08
CP-09, CP-10, CP-11

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APPROVED BY:
ISSUED DATE: AUGUST 2012

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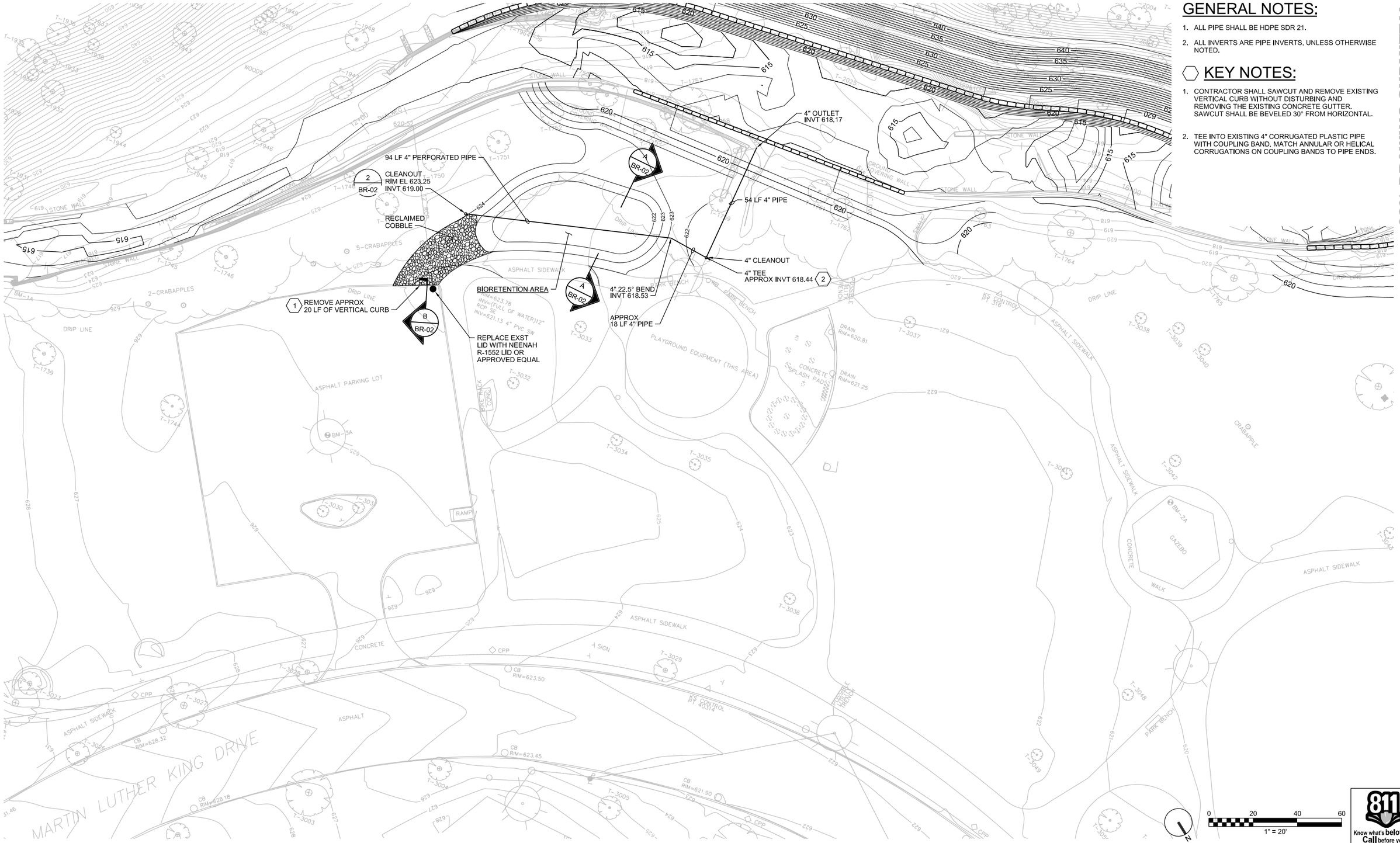
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

GEOTECHNICAL
GEOTECHNICAL DETAILS (3 OF 3)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 45 OF 60
GT SHEET: 11 OF 11
SHEET NO.: GT-11

FILENAME: 005-b-5003_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:05:04 AM



GENERAL NOTES:

1. ALL PIPE SHALL BE HDPE SDR 21.
2. ALL INVERTS ARE PIPE INVERTS, UNLESS OTHERWISE NOTED.

KEY NOTES:

1. CONTRACTOR SHALL SAWCUT AND REMOVE EXISTING VERTICAL CURB WITHOUT DISTURBING AND REMOVING THE EXISTING CONCRETE GUTTER. SAWCUT SHALL BE BEVELED 30° FROM HORIZONTAL.
2. TEE INTO EXISTING 4" CORRUGATED PLASTIC PIPE WITH COUPLING BAND. MATCH ANNULAR OR HELICAL CORRUGATIONS ON COUPLING BANDS TO PIPE ENDS.

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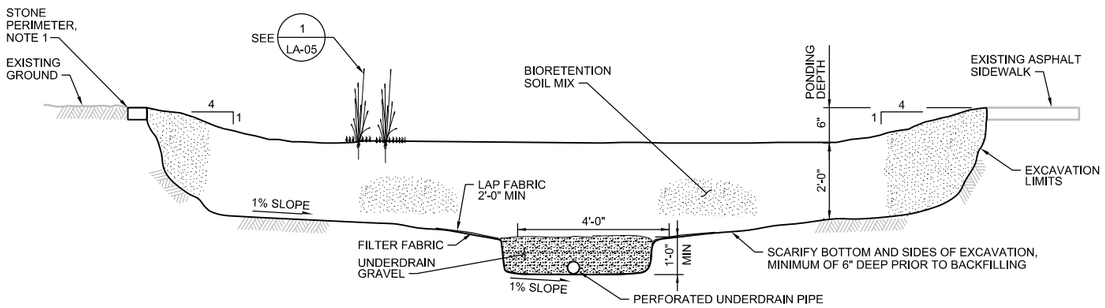
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
BIORETENTION AREA PLAN

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 46 OF 60
BR SHEET: 01 OF 02
SHEET NO.: BR-01

FILENAME: 005-c-4001_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:11:06 PM



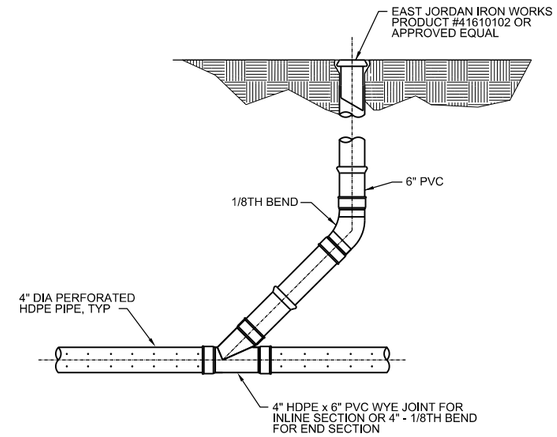
NOTE:

1. STONE FOR PERIMETER SHALL BE FROM RECLAIMED/RECYCLED STONE ACQUIRED DURING STREAM RECONSTRUCTION.

A BIORETENTION AND UNDERDRAIN TYPICAL SECTION

NTS

BR-01

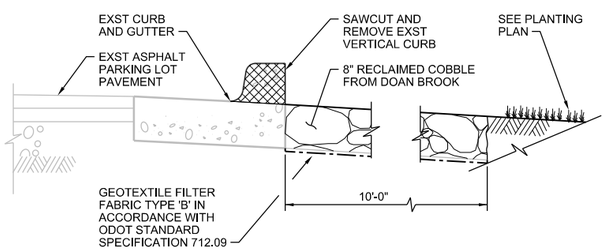


2 CLEANOUT

NTS

BR-01

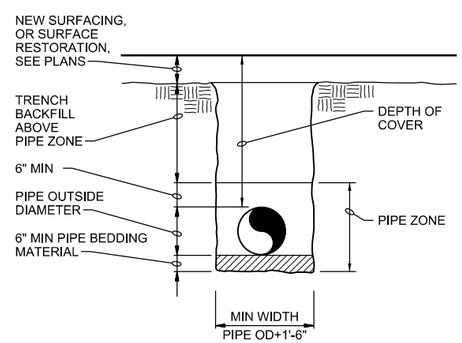
60% DRAWING SUBMITTAL



B PARKING LOT TO BIORETENTION AREA TRANSITION

NTS

BR-01



1 PIPE BEDDING

NTS

BR-01

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DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
BIORETENTION AREA SECTIONS AND DETAILS

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 47 OF 60
BR SHEET: 02 OF 02
SHEET NO.: BR-02

FILENAME: 005-c-4002_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:12:13 PM

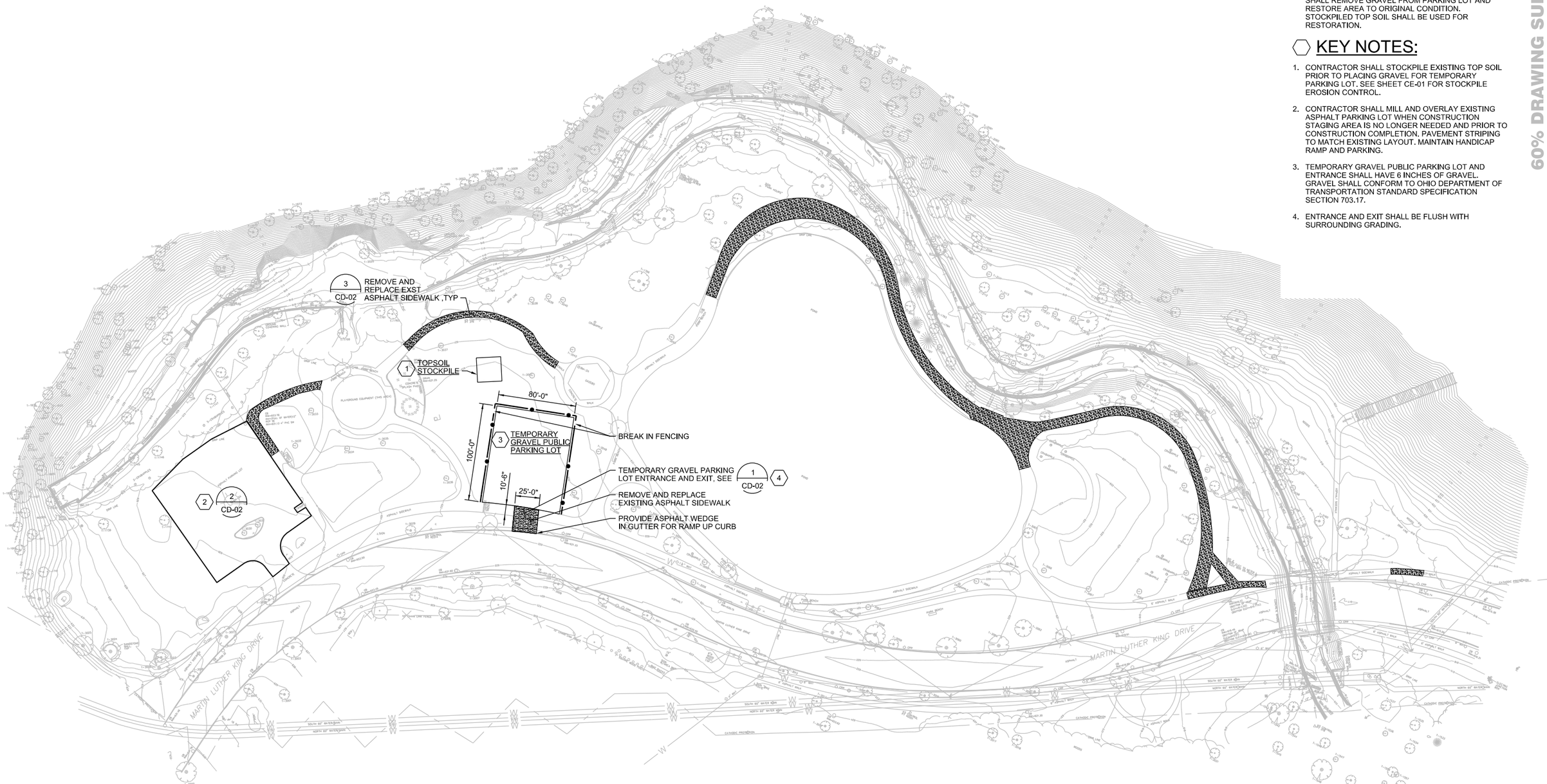
GENERAL NOTES:

1. CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AROUND TEMPORARY GRAVEL PARKING LOT. PROVIDE BREAKS IN FENCING TO ALLOW PEDESTRIAN ACCESS TO PARK.
2. ONCE CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL REMOVE GRAVEL FROM PARKING LOT AND RESTORE AREA TO ORIGINAL CONDITION. STOCKPILED TOP SOIL SHALL BE USED FOR RESTORATION.

KEY NOTES:

1. CONTRACTOR SHALL STOCKPILE EXISTING TOP SOIL PRIOR TO PLACING GRAVEL FOR TEMPORARY PARKING LOT. SEE SHEET CE-01 FOR STOCKPILE EROSION CONTROL.
2. CONTRACTOR SHALL MILL AND OVERLAY EXISTING ASPHALT PARKING LOT WHEN CONSTRUCTION STAGING AREA IS NO LONGER NEEDED AND PRIOR TO CONSTRUCTION COMPLETION. PAVEMENT STRIPING TO MATCH EXISTING LAYOUT. MAINTAIN HANDICAP RAMP AND PARKING.
3. TEMPORARY GRAVEL PUBLIC PARKING LOT AND ENTRANCE SHALL HAVE 6 INCHES OF GRAVEL. GRAVEL SHALL CONFORM TO OHIO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 703.17.
4. ENTRANCE AND EXIT SHALL BE FLUSH WITH SURROUNDING GRADING.

60% DRAWING SUBMITTAL



N

0 50 100 150

1" = 50'

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: R BLUE
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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

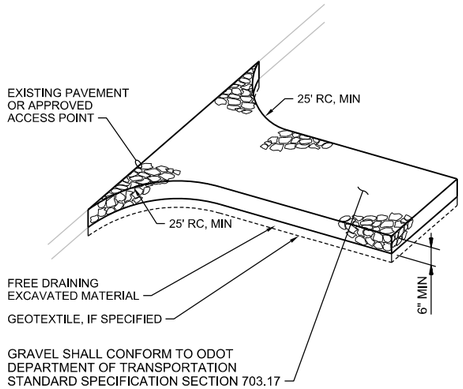
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
TEMPORARY PARKING AND PAVEMENT REPAIR PLAN

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 48 OF 60
CD SHEET: 01 OF 02
SHEET NO.: CD-01

FILENAME: 005-c-5001_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:13:19 PM



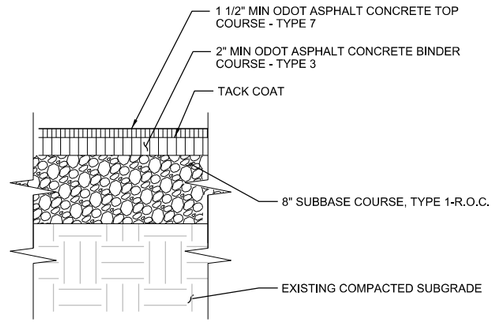
NOTES:

1. ADDITIONAL GRAVEL MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
2. REMOVE GRAVEL ENTRANCE AND REPLACE WITH NEW BASE COURSE PRIOR TO COMPLETION OF ACCESS ROAD.

1 TEMPORARY PARKING LOT ENTRANCE

NTS

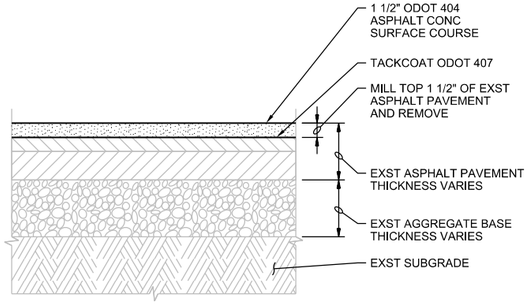
CD-01



3 ASPHALT SIDEWALK

NTS

CD-01



ASPHALT RESURFACING

2 ASPHALT PAVEMENT SURFACE RESTORATION

NTS

CD-01

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ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

CIVIL
SITE CIVIL DETAILS

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 49 OF 60
CD SHEET: 02 OF 02
SHEET NO.: CD-02

FILENAME: 005-c-5002_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 3:15:19 PM

LEGEND

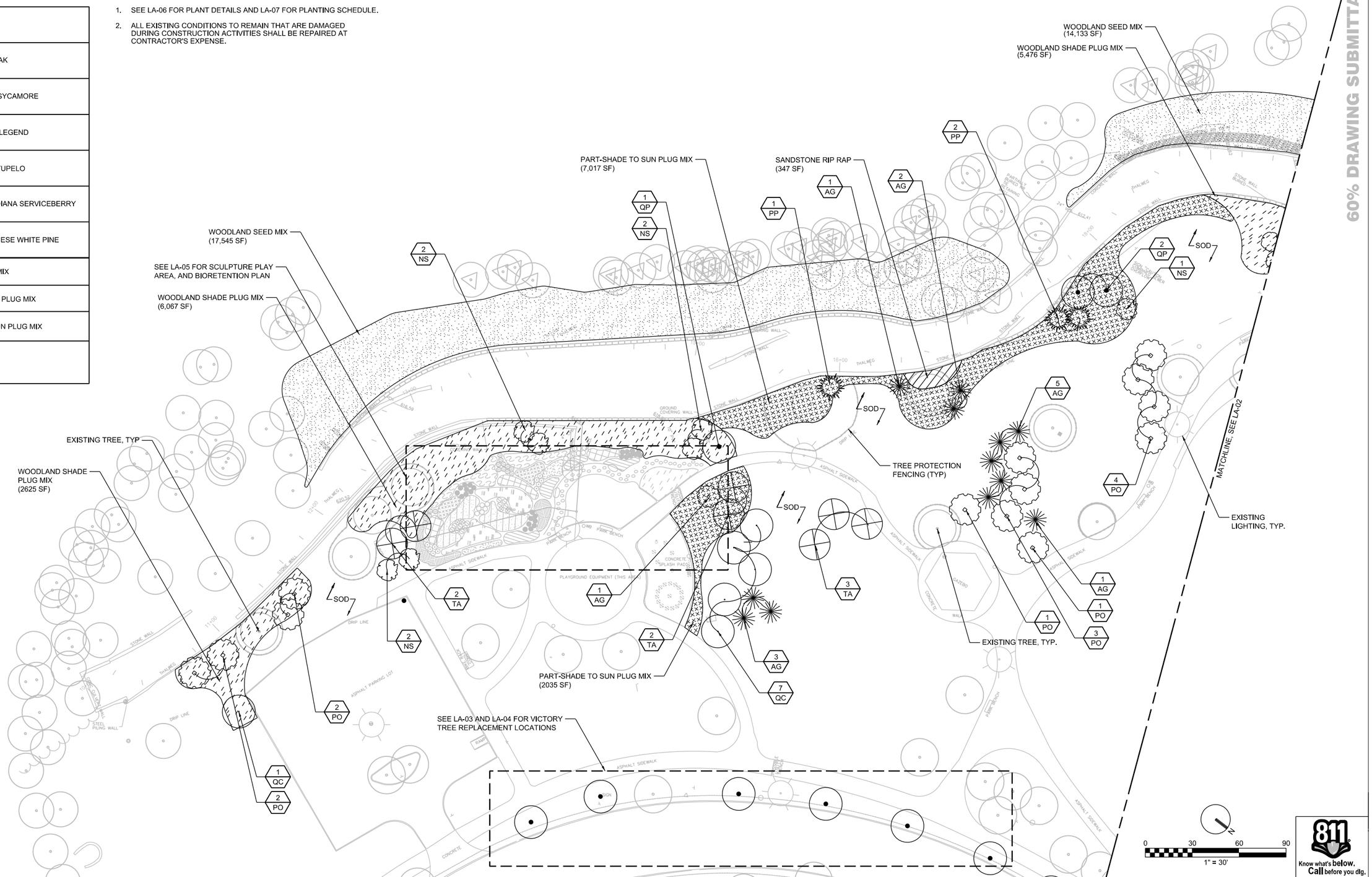
	QP	PIN OAK
	QC	SCARLET OAK
	PO	AMERICAN SYCAMORE
	TA	BASSWOOD LEGEND
	NS	RED RAGE TUPELO
	AG	PRINCESS DIANA SERVICEBERRY
	PP	BLUE JAPANESE WHITE PINE
	WOODLAND SEED MIX	
	WOODLAND SHADE PLUG MIX	
	PART-SHADE TO SUN PLUG MIX	
	EXISTING TREE	

PLANT TAG KEY

X — NUMBER OF PLANTS
X — PLANT ABBREVIATIONS

GENERAL NOTES:

1. SEE LA-06 FOR PLANT DETAILS AND LA-07 FOR PLANTING SCHEDULE.
2. ALL EXISTING CONDITIONS TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.



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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

LANDSCAPE
LANDSCAPE PLAN (1 OF 2)

WARNING
0 1/2 1
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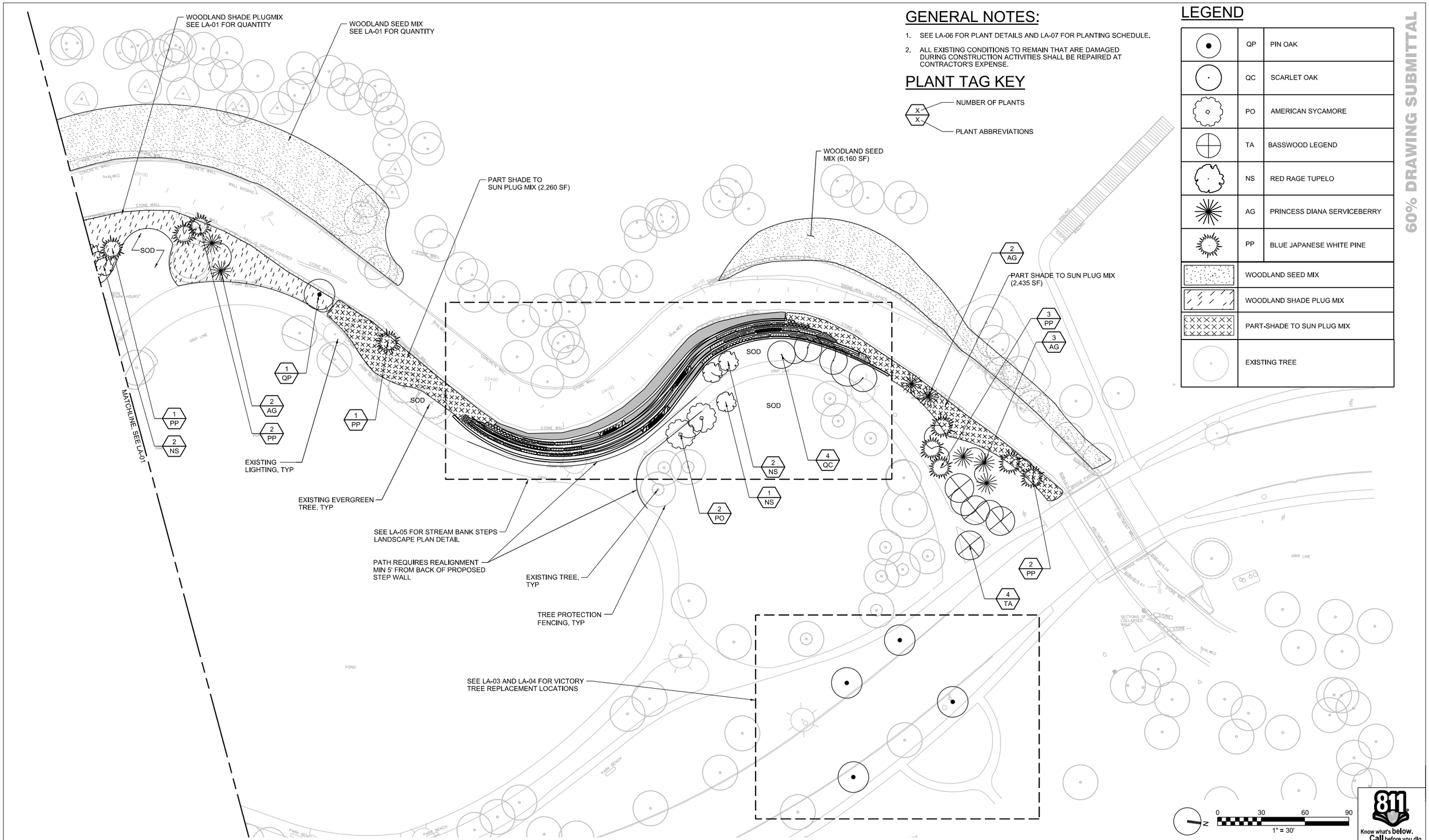
PROJECT SET: 50 OF 60
LA SHEET: 01 OF 07
SHEET NO.: LA-01

FILENAME: 005-L-2001_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:16:24 AM



GENERAL NOTES:

1. SEE LA-06 FOR PLANT DETAILS AND LA-07 FOR PLANTING SCHEDULE.
2. ALL EXISTING CONDITIONS TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.

PLANT TAG KEY

X — NUMBER OF PLANTS
X — PLANT ABBREVIATIONS

LEGEND

	QP	PIN OAK
	QC	SCARLET OAK
	PO	AMERICAN SYCAMORE
	TA	BASSWOOD LEGEND
	NS	RED RAGE TUPELO
	AG	PRINCESS DIANA SERVICEBERRY
	PP	BLUE JAPANESE WHITE PINE
	WOODLAND SEED MIX	
	WOODLAND SHADE PLUG MIX	
	PART-SHADE TO SUN PLUG MIX	
	EXISTING TREE	

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CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

LANDSCAPE
LANDSCAPE PLAN
(2 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 51 OF 60
LA SHEET: 02 OF 07
SHEET NO.: LA-02

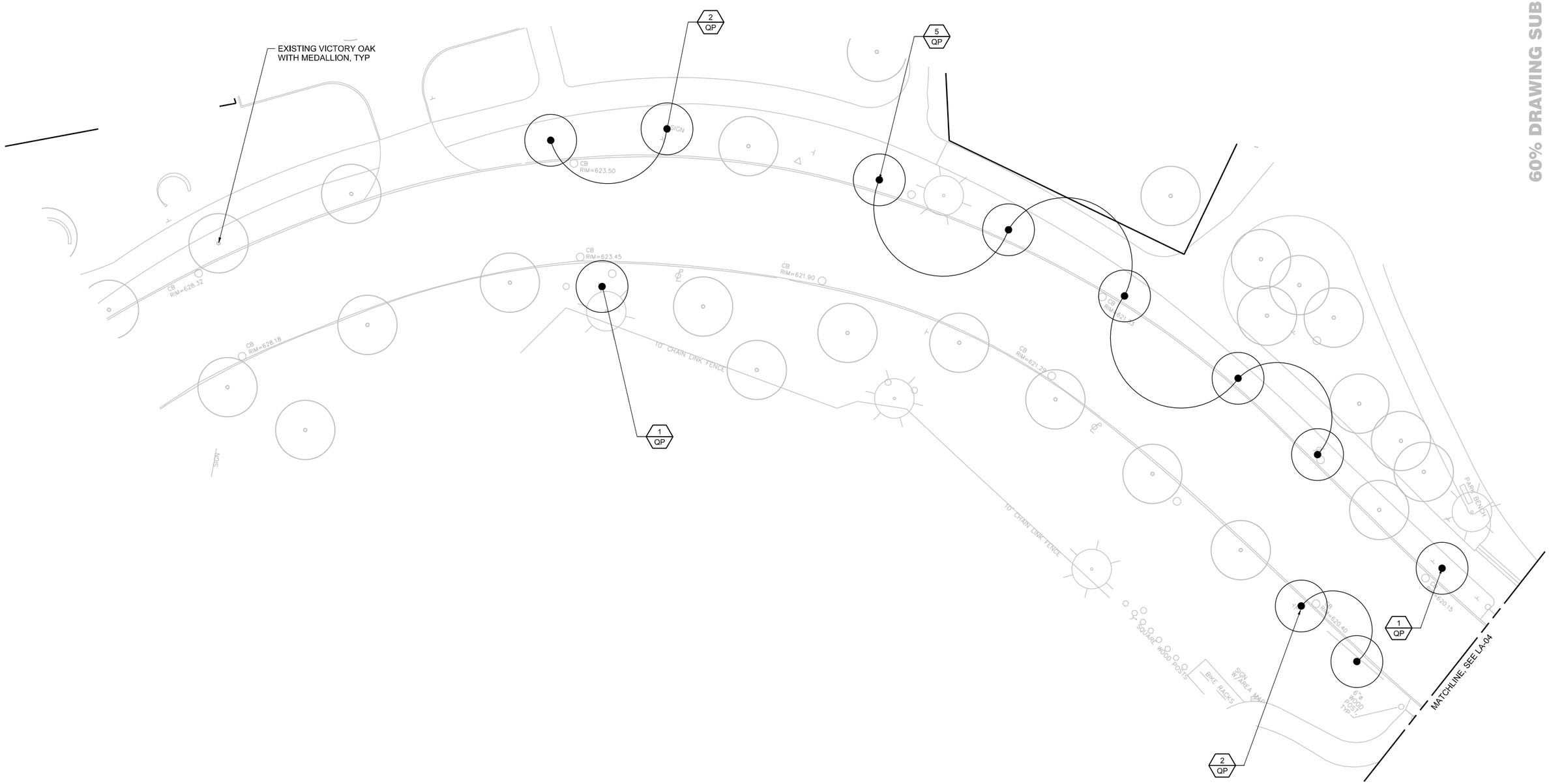
FILENAME: 005-L-2002_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:20:59 AM

GENERAL NOTES:

1. SEE LA-06 FOR PLANT DETAILS AND LA-07 FOR PLANTING SCHEDULE.
2. ALL PROPOSED VICTORY OAK REPLACEMENT TREES SHALL RECEIVE A REPLACEMENT MEDALLION.

LEGEND

●	QP	PIN OAK



0 20 40 60
1"=20'

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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

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DOAN BROOK REHABILITATION
DESIGN PROJECT
PROJECT NO.: 1131

LANDSCAPE
VICTORY TREE
REPLACEMENT LOCATIONS
(1 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 52 OF 60
LA SHEET: 03 OF 07
SHEET NO.: LA-03

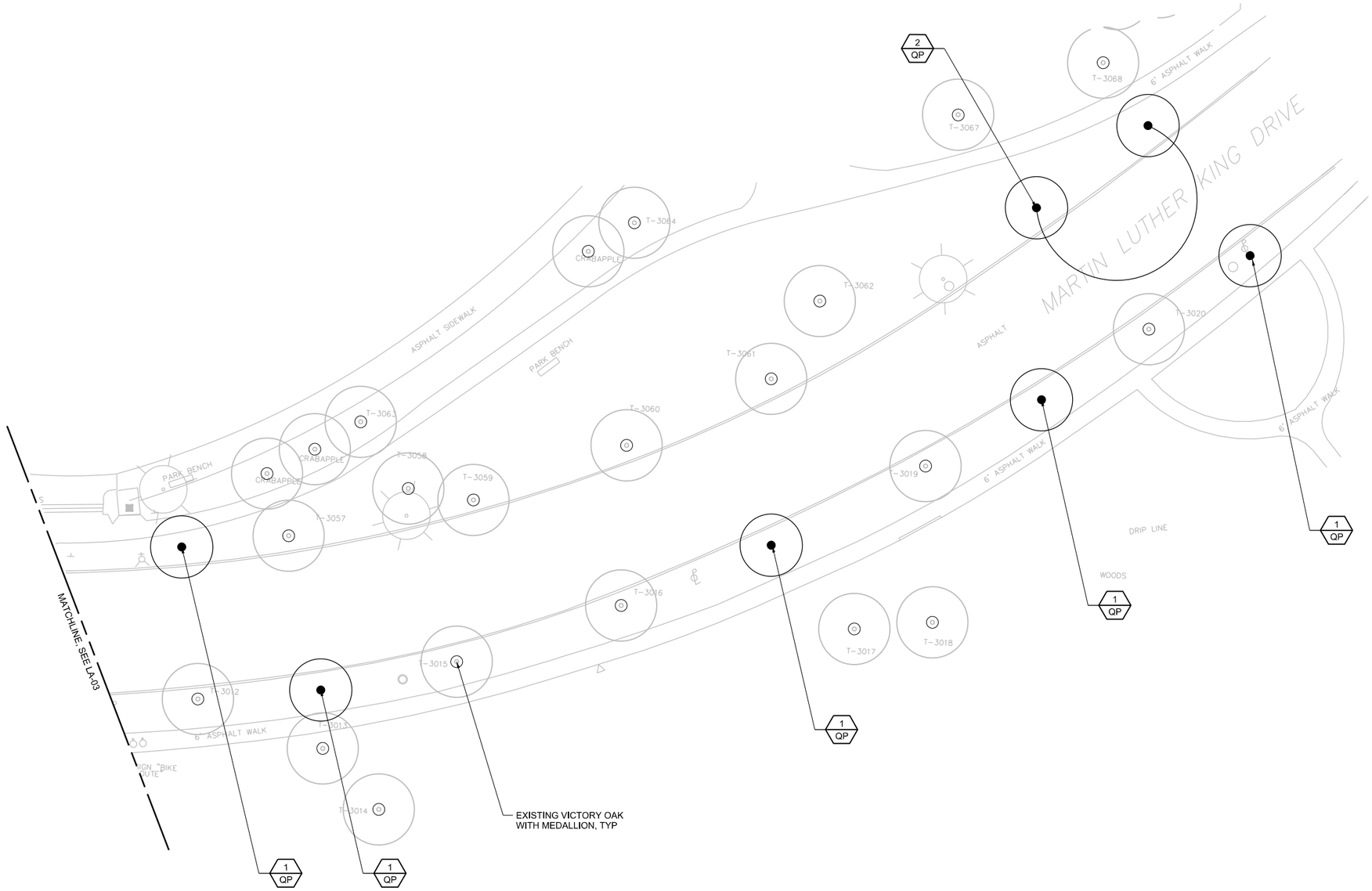
FILENAME: 005-L-2003_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:24:21 AM

GENERAL NOTES:

1. SEE LA-06 FOR PLANT DETAILS AND LA-07 FOR PLANT SCHEDULE.
2. ALL PROPOSED VICTORY OAK REPLACEMENT TREES SHALL RECEIVE A REPLACEMENT MEDALLION.

LEGEND

●	QP	PIN OAK



60% DRAWING SUBMITTAL

0 20 40 60
1"=20'

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SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

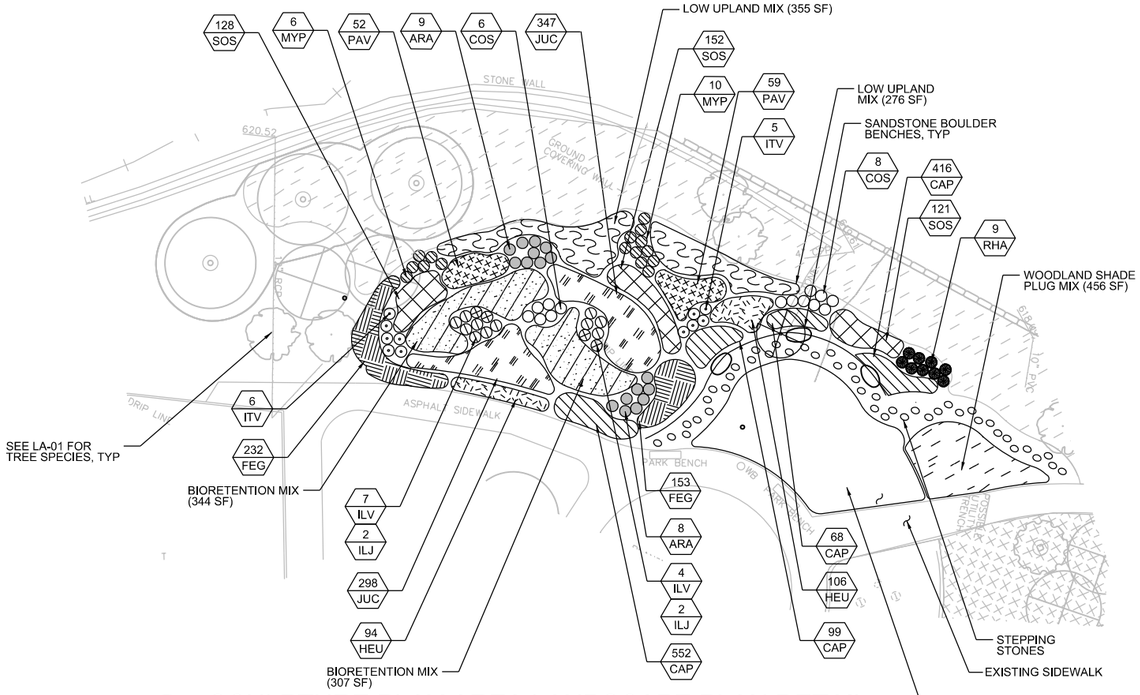
DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

LANDSCAPE
VICTORY TREE REPLACEMENT LOCATIONS (2 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 53 OF 60
LA SHEET: 04 OF 07
SHEET NO.: LA-04

FILENAME: 005-L-2004_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:31:39 AM



1 SCULPTURE PLAY AREA LANDSCAPE PLAN DETAIL

1" = 20'

GENERAL NOTE:

1. SEE LA-06 FOR PLANT DETAILS AND LA-07 FOR PLANT SCHEDULE.

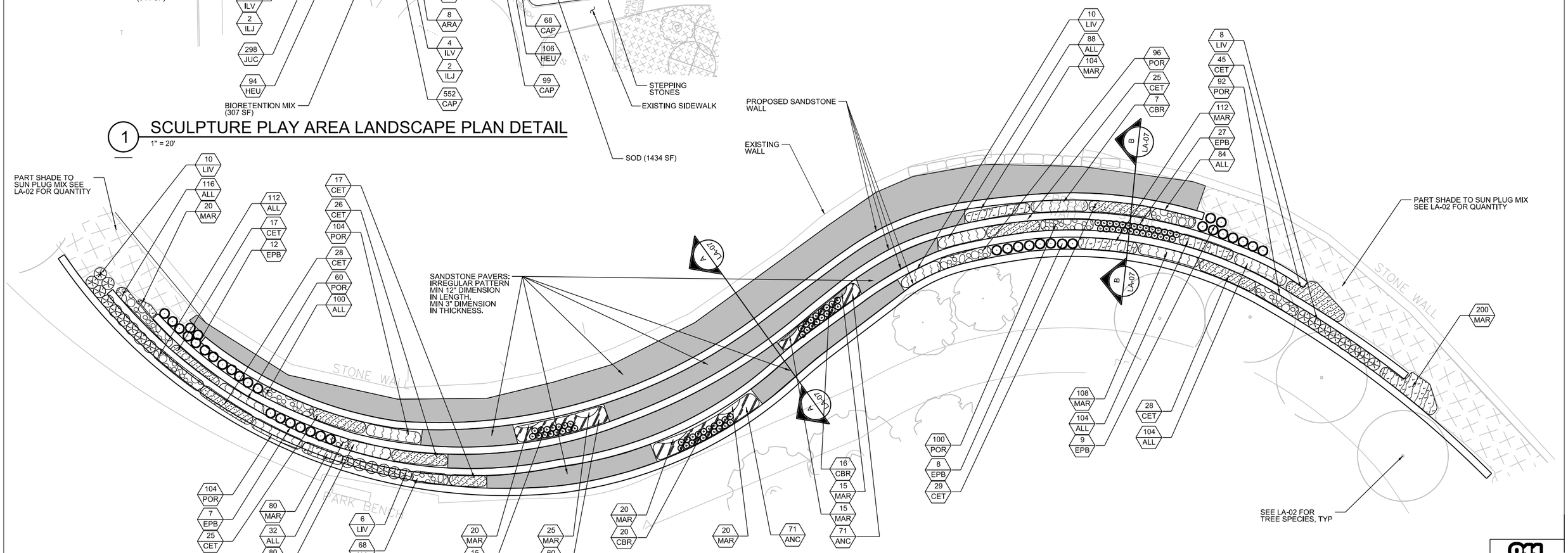
LEGEND

	ARA	RED CHOKEBERRY
	MYP	NORTHERN BAYBERRY
	COS	DWARF RED-OSIER DOGWOOD
	ITV	ITEA VIRGINICA
	ILJ	ILEX VERTICILLATA 'JIM DANDY'
	ILV	ILEX VERTICILLATA 'RED SPRITE'
	CAP	CAREX PENSYLVANICA
	FEG	FESTUCA GLAUCA 'ELIJAH'
	HEU	PALACE PURPLE CORAL BELLS
	JUC	SOFT RUSH
	PAV	HEAVY METAL SWITCH GRASS
	SOS	SEASIDE GOLDENROD

LEGEND

	LIV	VIOLET INTIGNE LAVENDER
	EPB	BONFIRE CUSHION SPURGE
	CBR	KOREAN FEATHER REEDGRASS
	RHA	FRAGRANT SUMAC
	ALL	SUMMER DRUMMER ALLIUM
	MAR	MOTEY MOZUS
	CET	SNOW IN SUMMER
	POR	ROYAL CINQUEFOIL
	ANC	SNOWY MARQUERITE
	BIORETENTION MIX	
	LOW UPLAND MIX	

60% DRAWING SUBMITTAL



2 STREAM BANK STEPS LANDSCAPE PLAN DETAIL

1" = 20'

N

0 20 40 60

1"=20'

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Northeast Ohio Regional Sewer District

Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: DESIGN
DRAWN BY: DRAWN
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT

PROJECT NO.: 1131

LANDSCAPE

ENLARGED PLANS

WARNING

0 1/2 1

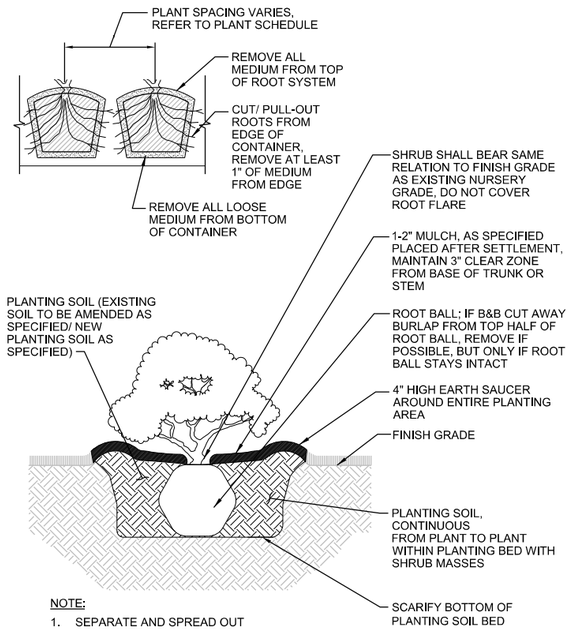
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 54 OF 60

LA SHEET: 05 OF 07

SHEET NO.: LA-05

FILENAME: 005-L-2005_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:37:37 AM

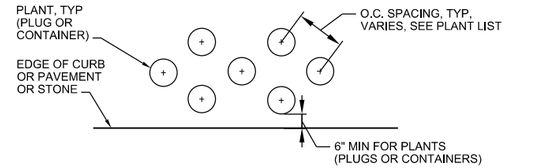


NOTE:

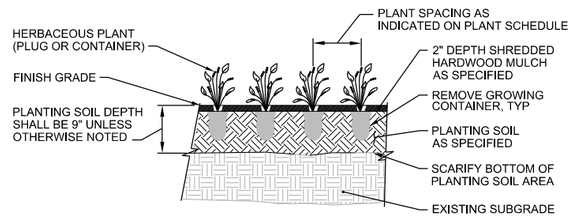
1. SEPARATE AND SPREAD OUT CONTAINER BOUND ROOTS, IF APPLICABLE.

1 CONTAINER PLANTING DETAIL

NTS



PLANT SPACING LAYOUT

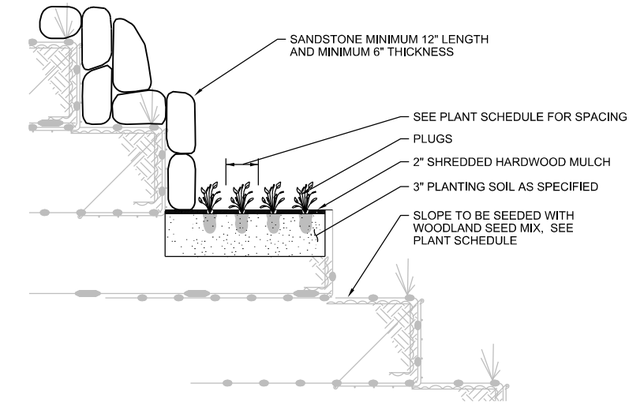


NOTE:

1. IN BIORETENTION AREAS PLANTING SOIL SHALL BE A MINIMUM OF 9" ON TOP OF A MINIMUM OF 16" OF BIORETENTION SOILS AS SPECIFIED.

3 PLUG PLANTING DETAIL

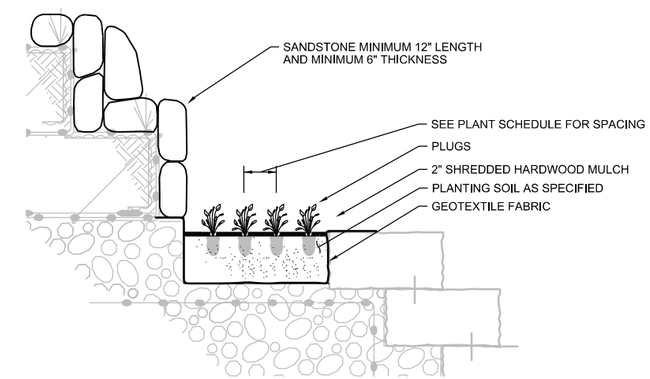
NTS



5 TERRACE PLANTING DETAIL ON STABILIZED SLOPE - TOP TERRACE

NTS

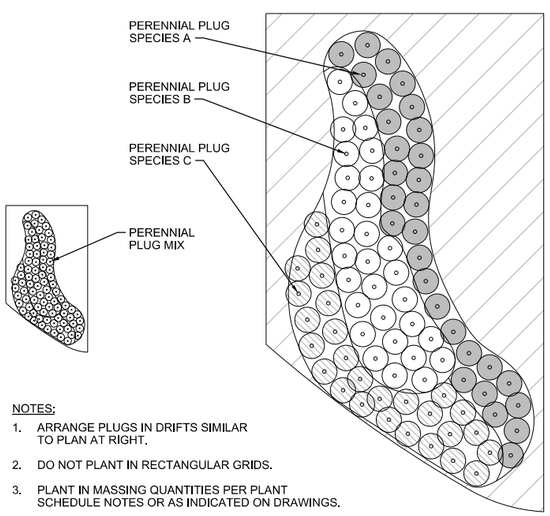
GT-05



6 TERRACE PLANTING DETAIL ON STABILIZED SLOPE - BOTTOM TERRACE

NTS

GT-05

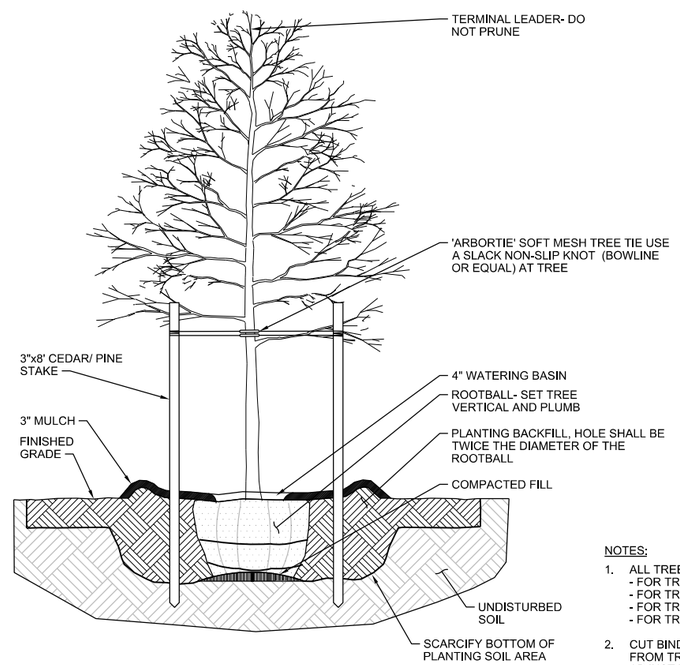


NOTES:

1. ARRANGE PLUGS IN DRIFTS SIMILAR TO PLAN AT RIGHT.
2. DO NOT PLANT IN RECTANGULAR GRIDS.
3. PLANT IN MASSING QUANTITIES PER PLANT SCHEDULE NOTES OR AS INDICATED ON DRAWINGS.

2 PLUG MASSING DETAIL

NTS



NOTES:

1. ALL TREES SHALL BE 5' MIN FROM PAVEMENT.
   - FOR TREES LESS THAN 8 FT HT, USE TWO STAKES
   - FOR TREES 8 FT TO 12 FT HT, USE THREE STAKES.
   - FOR TREES 12 FT TO 18 FT HT, USE FOUR STAKES.
   - FOR TREES GREATER THAN 18 FT HT, USE DIAGONAL GUYING.
2. CUT BINDINGS AROUND TRUNK AND REMOVE BURLAP FROM TRUNK AND UPPER 1/3 OF ROOTBALL. CUT AND ADJUST BURLAP TO PREVENT FORMATION OF AIR POCKETS.

4 TREE PLANTING DETAIL

NTS

60% DRAWING SUBMITTAL

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

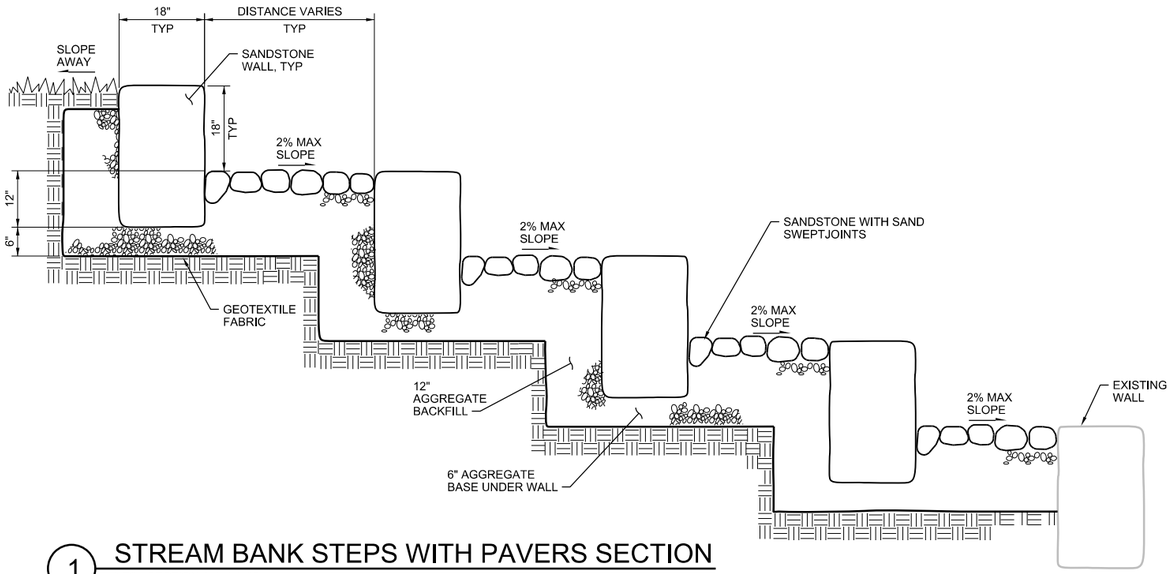
LANDSCAPE

PLANT DETAILS

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 55 OF 60
LA SHEET: 06 OF 07
SHEET NO.: LA-06

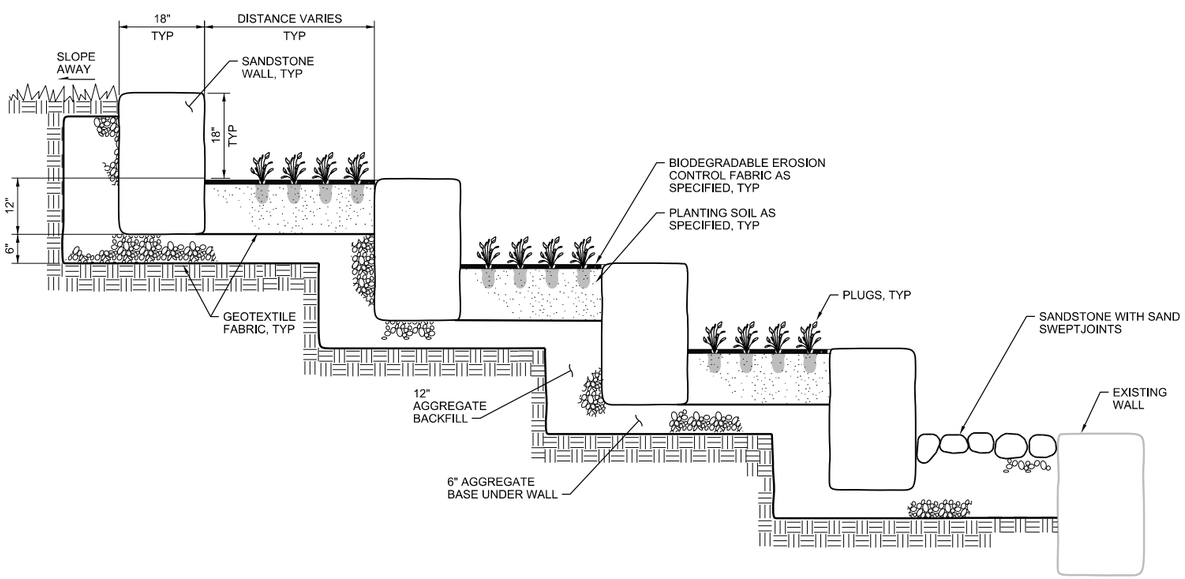
FILENAME: 005-L-5006_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:38:58 AM



1 STREAM BANK STEPS WITH PAVERS SECTION

NTS SECTION A-A, LA-07

CG-02, CP-04, CP-10, CP-11, CP-12



2 STREAM BANK STEPS WITH VEGETATION SECTION

NTS SECTION B-B, LA-07

CG-02, CP-01, CP-10, CP-11, CP-12

SYMBOL	QUANTITY	ABBR.	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	NOTES
TREES							
		QC	QUERCUS COCCINEA	SCARLET OAK	AS SHOWN	B&B, 2 - 2.5" CAL.	
		QP	QUERCUS PALUSTRIS	PIN OAK	AS SHOWN	B&B, 2 - 2.5" CAL.	
		PO	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	AS SHOWN	B&B, 2 - 2.5" CAL.	
		NS	NYSSA SYLVATICA 'HAYMANRED'	RED RAGE TUPELO	AS SHOWN	B&B, 1.5" - 2" CAL.	
		AG	AMELANCHIER X GRANDIFLORA 'PRINCESS DIANA'	PRINCESS DIANA SERVICEBERRY	AS SHOWN	5'-6' OA HT.	MULTI-STEM
		TA	TILIA AMERICANA 'WANDELL'	BASSWOOD LEGEND LINDEN	AS SHOWN	B&B, 1.5" - 2" CAL.	
		PP	PINUS PARVIFLORA 'GLAUCA'	BLUE JAPANESE WHITE PINE	AS SHOWN	7'-8' OA HT.	
CONTAINERS							
		ANC	ANTHEMIS CARPATICA 'KARPATEN SCHNEE'	SNOWY MARGUERITE'	12" O.C.	4" POTS	WALKABLES
		ARA	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	AS SHOWN	#3 CONTAINER	
		CBR	CALAMAGROSTIS BRACHYTRICHA	KOREAN FEATHER REED GRASS	24" O.C.	#1 CONTAINER	WALKABLES
		CET	CERASTIUM TOMENTOSUM	SNOW IN SUMMER	12" O.C.	4" POTS	WALKABLES
		COS	CORNUS SERICEA	RED-OSIER DOGWOOD	AS SHOWN	#3 CONTAINER	
		EPB	EUFHORBIA POLYCHROMA 'BONFIRE'	BONFIRE CUSHION SPURGE	AS SHOWN	#3 CONTAINER	
		ILV	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	AS SHOWN	#3 CONTAINER	
		ILJ	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	AS SHOWN	#3 CONTAINER	MALE POLLINATOR
		ITV	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	AS SHOWN	#3 CONTAINER	
		LIV	LAVENDULA X INTERMEDIA 'VIOLET INTRIGUE'	VIOLET INTRIGUE LAVENDER	AS SHOWN	#3 CONTAINER	
		MAR	MAZUS RADICANS	MOTLEY MAZUS	6" O.C.	4" POTS	WALKABLES
		MYP	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	36" O.C.	#3 CONTAINER	
		POR	POTENTILLA REPTANS 'PLENIFLORA'	ROYAL CINQUEFOIL	6" O.C.	4" POTS	WALKABLES
		RHA	RHUS AROMATICA 'GRO-LOW'	FRAGRANT SUMAC	24" O.C.	#1 CONTAINER	
PLUGS							
		CAP	CAREX PENSYLVANICA	PENNSYLVANICA SEDGE	6" O.C.	DP 38 PLUGS	
		FES	FESTUCA GLAUCA 'ELIJAH BLUE'	BLUE FESCUE	12" O.C.	50 PLUGS	
		HEU	HEUCHERA MICRANTHA 'PALACE PURPLE'	PALACE PURPLE CORAL BELL	12" O.C.	50 PLUGS	
		JUE	JUNCUS EFFUSUS	SOFT RUSH, COMMON RUSH	12" O.C.	DP 38 PLUGS	
		PAV	PANICUM VIRGATUM	HEAVY METAL SWITCH GRASS	18" O.C.	DP 38 PLUGS	
		SOS	SOLIDAGO SEMPERVIRENS	SEASIDE GOLDENROD	12" O.C.	DP 38 PLUGS	
BULBS							
		ALL	ALLIUM 'SUMMER DRUMMER'	SUMMER DRUMMER ALLIUM	6" O.C.	BULB	GROUPS OF 4-5 BULBS, TIPS JUST UNDER SOIL SURFACE
MIXES							
LOW UPLAND MIX							
			ASARUM CANADENSE	CANADIAN WILD GINGER	6" O.C.	32 PLUGS	PLANT IN MASSES OF 10-20
			ASTILBE ARENDSII 'DEUTSCHLAND'	DEUTSCHLAND ASTILBE	18" O.C.	36 PLUGS	PLANT IN MASSES OF 10-20
			ATHYRIUM NIPPONICUM 'PICTUM'	JAPANESE PAINTED FERN	12" O.C.	72 PLUGS	PLANT IN MASSES OF 10-20
			EQUISETUM HYEMALE	HORSETAIL	18" O.C.	72 PLUGS	PLANT IN MASSES OF 10-20
			HAKONECHLOA MACRA 'AUREOLA'	GOLDEN JAPANESE FOREST GRASS	12"O.C.	#1 CONTAINER	PLANT IN MASSES OF 10-20
			HYDRANGEA PANICULATA 'TARDIVA'	HYDRANGEA	36" O.C.	#1 CONTAINER	PLANT IN MASSES OF 10-20
			IRIS VIRGINICA	BLUE FLAG IRIS	12" O.C.	50 PLUGS	PLANT IN MASSES OF 10-20
			JUNCUS ENSIFOLIUS	FLYING HEDGEHOGS	12" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 10-20
			LIGULARIA 'LITTLE ROCKET'	DWARF LIGULARIA	24" O.C.	4" POTS	PLANT IN MASSES OF 10-20
			LOBELIA SIPHILITICA	BLUE LOBELIA	12" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 10-20
			RHODODENDRON 'PJM'	RHODODENDRON	24" O.C.	#1 CONTAINER	PLANT IN MASSES OF 10-20
			RHUS AROMATICA 'GRO-LOW'	FRAGRANT SUMAC	24" O.C.	#1 CONTAINER	PLANT IN MASSES OF 10-20
BIORETENTION MIX							
			ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	12" O.C.	72 PLUGS	PLANT IN MASSES OF 10-20
			LOBELIA SIPHILITICA	BLUE LOBELIA	12" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 10-20
			RUDBECKIA HIRTA	BLACK-EYED SUSAN	18" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 10-20
			SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	18" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 10-20
PART SHADE TO SUN MIX							
			ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	12" O.C.	72 PLUGS	PLANT IN MASSES OF 20-30
			CAREX AMPHIBOLA	CREEK SEDGE	6" O.C.	32 PLUGS	PLANT IN MASSES OF 20-30
			CAREX PENSYLVANICA	PENNSYLVANICA SEDGE	6" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 20-30
			ERAGROSTIS SPECTABILIS	PURPLE LOVE GRASS	18" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 20-30
			HEUCHERA MICRANTHA 'PALACE PURPLE'	PALACE PURPLE CORAL BELL	12" O.C.	50 PLUGS	PLANT IN MASSES OF 10-20
			LIATRIS SPICATA	DENSE BLAZING STAR	12" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 20-30
			PANICUM VIRGATUM	HEAVY METAL SWITCH GRASS	18" O.C.	DP 38 PLUGS	PLANT IN MASSES OF 20-30
WOODLAND SHADE MIX							
			ALCHEMILLA MOLLIS	LADY'S MANTLE	12" O.C.	72 PLUGS	PLANT IN MASSES OF 20-30
			ATHYRIUM NIPPONICUM 'PICTUM'	JAPANESE PAINTED FERN	12" O.C.	4" POTS	PLANT IN MASSES OF 20-30
			CALAMAGROSTIS BRACHYTRICHA	KOREAN FEATHER REED GRASS	24" O.C.	50 PLUGS	PLANT IN MASSES OF 20-30
			HAKONECHLOA MACRA 'AUREOLA'	GOLDEN JAPANESE FOREST GRASS	12"O.C.	#1 CONTAINER	PLANT IN MASSES OF 20-30
			HEUCHERA 'DOLCE PEACH MELBA'	PEACH CORAL BELLS	18" O.C.	72 PLUGS	PLANT IN MASSES OF 20-30
			HOSTA 'GREAT EXPECTATIONS	GREAT EXPECTATIONS HOSTA	18" O.C.	50 PLUGS	PLANT IN MASSES OF 20-30
			PHLOX DIVARICATA	BLUE PHLOX	12"O.C.	72 PLUGS	PLANT IN MASSES OF 20-30

SEED MIX		
WOODLAND SEED MIX		
SPECIES		LBS/AC
AGROSTIS PERENNANS	UPLAND BENT GRASS	0.125
BROMUS LATIGLUMIS (B. ALTISSIUMUS)	EAR-LEAFED BROME	0.063
CAREX SPP.	WOODLAND SEDGE	0.062
DIARRHENA AMERICANA	BEAK GRASS	0.031
ELYMUS CANADENSIS	CANADA WILD RYE	1
ELYMUS VILLOSUS	SILKY WILD RYE	1
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	2
FESTUCA OBTUSA (F. SUBVERTICILLATA)	NODDING FESCUE	0.25
GLYCERIA STRIATA	FOWL MANA GRASS	0.062
HYSTRIX PATULA (ELYMUS H)	BOTTLEBRUSH GRASS	0.062
JUNCUS DUDLEYI	DUDLEY'S RUSH	0.062
JUNCUS TUNUIS	PATH RUSH	0.062
ANEMONE VIRGINIANA	TALL ANEMONE	0.031
AQUILEGIA CANADENSIS	COLUMBINE	0.006
ASTER DRUMMONDII	DRUMMOND'S ASTER	0.125
ASTER LATERIFLORUS	CALICO ASTER	0.031
ASTER SAGITTIFOLIUS	ARROW-LEAFED ASTER	0.188
ASTER SHORTII	SHORT'S ASTER	0.25
BAPTISIA LEUCANTHA	WHITE INDIGO	0.125
CEANOTHUS AMERICANUS	NEW JERSEY TEA	0.031
ECHINACEA PURPUREA	PURPLE CONEFLOWER	0.5
EUPATORIUM RUGOSUM	WHITE SNAKE ROOT	0.016
HYPERICUM PYRAMIDATUM	GREAT ST. JOHN'S WORT	0.188
LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	0.016
PENSTEMON DIGITALIS	FOXGLOVE BEARDTONGUE	0.125
POLYGONATUM CANALICULATUM	SMOOTH SOLOMON'S SEAL	0.063
PYCNANTHEMUM PILOSUM	HAIRY MT. MINT	0.031
ROSA BLANDA	EARLY WILD ROSE	0.031
RUDBECKIA HIRTA	BLACK EYED SUSAN	0.3
SILPHIUM INTEGRIFOLIUM	ROSIN WEED	0.125
SMILACINA RACEMOSA	FEATHERY FALSE SOLOMON'S SEAL	0.006
SOLIDAGO CAESIA	BLUE-STEM GOLDENROD	0.015
SOLIDAGO JUNCEA	EARLY GOLDENROD	0.063
SOLIDAGO ULMIFOLIA	ELM-LEAFED GOLDENROD	0.25
TEUCRIUM CANADENSE	GERMANDER	0.062
TRADESCANTIA OHIENSIS	OHIO SPIDERWORT	0.031
VERONICASTRUM VIRGINICUM	CULVER'S PHYSIC	0.031
ZIZIA AUREA	GOLDEN ALEXANDER	0.062
TOTAL LBS/AC		7.481

60% DRAWING SUBMITTAL

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REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: J PAUL
DRAWN BY: S MARRS
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

LANDSCAPE

PLANT DETAILS AND SCHEDULE

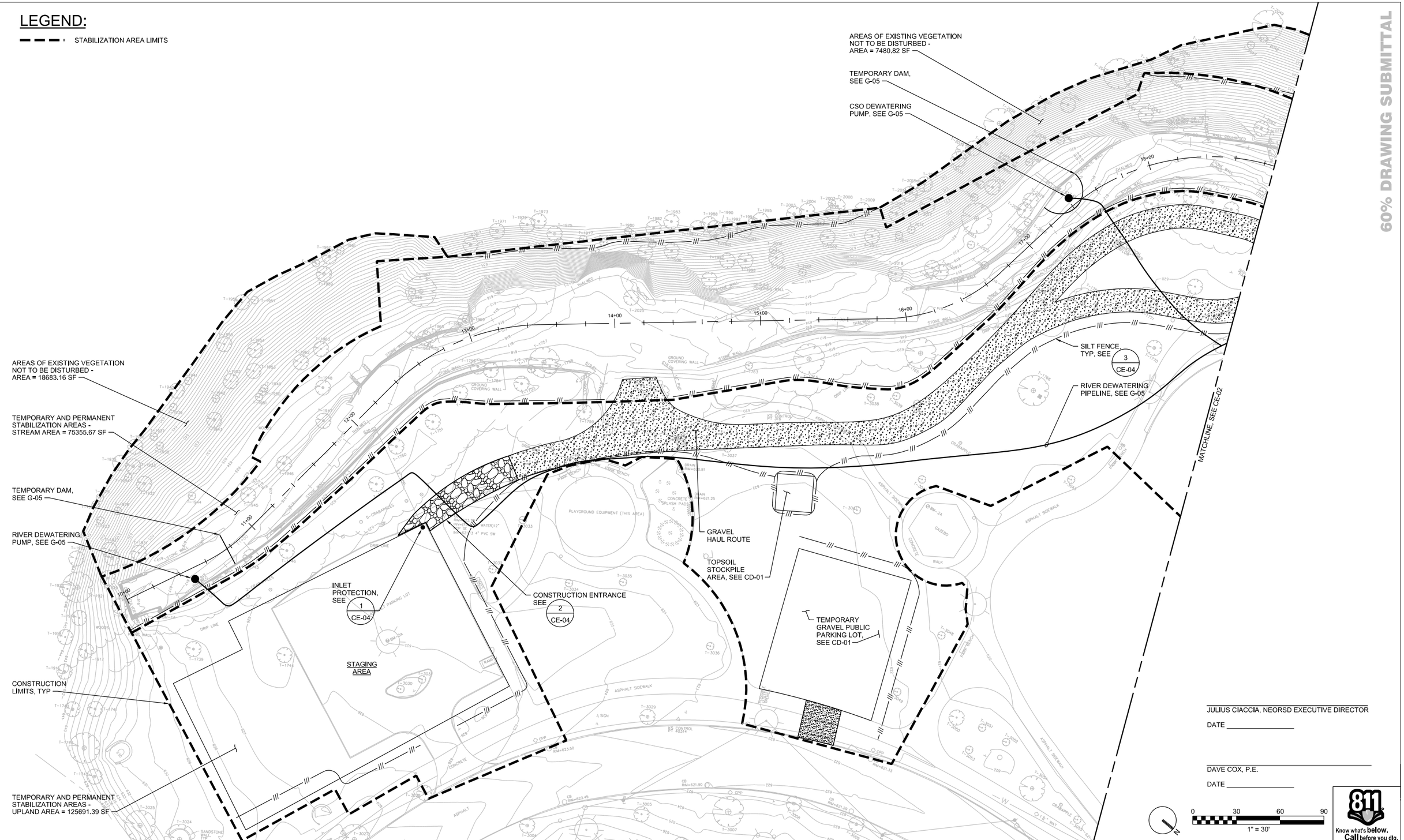
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 56 OF 60
LA SHEET: 07 OF 07
SHEET NO.: LA-07

FILENAME: 005-L-5007_386411.dgn PLOT DATE: 2012\08\03 PLOT TIME: 10:41:55 AM

LEGEND:

STABILIZATION AREA LIMITS



60% DRAWING SUBMITTAL

JULIUS CIACCIA, NEORSD EXECUTIVE DIRECTOR

DATE _____

DAVE COX, P.E.

DATE _____

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Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: D ANTHONY
DRAWN BY: D MICHALE
SHEET CHK'D BY: _____
CROSS CHK'D BY: S MILLER
APPROVED BY: _____
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

EROSION CONTROL
STORMWATER POLLUTION PREVENTION PLAN (1 OF 2)

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 57 OF 60
CE SHEET: 01 OF 04
SHEET NO.: CE-01

FILENAME: 005-c-2501_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 4:34:55 PM

60% DRAWING SUBMITTAL

AREAS OF EXISTING VEGETATION NOT TO BE DISTURBED - AREA = 103314.24 SF

CONSTRUCTION LIMITS, TYP

GRAVEL HAUL ROUTE, TYP

SILT FENCE, TYP, SEE 3 / CE-04

CONSTRUCTION ENTRANCE SEE 2 / CE-04

TEMPORARY AND PERMANENT STABILIZATION AREAS - STREAM AREA = 114047.21 SF

RIVER DEWATERING PIPELING, SEE G-05

TEMPORARY AND PERMANENT STABILIZATION AREAS - UPLAND AREA = 76637.42 SF

STAGING AREA

CONSTRUCTION ENTRANCE SEE 2 / CE-04

DEWATERING PIPELINE OUTFALL

MATCHLINE, SEE CE-01

MARTIN LUTHER KING DRIVE

LEGEND:

STABILIZATION AREA LIMITS

JULIUS CIACCIA, NEORSD EXECUTIVE DIRECTOR

DATE _____

DAVE COX, P.E.

DATE _____

0 30 60 90

1" = 30'

Know what's below. Call before you dig.

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Northeast Ohio Regional Sewer District

Protecting Your Health and Environment

REV NO	DATE	ISSUED BY	REMARKS

DESIGNED BY: D ANTHONY
DRAWN BY: D MICHALE
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT

PROJECT NO.: 1131

EROSION CONTROL

STORMWATER POLLUTION PREVENTION PLAN (2 OF 2)

WARNING

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PROJECT SET: 58 OF 60

CE SHEET: 02 OF 04

SHEET NO.: CE-02

FILENAME: 005-c-2502_386411.dgn PLOT DATE: 2012\08\02 PLOT TIME: 4:32:46 PM

CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE, ODOT NO. 2 (1.5 2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT. NO BRICK SHALL BE PERMITTED.
2. LENGTH OF THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FEET.
3. THICKNESS- THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES AND 10 INCHES THICK FOR HEAVY DUTY USE.
4. WIDTH- THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, NOT LESS THAN THE FULL WIDTH OF THE EXISTING DRIVEWAY CUT AT MLK DRIVE.
5. GEOTEXTILE- A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCES	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS< 0.6MM
PERMITTIVITY	1X10-3 CM/SEC

6. TIMING- THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS PRACTICAL BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT- A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR- A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES OR INTO THE STREAM.
9. MAINTENANCE- TOP DRESSING OR ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL- THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONTRACTOR BEGINNING ANY WORK. ALL DEVICES SHALL BE MAINTAINED IN AN EFFECTIVE, FUNCTIONING CONDITION AT ALL TIMES DURING THE PROJECT. ALL TEMPORARY MEASURES SHALL BE REMOVED AND THE AREA RESTORED AFTER THE AREA IS STABILIZED.
2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED A MINIMUM OF ONCE EVERY 7 DAYS AND WITHIN A MINIMUM OF 24 HOURS AFTER A RAINFALL OF 0.5 INCHES OR GREATER. ANY EROSION CONTROLS DAMAGED OR RENDERED INEFFECTIVE SHALL BE IMMEDIATELY REPAIRED OR REMOVED AND REPLACED.
3. ALL MUD, DIRT, AND DEBRIS TRACKED OR SPILLED ONTO EXISTING ROADWAYS FROM THE SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
4. MINIMIZE THE AREAS OF DISTURBANCE AND PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME AND TO PREVENT RUNOFF FROM UNDISTURBED AREAS.
5. SILT FENCE WILL BE PLACED ALONG THE STREAMS IN THE AREAS TO BE CLEARED BEFORE ANY CLEARING OR GRADING TAKES PLACE.
6. MAINTAIN THE VEGETATED AREAS AT THE SITE AND ALONG THE STREAMS TO THE EXTENT POSSIBLE.
7. DISTURBED AREAS WITHIN 50 FEET OF THE STREAM WILL BE STABILIZED USING PERMANENT SEEDING WITHIN 2 DAYS FOLLOWING FINAL GRADING ACTIVITIES. OTHER AREAS WILL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE OR DISTURBANCE. TEMPORARY STABILIZATION MAY BE USED IN THE EVENT DISTURBED AREAS WILL BE DORMANT FOR MORE THAN 21 DAYS OR IDLE OVER THE WINTER. THE TEMPORARY STABILIZATION WILL BE PLACED WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE FOR AREAS WITHIN 50 FEET OF THE STEAM AND WITHIN 7 DAYS FOR OTHER AREAS.
8. SOIL PILES WILL BE SURROUNDED WITH SILT FENCING OR COVERED WITH A TARP. SOIL STOCKPILES STORED FOR MORE THAN 21 DAYS WILL BE TEMPORARILY SEEDED OR COVERED WITH A TARP TO PREVENT EROSION AND COMPACTION.
9. MAINTAIN A STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE TRANSPORT OF SEDIMENT FROM THE DISTURBED AREAS.
10. TEMPORARY DIVERSION BERMS IN ACCORDANCE WITH CURRENT ODOT "RAINWATER AND LAND DEVELOPMENT" MANUAL MAY INSTALLED ON THE UPSLOPE SIDE OF DISTURBED AREAS TO PREVENT SURFACE RUNOFF FROM UNDISTURBED AREAS TO CROSS THE DISTURBED AREAS. DIVERSIONS SHALL BE SEEDED AND MULCHED AS SOON AS THEY ARE CONSTRUCTED OR OTHER SUITABLE STABILIZATION INSTALLED IN ORDER TO PRESERVE DIKE HEIGHT AND REDUCE MAINTENANCE.
11. ALL WASTE MATERIALS MUST BE COLLECTED AND REMOVED FROM THE SITE. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE MUST BE STORED IN COVERED CONTAINERS AND REMOVED FROM THE SITE.

EROSION AND SEDIMENT CONTROL NOTES CONTINUED:

12. GOOD HOUSEKEEPING AND SPILL CONTROL PRACTICES MUST BE FOLLOWED DURING THE PROJECT TO MINIMIZE STORM WATER CONTAMINATION.
13. ALL CONSTRUCTION VEHICLES MUST BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF A LEAK.
14. PETROLEUM PRODUCTS MUST BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE LABELED.
15. ALL FUEL STORAGE SHALL BE LOCATED AT LEAST 100 FEET FROM STREAMS.
16. SPILL KITS MUST BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES.
17. ALL SPILLS MUST BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STREAM OR STORM SYSTEM MUST BE REPORTED TO OHIO EPA.
18. SLOPES THAT ARE EQUAL OR GREATER THAN 2:1 SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS INSTALLED CONCURRENT WITH PERMANENT SEEDING AND MULCHING.
19. ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES NOT ALREADY SPECIFIED ON THESE PLANS MAY BE NECESSARY DUE TO UNFORESEEN ENVIRONMENTAL CONDITIONS AND/ OR CHANGES IN DRAINAGE PATTERNS CAUSED BE EARTH MOVING ACTIVITY.

SILT FENCE (FILTER FABRIC FENCE) NOTES:

THIS SEDIMENT BARRIER UTILIZES SYNTHETIC FILTER FABRIC IN ACCORDANCE WITH ODOT ITEM 712.09. TYPE C. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.

1. THE HEIGHT OF THE SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH MINIMUM OVERLAP OF 6 INCHES AND SECURELY SEALED.
3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
5. WHEN STANDARD STRENGTH FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POST USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
7. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS IN NOTE NO. 6 APPLYING.
8. THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
9. SILT FENCE SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.
10. MAINTENANCE- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

CONSTRUCTION SCHEDULE AND INFORMATION:

ESTIMATED CONSTRUCTION START DATE:	FEBRUARY 15, 2013
ESTIMATED CONSTRUCTION COMPLETION DATE:	DECEMBER 31,2013
CONSTRUCTION SITE OPERATORS:	NEORSD
CONSTRUCTION SITE CONTACT:	KELLIE C. ROTUNNO
CONTACT INFORMATION:	216-881-6600 ROTUNNOK@NEORSD.ORG
CONSTRUCTION CONTRACTOR:	(TO BE DETERMINED)
CONTACT INFORMATION:	TBD
PERSON RESPONSIBLE FOR SWP3:	KELLIE C. ROTUNNO
CONTACT INFORMATION:	216-881-6600 ROTUNNOK@NEORSD.ORG
SWP3 PREPARED BY:	DAVE COX, PE

GENERAL NOTES:

1. LOCATION OF TEMPORARY HAUL ROAD TO FIELD DETERMINED BY CONTRACTOR TO BEST PROVIDE ACCESS TO THE STREAM WITH MINIMAL DISTURBANCE AND MINIMAL EROSION POTENTIAL.
2. MINIMIZE TREE AND BRUSH CLEARING TO EXTENT POSSIBLE. DISTURBANCE SHALL BE LIMITED TO THE STAGING AREAS, HAUL ROAD AND BANKS TO BE RE-GRADED. CONTRACTOR SHALL WALK THE ENTIRE CONSTRUCTION SITE WITH THE ENGINEER PRIOR TO CONSTRUCTION TO ESTABLISH THE LIMITS OF TREE/BRUSH CLEARING.
3. ENTIRE WORK AREA IS WITHIN THE TIOGA LOAM SOIL MAP UNIT.
4. REFER TO SWP3 ADDENDUM TEXT DOCUMENT IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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JULIUS CIACCIA, NEORSD EXECUTIVE DIRECTOR

DATE _____

DAVE COX, P.E.

DATE _____

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DESIGNED BY: D ANTHONY
DRAWN BY: C DAHL
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

EROSION CONTROL
EROSION CONTROL AND PERMITTING NOTES

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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CE SHEET: 03 OF 04
SHEET NO.: CE-03

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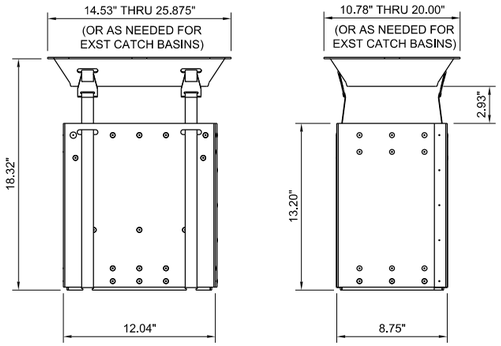
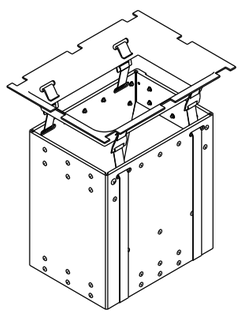
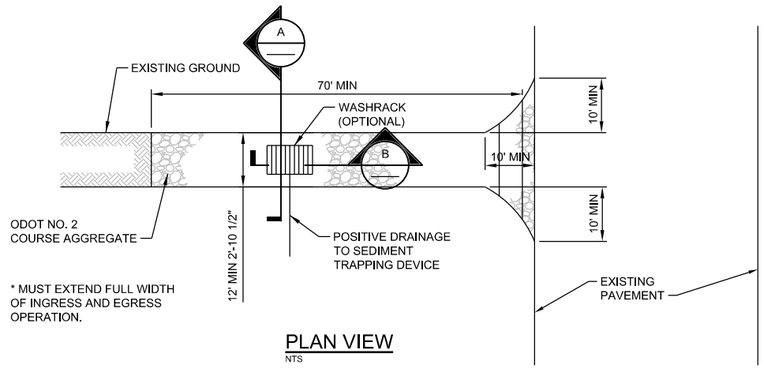




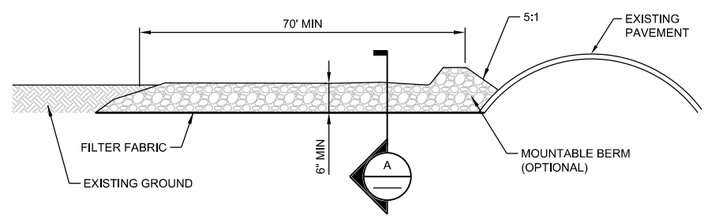
NOTES:

1. INLET FILTER INSERT SHALL BE ULTRA URBAN FILTER BY ABTECH INDUSTRIES, OR APPROVED EQUAL.
2. INSTALL FILTER INSERT IN CATCH BASINS NOTED ON SHEETS CE-01 AND CE-02.

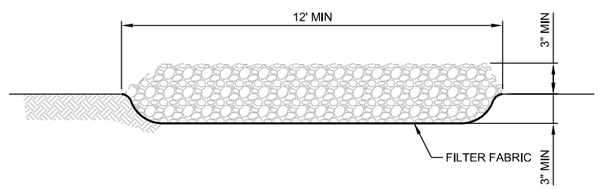
1 INLET FILTER INSERT
NTS



PLAN VIEW
NTS



SIDE ELEVATION
NTS



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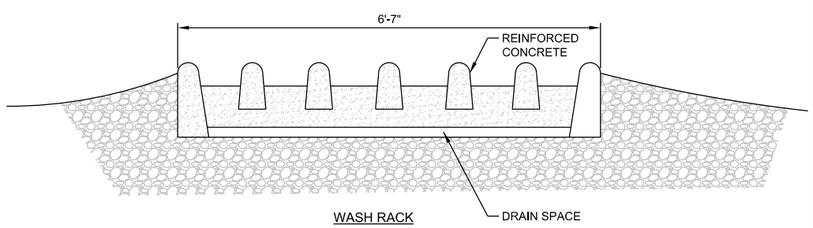
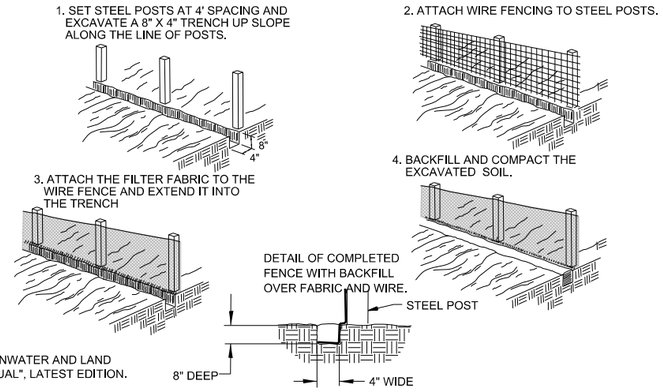


B SECTION
NTS

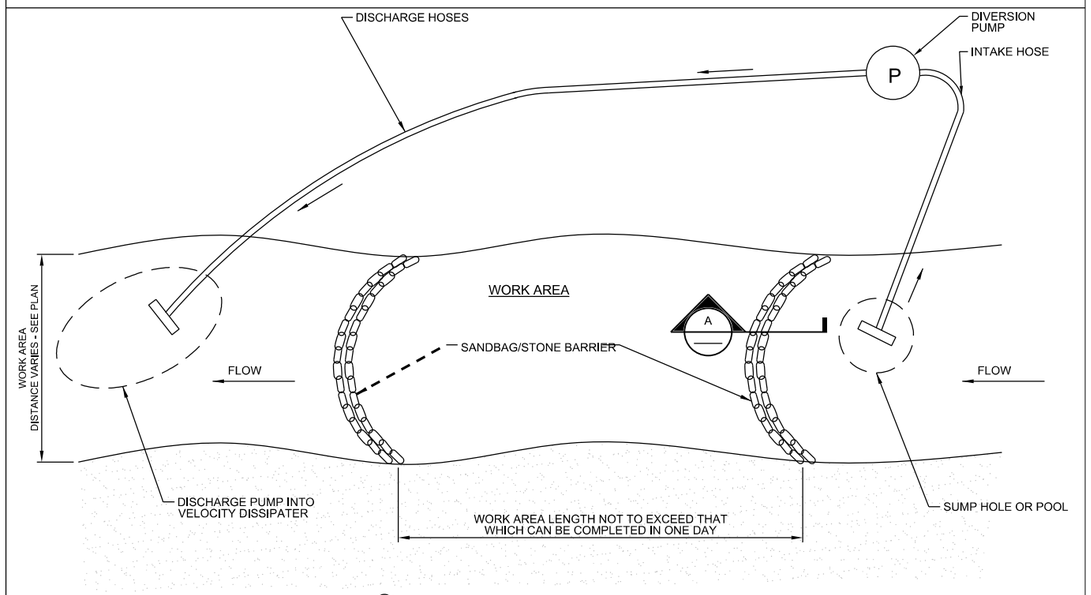
2 CONSTRUCTION ENTRANCE
NTS
CE-01

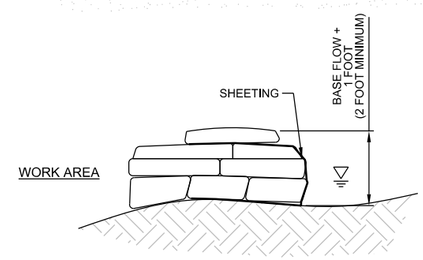


NOTE:

1. REFER TO "OHIO RAINWATER AND LAND DEVELOPMENT MANUAL", LATEST EDITION.

3 CONSTRUCTION OF TYPE 'C' SILT FENCE
NTS
CE-01, CE-02





A SECTION
NTS

4 SANDBAG/STONE DIVERSION PLAN
NTS
CE-01

JULIUS CIACCIA, NEORSD EXECUTIVE DIRECTOR

DATE _____

DAVE COX, P.E.

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DESIGNED BY: D ANTHONY
DRAWN BY: T HOXIT
SHEET CHK'D BY:
CROSS CHK'D BY: S MILLER
APPROVED BY:
ISSUED DATE: AUGUST 2012

PE STAMP

DOAN BROOK REHABILITATION DESIGN PROJECT
PROJECT NO.: 1131

EROSION CONTROL

EROSION CONTROL DETAILS

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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CE SHEET: 04 OF 04
SHEET NO.: CE-04

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