PROJECT PARCEL SITE
TOWN OF DOUGLAS ASSESSOR'S MAP DATA

PARCEL #	
139-1	TOWN OF DOUGLAS
138-44	
140-9	
15_1418	TOWN OF UXBRIDGE
15_1443	
21_1416	

NOTE: ALL STRUCTURES WILL BE LOCATED IN THE TOWN OF DOUGLAS.

PLANS TO ACCOMPANY CONTROL DOCUMENTS

FOR

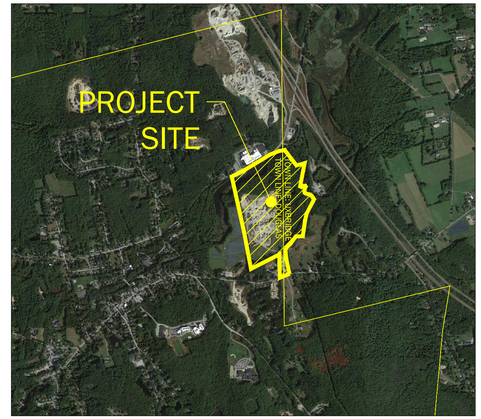
WAREHOUSE DISTRIBUTION FACILITY

GILBOA STREET

DOUGLAS, MASSACHUSETTS

ISSUE DATE: FEBRUARY 11, 2022

CONTROL DOCUMENTS ISSUED: MAY 26, 2022



LOCATION MAP

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PERMITS

LOCAL	GOVERNING BODY	STATUS
ORDER OF RESOURCE AREA DELINEATION (ORAD)	TOWN OF DOUGLAS CONSERVATION COMMISSION TOWN HALL 29 DEPOT STREET DOUGLAS, MA 01516 ATTN: STEPHEN D. ZISK	APPROVED 2022.01.03
SITE PLAN REVIEW	TOWN OF DOUGLAS SITE PLAN REVIEW COMMITTEE TOWN HALL 29 DEPOT STREET DOUGLAS, MA 01516	APPROVED 2022.05.26
NOTICE OF INTENT/ ORDER OF CONDITIONS	TOWN OF DOUGLAS CONSERVATION COMMISSION TOWN HALL 29 DEPOT STREET DOUGLAS, MA 01516 ATTN: STEPHEN D. ZISK	PENDING
BUILDING PERMIT	TOWN OF DOUGLAS BUILDING DEPARTMENT 29 DEPOT STREET DOUGLAS, MA 01516 ATTN: JACKIE BRIGGS	TO BE FILED
FEDERAL		
NPDES CONSTRUCTION GENERAL PERMIT	U.S. ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND REGION 5 POST OFFICE SQUARE, SUITE 100 BOSTON, MA 02109	TO BE FILED 14 DAYS PRIOR TO CONSTRUCTION

PREPARED BY

CIVIL ENGINEER
BEALS ASSOCIATES, INC.
2 PARK PLAZA
SUITE 200
BOSTON, MA 02116
T.617.242.1120

ARCHITECT
LAMAR JOHNSON COLLABORATIVE
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
T.314.429.1010

GENERAL CONTRACTOR:
CLAYCO
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
T.314.429.5100

GEOTECHNICAL:
FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD
EXETER, RI 02822
T.401.294.3484

TRAFFIC:
VANESSE & ASSOCIATES
35 NEW ENGLAND BUSINESS CENTER DRIVE
SUITE 140
ANDOVER, MA 01810
T.978. 474.8800

SURVEY:
KELLY ENGINEERING GROUP, INC.
0 CAMPANELLI DRIVE
BRAINTREE, MA 02184
T.781.843.4333

UTILITY CONTACTS

WATER & SANITARY SEWER
DOUGLAS DEPARTMENT OF WATER & SEWER
P.O. BOX 624
DOUGLAS, MA 01516
T.508.476.2400
ATTN: ROBERT SULLIVAN
EMAIL: RSULLIVAN@DOUGLAS-MA.GOV

NATURAL GAS
EVERSOURCE GAS
157 CORDAVILLE ROAD, 3113
SOUTHBOROUGH, MA 01105
T.781.4418162
ATTN: RICHARD COMEAU
EMAIL: RICHARD.COMEAU@EVERSOURCE.COM

ELECTRIC
NATIONAL GRID ELECTRIC
1250 BRAYTON POINT ROAD
SOMERSET, MA 02725
T.413.582.7424
ATTN: SANDRA ANNIS
EMAIL: SANDRA.ANNIS@NATIONALGRID.COM

TELECOMMUNICATIONS
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
T.774.409.3160
ATTN: KAREN MEALEY
EMAIL: KAREN.M.MEALEY@VERIZON.COM

Approval of the Planning Board of Douglas, MA:

CHAIR DATE

THE SIGNATURES OF 3 OR MORE PLANNING BOARD MEMBERS INDICATE APPROVAL OF THIS PLAN.

APPLICANT
CRG INTEGRATED REAL ESTATE
200 BARR HARBOR DRIVE, SUITE 250
CONSHOHOCKEN, PA 19428
ATTN: FRED FERRARO

OWNER
TOWN OF DOUGLAS
29 DEPOT STREET
DOUGLAS, MA 01516

OWNER
KTKT LLC.
29 PLEASANT ST
HOPKINTON, MA 01748

Know what's below. Call before you dig.

TODD P. MOREY, P.E. 48865 CIVIL

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION AND THAT I AM REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS TO PRACTICE AS A PROFESSIONAL ENGINEER.

Project No. C-1203
Original Issue Date:
February 11, 2022

BEALS · ASSOCIATES INC.
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-242-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

REVISION	DATE
1) Revised for Issuance of Control Documents	2022.05.26

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PATH:H:\C-1203 Douglas\Autocad\2022.05.26 Control Documents - CURRENT CAD\Cover Page.dwg

Plotted by Ben Enos on May 17, 2022

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GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE HIGHWAY DEPARTMENT AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY ROADWORK OR MUNICIPAL CONSTRUCTION.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, SURVEY INFORMATION BY THE PROJECT SURVEYOR, AND MEASUREMENTS TAKEN IN THE FIELD WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AND DIGSAFE (1-888-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR SHALL CONTACT THE HIGHWAY DEPARTMENT TO MARK OUT ALL TOWN OWNED UTILITIES 72 HOURS PRIOR TO ANY CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN. THE CONTRACTOR SHALL NOT RELOCATE ANY TOWN OWNED UTILITY WITHOUT PRIOR APPROVAL OF THE HIGHWAY DEPARTMENT. ALL UTILITY WORK WITHIN THE RIGHT OF WAY SHALL BE PERFORMED BY A LICENSED DRAIN LAYER UNDER THE SUPERVISION OF THE HIGHWAY DEPARTMENT.

3. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE, AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS DEEMED NECESSARY BY ONSITE INSPECTIONS BY THE OWNER OR THEIR REPRESENTATIVES AND THE MUNICIPAL CODE ENFORCEMENT OFFICER AT NO ADDITIONAL COST TO THE OWNER.

4. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED ON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.

5. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE TOWN SPECIFICATIONS, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS, AWWA STANDARDS AND OTHER RELATED INDUSTRY STANDARDS.

6. THIS PROJECT IS SUBJECT TO ALL TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE MASSACHUSETTS ENVIRONMENTAL POLICY ACT, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, LOCAL UTILITY COMPANIES AND MUNICIPAL OFFICIALS.

7. THE CONTRACTOR SHALL REVIEW ALL RELEVANT FEDERAL, STATE AND MUNICIPAL PERMITS ASSOCIATED WITH THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CERTIFY THAT ALL RELEVANT REQUIREMENTS REGARDING CONSTRUCTION, TESTING, AND REPORTING OF THE PERMITS HAVE BEEN MET AND THE PROJECT HAS BEEN CONSTRUCTED IN COMPLIANCE WITH THESE PORTIONS OF THE PERMITS.

8. ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION, AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.

9. ALL CURBS SHALL CONFORM TO THE SPECIFICATIONS OR THE MORE STRINGENT OF THE HIGHWAY DEPARTMENT OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION.

10. ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB, EDGE OF PAVEMENT OR FACE OF BUILDING.

11. THE PROJECT IS TO BE SERVED BY PUBLIC WATER, PRIVATE SEWER, AND UNDERGROUND CABLE, TELEPHONE, AND ELECTRIC UTILITIES.

12. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.

13. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

14. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

15. ADA ACCESSIBLE RAMPS SHALL BE PROVIDED ALONG SIDEWALKS AND AT ALL ROADWAY CROSSINGS. ALL ADA RAMPS SHALL CONFORM TO MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) STANDARDS AS WELL AS MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARDS.

GRADING & DRAINAGE NOTES

1. ALL STORM DRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE), SMOOTH BORE INTERIOR, PROVIDING A MANNING'S ROUGHNESS COEFFICIENT OF 0.010 OR LESS UNLESS OTHERWISE NOTED.

2. THE PROJECT ELEVATIONS ARE BASED ON THE NAVD 88. THE HORIZONTAL AND VERTICAL CONTROL FOR THE PROJECT WAS PERFORMED BY THE PROJECT SURVEYOR. SITE BENCHMARK(S) SHALL BE LOCATED BY THE PROJECT SURVEYOR PRIOR TO CONSTRUCTION ACTIVITY.

3. ALL EXCESS SOIL EXCAVATED FROM THE PROJECT SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

4. ALL DISTURBED AREAS NOT TO BE PAVED, SODDED, OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, FERTILIZER, SEED AND MULCH.

5. COMPACTION REQUIREMENTS:

LOCATION	MINIMUM COMPACTION
SUBBASE AND BASE GRAVEL BELOW PAVED AREAS	95%
SUBGRADE FILL BELOW PAVED AREAS	92%
TRENCH BEDDING MATERIAL	95%
LOAM AND SEED AREAS	90%

ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557

6. SOIL REQUIREMENTS: MASSACHUSETTS HIGHWAY DEPARTMENT, STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES. M1.03.0 GRAVEL BORROW: SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS, AND DELETERIOUS MATERIAL. MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE AS FOLLOWS: M103.1 TYPE "A" = 6 INCH. M1.03.0 TYPE "B"= 3 INCH. M1.03.0 TYPE "C" 2 INCH. M103.0 TYPE "D" = 1.5 INCH.

SIEVE DESIGNATION	PERCENT PASSING
½ INCH	50 - 85
No. 4	40 - 75
No. 50	8 - 28
No. 200	0 - 10

M1.03.1 PROCESS GRAVEL FOR SUBBASE: THE APPROVED SOURCE OF BANK-RUN GRAVEL MATERIAL SHALL BE PROCESSED BY MECHANICAL MEANS, THE EQUIPMENT FOR PRODUCING CRUSHED GRAVEL SHALL BE ADEQUATE SIZE AND WITH SUFFICIENT ADJUSTMENTS TO PRODUCE THE DESIRED MATERIALS. THE PROCESSED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER TO MINIMIZE SEGREGATION OF PARTICLE SIZES. ALL PROCESSED GRAVEL SHALL COME FROM APPROVED STOCKPILES. GRAVEL SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS, AND DELETERIOUS MATERIAL.

SIEVE DESIGNATION	PERCENT PASSING
3 INCH	100
1 ½ INCH	70 - 100
¾ INCH	50 - 85
No. 4	30 - 60
No. 200	0 - 10

M2.01.0 CRUSHED STONE : CRUSHED STONE SHALL CONSIST OF ONE OR THE OTHER OF THE FOLLOWING MATERIALS. (1.) DURABLE CRUSHED ROCK CONSISTING OF THE ANGULAR FRAGMENTS OBTAINED BY BREAKING AND CRUSHING SOLID OR SHATTERED NATURAL ROCK, AND FREE FROM A DETRIMENTAL QUANTITY OF THING, FLAT, ELONGATED OR OTHER OBJECTIONABLE PIECES. (A DETRIMENTAL QUANTITY WILL BE CONSIDERED AS ANY AMOUNT IN EXCESS OF 15% OF THE TOTAL MASS. (2.) DURABLE CRUSHED GRAVEL STONE OBTAINED BY ARTIFICIAL CRUSHING OF GRAVEL BOULDERS OR FIELDSTONE WITH A MINIMUM DIAMETER BEFORE CRUSHING OF 200 MILLIMETERS. THE CRUSHED STONE SHALL BE REASONABLY FREE FROM CLAY, LOAM OR DELETERIOUS MATERIAL AND NOT MORE THAN 1.0% OF SATISFACTORY MATERIAL PASSING A 75 MICROMETER SIEVE WILL BE ALLOWED TO ADHERE TO THE CRUSHED STONE. WHERE CRUSHED STONE IS TO BE USED FOR SURFACING, THIS REQUIREMENT SHALL BE NOT MORE THAN 0.5% OF SATISFACTORY MATERIAL PASSING A 75 uM SIEVE.

M2.01.1 CRUSHED STONE FOR DRAINAGE FOUNDATIONS : (1 ½" STONE)

SIEVE DESIGNATION	PERCENT PASSING
2 INCH	100
1 ½ INCH	95 - 100
1 INCH	35 - 70
¾ INCH	0 - 25

M2.01.4 CRUSHED STONE : (¾" STONE)

SIEVE DESIGNATION	PERCENT PASSING
1 INCH	100
¾ INCH	90 - 100
½ INCH	10 - 50
⅜ INCH	0 - 20
No. 4	0 - 5

M2.01.7 DENSE GRADE CRUSHED STONE FOR SUB-BASE : SUBBASE MATERIAL COMBING CRUSHER-RUN COARSE AGGREGATES OF CRUSHED STONE (TRAP ONLY, MEETING M2.01.0,1) AND FINE AGGREGATES OF NATURAL SAND OR STONE SCREENING UNIFORMLY PREMIXED WITH A PREDETERMINED QUANTITY OF WATER. COARSE AGGREGATE SHALL CONSIST OF HARD, DURABLE PARTICLES OF FRAGMENTS OF STONE. MATERIALS THAT BREAK UP WHEN ALTERNATELY FROZEN AND THAWED OR WETTED AND DRIED SHALL NOT BE USED. COARSE AGGREGATE SHALL HAVE A PERCENTAGE WEAR, BY THE LOS ANGLES TEST, OF NOT MORE THAN 45. FINE AGGREGATE SHALL CONSIST OF NATURAL OR CRUSHED SAND. THE COMPOSITE MATERIAL SHALL BE FREE FROM CLAY, LOAM OR OTHER PLASTIC MATERIAL, AND SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS.

SIEVE DESIGNATION	PERCENT PASSING
2 INCH	100
1 ½ INCH	70 - 100
¾ INCH	50 - 85
No. 4	30 - 55
No. 50	8 - 24
No. 200	3 - 10

7. ADJUST ALL MANHOLE COVERS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISHED GRADE.

8. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS.

9. ALL SUBGRADE SURFACES SHALL BE SLOPED AT NO LESS THAN 1% TO PROMOTE ADEQUATE DRAINAGE TOWARDS DRAINAGE AREAS.

10. PROVIDE STABILIZATION OR SEPARATION GEOTEXTILE FABRIC OVER UNSTABLE SOILS AS DIRECTED BY THE OWNERS REPRESENTATIVE OR ENGINEER.

11. CATCH BASINS SHALL BE INSPECTED IN THE SPRING AND FALL. ANY STRUCTURES WHICH ARE INSPECTED AND HAVE AN ACCUMULATED SEDIMENT DEPTH OF 12" SHALL BE CLEANED. DISPOSAL OF ACCUMULATED SEDIMENT SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION AND REMOVAL OF APPROPRIATE EXCAVATION DEWATERING SYSTEMS AS WELL AS THE PROTECTION OF EXPOSED SUBGRADE SOILS AT NO ADDITIONAL COST TO THE OWNER. WATER ENTERING EXCAVATIONS SHALL BE CONTROLLED AND PROMPTLY REMOVED TO AVOID SUBGRADE DISTURBANCE. SURFACE WATER RUNOFF SHALL BE DIRECTED AWAY FROM EXPOSED SOIL SURFACES.

13. ALL EXISTING STRUCTURES, FENCES, TREES, ETC. WITHIN THE CONSTRUCTION AREA, UNLESS SPECIFICALLY NOTED TO REMAIN, SHALL BE REMOVED.

14. ALL DRAINAGE STRUCTURES SHALL BE PRECAST UNLESS OTHERWISE NOTED.

15. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPE SHALL MEET HEAVY DUTY TRAFFIC (H-20) LOADING AND BE INSTALLED ACCORDINGLY.

EROSION CONTROL NOTES

1. ALL SEDIMENT / EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EXCAVATION OR DEMOLITION WORK. ONCE ALL SEDIMENT AND EROSION CONTROL MEASURES ARE INSTALLED, THE APPLICANT AND GENERAL CONTRACTOR SHALL NOTIFY THE HIGHWAY DEPARTMENT FOR INSPECTION BEFORE STARTING ANY DEMOLITION OR EXCAVATION WORK.

2. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.

3. PRIOR TO BEGINNING ANY CLEARING OR LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE OR EROSION CONTROL BARRIERS AND THE STABILIZED CONSTRUCTION ENTRANCES.

4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS IN THIS SET.

5. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES.

6. SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES AND DETAILS FOR THIS PROJECT.

7. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO ENSURE THAT THEY FUNCTION AS INTENDED DURING CONSTRUCTION. ALL PUBLIC STREETS SHALL BE SWEPT AS NECESSARY.

8. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.

9. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER.

UTILITY NOTES

1. ALL WORK TO TOWN OF DOUGLAS MAIN LINES SHALL BE WITNESSED AND APPROVED BY THE WATER & SEWER DEPARTMENT PRIOR TO BACKFILL. CALL ROBERT @ 508.476.2400.

2. ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO TOWN WATER & SEWER DEPARTMENT STANDARDS. ALL WATER DISTRIBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE. DISINFECTION OF WATER LINES SHALL CONFORM TO LOCAL REQUIREMENTS AND AWWA STANDARDS. THE CONTRACTOR SHALL COORDINATE ALL CONNECTIONS TO THE MUNICIPAL SYSTEM WITH THE TOWN WATER & SEWER DEPARTMENT.

3. WATER SERVICES INTENDED TO BE REUSED SHALL BE CAPPED AND BRACED WITH MECHANICAL JOINT FITTINGS AND APPROPRIATELY SIZED THRUST BLOCK(S) UNTIL THE NEW SERVICE IS TO BE CONNECTED .

4. ANY DAMAGE TO UTILITIES PUBLIC OR PRIVATE RESULTING FROM THE PROPOSED UTILITY WORK SHALL BE ADDRESSED IMMEDIATELY BY AND AT THE EXPENSE OF THE APPLICANT, REGARDLESS OF WHETHER THE DAMAGE MANIFESTS ITSELF IMMEDIATELY OR NOT.

5. ANY DISTURBANCE TO PUBLIC PROPERTY (SIDEWALK, CURBING, PAVEMENT, ETC. WITHIN THE TOWN RIGHT OF WAY SHALL BE RETURNED TO LIKE OR BETTER CONDITION, MEETING ALL APPLICABLE CURRENT TOWN STANDARDS.

6. THE LOCATION OF THE ELECTRIC, TELEPHONE, AND CABLE SERVICES ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES FOR EXACT LOCATIONS.

7. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF SDR-35 FOR GRAVITY PIPE AND SDR-11 FOR FORCEMAIN PIPE UNLESS OTHERWISE NOTED ON THE PLANS. ALL SEWER MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO THE DEPARTMENT OF WATER & SEWER STANDARDS.

8. COORDINATE ALL UTILITY WORK WITH THE APPROPRIATE UTILITY COMPANY. ALL UTILITY WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARDS OF THAT UTILITY.

9. UNDERGROUND ELECTRICAL, TELEPHONE, AND CABLE CONDUIT SHALL CONFORM TO THE MATERIAL REQUIREMENTS OF THAT UTILITY.

10. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLE.

11. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF THE UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.

12. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.

13. THRUST BLOCKS SHALL BE SOLID PRECAST CONCRETE BLOCK PLACED BETWEEN BACK OF FITTING AND TRENCH WALL, IN A MANNER TO PREVENT BLOWOFF OF THE FITTING. IN AREAS WHERE THRUST BLOCKS ARE UNABLE TO BE USED TO PROPERLY RESTRAIN THE FITTINGS, THREADED RODS SHALL BE USED TO ANCHOR THE CONNECTION TO THE MAIN.

14. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS THROUGHOUT THE PROJECT AND PROVIDING THE OWNER WITH A SET OF THE FINAL RECORD DRAWINGS WHEN THE PROJECT IS COMPLETE.

15. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH LOCAL REQUIREMENTS AND FEDERAL OSHA REGULATIONS.

16. ALL WATER VALVES AND APPURTENANCES SHALL OPEN LEFT.

17. FIRE HYDRANTS SHALL BE TOWN OF DOUGLAS APPROVED.

18. THE CONTRACTOR IS RESPONSIBLE FOR DIGGING TEST HOLES AND VERIFYING ANY EXISTING UTILITY OR STRUCTURE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT BASED ON THE EXACT LOCATION OF EXISTING UTILITIES THERE ARE NO CONFLICTS BETWEEN THEM AND THE PROPOSED UTILITIES.

19. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL AND PLUMBING PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELECOMMUNICATIONS AND NATURAL GAS SERVICE.

20. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.

21. ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ANY UTILITIES 4 INCHES AND LARGER SHALL BE REMOVED. UTILITIES GREATER THAN 8 FEET BELOW GRADE MAY BE ABANDONED IN PLACE IF NOT IN CONFLICT WITH OTHER UTILITIES OR LOCATED WITHIN FUTURE BUILDING FOOTPRINTS. WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURES TO ALLOW DRAINAGE. BACKFILL ABANDONED MANHOLES WITH SAND. BACKFILL AND COMPACT EXCAVATIONS FROM REMOVAL OF UTILITY FACILITIES AS REQUIRED TO RESTORE THE ORIGINAL GRADE.

ACCESSIBILITY NOTES

GENERAL NOTES:

27. SPECIAL ATTENTION SHALL BE GIVEN TO COMPLIANCE WITH THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS AND THE AMERICANS DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN (ADAAG).
28. IT IS ESSENTIAL THAT CONTRACTORS BE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS. THESE NOTES AND DETAILS ARE INTENDED TO ASSURE THAT CONTRACTORS ARE AWARE OF THE REQUIREMENTS AT THE TIME WHEN THEY ARE BIDDING THE PROJECT. IF SLOPES / GRADES AND DIMENSIONS ARE NOT ACHIEVABLE, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER IMMEDIATELY, BEFORE MOVING FORWARD WITH THE WORK.
29. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND CIVIL ENGINEER IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS, WHETHER BY BEALS ASSOCIATES, INC. OR OTHERS. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK FOR WHICH THE ALLEGED CONFLICT HAS BEEN DISCOVERED UNTIL SUCH ALLEGED CONFLICT HAS BEEN RESOLVED. NO CLAIM SHALL BE MADE BY THE CONTRACTOR FOR DELAY DAMAGES AS A RESULT OF RESOLUTION OF ANY SUCH CONFLICT(S).
30. AAB REGULATIONS DO NOT ALLOW ANY TOLERANCE ON SLOPE REQUIREMENTS AND THE MAXIMUM SLOPES LISTED BELOW CAN NOT BE EXCEEDED.
31. IT IS RECOMMENDED THAT THE CONTRACTOR USE A 2-FOOT DIGITAL LEVEL TO VERIFY SLOPES PRIOR TO PLACING THE FINISHED SURFACE. IT IS FURTHER RECOMMENDED THAT FORMS BE CHECKED PRIOR TO PLACING CONCRETE OR ASPAHLT.
32. THESE ACCESSIBILITY NOTES AND DETAILS ARE INTENDED TO DEPICT SLOPE AND DIMENSIONAL REQUIREMENTS ONLY. REFER TO SIDEWALK, CURBING, AND PAVEMENT DETAILS FOR ADDITIONAL INFORMATION.

ACCESSIBLE ROUTE NOTES:

1. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES; PUBLIC STREETS OR SIDEWALKS; AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY THEY SERVE.
2. AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.
3. DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE BUILDING ENTRANCE SHALL BE PROVIDED AT INACCESSIBLE BUILDING ENTRANCES.
4. TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4 INCH MAXIMUM VERTICAL CHANGE).

WALKWAYS:

1. WIDTH OF WALKWAYS SHALL NOT BE LESS THAN 48 INCHES, EXCLUDING CURB STONES.
2. WALKWAYS SHALL PROVIDE A MINIMUM OF 36 INCHES CLEAR, UNOBSTRUCTED PATH OF TRAVEL PAST ALL OBSTRUCTIONS. (I.E. UTILITY POLES, SIGNS, FIRE HYDRANTS, ETC.)
3. WALKING SURFACES SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.
4. AT THE INTERSECTION OF TWO SIDEWALKS, THERE SHALL BE A LEVEL LANDING WITH NO SLOPE GREATER THAN 2% IN ANY DIRECTION.
5. ANY WALKING SURFACE WITH A RUNNING SLOPE GREATER THAN 5.0% IS CONSIDERED A RAMP AND SHALL COMPLY WITH THE GUIDELINES FOR RAMPS OR CURB CUT RAMPS.
6. ACCESSIBLE ROUTE SURFACES SHALL BE STABLE, FIRM AND SLIP RESISTANT.
7. IF CATCH BASINS OR OTHER GRATINGS ARE LOCATED WITHIN AN ACCESSIBLE ROUTE, THEN AN ADA GRATE SHALL BE USED WITH SPACES NO GREATER THAN ½ INCH WIDE IN THE DIRECTION OF TRAVEL.

RAMPS:

1. ANY PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5% SHALL BE CONSIDERED A RAMP OR A CURB CUT RAMP.
2. THE MAXIMUM RUNNING SLOPE FOR A RAMP SHALL BE 7.5% AND THE MAXIMUM CROSS SLOPE SHALL BE 1.5%
3. THE CLEAR WIDTH OF A RAMP SHALL BE 48 INCHES MINIMUM AS MEASURED BETWEEN THE HANDRAILS.
4. THE MAXIMUM RISE FOR ANY RAMP RUN SHALL BE 30 INCHES.
5. LANDINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF RAMPS. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2.0% IN ANY DIRECTION. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING. THE LANDING CLEAR LENGTH SHALL BE SIXTY (60) INCHES LONG MINIMUM. RAMPS THAT CHANGE DIRECTIONS BETWEEN RUNS AT LANDINGS SHALL HAVE A CLEAR LANDING OR SIXTY (60) INCHES BY SIXTY (60) INCHES MINIMUM.
6. EDGE PROTECTION COMPLYING WITH AAB AND ADAAG REQUIREMENTS SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS AND ON EACH SIDE OF RAMP LANDINGS.
7. WHERE DOORWAYS ARE LOCATED ADJACENT TO A RAMP LANDING, MANEUVERING CLEARANCES REQUIRED BY 521 CMR FIGURES 26d AND 26e SHALL BE COMPLIED WITH.

CURB CUT RAMPS:

1. CURB CUT RAMPS ARE REQUIRED AT THE CORNER OF EACH INTERSECTION AND WHERE A PEDESTRIAN PATH OF TRAVEL CROSSES A ROAD, DRIVEWAY OR OTHER VEHICULAR WAY.
2. THE MAXIMUM RUNNING SLOPE OF A CURB CUT RAMP SHALL BE 7.5% AND THE MAXIMUM CROSS SLOPE SHALL BE 1.5%.
3. CURB CUT RAMPS MAY EXTEND UP TO 15 FEET IN LENGTH.
4. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB CUT RAMP SHALL NOT BE STEEPER THAN 5%. THE ADJACENT SURFACES AT TRANSITIONS AT CURB CUT RAMPS TO WALKS, CUTTERS AND STREETS SHALL BE AT THE SAME LEVEL.
5. THE MINIMUM CLEAR WIDTH OF A CURB CUT RAMP SHALL BE 36 INCHES, EXCLUSIVE OF FLARED SIDES, IF PROVIDED.
6. LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB CUT RAMPS. THE CLEAR LENGTH OF THE LANDING SHALL BE 48 INCHES MINIMUM. THE CLEAR WIDTH OF THE LANDING SHALL BE AT LEAST AS WIDE AS THE CURB CUT RAMP, EXCLUDING FLARED SIDES, LEADING TO THE LANDING. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2% IN ANY DIRECTION.
7. IF A CURB CUT RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS OR GUARDRAILS, IT SHALL HAVE FLARED SIDES.
8. WHERE PROVIDED, CURB CUT RAMP FLARES SHALL NOT EXCEED 10%. IF THE CLEAR LENGTH OF THE LANDING IS LESS THAN FORTY-EIGHT (48) INCHES THAN THE SLOPE OF THE FLARED SIDES SHALL NOT EXCEED 8.33%.
9. CURB CUT RAMPS AND THE FLARED SIDES OF CURB CUT RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PROJECT INTO VEHICULAR TRAFFIC LANES PARKING SPACES OR PARKING ACCESS AISLES. CURBS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
10. CURB CUT RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
11. CURB CUT RAMPS SHALL HAVE A TWENTY-FOUR (24) INCH DEEP DETECTABLE WARNING PANEL COMPLYING WITH ADAAG, EXTENDING THE FULL WIDTH OF THE RAMP. REFER TO DETECTABLE WARNING DETAILS AND NOTES FOR PLACEMENT.
12. WHERE PROVIDED, STOP LINES SHALL BE LOCATED IN ADVANCE OF CURB CUT RAMP.
13. WHERE PROVIDED, DRAINAGE INLETS SHALL BE LOCATED UPSTREAM OF CURB RAMPS AND NOT IN THE RAMP AREA.
14. CURB CUT RAMP TYPE AND LOCATION ARE SHOWN ON PLAN.

ACCESSIBLE PARKING SPACES:

1. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTES OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE.
2. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE AT LEAST 8 FEET WIDE. WHERE PARKING SPACES AND ACCESS AISLES ARE MARKED WITH LINES THE WIDTH MEASUREMENTS SHALL BE MADE FROM CENTERLINE OF THE MARKINGS.
3. PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE AND SHALL COMPLY WITH PROVISIONS FOR ACCESSIBLE ROUTES

Posted by Ben Enos on May 17, 2022

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GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

NOTES:
THE EXISTING CONDITIONS PLAN HAS BEEN COMPILED FROM THE FOLLOWING SOURCES, AND IS NOT A RESULT OF AN ON THE GROUND SURVEY BY BEALS ASSOCIATES INC.

1. THE SUBJECT PROPERTY BOUNDARIES WERE OBTAINED FROM PLANS ENTITLED "ALTA/NSPS LAND TITLE SURVEY" DATED MAY 21, 2021, AND PREPARED BY KELLY ENGINEERING. THE SURROUNDING PROPERTIES HAVE BEEN SUPPLEMENTED FROM MASS GIS DATA LAYERS.
2. THE NORTH ARROW BASED ON PLANS ENTITLED "ALTA/NSPS LAND TITLE SURVEY" DATED MAY 21, 2021, AND PREPARED BY KELLY ENGINEERING GROUP.
3. THE SITE DETAIL AND SURFACE IMPROVEMENTS DEPICTED HERON WERE OBTAINED FROM PLANS ENTITLED "ALTA/NSPS LAND TITLE SURVEY" DATED MAY 21, 2021, AND PREPARED BY KELLY ENGINEERING GROUP.
4. THE BUILDING LOCATIONS WERE OBTAINED FROM MASS GIS DATA LAYERS.
5. THE LOCATIONS OF UNDERGROUND FEATURES WERE OBTAINED FROM PLANS ENTITLED "ALTA/NSPS LAND TITLE SURVEY" DATED MAY 21, 2021, AND PREPARED BY KELLY ENGINEERING. DIG-SAFE SHALL BE CONTACTED PRIOR TO ANY EXCAVATION.
6. ELEVATIONS REFER TO THE NORTH AMERICAN DATUM OF 1988 (NAVD88). BENCHMARKS OBTAINED FROM KELLY ENGINEERING GROUP ON JANUARY 18, 2022. ELECTRONIC MEDIA CONTINUING THE BENCHMARKS, WAS ENTITLED BENCHMARKS-NOTES. SITE TOPOGRAPHY WAS OBTAINED FROM THE FOLLOWING SOURCES:
   - 6.1. ELECTRONIC MEDIA (CAD) FILE OBTAINED FROM KELLY ENGINEERING GROUP ON JULY 22, 2021 ENTITLED "DOUGLAS" AND PREPARED BY BLUESKY.
   - 6.2. ELECTRONIC MEDIA (CAD) FILE OBTAINED FROM KELLY ENGINEERING GROUP ON SEPTEMBER 16, 2021, AND ENTITLED "2021-071-EX00 9-16-21".
   - 6.3. MASS GIS LIDAR IMAGERY OBTAINED FROM THE 2013-2014 SANDY PROJECT. THE ACQUISITION DATE FOR THE PROJECT WAS IN FALL 2013 & SPRING 2014.
7. TEST PITS AND BORINGS WERE LOGGED BY FAIRBANKS ENGINEERING, INC. ON MULTIPLE DAYS FROM SEPTEMBER 30, 2021 THROUGH OCTOBER 4, 2021.
8. THE PROPERTY IS LOCATED WITHIN THE ZONE AE FLOODPLAIN ZONE BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S (FEMA) FLOOD INSURANCE RATE MAP FOR WORCESTER COUNTY, MASSACHUSETTS, RATE MAP NUMBER 25027C1004E EFFECTIVE JULY 4, 2011.
9. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN NATURAL HERITAGE ESTIMATED HABITAT OF RARE OR ENDANGERED SPECIES BASED ON THE 15TH EDITION OF THE MASSACHUSETTS NATURAL HERITAGE ATLAS, EFFECTIVE AUGUST 1, 2021.
10. NATURAL RESOURCE BOUNDARIES DELINEATED BY BEALS ASSOCIATES, INC ON JUNE 24, 2021 AND FIELD LOCATED USING GPS INSTRUMENTATION BY BEALS ASSOCIATES, INC. ON JULY 16, 2021. RESOURCE AREAS THAT WERE NOT DELINEATED WERE SUPPLEMENTED FROM MASS GIS AND AERIAL PHOTOGRAPHY. H SERIES AND RE SERIES WETLAND FLAGS DELINEATED BY OTHERS.
11. ANY DISCREPANCIES IN THE EXISTING CONDITIONS SHALL BE REPORTED BY THE CONTRACTOR TO THE DESIGN ENGINEER PRIOR TO ADDITIONAL CONSTRUCTION ACTIVITIES.

BENCHMARK: TOP OF STONE BOUND ELEV.=346.85(NAVD88)
N77°00'47"E 5.84'
S60°29'23"E 69.62'
S16°45'48"E 352.62'
S16°45'48"E 105.00'
S88°00'38"E 204.71'
S0°18'03"E 5.16'
N77°22'02"E 50.43'
S70°32'42"W 186.39'
L=234.93' R=575.00' Δ=23°24'35"
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON FIS DATA WITH ELEVATION
100-FOOT LOCAL FLOOD PLAIN BUFFER ZONE
L=477.63' R=4831.71' Δ=5°39'50"
N/F 10LD LACKEY DAM ROAD TOWN OF DOUGLAS PARCEL ID: 15-1418
N/F TOWN OF DOUGLAS LACKEY DAM ROAD PARCEL ID: 15-1443
S65°06'27"W 226.71'
N0°26'25"W 1908.65'
200' RIVERFRONT AREA
N/F TOWN OF DOUGLAS 123 GILBOA STREET PARCEL ID: 139-1
N1°39'12"E 479.00'
100' RESOURCE BUFFER 75' NO BUILD 50' NO DISTURB
N/F GILBOA PROPERTIES LLC 120 GILBOA STREET PARCEL ID: 138-43
GILBOA POND
N59°37'17"E 352.84'
N/F TOWN OF DOUGLAS 105 GILBOA STREET PARCEL ID: 138-44
GILBOA STREET (PUBLIC - WIDTH VARIES)
L=209.31' R=2025.00' Δ=5°55'20"
N65°32'37"E 982.03'
N/F HOPEVILLE REALTY TRUST 67 GILBOA STREET MAP 138 LOT 45
N/F FORESIGHT ENTERPRISES CORP. 65 GILBOA STREET MAP 141 LOT 45-1
S80°50'30"W 413.34'
L=294.25' R=775.00' Δ=21°45'15"
N44°02'05"W 256.53'
SEE SHEET C101 "A"
PROPERTY LINE
MUMFORD RIVER
C-22
S28°23'10"W 489.00'
610.00'
698.00'
N75°22'10"E 698.00'
200' RIVERFRONT AREA
ISOLATED LAND SUBJECT TO FLOODING
POTENTIAL VERNAL POOL
968.00'
N15°47'34"E
S9°20'51"W 647.76'
50' WIDE GAS EASEMENT BOOK: 11492 PG: 33 BOOK: 13102 PG: 010
190.01'
N89°33'19"W
SEE SHEET C102 "B"
N0°26'25"W 1908.65'
521.32'
TOWN LINE: UXBRIDGE DOUGLAS
N85°32'08"E 332.00'
N/F TOWN OF DOUGLAS LACKEY DAM ROAD PARCEL ID: 15-1443
N0°26'25"W 1908.65'
1380.00'
N82°24'23"E 280.13'
S1°33'58"W 858.68'
N0°26'25"W 1908.65'
N/F TOWN OF DOUGLAS 123 GILBOA STREET PARCEL ID: 139-1
N/F KTKT LLC 795 HARTFORD AVE WEST PARCEL ID: 21-1416
N/F 757 HARTFORD AVE WEST BOSMA NOMINEE REAL ESTATE TRUST MAP 21 LOT 1523
S36°27'07"E 176.55'
S31°37'06"W 85.23'
239.80'
92.20'
S51°08'36"W 132.83'
S25°57'36"W 89.08'
S4°28'24"E 240.51'
S1°19'26"E 439.24'
SEE SHEET C104 "D"
WEST HARTFORD AVE (PUBLIC - 60' WIDE)
L=67.74' R=1230.00' Δ=3°09'20"
BENCHMARK: TOP OF CONCRETE BOUND ELEV.=406.08(NAVD88)
WALNUT GROVE (PRIVATE - WIDTH VARIES)
S67°38'14"W 86.88'
S67°50'36"W 137.85'
100-FOOT LOCAL FLOOD PLAIN BUFFER ZONE
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
N/F KTKT LLC 470 NORTHEAST MAIN ST PARCEL ID: 140-9
SEE SHEET C103 "C"
N0°07'33"W 252.68'
N0°48'17"W 404.46'
N/F 466 NE MAIN STREET NEI REALTY TRUST MAP 140 LOT 7
WILLIAM DRIVE (PUBLIC - WIDTH VARIES)
N82°27'47"E 954.90'
100' RESOURCE BUFFER 75' NO BUILD 50' NO DISTURB
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
S63°57'59"W 876.40'
N/F FERSCHKE, MARGUERITE 460 NORTHEAST MAIN STREET PARCEL ID: 140-4
N/F FOLEY, PAMELA A. 458 NORTHEAST MAIN STREET PARCEL ID: 140-3
NORTHEAST MAIN STREET (PUBLIC - WIDTH VARIES)
N/F 466 NE MAIN STREET NEI REALTY TRUST MAP 140 LOT 7
1033.60
N10° 35' 42"W
N/F BOSMA MARLENE J TR 436 NORTHEAST MAIN STREET PARCEL ID: 141-67
N/F EHRLICH JASON P 450 NORTHEAST MAIN STREET PARCEL ID: 141-69
N10°40'54"W 1068.55'
S82°39'58"W 411.29'
I-1 INDUSTRIAL DISTRICT
VC-VILLAGE COMMERCIAL DISTRICT
SEE SHEET C105 "E"
SEE SHEET C106 "F"
N/F LAWRENCE JOHN W 454 NORTHEAST MAIN STREET PARCEL ID: 140-2
N/F CAPEN DOUGLAS R 452 NORTHEAST MAIN STREET PARCEL ID: 140-1
N/F GOULD RAYMOND L 448 NORTHEAST MAIN STREET PARCEL ID: 141-68

BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-502-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

CRG | INTEGRATED REAL ESTATE SOLUTIONS

Warehouse Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

Designed by: IA	Checked by: DPH
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=150'	

Sheet Title
EXISITING CONDITIONS PLAN - OVERALL

A B C D E F

Sheet Number
C100

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Plotted by Ben Enos on May 17, 2022

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EXISTING DRAIN
EXISTING WATER LINE
EXISTING ELECTRIC LINE
EXISTING TREELINE
L=234.93' R=575.00' Δ=23°24'35"
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON FIS DATA WITH ELEVATION
200' RIVERFRONT AREA
CB RIM= 327.79
L=477.63' R=4831.71' Δ=5°39'50"
100-FOOT LOCAL FLOODPLAIN BUFFER ZONE
CB RIM= 327.97
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
FLOW
RB-14
RE-10
RB-13
RE-9
RB-12
RB-11
RB-10
RE-7
RB-9
RB-8
RE-6
RB-7
RB-6
RB-5
RB-4
RB-3
RB-2
RB-1
RE-5
RE-4
RE-3
RE-2
H-43/RE-1
H-42
H-41
H-40
H-39
H-38
B21
B21-2
B-31
B-30
B-29
B-28
B-27
B-26
B-25
B-24
B-23
B-22
B-21
B-20
B-19
B-18
B-17
B-16
B-15
B-14
B-13
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON FIS DATA WITH ELEVATION
100-FOOT LOCAL FLOODPLAIN BUFFER ZONE
S65°06'27"E 226.71'
N/F 123 GILBOA STREET TOWN OF DOUGLAS MAP 139 LOT 1
TOWN LINE: UXBRIDGE / DOUGLAS
MATCH LINE - SEE SHEET C102 "B"
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
100-FOOT LOCAL FLOODPLAIN BUFFER ZONE
479.00' N01° 39' 12"E
100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
MUMFORD RIVER
APPROXIMATE DAM LOCATION
GILBOA POND
N/F 120 GILBOA STREET TOWN OF DOUGLAS MAP 138 LOT 43
GILBOA STREET (PUBLIC-WIDTH VARIES)
N59°37'17"E 352.84'
N/F 105 GILBOA STREET TOWN OF DOUGLAS MAP 138 LOT 44
50' NO DISTURB
75' NO BUILD
100' RESOURCE BUFFER
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
MATCH LINE- SEE SHEET C105 "E"
CB RIM= 321.62
DMH RIM= 321.93
CB RIM= 321.39
DMH RIM= 321.91
DMH RIM= 322.15
CB RIM= 321.44
CB RIM= 321.30

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

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Sheet Title
EXISITING CONDITIONS PLAN - A

A | B | C | D | E | F

Sheet Number
C101

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

POTENTIAL VERNAL POOL

TOWN LINE: UXBRIDGE / DOUGLAS

MATCH LINE - SEE SHEET C101

MATCH LINE - SEE SHEET C103 "C"

MATCH LINE - SEE SHEET C105 "E"

N/F
TOWN OF DOUGLAS
MAP LOT 15 LOT 1443
DEED BOOK 3389 PAGE 547

N/F
123 GILBOA STREET
TOWN OF DOUGLAS
MAP 139 LOT 1

N/F
105 GILBOA STREET
TOWN OF DOUGLAS
MAP 138 LOT 44

PARCEL TWO
389,962± S.F, OR 8.952± ACRES

PARCEL THREE
1,075,676.21± S.F, OR 24.694± ACRES

PARCEL ONE
2,953,657.93± S.F, OR 67.807± ACRES

521.32
N62° 24' 23"E
280.13
S01° 39' 12"W
485.80
S01° 33' 58"W
858.68
239.80
92.20

TP-2
TP-3
TP-4
TP-5
TP-6
TP-10
TP-11
TP-12
TP-13
TP-14
TP-15
TP-19
TP-20
TP-21
TP-23
TP-24
B21-3

EXISTING SCRUBLINE
EXISTING TREELINE
GRAVEL DRIVEWAY
WALL

FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION

100-FOOT LOCAL FLOODPLAIN BUFFER ZONE

75' NO BUILD
100' RESOURCE BUFFER

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Sheet Title
EXISITING CONDITIONS PLAN - B

A | B | C | D
E | F

Sheet Number
C102

Posted by Ben Enos on May 17, 2022
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GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

MATCH LINE - SEE SHEET C102 "B"

239.80'

92.20'

EXISTING TREELINE

TP-31

DEBRIS PILE

TOWN LINE: UXBRIDGE
DOUGLAS

GRAVEL DRIVEWAY

TP-30

B21-4

BOULDERS

DEBRIS PILE

GRAVEL DRIVEWAY

EXISTING SCRUBLINE

TP-23

TP-29

B21-6

EXISTING SCRUBLINE

EXISTING SCRUBLINE

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

TP-24

TP-28

ACTIVE GRAVEL PIT AREA

B21-7

MATCH LINE - SEE SHEET C106 "F"

B21-10

GAS MARKER

TRAILER

50' WIDE GAS EASMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG: 010

S38° 23' 07"W
176.55'

S31° 27' 06"W
85.23'

S31° 08' 36"W
132.83'

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

EXISTING GAS LINE

EXISTING TREELINE

S25° 57' 36"W
89.05'

GAS MARKER

GAS MARKER

50' WIDE GAS EASMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG: 010

S04° 28' 24"E
240.51'

50' WIDE GAS EASEMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG:010

GAS MARKER

EXISTING SCRUBLINE

B21-5

MATCH LINE - SEE SHEET C104 "D"

STORAGE BINS

TP-32

B21-1

252.68'
N00° 07' 33"W

EXISTING SHED

EXISTING TREES

B21-11

EXISTING SCRUBLINE

GRAVEL DRIVEWAY

B21-12

DEBRIS PILE

DEBRIS PILE

EXISTING TREELINE

100' WIDE GRAVEL REMOVAL EASEMENT
BOOK: 21389 PG: 59

DEBRIS PILE

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

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Sheet Title
EXISITNIG
CONDTIONS
PLAN - C

A B C D
E F

Sheet Number
C103

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MATCH LINE - SEE SHEET C103 "C"

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

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

WEST HARTFORD AVE
(PUBLIC - 60' WIDE)

EXISTING ELECTRIC LINE

N/F
12 WALNUT GROVE STREET
LOURIE JEFFREY A
MAP 21 LOT 1458

EXISTING TREELINE

50' WIDE GAS EASEMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG:010

S11° 19' 26"E
439.24

EXISTING GAS LINE

15' SIDE YARD SETBACK

GAS EASEMENT

GAS MARKER

EXISTING SCRUBLINE

L=67.74' R=1230.00'
Δ=3°09'20"

BENCHMARK: TOP OF CONCRETE BOUND
ELEV.=406.08(NAVD88)

WALNUT GROVE
(PUBLIC - WIDTH VARIES)

CB

S67° 38' 14"W
88.88

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

TOWN LINE: UXBRIDGE
DOUGLAS

N/F
3 WALNUT GROVE STREET
UDDIN WAHID & SUZANNA
MAP 21 LOT 1473

B21-16

TP-34

STORAGE BINS

TP-33

TP-35

EXISTING TREELINE

FRONT YARD SETBACK

S67°50'36"E
137.85'

404.46
N00° 48' 17"W

15' SIDE YARD SETBACK

20' WIDE ACCESS EASEMENT
BOOK: 21389 PG: 215

EXISTING TREES

N/F
NE MAIN STREET
UDDIN WAHID
MAP 140 LOT 10

NORTHEAST MAIN STREET
(PUBLIC - WIDTH VARIES)

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

N/F
2-4 NE MAIN STREET
WILLIAMS COURT DOUGLAS LLC
MAP 140 LOT 7

WILLIAM DRIVE
(PUBLIC - WIDTH VARIES)

N/F
NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

MATCH LINE - SEE SHEET C106 "F"

I - INDUSTRIAL DISTRICT
VR - VILLAGE RESIDENTIAL DISTRICT

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Sheet Title
EXISITING CONDITIONS PLAN - D

A B C D
E F

Sheet Number
C104

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MATCH LINE - SEE SHEET C102 "B"

TP-11

TP-15

TP-19

TP-24

GRAVEL DRIVEWAY

N82° 27' 54"E
954.90

TP-7

EXISTING SCRUBLINE

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

GRAVEL DRIVEWAY

100-FOOT LOCAL FLOODPLAIN BUFFER ZONE

N/F
105 GILBOA STREET
TOWN OF DOUGLAS
MAP 138 LOT 44

TP-10

TP-16

TP-18

TP-25

TP-8

B-6

B-5

100' RESOURCE BUFFER

75' NO BUILD

50' NO DISTURB

B-4

B-3

B-2

WF-5/B-1

FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION

WF-4

WF-3

WF-2

WF-1

TP-9

EXISTING TREELINE

EXISTING TREELINE

TP-17

N10° 41' 06"W
1068.55

N/F
436 NE MAIN STREET
THE BOSMA NOMINEE REALTY ESTATE TRUST
MAP 141 LOT 67

MATCH LINE - SEE SHEET C106 "F"

S82° 39' 42"W
411.29

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

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Sheet Title
EXISITING CONDITIONS PLAN - E

A B C D
E F

Sheet Number
C105

Plotted by Ben Enos on May 17, 2022

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MATCH LINE - SEE SHEET C103 "C"

TP-24

TP-28

B21-7

B21-10

100' WIDE GRAVEL REMOVAL EASEMENT
BOOK: 21389 PG 59

B21-13

S63° 57' 59"W
876.40

GRAVEL DRIVEWAY

EXISTING SCRUBLINE

EXISTING SCRUBLINE

GRAVEL DRIVEWAY

N/F
458 NE MAIN STREET
PAMELA A FOLEY & PAUL E BEAUREPARD JR
MAP 140 LOT 3

N/F
454 NE MAIN STREET
JOHN W LAWRENCE
MAP 140 LOT 2

N/F
452 NE MAIN STREET
DOUGLAS COREN & KELLY COREN
MAP 140 LOT 1

TP-25

TP-27

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

B21-8

B21-9

B21-14

EXISTING TREELINE

EXISTING TREES

EXISTING TREELINE

TP-26

B21-15

N10° 35' 42"W
1033.60

N/F
436 NE MAIN STREET
THE BOSMA NOMINEE REALTY ESTATE TRUST
MAP 141 LOT 67

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

MATCH LINE - SEE SHEET C105 "E"

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
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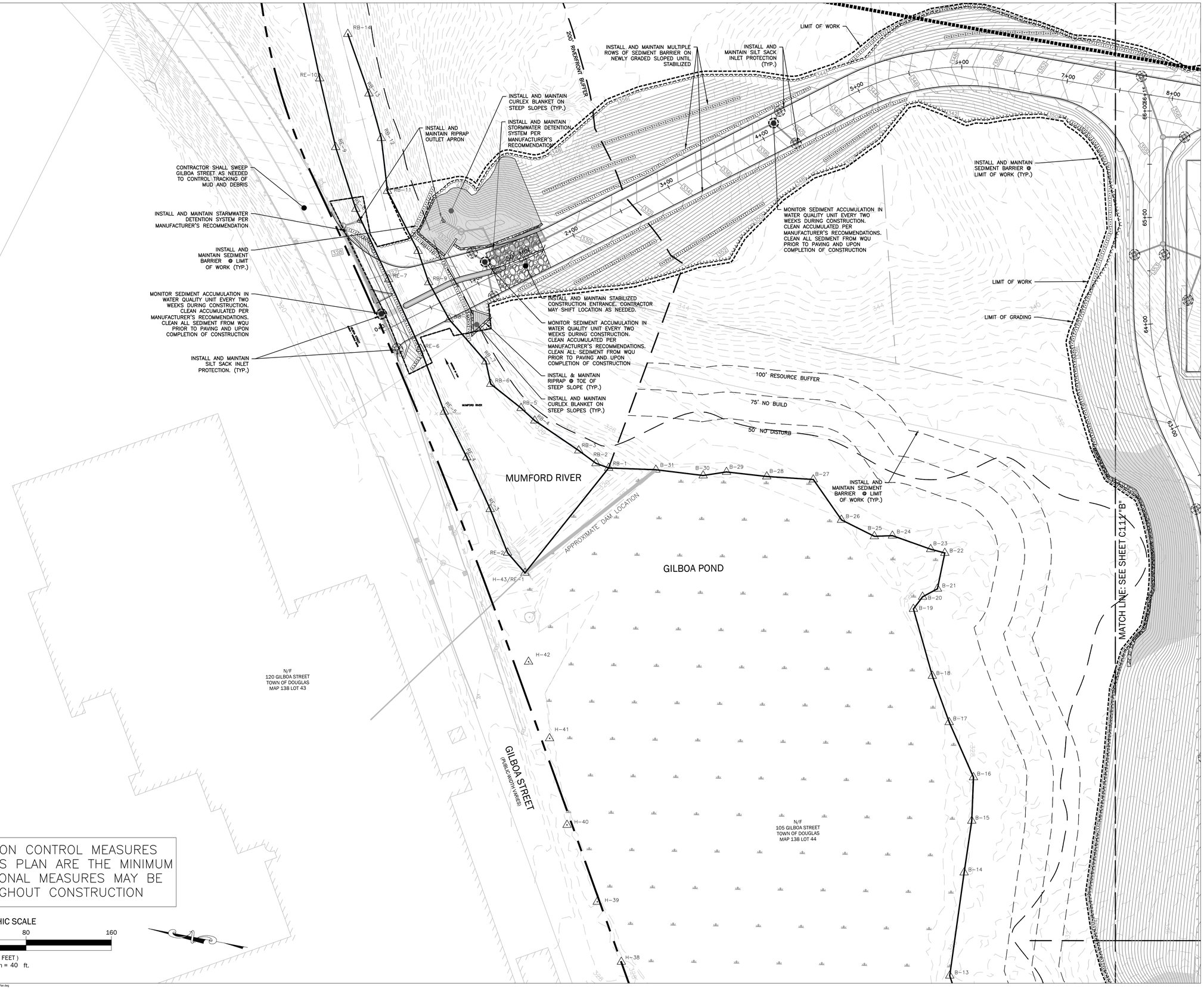
Sheet Title
EXISITING
CONDITIONS
PLAN - F

A B C D
E F

Sheet Number
C106

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN - A

A | B | C | D | E | F

Sheet Number
C110

Plotted by Ben Enos on May 31, 2022

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N/F
TOWN OF DOUGLAS
MAP LOT 15 LOT 1443
DEED BOOK 3389 PAGE 547

LIMIT OF GRADING

LIMIT OF WORK

INSTALL AND MAINTAIN SEDIMENT BARRIER @ LIMIT OF WORK (TYP.)

1.5:1 RIPRAP SLOPE
D_{50}=6"
THICKNESS=14"

INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

TOWN LINE: UXBRIDGE
DOUGLAS

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SEDIMENT BARRIER @ LIMIT OF WORK (TYP.)

INSTALL AND MAINTAIN RIPRAP ARMOUR SEDIMENT FOREBAY 1
D_{50}=6"
THICKNESS=14"

INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

INSTALL AND MAINTAIN RIPRAP SEDIMENT FOREBAY 2
D_{50}=12"
THICKNESS=27"

PROTECT AND MAINTAIN SUBSURFACE SYSTEMS PER MANUFACTURER RECOMMENDATION. (TYP.)

LIMIT OF WORK

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

MONITOR SEDIMENT ACCUMULATION IN WATER QUALITY UNIT EVERY TWO WEEKS DURING CONSTRUCTION. CLEAN ACCUMULATED PER MANUFACTURER'S RECOMMENDATIONS. CLEAN ALL SEDIMENT FROM WQU PRIOR TO PAVING AND UPON COMPLETION OF CONSTRUCTION

INSTALL AND MAINTAIN RIPRAP @ TOE OF STEEP SLOPE (TYP.)

THE LOCATION OF THE SILT FENCE AND LIMIT OF WORK HAS BEEN SHOWN GRAPHICALLY FOR CLARITY, AND NO WORK SHALL BE PERMITTED IN THE 100' BUFFER

TEMPORARY SOIL STOCKPILE LOCATION

CONCRETE WASHOUT AREA

TEMPORARY SOIL STOCKPILE LOCATION

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

NOTE: THE EROSION CONTROL MEASURES DEPICTED ON THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION

MATCH LINE: SEE SHEET C110 "A"

MATCH LINE: SEE SHEET C112 "C"

MATCH LINE: SEE SHEET C114 "E"

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

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Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN- B

A | B | C | D | E | F

Sheet Number
C111

Plotted by Ben Enos on May 31, 2022

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INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

50' WIDE GAS EASEMENT BOOK: 11492 PG: 33 BOOK: 13102 PG: 010

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00
28+00
29+00
30+00
31+00
1+00
2+00
3+00

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

TEMPORARY SOIL STOCKPILE LOCATION

INSTALL AND MAINTAIN RIPRAP @ TOP OF STEEP SLOPE

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

TOWN LINE: UXBRIDGE / DOUGLAS

50' WIDE GAS EASEMENT BOOK: 11492 PG:33 BOOK: 13102 PG: 010

LIMIT OF WORK

CONCRETE WASHOUT AREA

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN RIPRAP @ TOP OF STEEP SLOPE

1.5:1 RIPRAP SLOPE
D_{50}=6"
THICKNESS=14"

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

LIMIT OF WORK

INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

100' WIDE GRAVEL REMOVAL EASEMENT BOOK:21389 PG: 59

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

NOTE: THE EROSION CONTROL MEASURES DEPICTED ON THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION

MATCH LINE: SEE SHEET C111 "B"

MATCH LINE: SEE SHEET C113 "D"

MATCH LINE: SEE SHEET C115 "F"

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

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Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN- C

A	B	C	D
	E	F	

Sheet Number
C112

Plotted by Ben Enos on May 31, 2022

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MATCH LINE: SEE SHEET C112 "C"

NOTE: THE EROSION CONTROL MEASURES DEPICTED ON THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

N/F
12 WALNUT GROVE STREET
LOURIE JEFFREY A
MAP 21 LOT 1458

WEST HARTFORD AVE
(PUBLIC- 60' WIDE)

WALNUT GROVE
(PUBLIC - WIDTH VARIES)

50' WIDE GAS EASEMENT
BOOK: 11492 PG: 33
BOOK: 13012 PG: 010

INSTALL AND MAINTAIN RIPRAP @ TOE OF STEEP SLOPE. (TYP.)

LIMIT OF WORK

2+00
3+00
4+00
5+00
6+00
7+00
7+14

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

20' WIDE ACCESS EASEMENT
BOOK: 21389 PG:215

50' MIN

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

INSTALL AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE. CONTRACTOR MAY SHIFT LOCATION AS NEEDED.

CONTRACTOR SHALL SWEEP NORTHEAST MAIN STREET AS NEEDED TO CONTROL TRACKING OF MUD AND DEBRIS

TOWN LINE: UXBRIDGE
DOUGLAS

N/F
3 WALNUT GROVE STREET
UDDIN WAHID & SUZANNA
MAP 21 LOT 1473

N/F
NE MAIN STREET
UDDIN WAHID
MAP 140 LOT 10

N/F
NE MAIN STREET
UDDIN WAHID
MAP 140 LOT 10

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

N/F
2-4 NE MAIN STREET
WILLIAMS COURT DOUGLAS LLC
MAP 140 LOT 7

NORTHEAST MAIN STREET
(PUBLIC - WIDTH VARIES)

WILLIAM DRIVE
(PUBLIC - WIDTH VARIES)

N/F
NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

100' WIDE GRAVEL REMOVAL EASEMENT
BOOK:21389 PG: 59

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

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

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Warehouse
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Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: ZC	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=40	

Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN- D

A | B | C | D | E | F

Sheet Number
C113

Posted by Ben Enos on May 31, 2022
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MATCH LINE: SEE SHEET C111 "B"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

THE LOCATION OF THE SILT FENCE AND LIMIT OF WORK HAS BEEN SHOWN GRAPHICALLY FOR CLARITY, AND NO WORK SHALL BE PERMITTED IN THE 100' BUFFER

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SEDIMENT BARRIER @ LIMIT OF WORK

INSTALL AND MAINTAIN RIPRAP @ TOE OF STEEP SLOPE (TYP.)

LIMIT OF GRADING AT LIMIT OF WORK

100' RESOURCE BUFFER

75' NO BUILD

50' NO DISTURB

1.5:1 RIPRAP SLOPE
D_{50}=6"
THICKNESS=14"

CONCRETE WASHOUT AREA

PROTECT AND MAINTAIN SUBSURFACE SYSTEMS PER MANUFACTURER RECOMMENDATION.

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

MONITOR SEDIMENT ACCUMULATION IN WATER QUALITY UNIT EVERY TWO WEEKS DURING CONSTRUCTION. CLEAN ACCUMULATED PER MANUFACTURER'S RECOMMENDATIONS. CLEAN ALL SEDIMENT FROM WQU PRIOR TO PAVING AND UPON COMPLETION OF CONSTRUCTION

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

LIMIT OF GRADING

LIMIT OF WORK

B-6 B-5 B-4 B-3 B-2 WF-5/B-1 WF-4 WF-3 WF-2 WF-1

58+00 57+00 56+00 55+00 54+00 53+00 52+00 51+00 50+00 49+00 48+00 47+00 46+00 45+00

NOTE: THE EROSION CONTROL MEASURES DEPICTED ON THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION

MATCH LINE: SEE SHEET C145 "F"

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

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Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN- E

A B C D E F

Sheet Number
C114

Plotted by Ben Enos on May 31, 2022

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MATCH LINE: SEE SHEET C112 "C"

WAREHOUSE
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INSTALL AND MAINTAIN MULTIPLE ROWS OF SEDIMENT BARRIER ON NEWLY GRADED SLOPED UNTIL STABILIZED

CONCRETE WASHOUT AREA

TEMPORARY SOIL STOCKPILE LOCATION

TEMPORARY SOIL STOCKPILE LOCATION

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN SILT SACK INLET PROTECTION. (TYP.)

INSTALL AND MAINTAIN RIPRAP @ TOE OF STEEP SLOPE (TYP.)

INSTALL AND MAINTAIN CURLEX BLANKET ON STEEP SLOPE (TYP.)

LIMIT OF GRADING

LIMIT OF WORK

44+00 43+00 42+00 41+00 40+00 39+00 38+00 37+00 36+00 35+00 34+00 33+00

N/F
458 NE MAIN STREET
PAMELA A FOLEY & PAUL E BEAUREFARD JR
MAP 140 LOT 3

N/F
454 NE MAIN STREET
JOHN W LAWRENCE
MAP 140 LOT 2

N/F
452 NE MAIN STREET
DOUGLAS R PEPIN & JODY C PEPIN
MAP 140 LOT 1

N/F
436 NE MAIN STREET
THE BOSMA NOMINEE REALTY ESTATE TRUST
MAP 141 LOT 67

I–INDUSTRIAL DISTRICT
VR– VILLAGE RESIDENTIAL DISTRICT

NOTE: THE EROSION CONTROL MEASURES DEPICTED ON THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION

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

MATCH LINE: SEE SHEET C114 "E"

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Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN- F

A B C D E F

Sheet Number
C115

Plotted by Ben Enos on May 18, 2022

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3. EROSION CONTROL NARRATIVE

a. OVERVIEW OF SOIL EROSION AND SEDIMENTATION CONCERNS

THE GENERAL GOALS OF THE EROSION AND SEDIMENT CONTROL PLAN ARE:

- PLAN THE PROJECT TO BE CONSTRUCTED FROM AREAS OF FLATTER GRADES AND AWAY FROM RESOURCES OR THE PROPERTY BOUNDARIES TO THE EXTENT PRACTICAL.
- DEVELOP A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID STABILIZATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
- THE USE OF ONSITE MEASURES TO CAPTURE SEDIMENT (STRAW BALES, SILT FENCE, ETC.,)
- PROTECTION OF NATURAL RESOURCE AREAS AND DRAINAGE COURSES THROUGH BUFFERING AND THE USE OF BEST MANAGEMENT PRACTICES.
- THE IMPLEMENTATION OF LONG-TERM MEASURES FOR EROSION/SEDIMENT POLLUTION TREATMENT THROUGH THE CONSTRUCTION OF PERMANENT WATER QUALITY MEASURES.

THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION CONTROL MEANS AND METHODS ON THE SITE. THE NARRATIVES AND PLANS WITHIN THE CONTRACT DOCUMENTS ARE ANTICIPATED TO BE THE MINIMUM AMOUNT OF EROSION CONTROL NECESSARY, AND ADJUSTMENTS MAY NEED TO BE MADE DURING THE CONSTRUCTION PHASE IN RESPONSE TO WEATHER, UNFORESEEN CONDITIONS OR OTHER FACTORS WHICH COULD IMPACT SOIL EROSION.

b. EROSION AND SEDIMENT CONTROL DEVICES

PRIOR TO AND DURING THE DEVELOPMENT OF THE CONSTRUCTION ACTIVITIES, THE SITE CONTRACTOR SHALL IMPLEMENT AT A MINIMUM THE FOLLOWING EROSION AND SEDIMENTATION CONTROL MEASURES.

SILTATION FENCE

SILTATION FENCE SHALL BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE HAS BEEN STABILIZED. THE SILT FENCE SHALL BE INSTALLED PER THE DETAILS ON THE CONSTRUCTION PLANS AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IMMEDIATELY BY THE CONTRACTOR IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE SILT FENCE LINE. IF SUCH EROSION IS OBSERVED, THE CONTRACTOR SHALL TAKE PROACTIVE ACTION TO IDENTIFY THE CAUSE OF THE EROSION AND TAKE ACTION TO AVOID ITS REOCCURRENCE. TYPICALLY, THIS REQUIRES THAT STABILIZATION MEASURES BE TAKEN TO THE DISTURBED TRIBUTARY AREA. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND IS CRITICAL FOR THE FILTER'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM AND MEASURES TAKEN TO AVOID THE CONCENTRATION OF FLOWS NOT INTENDED TO BE DIRECTED TO THE SILT FENCE.

STRAW MULCH

STRAW MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCHING SHOULD BE OCCURRING SEVERAL TIMES PER WEEK WHEN THE SITE CONSTRUCTION ACTIVITY IS HIGH AND AT SUFFICIENT INTERVALS TO REDUCE THE PERIOD OF EXPOSURE OF BARE SOILS TO THE TIME LIMITS SET FORTH IN THIS PLAN. MULCH PLACED ON SLOPES OF LESS THAN 10 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED ON SLOPES STEEPER THAN 10 PERCENT SHALL BE COVERED WITH FABRIC NETTING AS IMMEDIATELY AFTER MULCHING AS PRACTICABLE AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PROPOSED DRAINAGE CHANNELS, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR NORTH AMERICAN GREEN SELECTED FOR THE SLOPE, VELOCITY, AND WHETHER THE MEASURE IS TEMPORARY OR INTENDED TO BE IN PLACE FOR A SUSTAINED PERIOD. STRAW MULCH SHALL BE AVAILABLE ON SITE AT ALL TIMES IN ORDER TO PROVIDE IMMEDIATE TEMPORARY STABILIZATION WHEN NECESSARY.

TEMPORARY STORMWATER SETTLEMENT BASINS

TEMPORARY STORMWATER SETTLEMENT BASINS MAY BE CONSTRUCTED TO PROVIDE SEDIMENTATION CONTROL FOR STORMWATER RUNOFF FROM THE INDIVIDUAL SITE AREAS DURING CONSTRUCTION. THESE BASINS MAY BECOME NECESSARY WHERE OTHER EROSION CONTROL MEASURES ARE NOT ADEQUATE TO PREVENT OFFSITE SEDIMENTATION. THE BASIN SHOULD ONLY BE USED WHERE THERE IS SUFFICIENT SPACE AND APPROPRIATE TOPOGRAPHY. THE BASIN SHOULD BE LARGE ENOUGH TO HANDLE THE MAXIMUM AMOUNT OF EXPECTED SITE DRAINAGE. THE BASIN MAY BE CONSTRUCTED BY EXCAVATION, CONSTRUCTION OF A COMPACTED EMBANKMENT OR A COMBINATION OF BOTH. IT MAY HAVE ONE OR MORE INFLOW POINTS CARRYING POLLUTED RUNOFF. TO IMPROVE TRAP EFFICIENCY, THE BASIN SHOULD HAVE THE MAXIMUM SURFACE AREA POSSIBLE AND SEDIMENT SHOULD ENTER THE BASIN AS FAR FROM THE OUTLET AS POSSIBLE. THIS PROPOSED INFILTRATION MAY BE USED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION. CONTRACTOR SHALL INSTALL FILTER FABRIC (MIRAFI 140n OR EQUAL) ON THE BOTTOM OF BASIN PRIOR TO DISCHARGE TO BASIN TO PROTECT SOILS FOR FUTURE INFILTRATION. FABRIC SHALL COVER THE ENTIRE BOTTOM AND EXTEND A MINIMUM THREE FEET UP SIDESLOPES. FABRIC SHALL REMAIN IN PLACE UNTIL SITE HAS BEEN PAVED AND/OR STABILIZED. ENGINEER SHALL INSPECT BOTTOM OF BASIN UPON REMOVAL OF FABRIC TO DETERMINE SUITABILITY OF BASIN FOR INFILTRATION.

RIPRAP SLOPES AND DITCH LININGS

RIPRAP CAN BE USED AS A TEMPORARY (OR PERMANENT) METHOD TO PROTECT DENUDED GROUND FROM RUNOFF WITH EROSIVE VELOCITIES BY DISSIPATING ENERGY AND SLOWING DOWN SURFACE WATER RUNOFF. WELL GRADED RIPRAP FORMS A DENSE, FLEXIBLE, SELF-HEALING COVER THAT ADAPTS WELL TO UNEVEN SURFACES. RIPRAP SHOULD BE PLACED ON A PROPER FILTER MATERIAL OF SAND, GRAVEL OR FABRIC TO PREVENT SOIL FROM PIPING THROUGH THE STONE. FOR MOST APPLICATIONS, GRADED RIPRAP IS PREFERRED TO UNIFORM RIPRAP. GRADED RIPRAP FORMS A FLEXIBLE SELF-HEALING COVER WHILE UNIFORM RIPRAP IS MORE RIGID AND CANNOT WITHSTAND THE MOVEMENT OF THE STONES. GRADED RIPRAP IS CHEAPER TO INSTALL, REQUIRING ONLY THAT THE STONES BE DUMPED SO THAT THEY REMAIN IN A WELL-GRADED MASS. HAND OR MECHANICAL PLACEMENT OF INDIVIDUAL STONES IS LIMITED TO THAT NECESSARY TO ACHIEVE THE PROPER THICKNESS AND LINE. UNIFORM RIPRAP REQUIRES PLACEMENT IN A MORE OR LESS UNIFORM PATTERN, REQUIRING MORE HAND OR MECHANICAL LABOR.

STONE CHECK DAMS

A CHECK DAM IS A SMALL DAM CONSTRUCTED ACROSS A DRAINAGE DITCH, SWALE OR CHANNEL TO REDUCE THE VELOCITY OF THE SURFACE RUNOFF. REDUCED RUNOFF VELOCITY REDUCES EROSION AND GULLYING IN THE CHANNEL AND ALLOWS THE SEDIMENT TO SETTLE OUT. WHERE TEMPORARY CHANNELS OR PERMANENT CHANNELS ARE NOT YET VEGETATED, CHANNEL LINING IS INFEASIBLE AND VELOCITY CHECKS ARE REQUIRED. THIS PRACTICE MAY BE USED AS A TEMPORARY OR EMERGENCY MEASURE TO LIMIT EROSION BY REDUCING FLOW IN SMALL OPEN CHANNELS.

STRAW BALE BARRIERS

STRAW BALE BARRIERS ARE USED SIMILARLY TO SILT FENCE SPECIFICALLY WHERE THE AREA BELOW THE BARRIER IS UNDISTURBED AND VEGETATED. STRAW BALE BARRIERS REQUIRE MORE MAINTENANCE THAN SILT FENCE BARRIERS AND PERMEABILITY THROUGH BALE BARRIERS IS SLOWER THAN SILT FENCE. STRAW BALE BARRIERS SHOULD BE LOCATED WHERE THEY WILL TRAP SEDIMENT. STRAW BALES LOCATED ALONG THE TOP OF A RIDGE SERVE NO USEFUL PURPOSE. STRAW BALE BARRIERS SHALL BE REPLACED WHEN THEY HAVE REACHED THEIR USEFUL LIFE AND THE UPSLOPE AREAS UNSTABILIZED.

CULVERT OUTLET APRONS

OUTLET PROTECTION SHOULD BE INSTALLED AT ALL PIPE, CULVERT OR SWALE OUTLETS WHERE VELOCITY OF FLOW MAY CAUSE EROSION AT THE PIPE OUTLET AND IN THE RECEIVING CHANNEL. EROSION AT THESE LOCATIONS IS COMMON AND CAN CAUSE STRUCTURAL FAILURE WITH SERIOUS DOWNSTREAM PROBLEMS. A RIPRAP LINED APRON IS THE MOST COMMONLY USED STRUCTURE FOR THIS PURPOSE BECAUSE IT HAS RELATIVELY LOW COST AND CAN BE INSTALLED EASILY ON MOST SITES.

CONSTRUCTION ENTRANCE

A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT ALL ACCESS POINTS ONTO THE SITE TO PREVENT TRACKING OF SOIL ONTO ADJACENT LOCAL ROADS. PROPOSED CONSTRUCTION ENTRANCES ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. CONSTRUCTION ENTRANCES PROVIDE AN AREA WHERE MUD CAN BE REMOVED FROM VEHICLE TIRES BEFORE THEY ENTER A PUBLIC ROAD. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD.

INLET PROTECTION

STORM DRAIN CATCH BASIN INLET PROTECTION SHALL BE PROVIDED THROUGH THE USE OF STONE SEDIMENT BARRIERS OR A PREMANUFACTURED SILTSACK AS DISTRIBUTED BY A.H. HARRIS OR AN EQUAL APPROVED EQUAL. THE BARRIERS SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS OR REPLACEMENT MADE AS NECESSARY. SEDIMENT SHALL BE REMOVED AND THE BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER. THE BARRIER OR SILTSACK SHALL BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA HAS BEEN STABILIZED.

FILTER BAGS

FILTER BAGS WILL BE REQUIRED TO BE ONSITE AND AVAILABLE FOR CONSTRUCTION DEWATERING. THE USE OF FILTER BAGS SHALL BE REQUIRED IN THE EVENT THAT TRENCH DEWATERING ACTIVITIES CANNOT BE DISCHARGED THROUGH A NATURAL BUFFER AREA AT LEAST 100 FEET IN LENGTH OR AT ANY SIGNS OF ANY TURBID DISCHARGE FROM THE SITE.

SLOPE PROTECTION

ADDITIONAL SLOPE PROTECTION WILL BE REQUIRED IN AREAS OF STEEP SLOPES AND WHERE PROPOSED GRADES MEET EXISTING GRADES AT ACUTE ANGLES THAT COULD CAUSE GULLY EROSION. THIS PROTECTION WILL BE MAINLY IN THE FORM OF THE INSTALLATION OF EROSION CONTROL BLANKETS IN AREAS WHERE SLOPES EXCEED 3:1, H:V, UP TO 2:1, H:V. AREAS WHERE SLOPES EXCEED 2:1, H:V, SHOULD BE STABILIZED WITH RIPRAP SLOPE PROTECTION.

LOAM AND SEED

LOAM AND SEED IS INTENDED TO SERVE AS THE PRIMARY PERMANENT REVEGETATIVE MEASURE FOR ALL DENUDED AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES, SUCH AS RIPRAP OR PERMANENTLY COVERED WITH ROADWAY GRAVEL, PAVEMENT OR BUILDING AREA.

f. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

THE FOLLOWING ARE PLANNED AS TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

- A CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT ANY CONSTRUCTION ACCESS POINTS INTO THE SITE. THE LOCATIONS OF THE CONSTRUCTION ENTRANCES SHOWN ON THE DRAWINGS SHOULD BE CONSIDERED ILLUSTRATIVE AND ADJUSTED AS APPROPRIATE AND LOCATED AT ANY AREA WHERE TRACKING OF MUD AND DEBRIS ONTO EXISTING ROADS, PREVIOUSLY PAVED AREAS WITHIN THE PROJECT, OR STREETS IS A POTENTIAL. STONE STABILIZED CONSTRUCTION ENTRANCES WILL REQUIRE THE STONE TO BE REMOVED AND REPLACED AS IT BECOMES COVERED OR FILLED WITH MUD AND MATERIAL TRACKED BY VEHICLES EXITING THE SITE.

- SILTATION FENCE OR AN EQUIVALENT SEDIMENT BARRIER SHALL BE INSTALLED ALONG THE DOWNGRADIENT SIDE OF THE PROPOSED IMPROVEMENT AREAS. THE SILTATION FENCE WILL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL THE SITE IS ACCEPTABLY REVEGETATED. SILTATION FENCE IS TO BE USED ALONG THE CONTOUR OF SIGNIFICANT FILL SLOPES AS ILLUSTRATED ON THE EROSION CONTROL PLAN SITE DRAWINGS. SILTATION FENCE NEEDS TO BE CHECKED TO INSURE THE BOTTOM IS PROPERLY KEYED IN AND INSPECTED AFTER SIGNIFICANT RAINS. WOOD CHIPS FROM CLEARING ARE OFTEN USED ON THE CONSTRUCTION SITE IN FRONT OF THE SILT FENCE TO PROVIDE AN EXTRA MARGIN OF SAFETY AND SECURITY FOR THE SILT FENCE. THIS PRACTICE IS ENCOURAGED, PROVIDED THE CHIPS ARE REMOVED OR DISPERSED INTO FORESTED AREAS WHEN THE FENCE IS REMOVED.

- FILTER BAGS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS IN THE PLAN SET. THE FILTER BAG'S FUNCTION ON THE PROJECT IS TO RECEIVE ANY WATER PUMPED FROM EXCAVATIONS DURING CONSTRUCTION. A FILTER BAG SHALL BE INSTALLED AND PREPARED FOR OPERATION PRIOR TO ANY TRENCHING ON SITE. WHEN FILTER BAGS ARE OBSERVED TO BE AT 50% CAPACITY, THEY SHALL BE CLEANED OR REPLACED. STONE UNDER THE FILTER BAGS SHALL BE REMOVED AND REPLACED CONCURRENTLY.

- TEMPORARY STOCKPILES OF COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:

  - TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 100 FEET OF CRITICAL AREAS AND AT LEAST 50 FEET UPGRADIENT OF THE PERIMETER SILT FENCE.
  - INACTIVE STOCKPILES SHALL BE STABILIZED WITHIN 5 DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE WITH A HYDRO SEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH. IF NECESSARY, MESH SHALL BE INSTALLED TO PREVENT WIND FROM REMOVING THE MULCH.

- OPEN AREAS OF THE SITE SHALL BE LIMITED TO 5 ACRES. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED SHALL RECEIVE MULCH OR EROSION CONTROL MESH FABRIC WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOIL. DISTURBED AREAS WITHIN 75' OF CRITICAL AREAS MUST RECEIVE TEMPORARY EROSION CONTROL MEASURES WITHIN 48 HOURS.

- BETWEEN NOVEMBER 1 AND APRIL 1, OPEN AREA SHALL BE LIMITED TO THREE ACRES, AND DISTURBED SOIL SHALL BE COVERED WITH MULCH WITHIN 5 DAYS OF DISTURBANCE, PRIOR TO ANY PREDICTED STORM EVENT OF THE EQUIVALENT OF ½" OF EQUIVALENT RAINFALL IN A 24-HOUR PERIOD, OR PRIOR TO ANY WORK SHUTDOWN LASTING MORE THAN 48 HOURS (INCLUDING WEEKENDS AND HOLIDAYS). THE MULCH RATE SHALL BE DOUBLE THE NORMAL RATE.

  - FOR WORK THAT IS CONDUCTED BETWEEN NOVEMBER 1 AND APRIL 15 OF ANY CALENDAR YEAR, ALL DENUDED AREAS WILL BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND (IN AREAS OVER 10% GRADE) ANCHORED WITH A FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO 5 DAYS FOR ALL AREAS OR IMMEDIATELY IN ADVANCE OF A PREDICTED RAINFALL EVENT.

- THE PAVED ACCESS ROADS SHALL BE SWEPT TO CONTROL MUD AND DUST AS NECESSARY. A STREET SWEEPER SHALL BE AVAILABLE FROM THE CONTRACTOR ON IMMEDIATE NOTICE OR AS REQUESTED BY THE OWNER OR REGULATORY AGENCY.

- STONE CHECK DAMS OR HAY BALE BARRIERS WILL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS DURING CONSTRUCTION AND EARTHWORK OPERATIONS.

- SILT FENCING WITH A MAXIMUM STAKE SPACING OF 8 FEET SHOULD BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHOULD BE PROPERLY ANCHORED A MINIMUM OF 6" PER THE PLAN DETAIL AND BACKFILLED. ANY SILT FENCE IDENTIFIED BY THE OWNER OR REVIEWING AGENCIES AS NOT BEING PROPERLY INSTALLED DURING CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED IN ACCORDANCE WITH THE INSTALLATION DETAILS.

- STORM DRAIN CATCH BASIN INLET PROTECTION SHALL BE PROVIDED THROUGH THE USE OF STONE SEDIMENT BARRIERS OR A PREMANUFACTURED SILTSACK* AS DISTRIBUTED BY A.H. HARRIS COMPANY, PORTLAND, MAINE. STONE SEDIMENT BARRIER INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE BARRIERS OR SILTSACKS* SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NECESSARY, INCLUDING THE REMOVAL OF SEDIMENT. SEDIMENT SHALL BE REMOVED AND THE BARRIER OR SILTSACK* RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ⅓ THE DESIGN DEPTH OF THE BARRIER. INLET PROTECTION SHALL BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA HAS BEEN STABILIZED.

- ALL SLOPES STEEPER THAN 3:1 SHALL RECEIVE EROSION CONTROL MESH.

- ALL AREAS WHICH FEATURE NARROW ANGLES OF SLOPE INTERFACE BETWEEN PROPOSED SURFACES AND EXISTING SURFACES SHALL RECEIVE EROSION CONTROL MESH TO PREVENT SCOURING.

- ADDITIONAL SILTATION FENCES OR SEDIMENT BARRIERS SHALL BE INSTALLED AS CONSTRUCTION PROGRESSES.

- AREAS OF VISIBLE EROSION SHALL BE STABILIZED WITH CRUSHED STONE OR EQUIVALENT MEASURES.

g. STANDARDS FOR STABILIZING SITES FOR WINTER CONDITIONS

THE CONSTRUCTION OF THE PROJECT WILL EXTEND INTO THE WINTER SEASON. THE CONTRACTOR SHALL SCHEDULE WORK TO AVOID CONSTRUCTION OF STORMWATER BASINS DURING THE WINTER MONTHS. FOR PERMITTED WINTER CONSTRUCTION, THE EROSION CONTROL MEASURES ARE SUBSTANTIALLY MORE STRINGENT DUE TO COLD TEMPERATURES AND LACK OF MOISTURE WHICH AIDS IN DRYING THE SUBGRADE SOILS THROUGH EVAPORATION.

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 15TH THROUGH MARCH 15TH. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, AGGREGATE SUBBASE GRAVEL, 90% MATURE VEGETATION COVER OR RIPRAP PRIOR TO NOVEMBER 15TH THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA THAT IS NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP OR SUBBASE GRAVEL.

DURING THE WINTER CONSTRUCTION PERIOD THE CONTRACTOR SHALL INSTALL EROSION CONTROL MIX BERMS IN LIEU OF SILT FENCE.

DURING THE WINTER CONSTRUCTION PERIOD, A DOUBLE ROW OF SEDIMENT BARRIERS SHALL BE PLACED BETWEEN ANY DRAINAGE PATH AND THE DISTURBED AREA.

IN ADDITION, DURING THE WINTER CONSTRUCTION PERIOD THE AMOUNT OF EXPOSED AREA SHALL BE LIMITED TO THAT WHICH CAN BE MULCHED WITHIN ONE DAY IN THE EVENT OF A PREDICTED STORM AND SHALL NOT EXCEED A MAXIMUM OPEN AREA OF ONE ACRE.

STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS: THE CONTRACTOR SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15TH. THE CONTRACTOR SHALL CONSTRUCT AND STABILIZE ALL GRASS LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS LINED BY SEPTEMBER 15TH, THEN THE CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER:

i. INSTALL A SOD LINING IN THE DITCH. THE CONTRACTOR SHALL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.

ii. INSTALL A STONE LINING IN THE DITCH. THE CONTRACTOR SHALL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 1ST. THE CONTRACTOR SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR SHALL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO AS TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS SECTIONAL AREA.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES: THE CONTRACTOR SHALL CONSTRUCT AND STABILIZE STONE COVERED SLOPES BY NOVEMBER 15TH. THE CONTRACTOR SHALL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. A SLOPE IS CONSIDERED ANY AREA HAVING A GRADE OF GREATER THAN 15% (10H:1V). IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

i. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MESH. BY OCTOBER 1ST THE CONTRACTOR SHALL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 45 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 15TH, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM III OF THIS STANDARD OR WITH STONE RIP RAP AS DESCRIBED IN ITEM IV OF THIS STANDARD.

ii. STABILIZE THE SLOPE WITH SOD. THE CONTRACTOR SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTRACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H: 1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

iii. STABILIZE THE SLOPE WITH WOOD WASTE COMPOST. THE CONTRACTOR SHALL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE CONTRACTOR SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE CONTRACTOR SHALL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H: 1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

iv. STABILIZE THE SLOPE WITH STONE RIPRAP. THE CONTRACTOR SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOIL: BY SEPTEMBER 15TH, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

i. STABILIZE THE SOIL WITH TEMPORARY VEGETATION. BY OCTOBER 1ST, THE CONTRACTOR SHALL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1,000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR SHALL MONITOR THE GROWTH OF THE RYE OVER THE NEXT 45 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN THE CONTRACTOR SHALL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.

ii. STABILIZE THE SOIL WITH SOD. THE CONTRACTOR SHALL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

iii. STABILIZE THE SOIL WITH MULCH. BY NOVEMBER 15TH, THE CONTRACTOR SHALL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1,000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE CONTRACTOR SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR SHALL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

STANDARD FOR TIMELY STABILIZATION OF SOIL STOCKPILES: STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL APPLICATION RATE OR WITH A FOUR-INCH THICK LAYER OF EROSION CONTROL MIX. THIS WILL BE COMPLETED WITHIN 24-HOURS OF STOCKPILING OR RE-ESTABLISHED PRIOR TO ANY PREDICTED RAINFALL OR SNOWFALL EVENT. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100 FEET FROM A NATURAL RESOURCE (I.E. WETLAND, ETC.).

h. SPECIAL MEASURES FOR SUMMER CONDITIONS

THE SUMMER PERIOD IS GENERALLY OPTIMUM FOR CONSTRUCTION FOR THIS SITE BUT IT IS ALSO THE PERIOD WHERE INTENSE SHORT DURATION STORMS ARE MOST COMMON MAKING DENUDED AREAS VERY SUSCEPTIBLE TO EROSION, WHERE DUST CONTROL NEEDS TO BE THE MOST STRINGENT, AND WHERE THE POTENTIAL TO ESTABLISH VEGETATION IS OFTEN RESTRICTED BY MOISTURE DEFICIT. DURING THESE PERIODS THE CONTRACTOR MUST:

- IMPLEMENT A PROGRAM TO APPLY DUST CONTROL MEASURES ON A DAILY BASIS EXCEPT THOSE DAYS WHERE THE PRECIPITATION EXCEEDS 0.25 INCHES;

- SPRAY THE MULCH AFTER ANCHORING WITH WATER TO DAMPEN THE SOIL AND ENCOURAGE EARLY GROWTH. TEMPORARY SEED MAY BE REQUIRED UNTIL THE LATE SUMMER SEEDING SEASON.

- MULCH, COVER, AND MOISTEN STOCKPILES OF FINE-GRAINED MATERIALS THAT ARE SUSCEPTIBLE TO EROSION.

- TAKE ADDITIONAL STEPS NEEDED TO CONTROL FUGITIVE DUST EMISSIONS TO MINIMIZE REDUCTIONS IN VISIBILITY AND THE AIRBORNE DISBURSEMENT OF FINE-GRAINED SOILS. THESE MEASURES MAY ALSO BE REQUIRED IN THE SPRING AND FALL DURING THE DRIER PERIODS OF THESE SEASONS.

i. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION AND SEDIMENTATION CONTROL PLAN:

- THE DRAINAGE CONVEYANCE SYSTEMS HAVE BEEN DESIGNED TO INTERCEPT AND CONVEY THE 25-YEAR STORM. IN THE CASE OF OPEN CHANNELS OR SWALES, THIS INCLUDES THE DESIGN OF MEASURES TO RESIST SCOUR OF THE CHANNEL.

- ALL STORM DRAIN PIPES SHALL HAVE RIPRAP APRONS AT THEIR OUTLET TO PROTECT THE OUTLET AND RECEIVING CHANNEL OF THE CULVERTS FROM SCO

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SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT TRANSITION LINE

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft.

ZONING SUMMARY

ZONE: INDUSTRIAL ZONING DISTRICT

CRITERIA	REQUIRED	PROVIDED
MIN. LOT AREA	35,000 S.F.	5,228,620 S.F.
MIN. LOT FRONTAGE	150 FEET	2,601 FEET
FRONT YARD SETBACK (NE MAIN STREET)	50 FEET	693 FEET
FRONT YARD SETBACK (GILBOA STREET)	50 FEET	612 FEET
SIDE YARD SETBACK	15 FEET	82 FEET
REAR YARD SETBACK	15 FEET	202 FEET

PARKING SUMMARY

USE	GROSS FLOOR AREA	RATIO REQUIRED	SPACES REQUIRED	SPACES PROVIDED
INDUSTRIAL	1,091,475 GFA	1 SPACE /2000 SF	546 SPACES	567 SPACES
OFFICE	11,025 GFA	1 SPACE /250 SF	44 SPACES	44 SPACES
TOTAL	1,102,500 GFA	–	590 SPACES	611 SPACES
TOTAL ADA SPACES			14	16
VAN ACCESSIBLE SPACES			3	4
LOADING SPACES	–	–	–	183 SPACES
TRAILER SPCAES	–	–	–	218 SPACES

SEE SHEET C121 "A"
SEE SHEET C122 "B"
SEE SHEET C123 "C"
SEE SHEET C124 "D"
SEE SHEET C125 "E"
SEE SHEET C126 "F"

N/F TOWN OF DOUGLAS LACKEY DAM ROAD PARCEL ID: 15-1443

ISOLATED LAND SUBJECT TO FLOODING

50' WIDE GAS EASEMENT BOOK: 11492 PG: 35 BOOK: 13102 PG: 010

N/F TOWN OF DOUGLAS LACKEY DAM ROAD PARCEL ID: 15-1443

TOWN LINE: UXBRIDGE DOUGLAS

N/F TOWN OF DOUGLAS PARCEL ID: TBD

N/F TOWN OF DOUGLAS 123 GILBOA STREET PARCEL ID: 139-1

100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

MUMFORD RIVER

N/F GILBOA PROPERTIES LLC 120 GILBOA STREET PARCEL ID: 138-43

GILBOA POND

N/F TOWN OF DOUGLAS 105 GILBOA STREET PARCEL ID: 138-44

GILBOA STREET (PUBLIC WIDTH VARIES)

WATER TANK

DRIVE IN RAMP

84 LOADING SPACES
90 TRAILER SPACES

498 PARKING SPACES

N/F KTKT LLC 470 NORTHEAST MAIN ST PARCEL ID: 140-9

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

99 LOADING SPACES
128 TRAILER SPACES

1750'

612'

630'

789'

RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

N/F KTKT LLC 795 HARTFORD AVE WEST PARCEL ID: 21-1416

N/F 757 HARTFORD AVE WEST BOSMA NOMINEE REAL ESTATE TRUST MAP 21 LOT 1523

TOWN LINE: UXBRIDGE DOUGLAS

693'

34 PARKING SPACES

79 PARKING SPACES

20' WIDE ACCESS EASEMENT BOOK: 21389 PG: 215

N/F 466 NE MAIN STREET NEI REALTY TRUST MAP 140 LOT 7

N/F FERSCHKE, MARGUERITE 460 NORTHEAST MAIN STREET PARCEL ID: 140-4

N/F FOLEY, PAMELA A 458 NORTHEAST MAIN STREET PARCEL ID: 140-3

249'

202'

N/F BOSMA MARLENE J TR 436 NORTHEAST MAIN STREET PARCEL ID: 141-67

N/F EHRLICH JASON P 450 NORTHEAST MAIN STREET PARCEL ID: 141-69

I-INDUSTRIAL DISTRICT
VC-VILLAGE RESIDENTIAL DISTRICT

N/F LAWRENCE JOHN W 454 NORTHEAST MAIN STREET PARCEL ID: 140-2

N/F CAPEN DOUGLAS R 452 NORTHEAST MAIN STREET PARCEL ID: 140-1

N/F GOULD RAYMOND L 448 NORTHEAST MAIN STREET PARCEL ID: 141-68

N/F HOPEVILLE REALTY TRUST 67 GILBOA STREET MAP 138 LOT 45

N/F FORESIGHT ENTERPRISES CORP. 65 GILBOA STREET MAP 141 LOT 45.1

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CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Permit Documents

Designed by: IA	Checked by: DPH
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=150'	

Sheet Title

SITE LAYOUT AND MATERIALS PLAN - OVERALL

A B C D
E F

Sheet Number

C120

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SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE PAD	CP
CONCRETE SIDEWALK	CS
CROSSWALK	CW
ELECTRIC VEHICLE CHARGING STATION	EV
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
STEEL GUARDRAIL	SG
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW

SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- ----- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND

1 R7-8 — VAN ACCESSIBLE

2 R7-8P

3 R1-1 — STOP

4 R2-1 — SPEED LIMIT 10

5 R4-7C

6 R4-5 — TRUCKS USE RIGHT LANE

7 — ELECTRIC VEHICLES ONLY

STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

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

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INSTALL CURB TIP DOWN
INSTALL UTILITY POLE TO REPLACE EXISTING
INSTALL VERTICAL GRANITE CURB AT ENTRANCE RADII
SAWCUT AND MATCH EXISTING PAVEMENT
2" RAISED CONCRETE ISLAND (SEE DETAIL)
CONCRETE ISLAND
INSTALL VERTICAL GRANITE CURB AT ENTRANCE RADII
RELOCATE EXISTING UTILITY POLE
INSTALL CURB TIP DOWN
PROPOSED BRIDGE (SEE DETAIL)
BEGIN DYCL
END DYCL
TOWN LINE: UXBRIDGE / DOUGLAS
N/F 123 GILBOA STREET TOWN OF DOUGLAS MAP 139 LOT 1
200 RIVERFRONT AREA
MUMFORD RIVER
APPROXIMATE DAM LOCATION
GILBOA POND
GILBOA STREET (PUBLIC - WIDTH VARIES)
N/F 120 GILBOA STREET TOWN OF DOUGLAS MAP 138 LOT 43
N/F 105 GILBOA STREET TOWN OF DOUGLAS MAP 138 LOT 44
100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB
189'
MATCH LINE: SEE SHEET C122 "B"
MATCH LINE: SEE SHEET C125 "E"

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Gilboa Street
Douglas, MA

No.	Revision	Date
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Proj. No.: C-1203	Issue Date: 02.11.22
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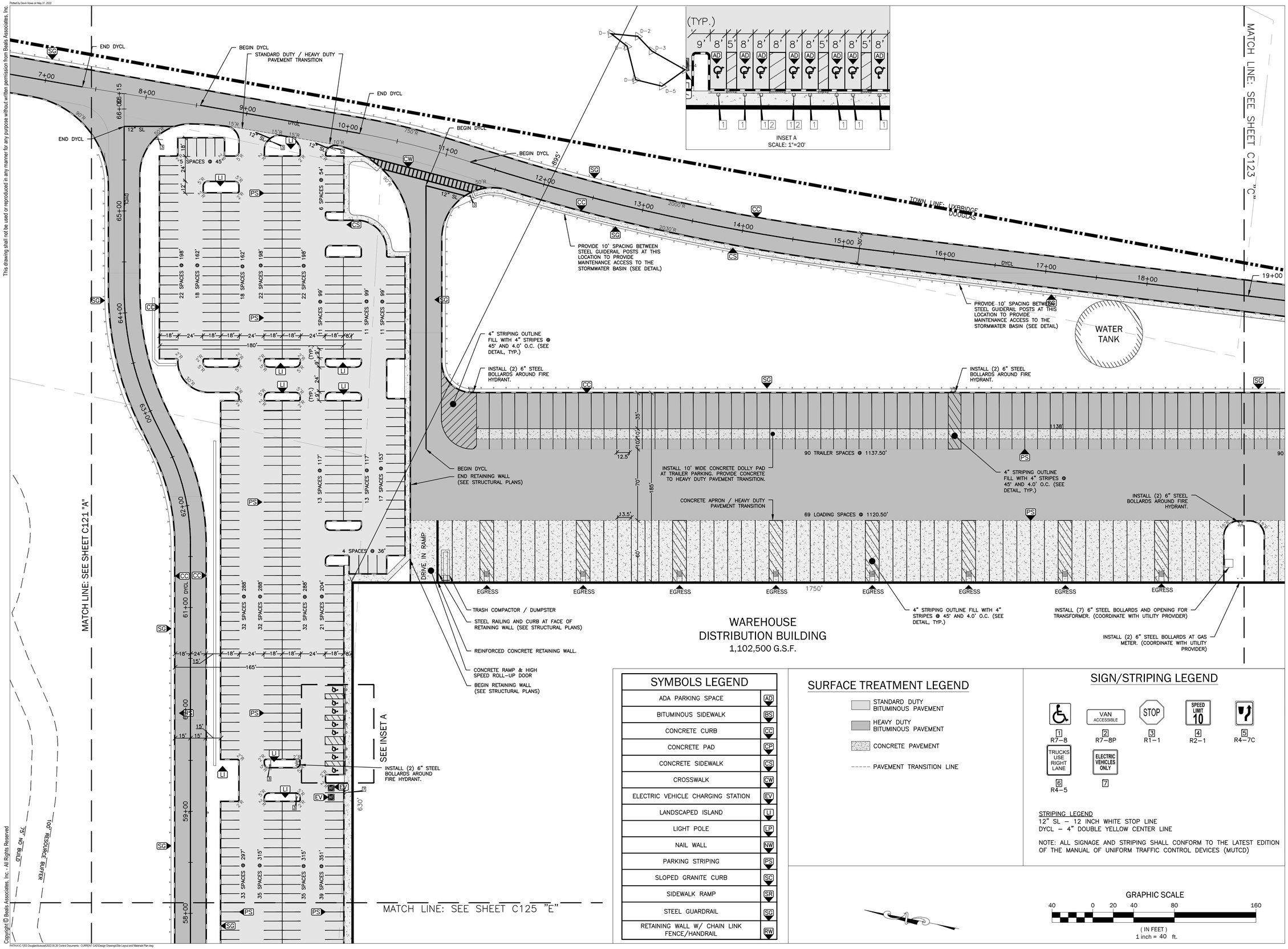
Sheet Title
SITE LAYOUT AND MATERIALS PLAN - A

A | B | C | D | E | F

Sheet Number
C121

Plotted by Devin Howe on May 31, 2022

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SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE PAD	CP
CONCRETE SIDEWALK	CS
CROSSWALK	CW
ELECTRIC VEHICLE CHARGING STATION	EV
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
STEEL GUARDRAIL	SG
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW

SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND

1 R7-8 · 2 R7-8P (VAN ACCESSIBLE) · 3 R1-1 (STOP) · 4 R2-1 (SPEED LIMIT 10) · 5 R4-7C · 6 R4-5 (TRUCKS USE RIGHT LANE) · 7 (ELECTRIC VEHICLES ONLY)

STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

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

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Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=40'

Sheet Title
SITE LAYOUT AND MATERIALS PLAN - B

A B C D E F

Sheet Number
C122

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SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE PAD	CP
CONCRETE SIDEWALK	CS
CROSSWALK	CW
ELECTRIC VEHICLE CHARGING STATION	EV
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
STEEL GUARDRAIL	SG
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW

SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND

1 R7-8 — ACCESSIBLE
2 R7-8P — VAN ACCESSIBLE
3 R1-1 — STOP
4 R2-1 — SPEED LIMIT 10
5 R4-7C
6 R4-5 — TRUCKS USE RIGHT LANE
7 — ELECTRIC VEHICLES ONLY

STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

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

MATCH LINE: SEE SHEET C122

50' WIDE GAS EASEMENT
BOOK: 11492 PG 33
BOOK: 13102 PG 010

19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00
0+00 1+00 2+00 3+00

2500'R 2470'R 530'R 500'R 280'R 195'R 165'R 200'R 175'R 100'R 70'DYCL

TOWN LINE: UXBRIDGE / DOUGLAS

END DYCL
BEGIN DYCL
12" SL
250'R
45'R
203'
EMERGENCY ACCESS GATE
8"
6.30"

90 TRAILER SPACES @ 1137.50'
INSTALL 10' WIDE CONCRETE DOLLY PAD AT TRAILER PARKING. PROVIDE CONCRETE TO HEAVY DUTY PAVEMENT TRANSITION.
INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT.
CONCRETE APRON / HEAVY DUTY PAVEMENT TRANSITION
69 LOADING SPACES @ 1120.50'
12.5' (TYP.)
13.5' (TYP.)
70' 185' 60'
INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT
17 SPACES @ 153'
17 SPACES @ 153'
STANDARD DUTY / HEAVY DUTY PAVEMENT TRANSITION
DRIVE IN RAMP
1750'
EGRESS
4" STRIPING OUTLINE FILL WITH 4" STRIPES @45° AND 4.0' O.C. (SEE DETAIL, TYP.)
TRASH COMPACTOR / DUMPSTER
STEEL RAILING AND CURB AT FACE OF RETAINING WALL (SEE STRUCTURAL PLANS)
REINFORCED CONCRETE RETAINING WALL.
CONCRETE RAMP & HIGH SPEED ROLL-UP DOOR
INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT
4 SPACES @ 394.50'
21 SPACES @ 168'
18' 30' 18'

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

MATCH LINE: SEE SHEET C124 "D"
MATCH LINE: SEE SHEET C126

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Sheet Title
SITE LAYOUT AND MATERIALS PLAN - C

A B C D E F

Sheet Number
C123

Plotted by Devin Howe on May 26, 2022

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SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE SIDEWALK	CS
CROSSWALK	CW
STEEL GUARDRAIL	SG
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW
CONCRETE PAD	CP

SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND

1 R7-8 — ACCESSIBLE

2 R7-8P — VAN ACCESSIBLE

3 R1-1 — STOP

4 R2-1 — SPEED LIMIT 10

5 R4-7C

6 R4-5 — TRUCKS USE RIGHT LANE

7 — ELECTRIC VEHICLES ONLY

STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

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

MATCH LINE: SEE SHEET C123

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

WEST HARTFORD AVE
(PUBLIC- 60' WIDE)

N/F
12 WALNUT GROVE STREET
LOURIE JEFFREY A
MAP 21 LOT 1458

L=67.74' R=1230.00'
Δ=3°09'20"

WALNUT GROVE
(PUBLIC - WIDTH VARIES)

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

TOWN LINE: UXBRIDGE / DOUGLAS

693'

2+00 3+00 4+00 5+00 6+00 7+00

12.5%

95'R 120'R

7+42

SAWCUT AND MATCH EXISTING PAVEMENT

12" SL

N/F
3 WALNUT GROVE STREET
UDDIN WAHID & SUZANNA
MAP 21 LOT 1473

N/F
NE MAIN STREET
UDDIN WAHID
MAP 140 LOT 10

20' WIDE ACCESS EASEMENT
BOOK: 21389 PG: 215

NORTHEAST MAIN STREET
(PUBLIC- WIDTH VARIES)

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

N/F
2-4 NE MAIN STREET
WILLIAMS COURT DOUGLAS LLC
MAP 140 LOT 7

WILLIAM DRIVE
(PUBLIC - WIDTH VARIES)

N/F
NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

MATCH LINE: SEE SHEET C123

I–INDUSTRIAL DISTRICT
VR–VILLAGE RESIDENTIAL DISTRICT

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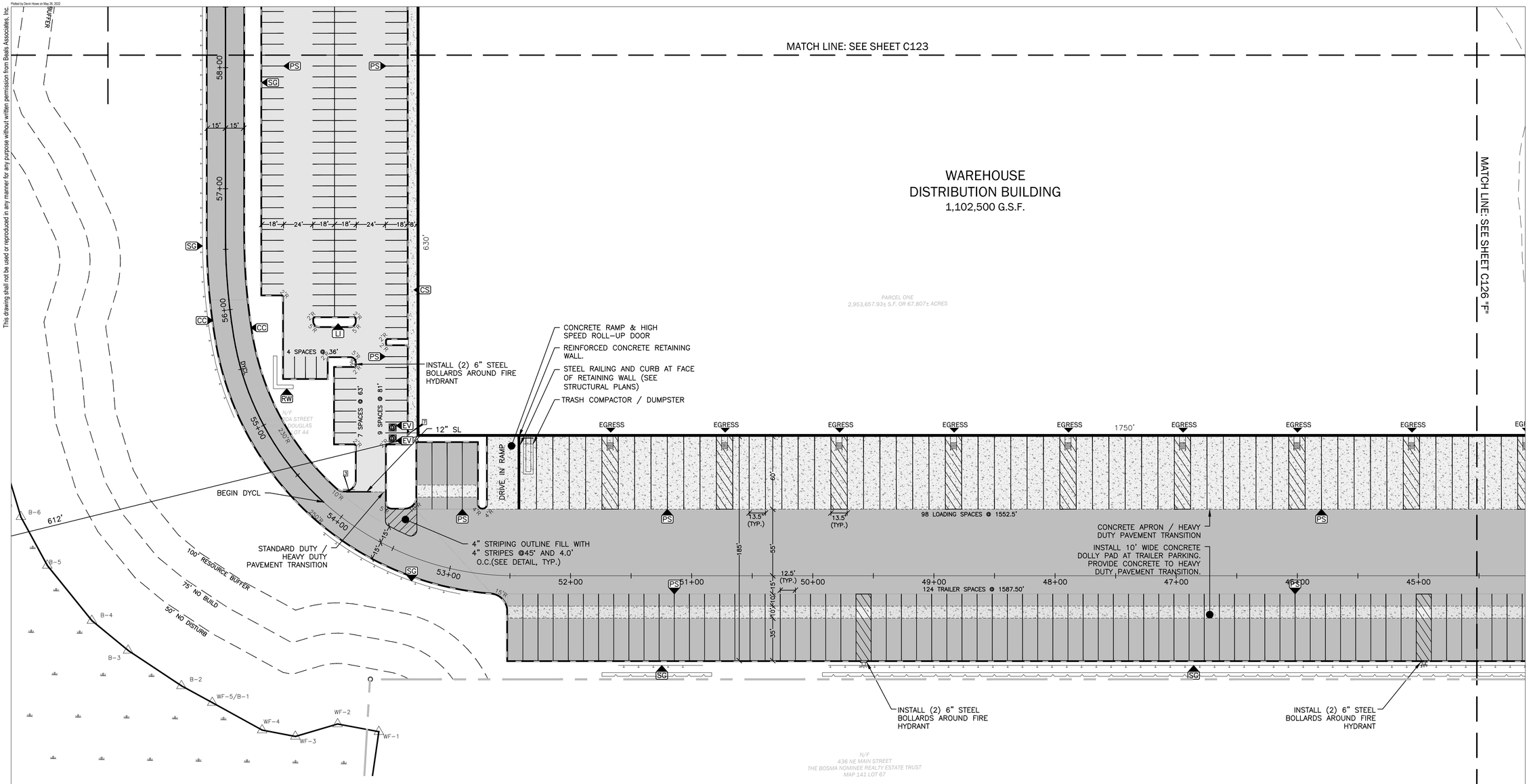
Sheet Title
SITE LAYOUT AND MATERIALS PLAN - D

A B C D E F

Sheet Number
C124

Plotted by Devin Howe on May 26, 2022

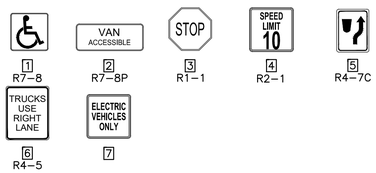
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SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- ----- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND



STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE PAD	CP
CONCRETE SIDEWALK	CS
CROSSWALK	CW
ELECTRIC VEHICLE CHARGING STATION	EV
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
STEEL GUARDRAIL	SG
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Sheet Title
SITE LAYOUT AND MATERIALS PLAN - E

A B C D E F

Sheet Number
C125

Plotted by Devin Howe on May 26, 2022

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MATCH LINE: SEE SHEET C123 "C"

MATCH LINE: SEE SHEET C125 "E"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

SEE INSET B

INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT

INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT
CONCRETE RAMP & HIGH SPEED ROLL-UP DOOR
REINFORCED CONCRETE RETAINING WALL.
STEEL RAILING AND CURB AT FACE OF RETAINING WALL (SEE STRUCTURAL PLANS)
TRASH COMPACTOR / DUMPSTER

EGRESS (TYP.)

1750'

PARCEL ONE
2,551,657 S.F. OR 58.57 ACRES

98 LOADING SPACES @ 1552.5'

124 TRAILER SPACES @ 1587.50'

DRIVE IN RAMP

CONCRETE APRON / HEAVY DUTY PAVEMENT TRANSITION

INSTALL 10' WIDE CONCRETE DOLLY PAD AT TRAILER PARKING. PROVIDE CONCRETE TO HEAVY DUTY PAVEMENT TRANSITION.

41 SPACES @ 384'

21 SPACES @ 189'

BEGIN DYCL

END DYCL

249'

630'

202'

185'

70'

60'

35'

INSTALL (2) 6" STEEL BOLLARDS AROUND FIRE HYDRANT

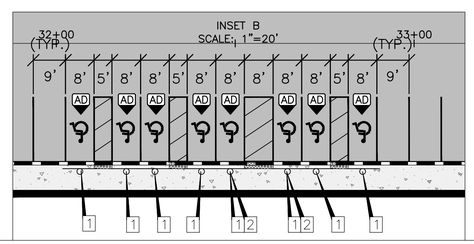
N/F
458 NE MAIN STREET
PAMELA A FOLEY & PAUL E BEAUREFARD JR
MAP 140 LOT 3

454 NE MAIN STREET
JOHN W LAWRENCE
MAP 140 LOT 2

452 NE MAIN STREET
CHARLES CHEVALIER & LILLY T CURRIN
MAP 140 LOT 1

N/F
436 NE MAIN STREET
THE BOSMA NOMINEE REALTY ESTATE TRUST
MAP 141 LOT 67

MATCH LINE: SEE SHEET C125



SYMBOLS LEGEND

ADA PARKING SPACE	AD
BITUMINOUS SIDEWALK	BS
CONCRETE CURB	CC
CONCRETE PAD	CP
CONCRETE SIDEWALK	CS
CROSSWALK	CW
ELECTRIC VEHICLE CHARGING STATION	EV
LANDSCAPED ISLAND	LI
LIGHT POLE	LP
NAIL WALL	NW
PARKING STRIPING	PS
SLOPED GRANITE CURB	SC
SIDEWALK RAMP	SR
STEEL GUARDRAIL	SG
RETAINING WALL W/ CHAIN LINK FENCE/HANDRAIL	RW

SURFACE TREATMENT LEGEND

- STANDARD DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT TRANSITION LINE

SIGN/STRIPING LEGEND

1 R7-8 — 2 R7-8P (VAN ACCESSIBLE) — 3 R1-1 (STOP) — 4 R2-1 (SPEED LIMIT 10) — 5 R4-7C

6 R4-5 (TRUCKS USE RIGHT LANE) — 7 (ELECTRIC VEHICLES ONLY)

STRIPING LEGEND
12" SL – 12 INCH WHITE STOP LINE
DYCL – 4" DOUBLE YELLOW CENTER LINE

NOTE: ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

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

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Sheet Title
SITE LAYOUT AND MATERIALS PLAN - F

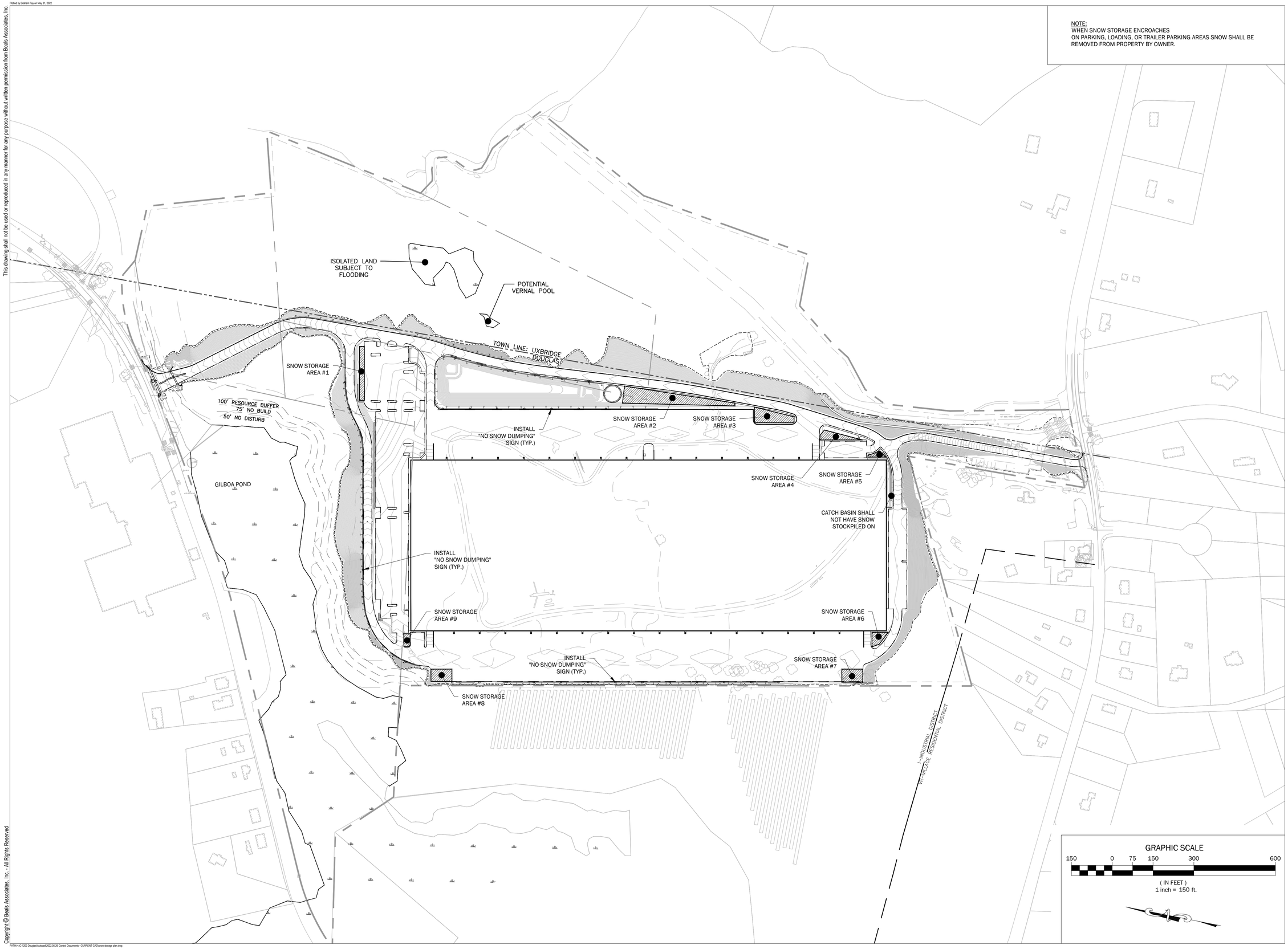
A B C D E F

Sheet Number
C126

Plotted by Graham Fay on May 31, 2022

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NOTE:
WHEN SNOW STORAGE ENCROACHES
ON PARKING, LOADING, OR TRAILER PARKING AREAS SNOW SHALL BE
REMOVED FROM PROPERTY BY OWNER.



GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

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Designed by: YTM | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=150'

Sheet Title
SNOW STORAGE PLAN

A B C D E F

Sheet Number
C127

Plotted by Ben Enos on May 26, 2022

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PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

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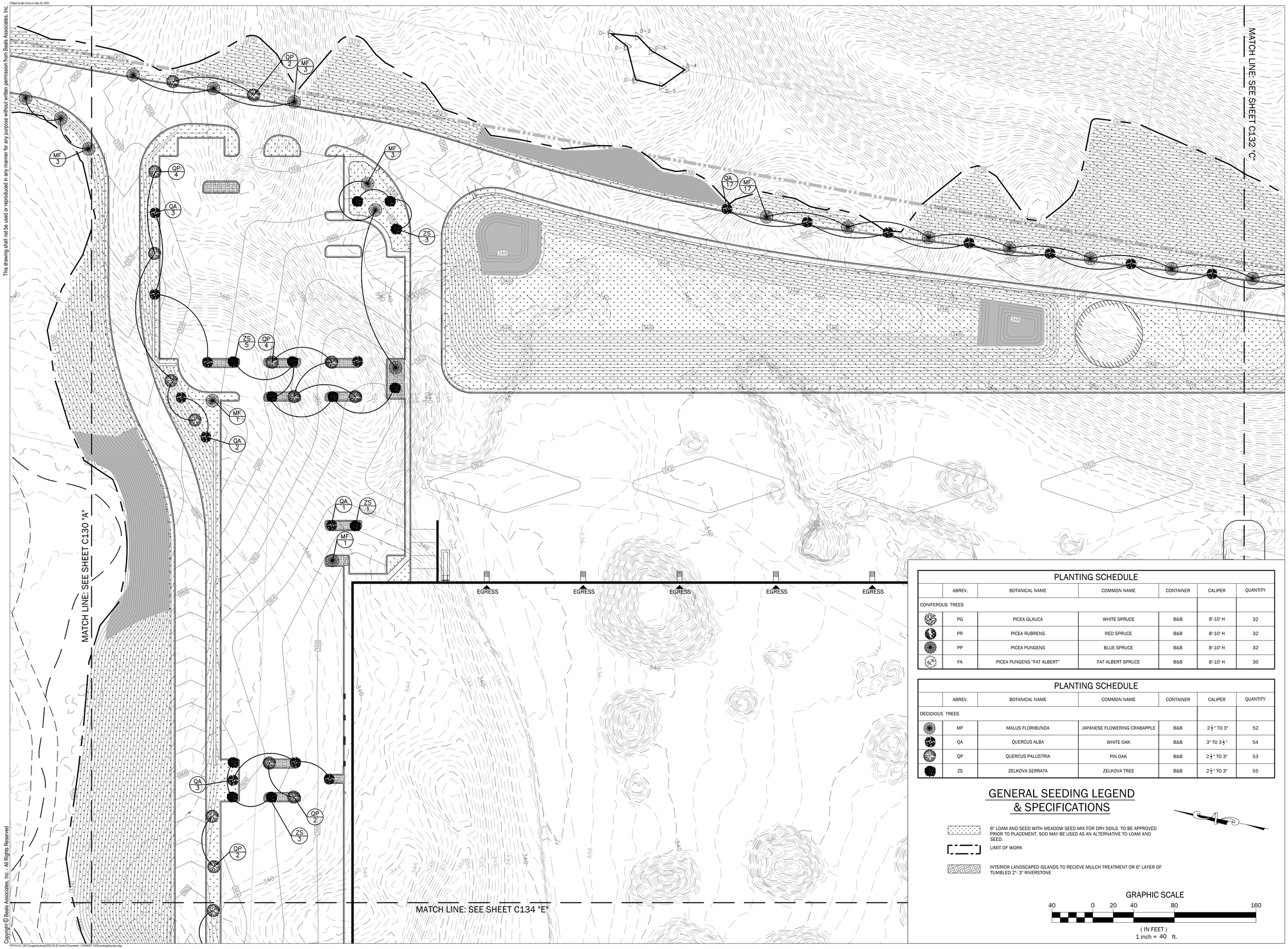
Sheet Title
LANDSCAPING PLAN - A

A | B | C | D | E | F

Sheet Number
C130

Plotted by Ben Enos on May 26, 2022

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PLANTING SCHEDULE						
	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE						
	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Sheet Title
LANDSCAPING PLAN - B

A B C D E F

Sheet Number
C131

Plotted by Ben Enos on May 26, 2022

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PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

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(IN FEET)
1 inch = 40 ft.

EGRESS EGRESS EGRESS EGRESS EGRESS EGRESS

ZS 2 QA 1

QP 12 ZS 12 QA 4 QA 1 ZS 2 ZS 4

QP 10 MF 10 ZS 4 QA 4

MATCH LINE: SEE SHEET C131 "B"

MATCH LINE: SEE SHEET C133 "D"

MATCH LINE: SEE SHEET C135 "F"

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Sheet Title
LANDSCAPING PLAN - C

A B C D E F

Sheet Number
C132

Plotted by Ben Enos on May 26, 2022

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PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2 ½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2 ½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2 ½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

WEST HARTFORD AVENUE

NORTHEAST MAIN STREET

MATCH LINE: SEE SHEET C132 "C"

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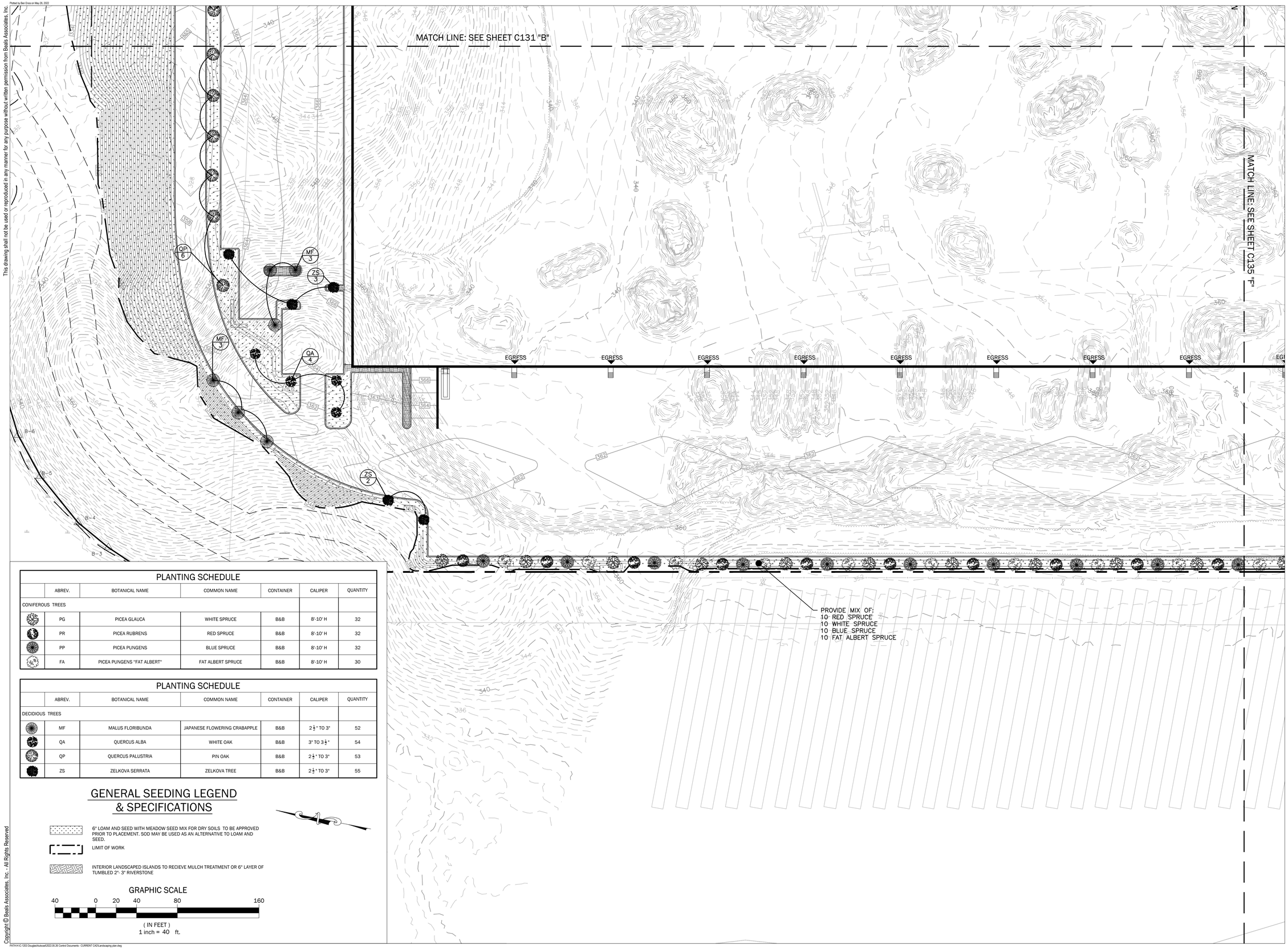
Sheet Title
LANDSCAPING PLAN - D

A B C D E F

Sheet Number
C133

Plotted by Ben Enos on May 26, 2022

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PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE

	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

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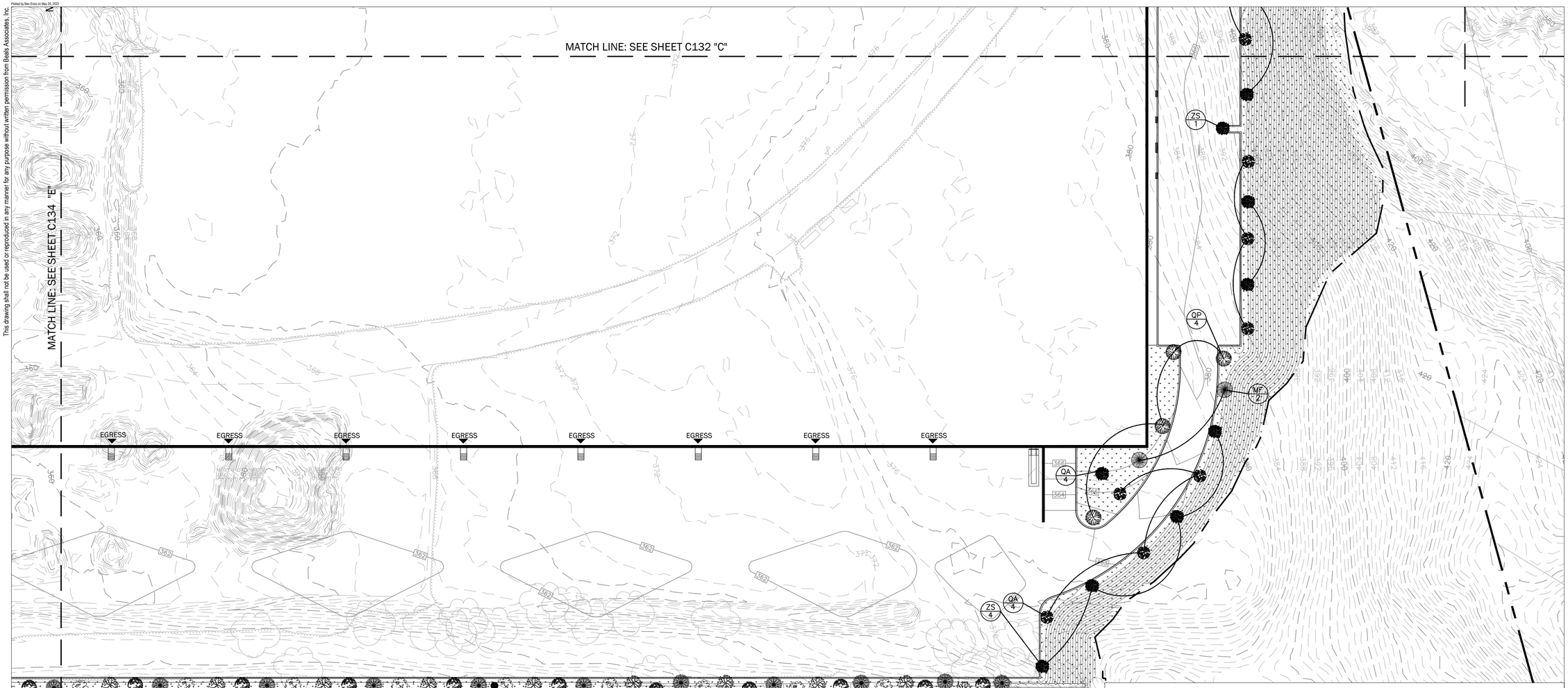
Sheet Title
LANDSCAPING PLAN - E

A B C D E F

Sheet Number
C134

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Plotted by Ben Enos on May 26, 2022



PLANTING SCHEDULE						
	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
CONIFEROUS TREES						
	PG	PICEA GLAUCA	WHITE SPRUCE	B&B	8'-10' H	32
	PR	PICEA RUBRENS	RED SPRUCE	B&B	8'-10' H	32
	PP	PICEA PUNGENS	BLUE SPRUCE	B&B	8'-10' H	32
	FA	PICEA PUNGENS "FAT ALBERT"	FAT ALBERT SPRUCE	B&B	8'-10' H	30

PLANTING SCHEDULE						
	ABREV.	BOTANICAL NAME	COMMON NAME	CONTAINER	CALIPER	QUANTITY
DECIDIOUS TREES						
	MF	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	B&B	2½" TO 3"	52
	QA	QUERCUS ALBA	WHITE OAK	B&B	3" TO 3½"	54
	QP	QUERCUS PALUSTRIA	PIN OAK	B&B	2½" TO 3"	53
	ZS	ZELKOVA SERRATA	ZELKOVA TREE	B&B	2½" TO 3"	55

GENERAL SEEDING LEGEND & SPECIFICATIONS

6" LOAM AND SEED WITH MEADOW SEED MIX FOR DRY SOILS TO BE APPROVED PRIOR TO PLACEMENT. SOD MAY BE USED AS AN ALTERNATIVE TO LOAM AND SEED.

LIMIT OF WORK

INTERIOR LANDSCAPED ISLANDS TO RECIEVE MULCH TREATMENT OR 6" LAYER OF TUMBLED 2"- 3" RIVERSTONE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Proj. No.: C-1203 | Issue Date: 02.11.22
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Sheet Title
LANDSCAPING PLAN - F

A | B | C | D | E | F

Sheet Number
C135

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BENCHMARK: TOP OF STONE BOUND
ELEV=346.85(NAVD88)

N/F
TOWN OF DOUGLAS
LACKEY DAM ROAD
PARCEL ID: 15-1443
(THE BOUNDARY OF THIS PARCEL IS STILL UNDER REVIEW AND NOT CONFIRMED)

ISOLATED LAND SUBJECT TO FLOODING

200' RIVERFRONT AREA

MAIN ACCESS DRIVE - SEE SHEETS C400-C402 FOR PROFILE

SEE SHEET C141 "A"

N/F
TOWN OF DOUGLAS
123 GILBOA STREET
PARCEL ID: 139-1
(THE BOUNDARY OF THIS PARCEL IS STILL UNDER REVIEW AND NOT CONFIRMED)

100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

SUBSURFACE DETENTION SYSTEM 2
DETENTION BASIN 1
SUBSURFACE DETENTION SYSTEM 1

N/F
GILBOA PROPERTIES LLC
120 GILBOA STREET
PARCEL ID: 138-43

GILBOA POND

N/F
TOWN OF DOUGLAS
105 GILBOA STREET
PARCEL ID: 138-44

GILBOA STREET
(PUBLIC WIDTH VARIES)

SEE SHEET C142 "B"

N/F
TOWN OF DOUGLAS
123 GILBOA STREET
PARCEL ID: 139-1

N/F
TOWN OF DOUGLAS
LACKEY DAM ROAD
PARCEL ID: 15-1443

MAIN ACCESS DRIVE - SEE SHEETS C400-C402 FOR PROFILE

TOWN LINE: UXBRIDGE - DOUGLAS

INFILTRATION BASIN 1

SUBSURFACE INFILTRATION SYSTEM 2

SUBSURFACE INFILTRATION SYSTEM 1

MAIN ACCESS DRIVE - SEE SHEETS C400-C402 FOR PROFILE

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

N/F
KTKT LLC
470 NORTHEAST MAIN ST
PARCEL ID: 140-9

SUBSURFACE INFILTRATION SYSTEM 3A
SUBSURFACE INFILTRATION SYSTEM 3B
SUBSURFACE INFILTRATION SYSTEM 3C

SUBSURFACE INFILTRATION SYSTEM 4A
SUBSURFACE INFILTRATION SYSTEM 4B

N/F
BOSMA MARLENE J TR
436 NORTHEAST MAIN STREET
PARCEL ID: 141-67

SEE SHEET C143 "C"

N/F
KTKT LLC
795 HARTFORD AVE WEST
PARCEL ID: 21-1416

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

MAIN ACCESS DRIVE - SEE SHEETS C400-C402 FOR PROFILE

WEST HARTFORD AVE.

SEE SHEET C144 "D"

SECONDARY ACCESS DRIVE
SEE SHEET C402 FOR PROFILE

BENCHMARK: TOP OF CONCRETE BOUND
ELEV=406.08(NAVD88)

WALNUT GROVE
(PRIVATE - WIDTH VARIES)

WILLIAM DRIVE
(PRIVATE - WIDTH VARIES)

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

N/F
FERSCHKE, MARGUERITE
460 NORTHEAST MAIN STREET
PARCEL ID: 140-4

N/F
FOLEY, PAMELA A
458 NORTHEAST MAIN STREET
PARCEL ID: 140-3

NORTHEAST MAIN STREET

N/F
EHRLICH JASON P
450 NORTHEAST MAIN STREET
PARCEL ID: 141-69

I-INDUSTRIAL DISTRICT
VC-VILLAGE CENTER DISTRICT

N/F
GOULD RAYMOND L
448 NORTHEAST MAIN STREET
PARCEL ID: 141-68

N/F
LAWRENCE JOHN W
454 NORTHEAST MAIN STREET
PARCEL ID: 140-2

N/F
CAPEN DOUGLAS R
452 NORTHEAST MAIN STREET
PARCEL ID: 140-1

SEE SHEET C145 "E"

SEE SHEET C146 "F"

N/F
HOPEVILLE REALTY TRUST
67 GILBOA STREET
MAP 138 LOT 45

N/F
FORESIGHT ENTERPRISES CORP.
65 GILBOA STREET
MAP 141 LOT 45.1

GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

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Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=150	

Sheet Title
OVERALL GRADING AND DRAINAGE PLAN

A B C D E F

Sheet Number
C140

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Sheet Title

GRADING PLAN - A

A | B | C | D | E | F

Sheet Number

C141

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APPROXIMATE LIMIT OF WORK AT LIMIT OF CLEARING

MAIN ACCESS DRIVE SEE SHEETS C400–C402 FOR PROFILE

PROVIDE 10' SPACING BETWEEN STEEL GUIDERAIL POSTS AT THIS LOCATION TO PROVIDE MAINTENANCE ACCESS TO THE STORMWATER BASIN (SEE DETAIL)

1.5:1 RIPRAP SLOPE D_{50}=6", THICKNESS=14"

TOWN LINE: UXBRIDGE / DOUGLAS

RIPRAP SEDIMENT FOREBAY 1 D_{50}=6", THICKNESS=14"

RIPRAP SEDIMENT FOREBAY 2 D_{50}=12", THICKNESS=27"

MATCH LINE: SEE SHEET C143 "C"

MATCH LINE: SEE SHEET C141 "A"

2:1 RIPRAP SLOPE D_{50}=6", THICKNESS=14"

BC358.80 TC359.30

BC362.97 TC363.47

BC362.99 TC363.49

BC362.15 TC362.65

BC362.07 TC362.57

BC365.54 C366.04

BC366.35 TC366.85

BC364.48 TC364.98

362.32

HP 362.07

GRADE AT F.O.B.=362.97

GRADE AT F.O.B.=363.00

EGRESS DOOR FFE:367.00

WAREHOUSE DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

75' NO BUILD

100' RESOURCE BUFFER

MATCH LINE: SEE SHEET C145 "E"

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

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Sheet Title
GRADING PLAN - B

A | B | C | D
E | F

Sheet Number
C142

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

MATCH LINE: SEE SHEET C142 "B"

GAS EASEMENT

APPROXIMATE LIMIT OF WORK AT LIMIT OF CLEARING

MAIN ACCESS DRIVE SEE SHEETS C400–C402 FOR PROFILE

TOWN LINE: UXBRIDGE DOUGLAS

SOIL NAIL WALL (MAX HEIGHT=25')

1:4 SOIL NAIL WALL (MAX HEIGHT=25') SEE SHEET 203 FOR PLAN AND PROFILE

GRADE AT F.O.C.=362.97

GRADE AT F.O.B.=363.00

GRADE AT F.O.B.=363.00

GRADE AT BC=366.38
GRADE AT TC=366.88

DOOR FFE:367.00

DOOR FFE:367.00

DOOR FFE:367.00

DOOR FFE:367.00

DOOR FFE:367.00

EMERGENCY ACCESS DRIVE SEE SHEETC402 FOR PROFILE

APPROXIMATE LIMIT OF WORK AT LIMIT OF CLEARING

1.5:1 RIPRAP SLOPE D_{50}=6", THICKNESS=14"

MAIN ACCESS DRIVE SEE SHEETS C400–C402 FOR PROFILE

GRADE AT TC=366.88
GRADE AT BC=366.38

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

MATCH LINE: SEE SHEET C142 "B"

MATCH LINE: SEE SHEET C144 "D"

MATCH LINE: SEE SHEET C146 "F"

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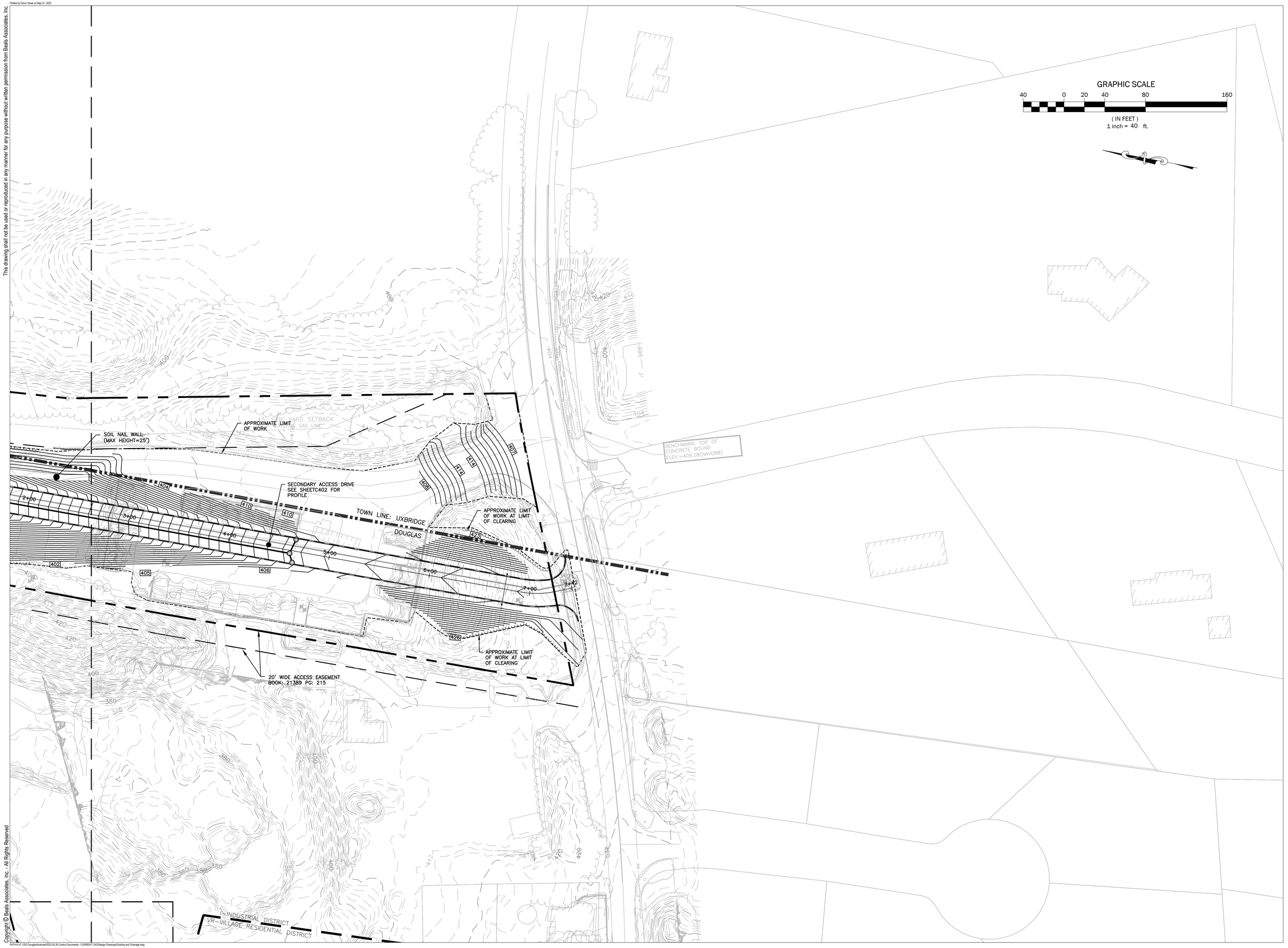
Sheet Title
GRADING PLAN- C

A B C D E F

Sheet Number
C143

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Sheet Title

GRADING PLAN - D

A | B | C | D | E | F

Sheet Number

C144

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MATCH LINE: SEE SHEET C142 "B"

MATCH LINE: SEE SHEET C146 "F"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

MAIN ACCESS DRIVE
SEE SHEETS C400–C402
FOR PROFILE

APPROXIMATE LIMIT
OF CLEARING AT
LIMIT OF WORK

100' RESOURCE BUFFER

75' NO BUILD

50' NO DISTURB

1.5:1 RIPRAP SLOPE
D_{50}=6", THICKNESS=14"

FEMA 1% ANNUAL CHANCE FLOODPLAIN
BASED ON GIS DATA WITH ELEVATION

RETAINING WALL E
SEE SHEET C201 FOR
PLAN AND PROFILE

APPROXIMATE LIMIT
OF WORK

DOOR
FFE:363.00

DOOR
FFE:367.00

EGRESS

GRADE AT
F.O.B.=363.00

HP
362.07

BC363.50
TC365.00

BC363.76
TC364.26

BC363.55
TC364.05

BC363.50
TC364.00

BC362.38
TC362.88

362.89

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

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Sheet Title
GRADING
PLAN - E

A | B | C | D | E | F

Sheet Number
C145

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MATCH LINE: SEE SHEET C145 "E"

MATCH LINE: SEE SHEET C143 "C"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

MAIN ACCESS DRIVE
SEE SHEETS C400-C402
FOR PROFILE

APPROXIMATE LIMIT
OF WORK AT LIMIT
OF CLEARING

APPROXIMATE LIMIT
OF WORK

APPROXIMATE LIMIT
OF WORK

TC365.32
BC364.82

TC365.88
BC365.38

GRADE AT TC=366.88
GRADE AT BC=365.38

EGRESS
DOOR
FFE:367.00
GRADE AT
F.O.B.=363.00
1.00%

HP
362.07

HP
361.97

362.25

44+00
43+00
42+00
41+00
40+00
39+00
38+00
37+00
36+00
35+00
34+00
33+00

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

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

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Sheet Title

GRADING
PLAN - F

A | B | C | D | E | F

Sheet Number

C146

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12" HDPE STORM L=21' S=0.0000
INSTALL 18"ø BEEHIVE 1 RIM ELEV=325.00 12" INV IN (SW)=321.50 12" INV OUT (N)=321.50
12" PVC PIPE STORM L=18' S=0.0000
BASIN RIPRAP SPILLWAY ELEVATION=326.00 (SEE DETAIL)
INSTALL 60"ø OCS 2 RIM ELEV=328.00 12" INV IN (S)=321.50 12" INV OUT (N)=321.50
12" HDPE STORM L=11' S=0.0000
FES 6 12" INV OUT=321.50
INSTALL AND MAINTAIN RIPRAP OUTLET APRON (SEE DETAIL)
DETENTION BASIN 1
200' RIVERFRONT BUFFER
FES 1 12" INV OUT=320.90
12" HDPE STORM L=10' S=0.0100
INSTALL 60"ø OCS 1 RIM ELEV=324.42 30" INV IN (SW)=321.00 12" INV OUT (SE)=321.00
DETENTION SYSTEM 2 30" HDPE STORM L=86' S=0.0000
INSTALL 12"X30" REDUCER
INSTALL 36"ø WQU 3 WITH INLET GRATE RIM ELEV=326.00 12" INV IN (SW)=321.10 12" INV OUT (NE)=321.00
12" HDPE STORM L=32' S=0.0124
INSTALL 48"ø CB 1 RIM ELEV=325.00 12" INV OUT (NE)=321.50
GRADING ACROSS BRIDGE TO BE COORDINATED WITH FINAL BRIDGE DESIGN
CB 3 WQU
SUBSURFACE DETENTION SYSTEM 150 L.F. OF 48" HDPE PIPE 48" INV=321.50 (SEE DETAIL)
INV. ø SYS=321.50
12" HDPE STORM L=10' S=0.0972
12" HDPE STORM L=30' S=0.0141
INSTALL 48"ø CB 2 RIM ELEV=327.80 12" INV OUT (NE)=323.03
INSTALL 48"ø CB 5 RIM ELEV=339.42 12" INV OUT (W)=335.92
12" HDPE STORM L=8' S=0.0883
INSTALL 48"ø WQU 4 RIM ELEV=339.07 12" INV IN (E)=335.17 12" INV IN (SW)=335.17 12" INV OUT (NW)=335.07
12" HDPE STORM L=23' S=0.0321
INSTALL 48"ø CB 4 RIM ELEV=339.42 12" INV OUT (NE)=335.92
12" HDPE STORM L=238' S=0.0497
MAIN ACCESS DRIVE SEE SHEETS C400–C402 FOR PROFILE
TOWN LINE: DOUGLAS
UXBRIDGE
INSTALL 48"ø CB 8 RIM ELEV=355.67 12" INV OUT (N)=352.17
INSTALL 48"ø CB 7 RIM ELEV=355.00 12" INV OUT (SW)=351.50
12" HDPE STORM L=60' S=0.0124
INSTALL 48"ø DMH 4 RIM ELEV=355.18 12" INV IN (S)=350.75 12" INV IN (NE)=350.75 12" INV OUT (W)=350.65
12" HDPE STORM L=20' S=0.0696
12" HDPE STORM L=100' S=0.0125
12" HDPE STORM L=10' S=0.0125
INSTALL 48"ø CB 32 RIM ELEV=353.00 12" INV OUT (SE)=349.50
12" PVC PIPE STORM L=24' S=0.0041
INSTALL 48"ø DMH 1 RIM ELEV=353.28 12" INV IN (E)=349.40 12" INV IN (W)=349.40 12" INV IN (S)=349.30 12" INV OUT (S)=349.30
12" HDPE STORM L=40' S=0.0164
INSTALL 48"ø CB 31 RIM ELEV=353.00 12" INV OUT (E)=349.50
12" HDPE STORM L=40' S=0.0040
INSTALL 72"ø DCB 1 RIM ELEV=356.77 12" INV OUT (E)=353.27
INV. ø SYS=353.42
12" PVC PIPE STORM L=48' S=0.0075
INSTALL 48"ø DMH 12 RIM ELEV=358.90 12" INV IN (W)=345.58 12" INV OUT (E)=345.48
12" PVC PIPE STORM L=99' S=0.0040
INSTALL 48"ø CB 34 RIM ELEV=349.65 12" INV OUT (SE)=346.15
12" HDPE STORM L=17' S=0.0040
INSTALL 48"ø WQU 5 RIM ELEV=350.00 12" INV IN (NW)=346.08 12" INV IN (S)=346.08 12" INV OUT (E)=345.98
12" HDPE STORM L=12' S=0.0060
INSTALL 48"ø CB 37 RIM ELEV=349.65 12" INV OUT (N)=346.15
12" HDPE STORM L=50' S=0.0040
INSTALL 48"ø DMH 5 RIM ELEV=357.45 12" INV IN (NW)=353.45 12" INV IN (SW)=353.45 12" INV OUT (SE)=353.35
12" HDPE STORM L=19' S=0.0454
INSTALL 48"ø CB 38 RIM ELEV=357.81 12" INV OUT (SE)=354.31
12" HDPE STORM L=6' S=0.1363
INSTALL 48"ø CB 39 RIM ELEV=357.81 12" INV OUT (NE)=354.31
MATCH LINE: SEE SHEET C122 "B"
FEMA 1% ANNUAL CHANCE FLOODPLAIN BASED ON GIS DATA WITH ELEVATION
100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB
MUMFORD RIVER
GILBOA POND
APPROXIMATE DAM LOCATION
WILLIAM DRIVE (PRIVATE - WIDTH VARIES)
RIM= 327.79
RIM= 327.97
RIM= 321.38
RIM= 321.93
RIM= 321.91
RIM= 321.15
RIM= 324.44
RIM= 324.30

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

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Sheet Title
DRAINAGE PLAN - A

A | B | C | D | E | F

Sheet Number
C150

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INSTALL 48"ø CB 8
RIM ELEV=355.67
12" INV OUT (N)=352.17

12" HDPE STORM
L=50'
S=0.0202

INSTALL 48"ø CB 33
RIM ELEV=354.56
12" INV OUT (SE)=352.70

INSTALL 48"ø DMH 46
RIM ELEV=355.70
12" INV IN (SW)=351.70
12" INV IN (NW)=351.70
12" INV OUT (S)=351.60

12" HDPE STORM
L=24'
S=0.0412

INSTALL 48"ø CB 12
RIM ELEV=354.56
12" INV OUT (NE)=352.70

12" HDPE STORM
L=56'
S=0.0662

INSTALL 48"ø DMH 47
RIM ELEV=354.31
12" INV IN (S)=347.92
12" INV IN (N)=347.92
18" INV OUT (W)=347.82

18" HDPE STORM
L=35'
S=0.0362

INSTALL 48"ø CB 14
RIM ELEV=352.08
12" INV OUT (W)=348.56

12" HDPE STORM
L=19'
S=0.0040

INSTALL 48"ø DMH 48
RIM ELEV=352.26
12" INV IN (S)=348.48
12" INV IN (W)=348.48
12" INV IN (E)=348.48
12" INV OUT (N)=348.38

INSTALL 48"ø CB 7
RIM ELEV=356.00
12" INV OUT (SW)=351.60

12" HDPE STORM
L=60'
S=0.0124

INSTALL 48"ø DMH 4
RIM ELEV=355.18
12" INV IN (S)=350.75
12" INV IN (NE)=350.75
12" INV OUT (W)=350.65

12" HDPE STORM
L=20'
S=0.0696

12" HDPE STORM
L=100'
S=0.0125

12" HDPE STORM
L=100'
S=0.0125

INSTALL 48"ø CB 32
RIM ELEV=353.00
12" INV OUT (SE)=349.50

12" PVC PIPE STORM
L=24'
S=0.0041

INSTALL 48"ø DMH 1
RIM ELEV=353.26
12" INV IN (E)=349.40
12" INV IN (W)=349.40
12" INV IN (NW)=349.30
12" INV OUT (S)=349.05
S=0.0164

INSTALL 48"ø CB 31
RIM ELEV=353.00
12" INV OUT (E)=349.50

12" HDPE STORM
L=40'
S=0.0040

INSTALL 72"ø DCB 1
RIM ELEV=356.77
12" INV OUT (E)=353.27

INV @ SYS=349.42

12" PVC PIPE STORM
L=8'
S=0.0075

INSTALL 48"ø DMH 12
RIM ELEV=358.90
12" INV IN (W)=345.58
12" INV OUT (E)=345.48

12" PVC PIPE STORM
L=99'
S=0.0040

INSTALL 48"ø CB 34
RIM ELEV=349.65
12" INV OUT (SE)=346.15

12" HDPE STORM
L=17'
S=0.0040

INSTALL 48"ø WQU 5
RIM ELEV=350.00
12" INV IN (NW)=346.08
12" INV IN (S)=346.08
12" INV OUT (E)=345.98

12" HDPE STORM
L=12'
S=0.0060

INSTALL 48"ø CB 37
RIM ELEV=349.65
12" INV OUT (N)=346.15

12" HDPE STORM
L=50'
S=0.0040

INSTALL 48"ø DMH 5
RIM ELEV=357.45
12" INV IN (NW)=353.45
12" INV IN (SW)=353.45
12" INV OUT (SE)=353.35

12" HDPE STORM
L=19'
S=0.0454

INSTALL 48"ø CB 38
RIM ELEV=357.81
12" INV OUT (SE)=354.31

12" HDPE STORM
L=6'
S=0.1363

INSTALL 48"ø CB 39
RIM ELEV=357.81
12" INV OUT (NE)=354.31

INSTALL 48"ø DMH 9
RIM ELEV=351.00
12" INV IN (N)=349.14
12" INV IN (W)=349.14
12" INV OUT (S)=349.04

12" HDPE STORM
L=120'
S=0.0040

INSTALL 60"ø DMH 15
RIM ELEV=360.56
12" INV IN (E)=353.53
24" INV IN (W)=351.89
12" INV IN (N)=348.59
36" INV OUT (S)=348.49

12" HDPE STORM
L=112'
S=0.0040

12" PVC PIPE STORM
L=36'
S=0.1138

36" PVC PIPE STORM
L=130'
S=0.0026

SUBSURFACE INFILTRATION SYSTEM 2
64 STORMTECH DC-780 CHAMBERS
(SEE DETAIL)
BOTTOM OF STONE=344.50
BOTTOM OF CHAMBER=345.25
TOP OF CHAMBER=347.75

24" PVC PIPE STORM
L=125'
S=0.0026

12" PVC PIPE STORM
L=188'
S=0.0398

INSTALL 48"ø DMH 8
RIM ELEV=362.17
12" INV IN (N)=352.37
24" INV IN (W)=352.37
12" INV IN (S)=352.37
24" INV OUT (E)=352.27

12" HDPE STORM
L=27'
S=0.0597

INSTALL 72"ø DCB 10
RIM ELEV=357.71
12" INV OUT (S)=354.00

24" HDPE STORM
L=261'
S=0.0026

INSTALL 72"ø DCB 2
RIM ELEV=357.55
12" INV OUT (W)=354.05

FES 3
18" INV OUT=346.50

FES 2
36" INV OUT=346.50

36" PVC PIPE STORM
L=76'
S=0.0203

INSTALL 72"ø DCB 11
RIM ELEV=358.80
12" INV OUT (SW)=355.30

12" HDPE STORM
L=32'
S=0.0040

INSTALL 60"ø DMH 6
RIM ELEV=359.83
36" INV IN (N)=348.15
12" INV IN (NE)=355.17
36" INV OUT (SE)=348.05

FES 7
24" INV OUT=350.00

24" PVC PIPE STORM
L=33'
S=0.2121

INV @ SYS=357.00

INSTALL 60"ø OCS 3
RIM ELEV=363.10
24" INV IN (W)=357.00
24" INV OUT (E)=357.00

24" PVC PIPE STORM
L=10'
S=0.0000

SUBSURFACE INFILTRATION SYSTEM 1
STORMTRAP 15' ST2 DOUBLE TRAP
(SEE DETAIL)
BOTTOM OF STONE=343.25
BOTTOM OF CHAMBER (OUTSIDE)=344.00
BOTTOM OF CHAMBER (INSIDE)=344.50
TOP OF CHAMBER (INSIDE)=359.50
TOP OF CHAMBER (OUTSIDE)=360.00

INV @ SYS 352.49

12" HDPE STORM
L=212'
S=0.0092

12" HDPE STORM
L=9'
S=0.0093

INSTALL 48"ø CB 13
RIM ELEV=352.08
12" INV OUT (E)=348.56

INFILTRATION BASIN 1
BOTTOM OF BASIN=344.5

INSTALL 48"ø CB 16
RIM ELEV=354.06
12" INV OUT (W)=350.60

12" HDPE STORM
L=17'
S=0.0040

INSTALL 48"ø DMH 49
RIM ELEV=354.27
12" INV IN (W)=350.53
12" INV IN (E)=350.53
12" INV OUT (N)=350.43

12" HDPE STORM
L=11'
S=0.0066

INSTALL 48"ø CB 15
RIM ELEV=354.06
12" INV OUT (E)=350.60

FES 5
30" INV OUT=348.00

FES 4
30" INV OUT=348.00

INSTALL 48"ø CB 18
RIM ELEV=356.02
12" INV OUT (SW)=352.52

12" HDPE STORM
L=27'
S=0.0045

INSTALL 48"ø CB 17
RIM ELEV=356.02
12" INV OUT (SE)=352.52

12" HDPE STORM
L=14'
S=0.0085

INSTALL 48"ø DMH 50
RIM ELEV=356.25
30" INV IN (S)=349.90
12" INV IN (NE)=352.40
12" INV IN (NW)=352.40
30" INV OUT (W)=349.80

30" HDPE STORM
L=30'
S=0.0610

30" HDPE STORM
L=287'
S=0.0143

INSTALL 48"ø DMH 41
RIM ELEV=361.69
18" INV IN (N)=357.05
12" INV IN (W)=357.05
18" INV OUT (S)=356.95

18" HDPE STORM
L=196'
S=0.0029

INSTALL 48"ø DMH 42
RIM ELEV=361.69
18" INV IN (N)=356.39
12" INV IN (W)=356.39
18" INV OUT (S)=356.29

18" HDPE STORM
L=109'
S=0.0118

INSTALL 48"ø DMH 43
RIM ELEV=361.69
24" INV IN (S)=355.47
12" INV IN (W)=355.47
24" INV OUT (N)=355.37

24" HDPE STORM
L=200'
S=0.0040

24" HDPE STORM
L=91'
S=0.0040

30" HDPE STORM
L=127'
S=0.0544

18" HDPE STORM
L=200'
S=0.0026

INSTALL 72"ø DCB 3
RIM ELEV=361.57
18" INV OUT (S)=357.57

INSTALL 48"ø CB 11
RIM ELEV=362.15
12" INV OUT (N)=358.65

12" HDPE STORM
L=12'
S=0.0850

INSTALL 72"ø DCB 4
RIM ELEV=361.57
12" INV OUT (E)=358.07

24" HDPE STORM
L=287'
S=0.0017

30" HDPE STORM
L=101'
S=0.0017

12" HDPE STORM
L=12'
S=0.1400

INSTALL 72"ø DCB 5
RIM ELEV=361.57
12" INV OUT (E)=358.07

24" HDPE STORM
L=288'
S=0.0017

INSTALL 60"ø DMH 13
RIM ELEV=362.19
24" INV IN (S)=355.01
18" INV IN (N)=355.01
30" INV OUT (E)=354.91

12" HDPE STORM
L=12'
S=0.2167

INSTALL 72"ø DCB 6
RIM ELEV=361.57
12" INV OUT (E)=358.07

12" HDPE STORM
L=247'
S=0.0181

INSTALL 48"ø DMH 35
RIM ELEV=366.75
12" INV IN (W)=358.70
12" INV OUT (S)=358.60

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø DMH 36
RIM ELEV=362.82
12" INV IN (N)=354.13
24" INV IN (S)=352.76
30" INV OUT (E)=352.66

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø DMH 37
RIM ELEV=362.85
24" INV IN (S)=353.35
12" INV IN (W)=358.00
24" INV OUT (N)=353.25

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø DMH 38
RIM ELEV=362.86
24" INV IN (S)=353.90
12" INV IN (W)=358.00
24" INV OUT (N)=353.80

INSTALL 48"ø DMH 7
RIM ELEV=364.04
24" INV IN (W)=353.15
12" INV IN (NW)=353.15
24" INV OUT (E)=353.05

24" HDPE STORM
L=52'
S=0.0306

INSTALL 72"ø DCB 12
RIM ELEV=362.41
12" INV OUT (S)=358.91

12" HDPE STORM
L=22'
S=0.0500

INSTALL 48"ø DMH 11
RIM ELEV=361.78
18" INV IN (W)=354.83
12" INV IN (N)=357.80
24" INV OUT (E)=354.73

18" HDPE STORM
L=163'
S=0.0026

INSTALL 72"ø DCB 13
RIM ELEV=363.31
12" INV OUT (S)=359.81

12" HDPE STORM
L=27'
S=0.1634

INSTALL 48"ø DMH 14
RIM ELEV=364.09
18" INV IN (W)=355.35
12" INV IN (N)=355.35
18" INV OUT (E)=355.25

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

TOWN LINE: UXBRIDGE
DOUGLAS

MATCH LINE: SEE SHEET C143 "C"

MATCH LINE: SEE SHEET C150 "A"

MATCH LINE: SEE SHEET C145 "E"

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

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Documents

Designed by: MCY | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=40'

Sheet Title
DRAINAGE
PLAN - B

A | B | C | D | E | F

Sheet Number
C151

Posted by Devin Howe on May 31, 2022

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

MATCH LINE: SEE SHEET C151 "B"

MATCH LINE: SEE SHEET C155 "F"

MATCH LINE: SEE SHEET C153 "D"

GAS EASEMENT

GAS MARKER

INSTALL 48"ø CB 20
RIM ELEV=359.00
12" INV OUT (W)=355.50

12" HDPE STORM
L=21'
S=0.0040

INSTALL 48"ø DMH 51
RIM ELEV=359.18
12" INV IN (W)=355.41
12" INV IN (E)=355.41
30" INV IN (S)=354.10
30" INV OUT (N)=354.00

MAIN ACCESS DRIVE
SEE SHEETS C400-C402
FOR PROFILE

19+00

20+00

21+00

22+00

23+00

24+00

25+00

26+00

27+00

30" HDPE STORM
L=287'
S=0.0143

INSTALL 48"ø CB 19
RIM ELEV=359.00
12" INV OUT (E)=355.50

12" HDPE STORM
L=7'
S=0.0134

30" HDPE STORM
L=299'
S=0.0064

INSTALL 48"ø CB 22
RIM ELEV=362.00
12" INV OUT (W)=358.50

12" HDPE STORM
L=19'
S=0.0674

INSTALL 48"ø CB 21
RIM ELEV=362.00
12" INV OUT (E)=358.50

12" HDPE STORM
L=9'
S=0.1422

INSTALL 48"ø DMH 52
RIM ELEV=362.20
12" INV IN (E)=357.22
12" INV IN (W)=357.22
24" INV IN (S)=356.10
30" INV OUT (N)=356.00

INSTALL 48"ø CB 10
RIM ELEV=365.00
12" INV OUT (W)=361.60

12" HDPE STORM
L=19'
S=0.1621

INSTALL 48"ø DMH 53
RIM ELEV=365.24
24" INV IN (S)=357.50
12" INV IN (W)=358.52
12" INV IN (E)=358.52
24" INV OUT (N)=357.40

12" HDPE STORM
L=9'
S=0.3367

24" HDPE STORM
L=119'
S=0.0044

INSTALL 48"ø DMH 54
RIM ELEV=366.63
24" INV IN (S)=357.98
12" INV IN (W)=358.96
24" INV OUT (N)=357.88

24" HDPE STORM
L=87'
S=0.0044

INSTALL 48"ø CB 27
RIM ELEV=369.94
12" INV OUT (W)=365.00

TOWN LINE: UXBRIDGE DOUGLAS

12" HDPE STORM
L=9'
S=0.0561

INSTALL 48"ø CB 25
RIM ELEV=377.25
12" INV OUT (W)=371.50

12" HDPE STORM
L=15'
S=0.0040

INSTALL 48"ø DMH 58
RIM ELEV=377.19
12" INV IN (S)=371.44
12" INV IN (W)=371.44
12" INV IN (E)=371.44
12" INV OUT (N)=371.34

INSTALL 48"ø CB 26
RIM ELEV=377.25
12" INV OUT (E)=371.50

INSTALL 48"ø DMH 44
RIM ELEV=361.69
18" INV IN (S)=356.37
12" INV IN (W)=356.37
24" INV OUT (N)=356.27

24" HDPE STORM
L=200'
S=0.0040

18" HDPE STORM
L=200'
S=0.0029

INSTALL 48"ø DMH 45
RIM ELEV=361.69
12" INV IN (W)=357.05
18" INV IN (S)=357.05
18" INV OUT (N)=358.95

18" HDPE STORM
L=200'
S=0.0026

INSTALL 48"ø CB 9
RIM ELEV=365.00
12" INV OUT (E)=361.55

12" HDPE STORM
L=77'
S=0.0369

INSTALL 48"ø DMH 56
RIM ELEV=369.00
12" INV IN (W)=362.00
24" INV IN (S)=358.61
24" INV OUT (N)=358.51

12" HDPE STORM
L=28'
S=0.1077

12" HDPE STORM
L=9'
S=0.0069

12" HDPE STORM
L=12'
S=0.1417

INSTALL 72"ø DCB 7
RIM ELEV=361.57
12" INV OUT (E)=358.07

24" HDPE STORM
L=249'
S=0.0026

12" HDPE STORM
L=12'
S=0.0850

INSTALL 72"ø DCB 8
RIM ELEV=361.57
12" INV OUT (E)=358.07

18" HDPE STORM
L=300'
S=0.0110

INSTALL 72"ø DCB 9
RIM ELEV=361.57
18" INV OUT (N)=357.57

12" HDPE STORM
L=300'
S=0.0040

INSTALL 48"ø DMH 40
RIM ELEV=362.80
12" INV IN (S)=357.40
12" INV IN (W)=357.40
18" INV OUT (N)=357.30

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø CB 30
RIM ELEV=365.29
12" INV OUT (E)=361.79

INSTALL 48"ø DMH 39
RIM ELEV=362.80
18" INV IN (S)=354.00
12" INV IN (W)=358.00
24" INV OUT (N)=354.55

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø DMH 55
RIM ELEV=366.70
12" INV IN (W)=358.70
12" INV OUT (N)=358.60

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø CB 29
RIM ELEV=369.34
12" INV OUT (E)=365.00

24" HDPE STORM
L=34'
S=0.0044

INSTALL 18"ø AD_1
(SEE DETAIL)
RIM ELEV=364.50
12" INV OUT (E)=361.00

6" SLOPE DRAIN
INV @ START=362.50
6" PERFORATED SLOPE DRAIN
(SEE DETAIL)
L=130'
S=0.0100

24" PVC PIPE STORM
L=229'
S=0.0045

12" HDPE STORM
L=39'
S=0.0160

INSTALL 18"ø AD_2
RIM ELEV=364.90
6" INV IN (E)=360.70
12" INV OUT (S)=360.60

INSTALL 48"ø DMH 34
RIM ELEV=367.00
12" INV IN (SW)=362.93
12" INV IN (NW)=362.90
18" INV IN (W)=359.98
12" INV IN (N)=359.88
24" INV OUT (E)=359.88

18" HDPE STORM
L=64'
S=0.0042

INSTALL 48"ø DMH 25
RIM ELEV=364.94
12" INV IN (W)=360.35
12" INV IN (S)=360.35
18" INV OUT (E)=360.25

12" HDPE STORM
L=108'
S=0.0044

INSTALL 48"ø DMH 18
RIM ELEV=363.03
12" INV IN (W)=360.93
12" INV IN (S)=360.93
12" INV OUT (E)=360.83

12" HDPE STORM
L=140'
S=0.0894

INSTALL 48"ø CB 28
RIM ELEV=370.65
12" INV OUT (N)=367.00

12" HDPE STORM
L=32'
S=0.0772

INSTALL 48"ø DMH 57
RIM ELEV=370.00
12" INV IN (S)=358.86
24" INV IN (W)=358.86
12" INV IN (S)=364.50
12" INV IN (E)=364.50
12" INV IN (W)=360.75
24" INV OUT (N)=358.76

12" PVC PIPE STORM
L=61'
S=0.0040

12" HDPE STORM
L=24'
S=0.0044

12" HDPE STORM
L=17'
S=0.0044

INSTALL 48"ø CB 43
RIM ELEV=368.16
12" INV OUT (NE)=363.00

INSTALL 48"ø CB 44
RIM ELEV=367.66
12" INV OUT (SE)=363.00

INSTALL 48"ø CB 42
RIM ELEV=364.14
12" INV OUT (N)=360.47

12" HDPE STORM
L=27'
S=0.0044

12" HDPE STORM
L=27'
S=0.0044

INSTALL 48"ø CB 41
RIM ELEV=364.82
12" INV OUT (N)=361.05

change to ad
and add label
to perforated
pipe w/ detail

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

TP-24

TP-28

TP-29

B21-7

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: MCY	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=40'	

Sheet Title
DRAINAGE
PLAN - C

A B C D
E F

Sheet Number
C152

Plotted by Devin Howe on May 31, 2022

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MATCH LINE: SEE SHEET C152 "C"

15' SIDE YARD SETBACK
EXISTING GAS LINE

GAS MARKER

INSTALL 48"ø CB 23
RIM ELEV=405.42
12" INV OUT (W)=399.34

TOWN LINE: UXBRIDGE
DOUGLAS

12" HDPE STORM
L=299'
S=0.0929

INSTALL 48"ø DMH 2
RIM ELEV=405.37
12" INV IN (E)=399.28
12" INV IN (SW)=399.28
12" INV OUT (N)=399.18

12" HDPE STORM
L=9'
S=0.0064

12" HDPE STORM
L=15'
S=0.0040

INSTALL 48"ø CB 24
RIM ELEV=405.42
12" INV OUT (NE)=399.34

20' WIDE ACCESS EASEMENT
BOOK: 21389 PG: 215

BENCHMARK: TOP OF
CONCRETE BOUND
ELEV.=406.08(NAVD88)

15' SIDE YARD SETBACK

MATCH LINE: SEE SHEET C152 "C"

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

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

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: MCY	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=40	

Sheet Title
DRAINAGE PLAN - D

A | B | C | D | E | F

Sheet Number
C153

Plotted by Devin Howe on May 31, 2022

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MATCH LINE: SEE SHEET C151 "B"

MATCH LINE: SEE SHEET C155 "F"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

INSTALL 72"ø DCB 13
RIM ELEV=363.31
12" INV OUT (S)=359.81

12" HDPE STORM
L=27'
S=0.1634

INSTALL 48"ø DMH 14
RIM ELEV=364.09
18" INV IN (W)=355.35
12" INV IN (N)=355.35
18" INV OUT (E)=355.25

18" PVC PIPE STORM
L=150'
S=0.0040

INSTALL 72"ø DCB 14
RIM ELEV=363.31
12" INV OUT (S)=359.81

12" HDPE STORM
L=22'
S=0.1686

INSTALL 48"ø DMH 16
RIM ELEV=362.73
18" INV IN (W)=356.05
12" INV IN (N)=356.05
18" INV OUT (E)=355.95

18" PVC PIPE STORM
L=164'
S=0.0040

12" HDPE STORM
L=24'
S=0.0712

INSTALL 48"ø CB 35
RIM ELEV=362.00
12" INV OUT (N)=358.50

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

INSTALL 48"ø DMH 17
RIM ELEV=362.56
12" INV IN (E)=358.70
12" INV OUT (S)=358.60

12" HDPE STORM
L=76'
S=0.0040

INSTALL 60"ø DMH 3
RIM ELEV=361.90
12" INV IN (SW)=356.81
12" INV IN (W)=356.81
12" INV IN (S)=356.81
18" INV OUT (E)=356.71

12" HDPE STORM
L=9'
S=0.0130

INSTALL 48"ø CB 45
RIM ELEV=360.43
12" INV OUT (NE)=356.93

12" HDPE STORM
L=31'
S=0.0040

INSTALL 48"ø CB 46
RIM ELEV=360.43
12" INV OUT (E)=356.93

18" HDPE STORM
L=200'
S=0.0040

INSTALL 48"ø DMH 19
RIM ELEV=362.78
18" INV IN (S)=352.82
24" INV OUT (W)=352.52

24" HDPE STORM
L=5'
S=0.0000

18" PERFORMED HDPE STORM
(SEE PERFORMED PIPE
TRENCH SECTION DETAIL)
L=10'
S=0.0000
INV=355.00

INSTALL 48"ø DMH 20
RIM ELEV=362.78
12" INV IN (S)=353.52
18" INV OUT (N)=353.42

18" PERFORMED HDPE STORM
(SEE PERFORMED PIPE
TRENCH SECTION DETAIL)
L=22'
S=0.0000
INV=344.50

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

12" HDPE STORM
L=304'
S=0.0040

INSTALL 48"ø DMH 21
RIM ELEV=362.85
24" INV IN (S)=354.84
12" INV OUT (N)=354.74

INV @ SYS=358.30

SUBSURFACE INFILTRATION SYSTEM 3A, 3B & 3C
STORMTRAP ST2 DOUBLE TRAP
(SEE DETAIL)
BOTTOM OF STONE=343.25
BOTTOM OF CHAMBER (OUTSIDE)=344.00
BOTTOM OF CHAMBER (INSIDE)=344.50
TOP OF CHAMBER (INSIDE)=359.50
TOP OF CHAMBER (OUTSIDE)=360.00

18" PERFORATED HDPE STORM
(SEE PERFORATED PIPE
TRENCH SECTION DETAIL)
L=30'
S=0.0000
INV=344.50

18" PERFORATED HDPE STORM
(SEE PERFORATED PIPE
TRENCH SECTION DETAIL)
L=44'
S=0.0000
INV=344.50

SUBSURFACE INFILTRATION SYSTEM 4A & 4B
STORMTRAP 15' ST2 DOUBLE TRAP
(SEE DETAIL)
BOTTOM OF STONE=343.25
BOTTOM OF CHAMBER (OUTSIDE)=344.00
BOTTOM OF CHAMBER (INSIDE)=344.50
TOP OF CHAMBER (INSIDE)=359.50
TOP OF CHAMBER (OUTSIDE)=360.00

INV @ SYS
354.90

INSTALL 72"ø DCB 18
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 72"ø DCB 19
RIM ELEV=361.57
12" INV OUT (W)=358.07

36" HDPE STORM
L=33'
S=0.0114

12" HDPE STORM
L=11'
S=0.0245

18" HDPE STORM
L=201'
S=0.0040

24" HDPE STORM
L=196'
S=0.0026

24" HDPE STORM
L=154'
S=0.0103

36" HDPE STORM
L=198'
S=0.0026

INSTALL 72"ø DCB 15
RIM ELEV=361.57
18" INV OUT (S)=357.57

INSTALL 72"ø DCB 16
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 48"ø DMH 26
RIM ELEV=361.73
18" INV IN (N)=356.77
12" INV IN (E)=356.77
24" INV OUT (S)=356.67

12" HDPE STORM
L=16'
S=0.0812

INSTALL 72"ø DCB 17
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 48"ø DMH 27
RIM ELEV=361.73
24" INV IN (N)=356.16
12" INV IN (E)=356.16
24" INV OUT (S)=356.06

12" HDPE STORM
L=18'
S=0.1061

INSTALL: 1200"ø WQU 2
RIM ELEV=361.96
24" INV IN (N)=354.48
36" INV IN (S)=354.48
36" INV OUT (E)=354.38

36" HDPE STORM
L=44'
S=0.0026

12" HDPE STORM
L=18'
S=0.0456

INSTALL 48"ø DMH 28
RIM ELEV=361.73
36" INV IN (S)=354.70
12" INV IN (E)=357.25
36" INV OUT (N)=354.60

INSTALL 48"ø DMH 29
RIM ELEV=361.73
36" INV IN (S)=355.31
12" INV IN (E)=357.80
36" INV OUT (N)=355.21

B-6 B-5 B-4 B-3 B-2 WF-5/B-1 WF-4 WF-3 WF-2 WF-1

58+00 57+00 56+00 55+00 54+00 53+00 52+00 51+00 50+00 49+00 48+00 47+00 46+00 45+00

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

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Documents

Designed by: MCY	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=40	

Sheet Title
DRAINAGE
PLAN - E

A | B | C | D | E | F

Sheet Number
C154

Plotted by Devin Howe on May 31, 2022
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MATCH LINE: SEE SHEET C145 "E"

MATCH LINE: SEE SHEET C152 "C"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

GRAVEL DRIVEWAY

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

ROOF LEADER
INV @ FOB=359.00
(FINAL LOCATION TO BE
COORDINATED, TYP.)

24" HDPE STORM
L=304'
S=0.0040

18" HDPE STORM
L=300'
S=0.0040

12" HDPE STORM
L=286'
S=0.0040

INSTALL 48"ø DMH 22
RIM ELEV=362.78
18" INV IN (S)=356.16
24" INV OUT (N)=356.06

INSTALL 48"ø DMH 23
RIM ELEV=362.84
12" INV IN (S)=357.46
18" INV OUT (N)=357.36

INSTALL 48"ø DMH 24
RIM ELEV=366.50
12" INV IN (E)=358.70
12" INV OUT (N)=358.60

INSTALL 72"ø DCB 19
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 72"ø DCB 20
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 72"ø DCB 21
RIM ELEV=361.57
12" INV OUT (W)=358.07

INSTALL 72"ø DCB 22
RIM ELEV=361.57
12" INV OUT (W)=358.07

12" HDPE STORM
L=11'
S=0.0245

36" HDPE STORM
L=198'
S=0.0026

12" HDPE STORM
L=16'
S=0.1344

30" HDPE STORM
L=200'
S=0.0026

12" HDPE STORM
L=16'
S=0.0956

30" HDPE STORM
L=200'
S=0.0026

12" HDPE STORM
L=16'
S=0.0569

44+00 43+00 42+00 41+00 40+00 39+00 38+00 37+00

INSTALL 48"ø DMH 29
RIM ELEV=361.73
36" INV IN (S)=355.31
12" INV IN (E)=357.80
36" INV OUT (N)=355.21

INSTALL 48"ø DMH 30
RIM ELEV=361.73
30" INV IN (S)=355.92
12" INV IN (E)=355.92
36" INV OUT (N)=355.82

INSTALL 48"ø DMH 31
RIM ELEV=361.73
30" INV IN (S)=356.54
12" INV IN (E)=356.54
30" INV OUT (N)=356.44

INSTALL 48"ø DMH 32
RIM ELEV=361.73
30" INV IN (S)=357.16
12" INV IN (E)=357.16
30" INV OUT (N)=357.06

RETAINING WALL E
SEE SHEET C201 FOR
PLAN AND PROFILE

INSTALL 48"ø DMH 25
RIM ELEV=364.94
12" INV IN (W)=360.35
12" INV IN (S)=360.35
18" INV OUT (E)=360.25

12" HDPE STORM
L=108'
S=0.0044

INSTALL 48"ø DMH 18
RIM ELEV=363.03
12" INV IN (W)=360.93
12" INV IN (S)=360.93
12" INV OUT (E)=360.83

12" HDPE STORM
L=27'
S=0.0044

INSTALL 48"ø CB 41
RIM ELEV=364.82
12" INV OUT (N)=361.05

12" HDPE STORM
L=187'
S=0.0044

INSTALL 48"ø CB 40
RIM ELEV=364.82
12" INV OUT (E)=361.75

33+00 34+00 35+00 36+00

INSTALL 48"ø CB 47
RIM ELEV=363.00
12" INV OUT (W)=357.98

12" HDPE STORM
L=51'
S=0.0016

INSTALL 48"ø CB 36
RIM ELEV=362.50
12" INV OUT (N)=358.00

12" HDPE STORM
L=13'
S=0.0077

INSTALL 48"ø DMH 33
RIM ELEV=362.40
12" INV IN (S)=357.90
12" INV IN (E)=357.90
12" INV OUT (N)=357.80

12" PVC PIPE STORM
L=58'
S=0.0040

INSTALL 48"ø DCB 23
RIM ELEV=361.63
12" INV OUT (W)=358.13

12" PVC PIPE STORM
L=16'
S=0.0350

INSTALL 48"ø DMH 10
RIM ELEV=361.72
12" INV IN (S)=357.57
12" INV IN (E)=357.57
30" INV OUT (N)=357.47

30" HDPE STORM
L=118'
S=0.0026

IR – INDUSTRIAL DISTRICT
VR – VILLAGE RESIDENTIAL DISTRICT

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

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CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: MCY | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=40

Sheet Title
DRAINAGE
PLAN - F

A | B | C | D
E | F

Sheet Number
C155

Plotted by Ben Enos on May 26, 2022

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GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

BENCHMARK: TOP OF STONE BOUND
ELEV=346.85(NAVD88)

N/F
TOWN OF DOUGLAS
LACKEY DAM ROAD
PARCEL ID:
15-1443
(THE BOUNDARY OF THIS PARCEL IS STILL UNDER REVIEW AND NOT CONFIRMED)

N/F
TOWN OF DOUGLAS
LACKEY DAM ROAD
PARCEL ID: 15-1443

ISOLATED LAND SUBJECT TO FLOODING

GAS EASEMENT

N/F
KTKT LLC
795 HARTFORD AVE WEST
PARCEL ID: 21-1416

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

WEST HARTFORD AVE.
(PUBLIC - 60' WIDE)

SEE SHEET C151 "A"
SEE SHEET C152 "B"
SEE SHEET C153 "C"
SEE SHEET C154 "D"
SEE SHEET C155 "E"
SEE SHEET C156 "F"

200' RIVERFRONT AREA

N/F
TOWN OF DOUGLAS
123 GILBOA STREET
PARCEL ID: 139-1

N/F
TOWN OF DOUGLAS
123 GILBOA STREET
PARCEL ID: 139-1

TOWN LINE: UXBRIDGE - DOUGLAS

12" WATER MAIN CONNECTION POINT TO BE COORDINATED WITH GILBOA STREET INFRASTRUCTURE PLANS (BY OTHERS)
GAS SERVICE CONNECTION POINT
TEST PIT TO CONFIRM DEPTH & LOCATION (COORDINATE WITH UTILITY PROVIDER)

SAN. SEWER CONNECTION TO BE COORDINATED WITH GILBOA STREET INFRASTRUCTURE PLANS (BY OTHERS)

E/T/C CONNECTION @ PROPOSED UTILITY POLE (COORDINATE WITH APPROPRIATE UTILITY PROVIDER)

100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

MUMFORD RIVER

GILBOA POND

N/F
GILBOA PROPERTIES, LLC
120 GILBOA STREET
PARCEL ID: 138-43

N/F
TOWN OF DOUGLAS
105 GILBOA STREET
PARCEL ID: 138-44

GILBOA STREET
(PUBLIC - WIDTH VARIES)

HYDRANT
WATER TANK
HYDRANT

SEWER EXIT POINT @ FOB (FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)

GAS SERVICE ENTRY POINT (FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)
E/T/C SERVICE ENTRY POINTS (FINAL LOCATION TO BE COORDINATED WITH ELECTRICAL PLANS)
F.D.C. AT FACE OF BUILDING

SEWER EXIT POINT @ FOB (FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)
10" CONNECTION TO FIRE LOOP (FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION PLANS)
6" DOMESTIC SERVICE CONNECTION POINT FROM 12" MAIN (FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)
16" CONNECTION POINT FROM WATER TANK (FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION PLANS)

SEWER EXIT POINT @ FOB (FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)

N/F
KTKT LLC
470 NORTHEAST MAIN ST
PARCEL ID: 140-9

N/F
BOSMA MARLENE J TR
436 NORTHEAST MAIN STREET
PARCEL ID: 141-67

N/F
HOPEVILLE REALTY TRUST
67 GILBOA STREET
MAP 138 LOT 45

N/F
FORESIGHT ENTERPRISES CORP.
65 GILBOA STREET
MAP 141 LOT 45.1

I - INDUSTRIAL DISTRICT
VC - VILLAGE RESIDENTIAL DISTRICT

GAS EASEMENT

BENCHMARK: TOP OF CONCRETE BOUND
ELEV=406.08(NAVD88)

WALNUT GROVE
(PRIVATE - WIDTH VARIES)

WATER MAIN CONNECTION POINT

WILLIAM DRIVE
(PRIVATE - WIDTH VARIES)

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

N/F
FERSCHKE, MARGUERITE
460 NORTHEAST MAIN STREET
PARCEL ID: 140-4

N/F
FOLEY, PAMELA A
458 NORTHEAST MAIN STREET
PARCEL ID: 140-3

N/F
LAWRENCE, JOHN W
454 NORTHEAST MAIN STREET
PARCEL ID: 140-2

N/F
EHRLICH, JASON P
450 NORTHEAST MAIN STREET
PARCEL ID: 141-69

N/F
CAPEN DOUGLAS R
452 NORTHEAST MAIN STREET
PARCEL ID: 140-1

N/F
GOULD RAYMOND L
448 NORTHEAST MAIN STREET
PARCEL ID: 141-68

NORTHEAST MAIN STREET
(PUBLIC - WIDTH VARIES)

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Warehouse Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: GDF	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=150'	

Sheet Title
UTILITY PLAN OVERALL

A B C D E F

Sheet Number
C160

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Plotted by Ben Enos on May 26, 2022

RB-14
RE-10
RB-13
RB-12
RE-9
RB-11
RE-8
RB-10
RE-7
RB-9
RB-8
RE-6
RB-7
RB-6
RB-5
RB-4
RE-5
RB-3
RB-2
RB-1
RE-4
RE-3
RE-2
H-43/RE-1
H-42
H-41
H-40
H-39
H-38

200' RIVERFRONT BUFFER

12" WATER

B-31
B-30
B-29
B-28
B-27
B-26
B-25
B-24
B-23
B-22
B-21
B-20
B-19
B-18
B-17
B-16
B-15
B-14
B-13

MUMFORD RIVER

APPROXIMATE DAM LOCATION

GILBOA POND

GILBOA STREET
(PUBLIC WAY) (VARIES)

N/F
GILBOA PROPERTIES LLC
120 GILBOA STREET
MAP 138 LOT 43

N/F
105 GILBOA STREET
TOWN OF DOUGLAS
MAP 138 LOT 44

12" WATER MAIN CONNECTION POINT. INSTALL (3) 12" TAPPING SLEEVE GATE VALVES. FINAL CONNECTION POINT TO BE COORDINATED WITH GILBOA STREET INFRASTRUCTURE PLANS (BY OTHERS)

GAS SERVICE CONNECTION POINT. TEST PIT TO CONFIRM DEPTH & LOCATION (COORDINATE WITH UTILITY PROVIDER)

FINAL CONNECTION POINT TO BE COORDINATED WITH GILBOA STREET INFRASTRUCTURE PLANS (BY OTHERS) INV=322.46 OR LOWER

RELOCATE UTILITY POLE AT DRIVEWAY. INSTALL NEW E/T/C RISERS FOR NEW UNDERGROUND SERVICE TO BUILDING(COORDINATE WITH UTILITY PROVIDER)

8" PVC PIPE SAN
L=132'
S=0.0169
INSULATE WITH RIGID INSULATION WHERE COVER < 4'-6"

INSULATE AND HEAT TRACE SEWER PIPE. (SEE PROFILE FOR LOCATION)

INSTALL 48"ø SMH 14
RIM ELEV=327.80
8" INV IN (SE)=324.78
8" INV OUT (NW)=324.68

INSTALL 48"ø SMH 13
RIM ELEV=331.47
8" INV IN (SE)=325.51
8" INV OUT (NW)=325.41

8" PVC PIPE SAN
L=236'
S=0.0496

GAS SERVICE
PVC TELECOM CONDUIT (FINAL NUMBER & SIZE TO BE COORDINATED MINIMUM 4-4" CONDUITS)
PVC PRIMARY ELECTRICAL CONDUIT (FINAL NUMBER & SIZE TO BE COORDINATED MINIMUM 4-5" CONDUITS ENCASED IN CONCRETE)
12" CLDI WATER

INSULATE AND HEAT TRACE SEWER PIPE. (SEE PROFILE FOR LOCATION)

8" PVC PIPE SAN
L=158'
S=0.0040
INSULATE WITH RIGID INSULATION WHERE COVER < 4'-6"

8" PVC PIPE SAN
L=93'
S=0.0518

INSTALL 48"ø SMH 12
RIM ELEV=343.00
8" INV IN (SE)=337.30
8" INV OUT (NW)=337.20

INSTALL 48"ø SMH 11
RIM ELEV=347.91
8" INV IN (S)=342.24
8" INV OUT (NW)=342.14

8" PVC PIPE SAN
L=142'
S=0.0370

INSTALL 48"ø SMH 10
RIM ELEV=354.21
8" INV IN (S)=347.61
8" INV OUT (N)=347.51

1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
63+00
64+00
65+00
66+00
66+15

5'
2'
4'
7'

100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

MATCH LINE: SEE SHEET C152 "B"

MATCH LINE: SEE SHEET C152 "B"

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

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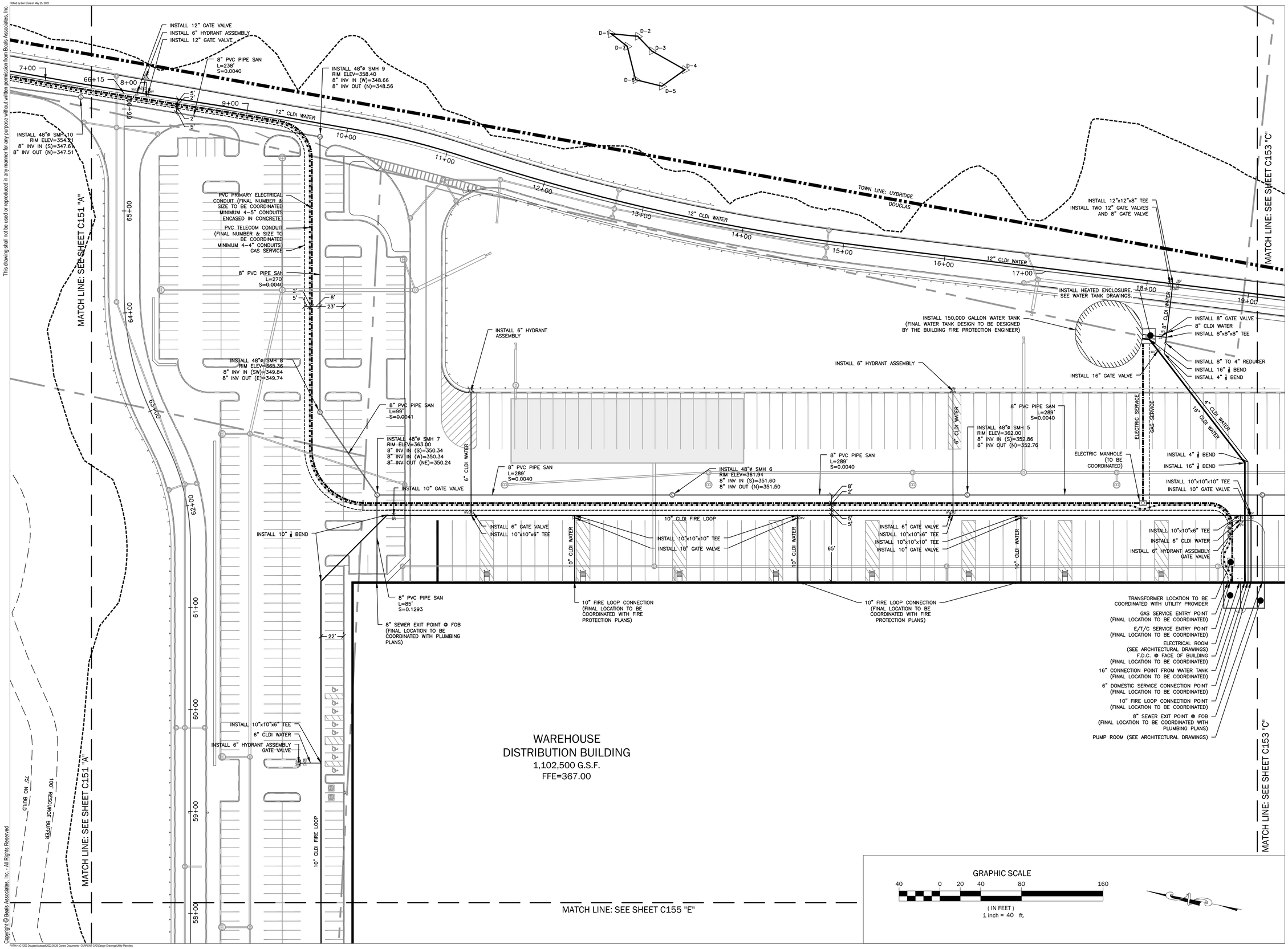
Sheet Title
UTILITY PLAN - A

A B C D
E F

Sheet Number
C161

Posted by Ben Enos on May 25, 2022

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

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Designed by: GDF	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22

Drawing Scale: 1"=40'

Sheet Title
UTILITY PLAN - B

A | B | C | D
E | F

Sheet Number
C162

Plotted by Ben Enos on May 26, 2022

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ESS DRIVE – SEE SHEETS
02 FOR PROFILE

MATCH LINE: SEE SHEET C152 "B"

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

50' WIDE GAS EASMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG: 010

19+00
20+00
12" CLDI WATER PIPE
21+00
22+00
TOWN LINE: UXBRIDGE
DOUGLAS
23+00
24+00
25+00
26+00
27+00
28+00
29+00
30+00
31+00
32+00

4" CLDI WATER
16" CLDI WATER

INSTALL 48"ø SMH 4
RIM ELEV=362.00
8" INV IN (S)=354.12
6" INV IN (W)=354.12
8" INV OUT (N)=354.02

8" PVC PIPE SAN
L=300'
S=0.0040

INSTALL 48"ø SMH 3
RIM ELEV=361.94
8" INV IN (S)=355.42
8" INV OUT (N)=355.32

INSTALL 6" HYDRANT ASSEMBLY

8" PVC PIPE SAN
L=300'
S=0.0040

INSTALL 48"ø SMH 2
RIM ELEV=363.06
8" INV IN (S)=356.72
8" INV OUT (N)=356.62

8" PVC PIPE SAN
L=239'
S=0.0151

INSTALL 10" GATE VALVE
INSTALL 10" ø BEND
INSTALL 12" ø BEND

1+00
2+00
3+00
0+00
INSTALL 12" GATE VALVE

12" CLDI WATER

6" PVC PIPE SAN
L=85'
S=0.0378

20'
65'

INSTALL 10"x10"x10" TEE
INSTALL 10" GATE VALVE
INSTALL 10"x10"x6" TEE
INSTALL 6" CLDI WATER
INSTALL 6" HYDRANT ASSEMBLY
GATE VALVE
10" CLDI WATER

10" CLDI WATER LOOP

INSTALL 10"x10"x10" TEE
INSTALL 10" GATE VALVE

INSTALL 6" GATE VALVE
INSTALL 10"x10"x6" TEE

10" CLDI WATER

INSTALL 10"x10"x10" TEE
INSTALL 10" GATE VALVE

INSTALL 10" ø BEND
INSTALL 10"x10"x6" TEE

8" SEWER EXIT POINT @ FOB
(FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)
PUMP ROOM (SEE ARCHITECTURAL DRAWINGS)
10" FIRE LOOP CONNECTION POINT
(FINAL LOCATION TO BE COORDINATED)
4" DOMESTIC SERVICE CONNECTION POINT
(FINAL LOCATION TO BE COORDINATED)
16" CONNECTION POINT FROM WATER TANK
(FINAL LOCATION TO BE COORDINATED)
F.D.C. AT FACE OF BUILDING
(FINAL LOCATION TO BE COORDINATED)
E/T/C SERVICE ENTRY POINT
(FINAL LOCATION TO BE COORDINATED)
GAS SERVICE ENTRY POINT
(FINAL LOCATION TO BE COORDINATED)
ELECTRICAL ROOM (SEE ARCHITECTURAL DRAWINGS)

10" FIRE LOOP CONNECTION
(FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION PLANS)

10" FIRE LOOP CONNECTION
(FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION PLANS)

INSTALL 48"ø SMH 1
RIM ELEV=367.65
6" INV IN (W)=360.43
8" INV OUT (N)=360.33

6" PVC PIPE SAN
L=18'
S=0.0609

8" SEWER EXIT POINT @ FOB
(FINAL LOCATION TO BE COORDINATED WITH PLUMBING PLANS)
INSTALL 6" HYDRANT ASSEMBLY
GATE VALVE
INSTALL 6" CLDI WATER

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

MATCH LINE: SEE SHEET C154 "D"

MATCH LINE: SEE SHEET C152 "B"

MATCH LINE: SEE SHEET C156 "F"

100' WIDE GRAVEL
REMOVAL EASEMENT
BOOK: 21389 PG: 59

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Warehouse
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Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: GDF	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: 1"=40'	

Sheet Title
UTILITY PLAN - C

A B C D
E F

Sheet Number
C163

Plotted by Ben Enos on May 26, 2022

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

MATCH LINE: SEE SHEET C153 "C"

N/F
757 HARTFORD AVE WEST
BOSMA NOMINEE REAL ESTATE TRUST
MAP 21 LOT 1523

N/F
12 WALNUT GROVE STREET
LOURIE JEFFREY A
MAP 21 LOT 1458

WEST HARTFORD AVENUE
(PUBLIC - 60' WIDE)

6" WATER

WALNUT GROVE
(PRIVATE - WIDTH VARIES)

50' WIDE GAS EASEMENT
BOOK: 11492 PG: 33
BOOK: 13102 PG: 010

EXISTING GAS LINE

PARCEL ONE
2,953,657.93± S.F. OR 67.807± ACRES

TOWN LINE: UXBRIDGE
DOUGLAS

2+00 3+00 4+00 5+00 6+00 7+00

12" CLDI WATER

INSTALL 12" x 1/16 BEND

WATER MAIN CONNECTION POINT.
INSTALL (1) 12" & (2) 6"
TAPPING SLEEVE GATE VALVES.

N/F
3 WALNUT GROVE STREET
UDDIN WAHID & SUZANNA
MAP 21 LOT 1473

INSTALL 12" x 1/16 BEND

TEST PIT TO CONFIRM WATER MAIN
DEPTH & LOCATION

N/F
NE MAIN STREET
UDDIN WAHID
MAP 140 LOT 10

20' WIDE ACCESS EASEMENT
BOOK: 21389 PG: 215

NORTHEAST MAIN STREET
(PUBLIC - WIDTH VARIES)

N/F
2-4 NE MAIN STREET
WILLIAMS COURT DOUGLAS LLC
MAP 140 LOT 7

N/F
466 NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

WILLIAM DRIVE
(PRIVATE - WIDTH VARIES)

MATCH LINE: SEE SHEET C153 "C"

100' WIDE GRAVEL
REMOVAL EASEMENT
BOOK: 21389 PG: 59

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

N/F
NE MAIN STREET
NEI REALTY TRUST
MAP 140 LOT 7

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Sheet Title
UTILITY PLAN - D

A B C D E F

Sheet Number
C164

Plotted by Ben Enos on May 25, 2022

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MATCH LINE: SEE SHEET C152 "B"

MATCH LINE: SEE SHEET C156 "F"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

10" CLDI WATER LOOP

22'

58+00

57+00

56+00

55+00

54+00

53+00

52+00

51+00

50+00

49+00

48+00

47+00

46+00

45+00

INSTALL 10"x10"x6" TEE
6"CLDI WATER
INSTALL 6" HYDRANT ASSEMBLY GATE VALVE

INSTALL 10" BEND

INSTALL 10" GATE VALVE

10" FIRE LOOP CONNECTION
(FINAL LOCATION TO BE COORDINATED
WITH FIRE PROTECTION PLANS)

10" CLDI WATER

INSTALL 10" GATE VALVE
INSTALL 10"x10"x10" TEE

INSTALL 10"x10"x6" TEE
& 6"GATE VALVE

10" CLDI WATER LOOP

85'

INSTALL 10" GATE VALVE
INSTALL 10"x10"x10" TEE
INSTALL 10"x10"x6" TEE & 6"
GATE VALVE

6" CLDI WATER

INSTALL 6" HYDRANT ASSEMBLY

INSTALL 6" HYDRANT ASSEMBLY

B-6
B-5
B-4
B-3
B-2
WF-5/B-1
WF-4
WF-3
WF-2
WF-1

100' RESOURCE BUFFER
75' NO BUILD
50' NO DISTURB

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

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Sheet Title
UTILITY PLAN - E

A B C D E F

Sheet Number
C165

Plotted by Ben Enos on May 26, 2022

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MATCH LINE: SEE SHEET C153 "C"

MATCH LINE: SEE SHEET C155 "E"

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.
FFE=367.00

10" FIRE LOOP CONNECTION (FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION PLANS)

10" CLDI WATER

85'

INSTALL 10"x10"x10" TEE

INSTALL 10" GATE VALVE

INSTALL 10"x10"x10" TEE

10" CLDI WATER LOOP

INSTALL 10"x10"x6" TEE & 6"GATE VALVE

INSTALL 10" GATE VALVE

INSTALL 10" ⅛ BEND

INSTALL 10"x10"x6" TEE

INSTALL 6" HYDRANT ASSEMBLY GATE VALVE

INSTALL 10"x10"x6" TEE
6" CLDI WATER
INSTALL 6" HYDRANT ASSEMBLY & GATE VALVE

25'

10" CLDI WATER LOOP

6" CLDI WATER

INSTALL 6" HYDRANT ASSEMBLY

44+00 43+00 42+00 41+00 40+00 39+00 38+00 37+00 36+00 35+00 34+00 33+00 32+00

I-INDUSTRIAL DISTRICT
VR-VILLAGE RESIDENTIAL DISTRICT

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

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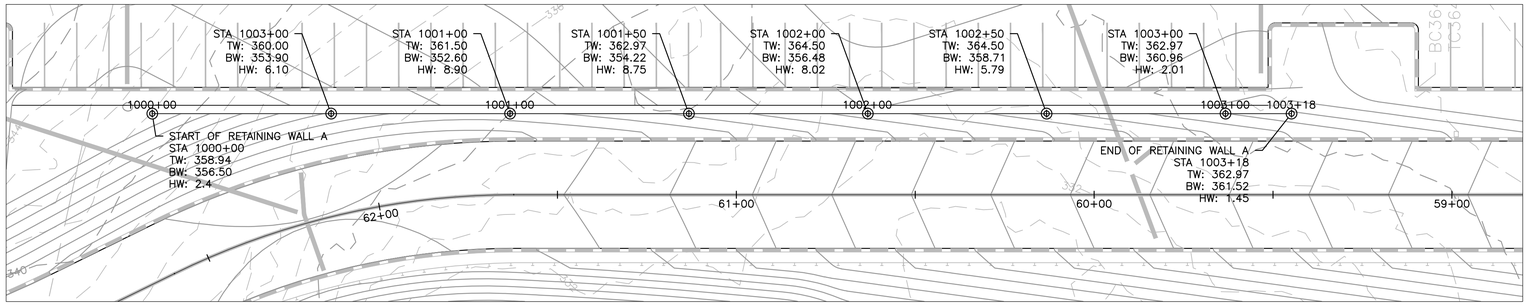
Sheet Title
UTILITY PLAN - F

A B C D
E F

Sheet Number
C166

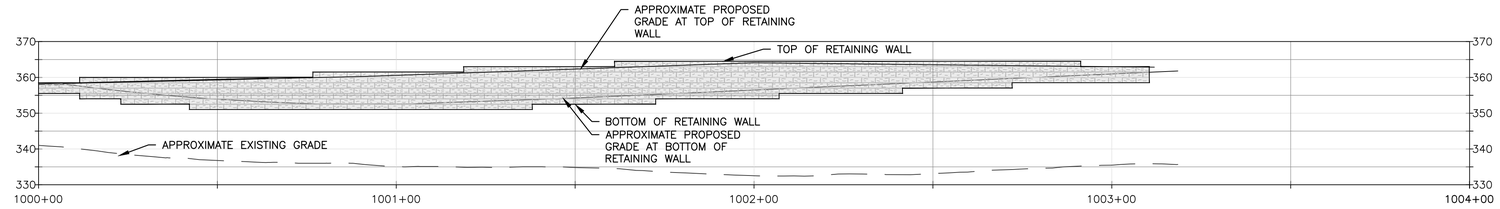
Plotted by Ben Ericio on May 26, 2022

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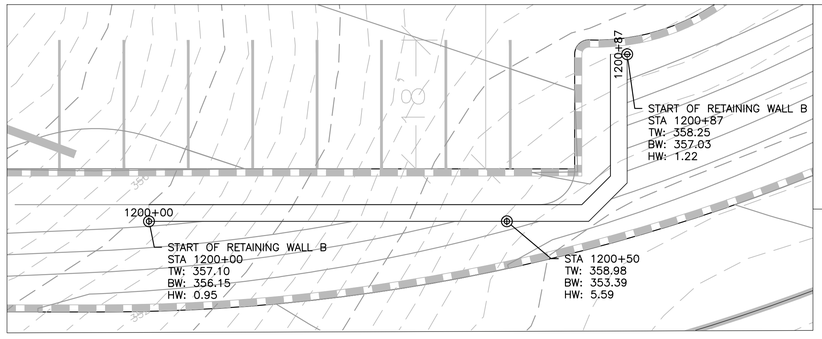
RETAINING WALL A - PLAN VIEW

SCALE 1"=20'



RETAINING WALL- A

SCALE: 1"=20' HORIZ./1"=20' VERT.

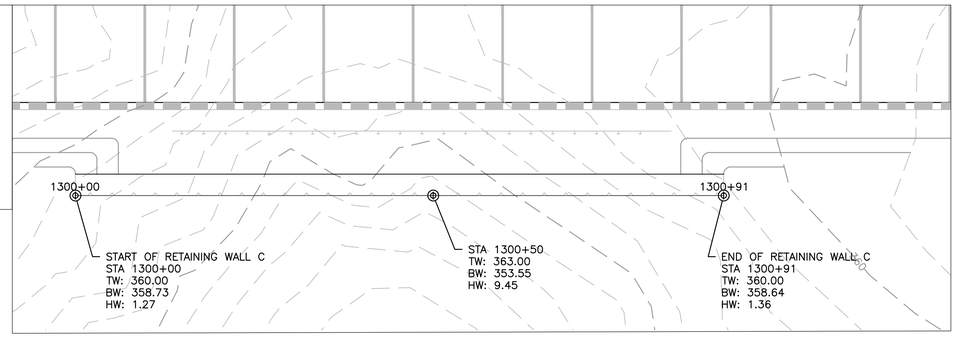


RETAINING WALL B - PLAN VIEW

SCALE 1"=10'

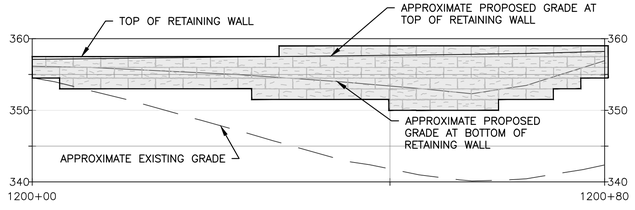
NOTE:
CONTRACTOR SHALL SUBMIT FINAL RETAINING WALL DRAWING AND DESIGN DATA TO OWNER ENGINEER FOR REVIEW AND APPROVAL DRAWINGS SHALL BE STAMPED BY A REGISTERED MASSACHUSETTS ENGINEER.

DESIGN SHALL CONFORM TO MINIMUM REQUIREMENTS OF ALL CIVIL AND GEOTECHNICAL DETAIL, NOTES AND REPORTS.



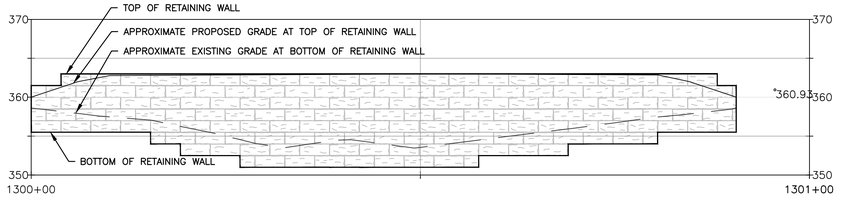
RETAINING WALL C - PLAN VIEW

SCALE 1"=10'



RETAINING WALL - B

SCALE: 1"=10' HORIZ./1"=10' VERT.



RETAINING WALL- C

SCALE: 1"=10' HORIZ./1"=10' VERT.

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Drawing Scale: AS NOTED	

Sheet Title

RETAINING WALLS A,B&C PLAN AND PROFILE

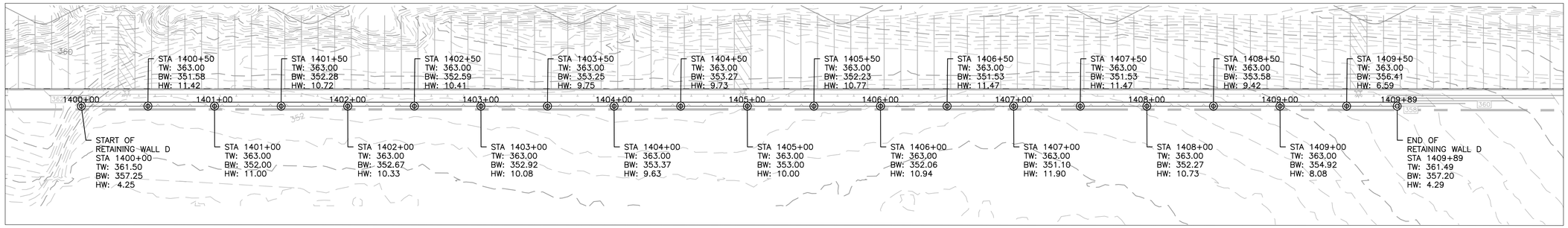
Sheet Number

C200

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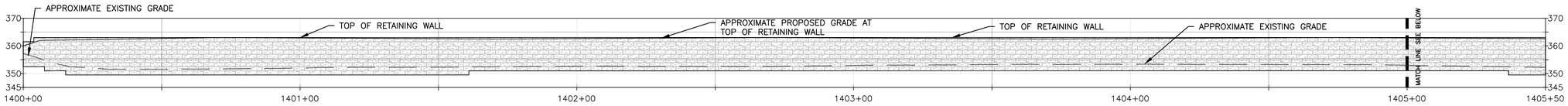
Plotted by Ben Ercio on May 27, 2022



RETAINING WALL D - PLAN VIEW

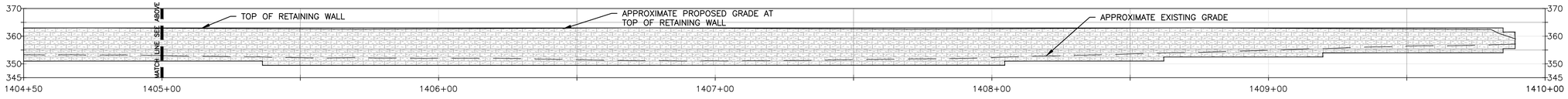
SCALE 1"=40'

NOTE: THE SCALES HAVE BEEN ALTERED FROM PLAN TO PROFILE VIEW TO PROVIDE CLARITY



RETAINING WALL - D

SCALE: 1"=20' HORIZ./1"=20' VERT.



RETAINING WALL - D

SCALE: 1"=20' HORIZ./1"=20' VERT.

NOTE:
CONTRACTOR SHALL SUBMIT FINAL RETAINING WALL DRAWING AND DESIGN DATA TO OWNER ENGINEER FOR REVIEW AND APPROVAL DRAWINGS SHALL BE STAMPED BY A REGISTERED MASSACHUSETTS ENGINEER.

DESIGN SHALL CONFORM TO MINIMUM REQUIREMENTS OF ALL CIVIL AND GEOTECHNICAL DETAIL, NOTES AND REPORTS.

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Sheet Title
RETAINING WALL D PLAN AND PROFILE

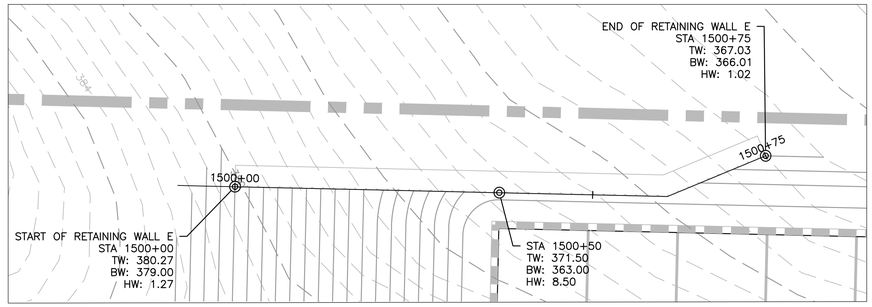
Sheet Number
C201

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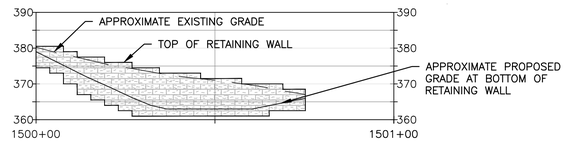
RETAINING WALL E - PLAN VIEW

SCALE 1"=10'

NOTE:
CONTRACTOR SHALL SUBMIT FINAL RETAINING WALL DRAWING AND DESIGN DATA TO OWNER ENGINEER FOR REVIEW AND APPROVAL DRAWINGS SHALL BE STAMPED BY A REGISTERED MASSACHUSETTS ENGINEER.

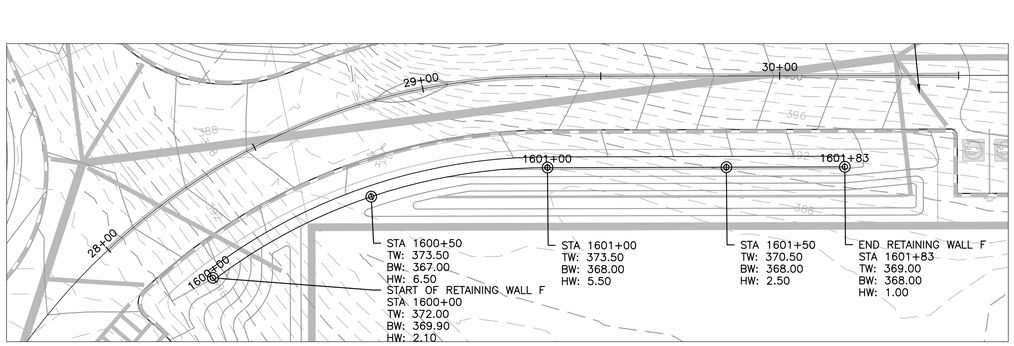
DESIGN SHALL CONFORM TO MINIMUM REQUIREMENTS OF ALL CIVIL AND GEOTECHNICAL DETAIL, NOTES AND REPORTS.

NOTE: THE SCALES HAVE BEEN ALTERED FROM PLAN TO PROFILE VIEW TO PROVIDE CLARITY



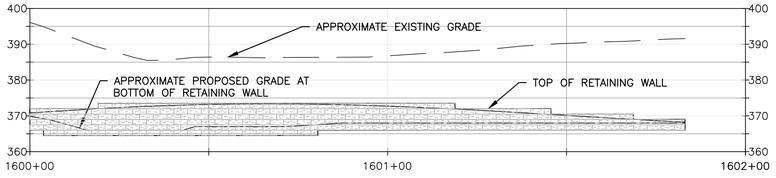
RETAINING WALL - E

SCALE: 1"=20' HORIZ./1"=20' VERT.



RETAINING WALL F - PLAN VIEW

SCALE 1"=20'



RETAINING WALL - F

SCALE: 1"=20' HORIZ./1"=20' VERT.

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RETAINING WALLS E&F PLAN AND PROFILE

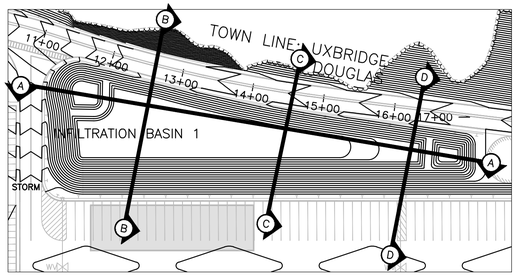
Sheet Number

C202

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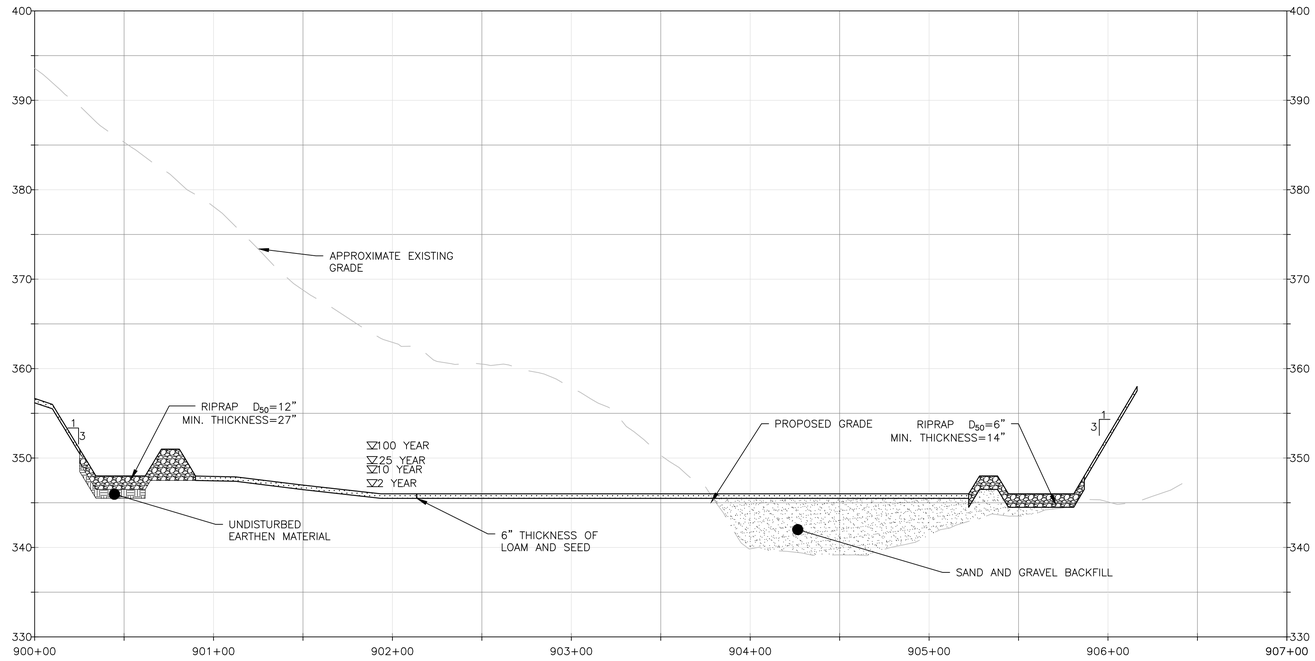
Plotted by Devin Howe on May 31, 2022

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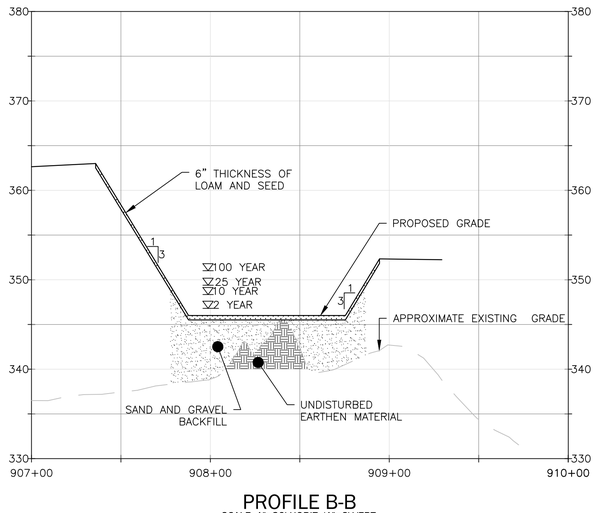




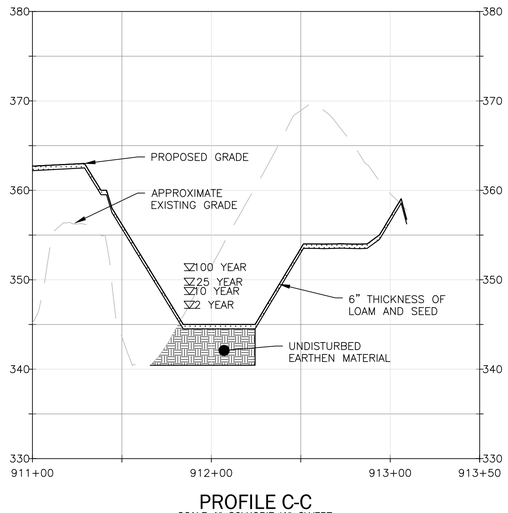
INFILTRATION BASIN PERFORMANCE CHART					
STORM EVENT	24–HR RAINFALL	PEAK FLOW IN, CFS	PEAK FLOW OUT, CFS	PEAK ELEVATION	PEAK STORAGE, CUBIC–FEET
2–YEAR	3.32"	28.96	0	346.80	23,212
10–YEAR	5.14"	67.01	0	348.34	76,713
25–YEAR	6.28"	92.95	0	349.38	118,153
100–YEAR	8.03"	134.11	0	351.01	191,202



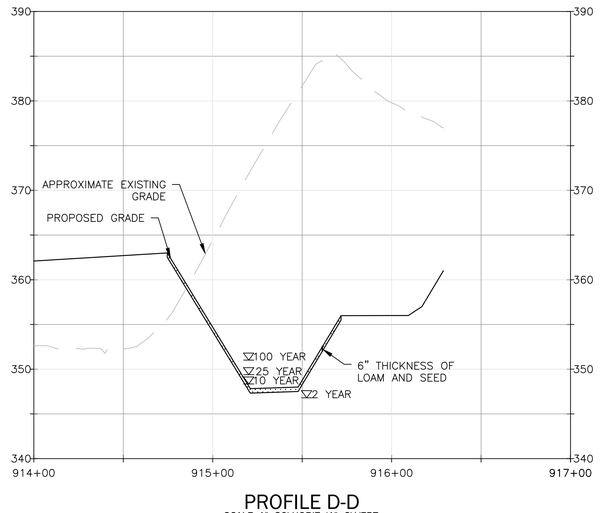
PROFILE A-A
SCALE: 1"=30' HORIZ./1"=6' VERT.



PROFILE B-B
SCALE: 1"=30' HORIZ./1"=6' VERT.



PROFILE C-C
SCALE: 1"=30' HORIZ./1"=6' VERT.



PROFILE D-D
SCALE: 1"=30' HORIZ./1"=6' VERT.

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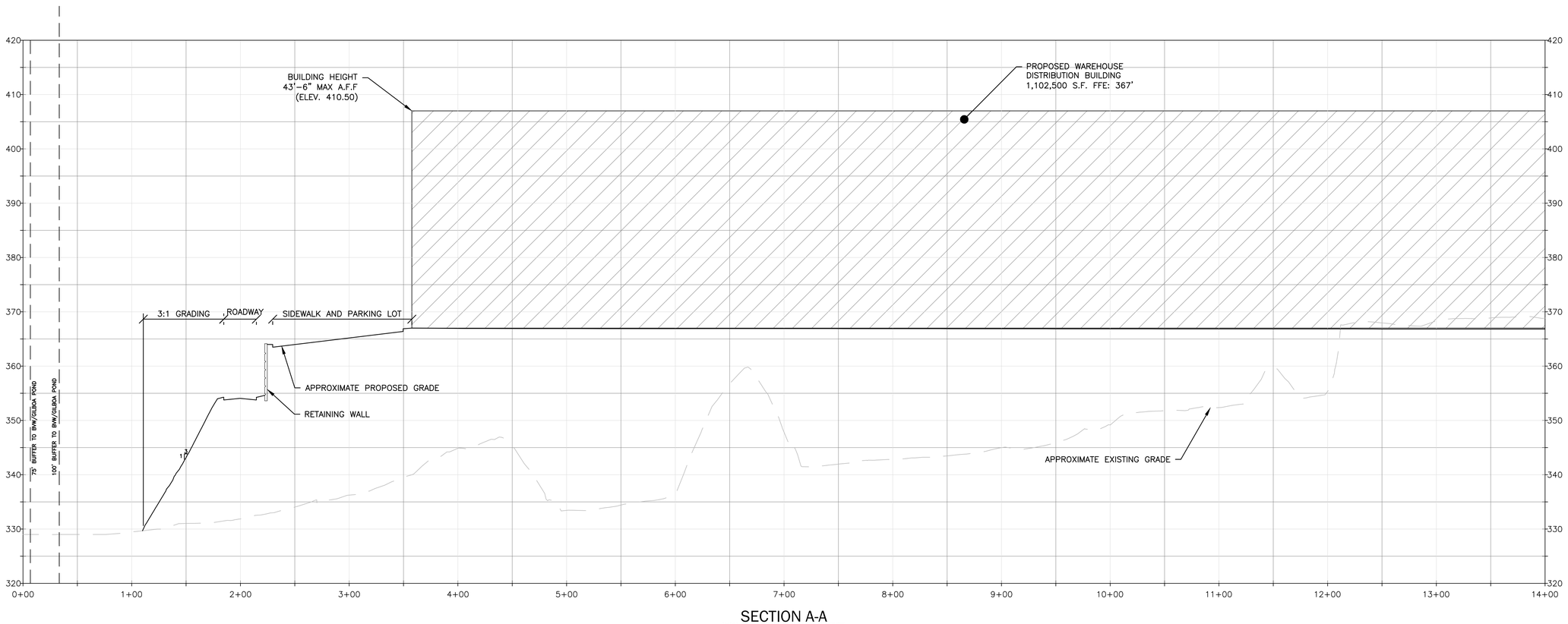
Sheet Title
INFILTRATION BASIN PLAN AND SECTIONS

Sheet Number
C240

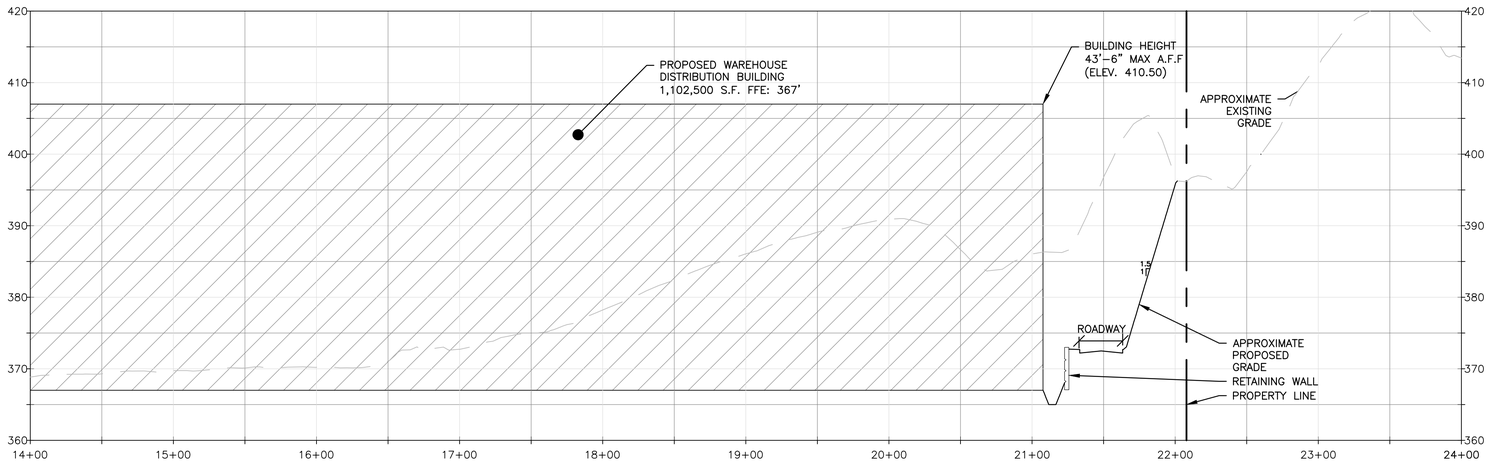
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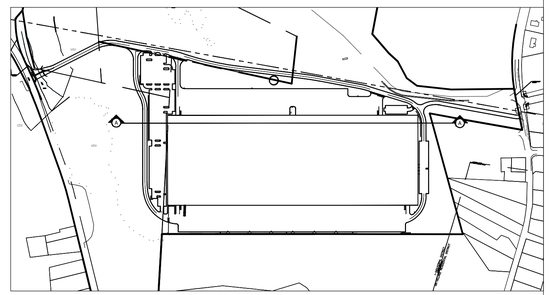
SECTION A-A
SCALE: 1"=50' HORIZ./1"=10' VERT.



SECTION A-A.1
SCALE: 1"=50' HORIZ./1"=10' VERT.

NOTE:
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- DIMENSIONAL OFFSETS
- CONSTRUCTION NOTES



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No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Permit Documents

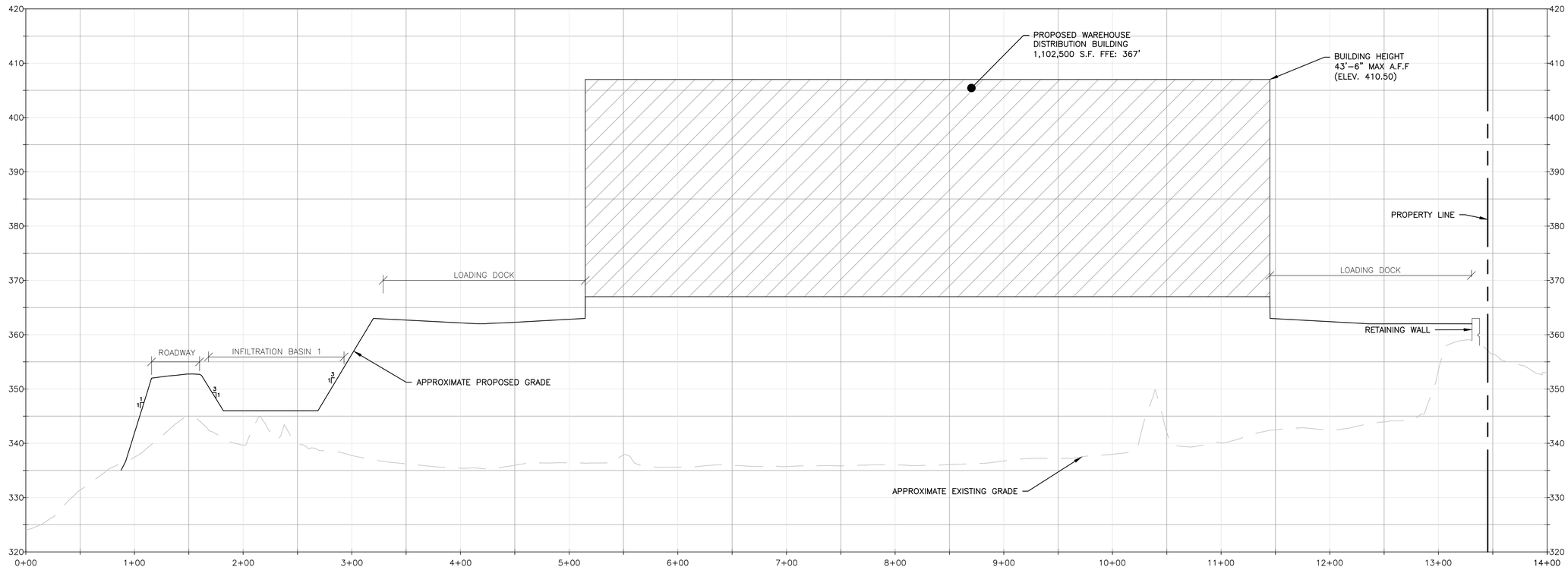
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Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=50'

Sheet Title
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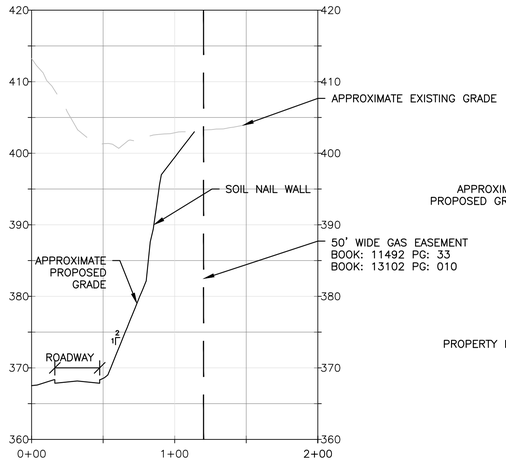
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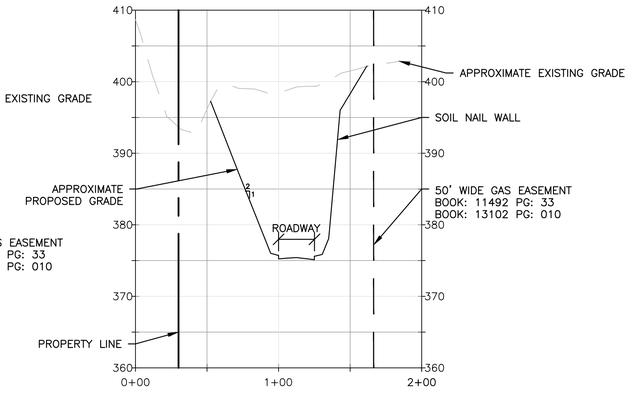
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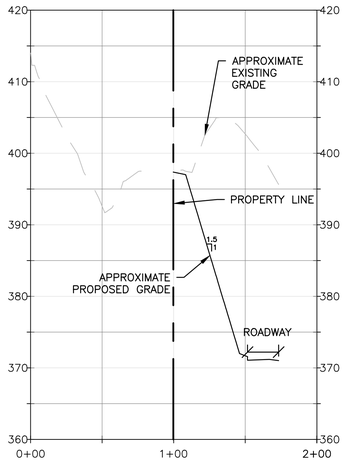
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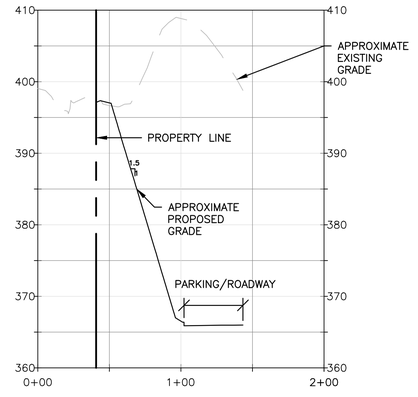
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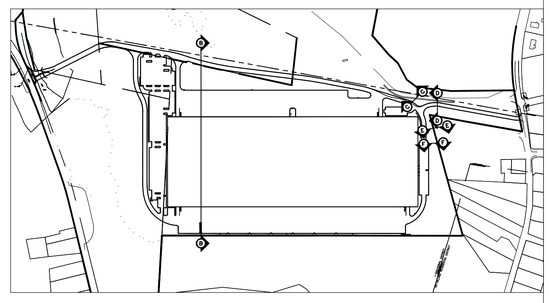
SECTION D-D
SCALE: 1"=50' HORIZ./1"=10' VERT.



SECTION E-E
SCALE: 1"=50' HORIZ./1"=10' VERT.



SECTION F-F
SCALE: 1"=50' HORIZ./1"=10' VERT.



LOCUS MAP
N.T.S.

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No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Proj. No.: C-1203	Issue Date: 02.11.22
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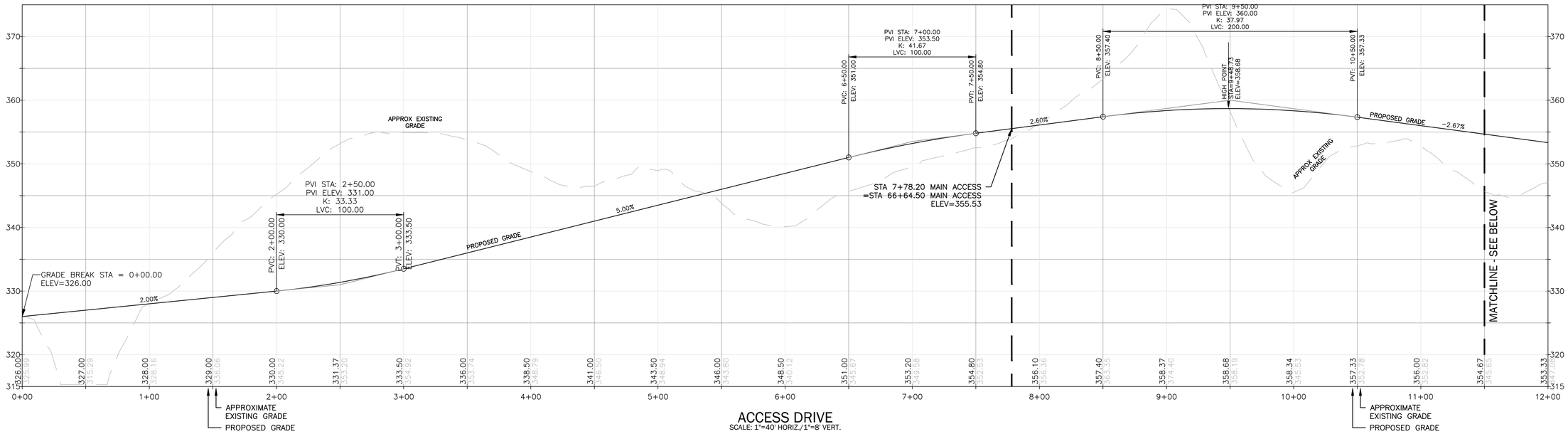
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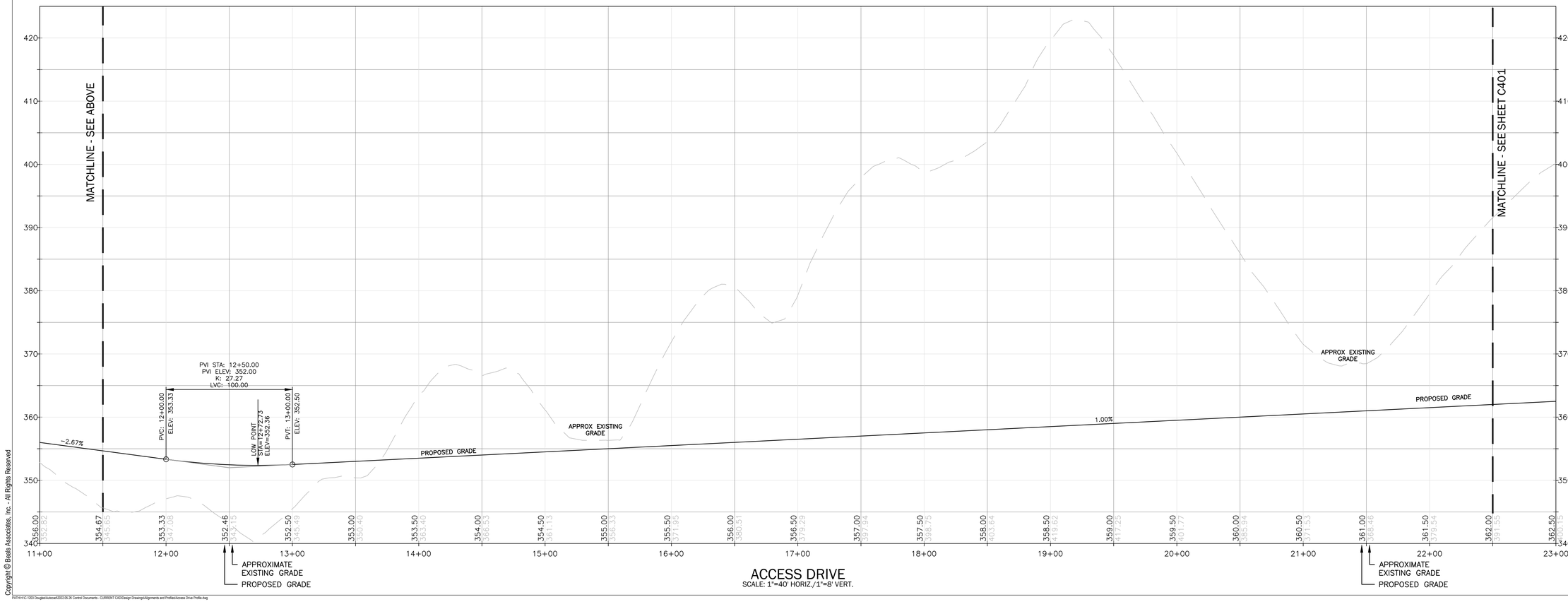
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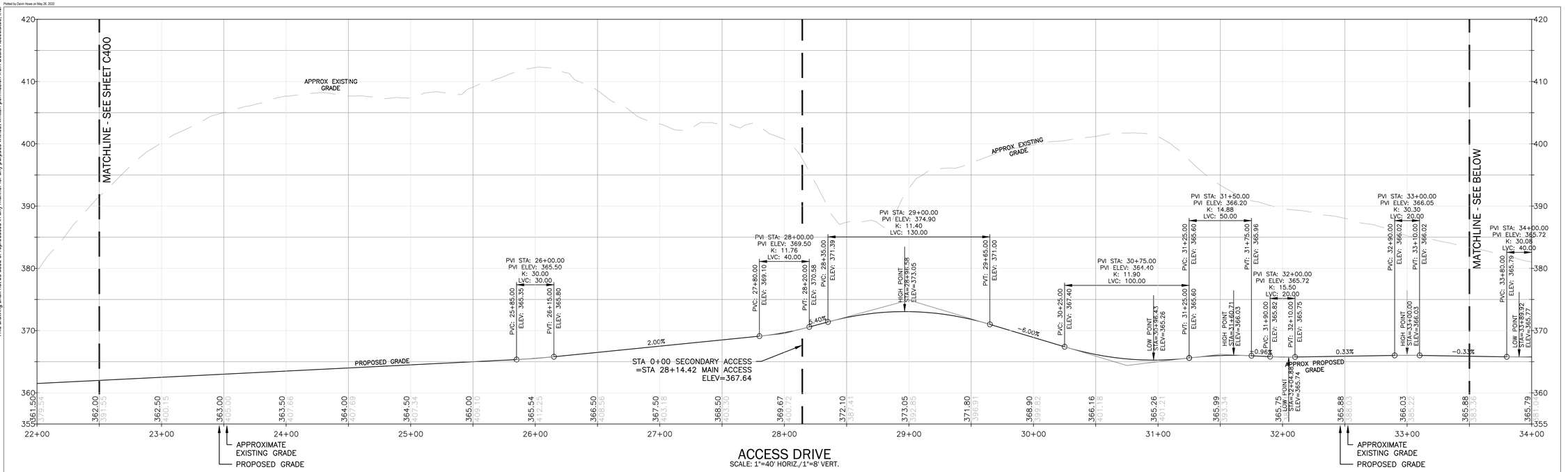
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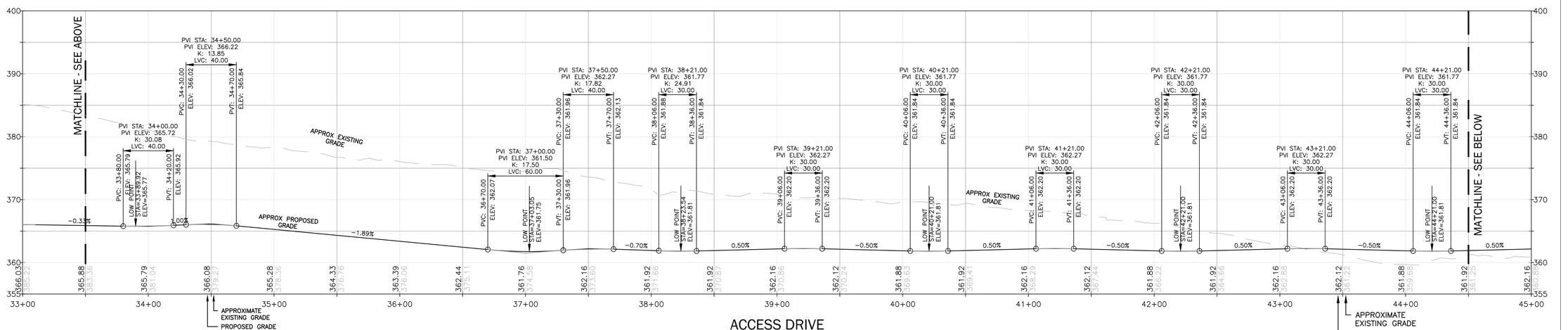
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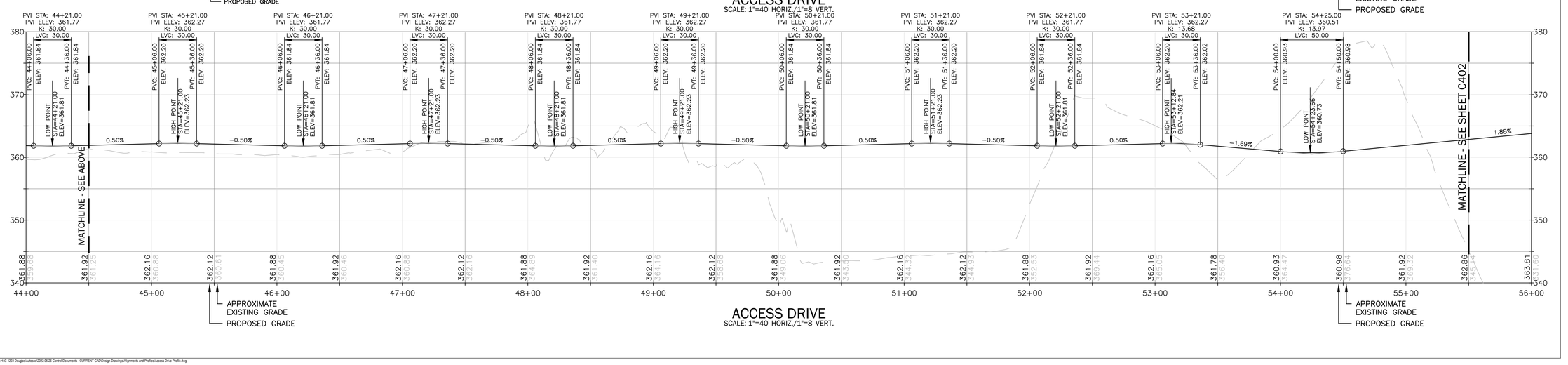
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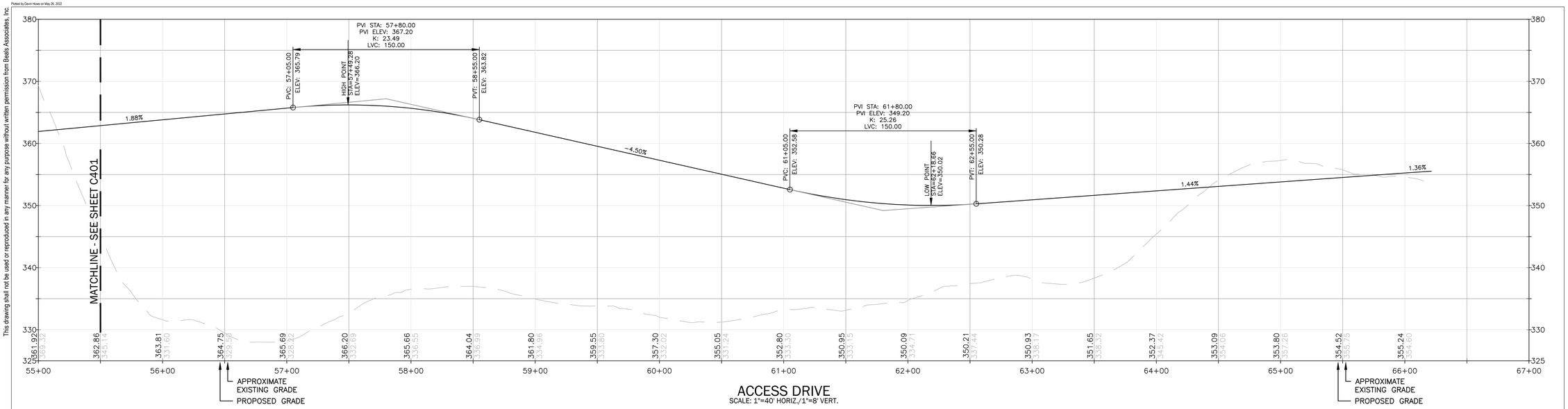
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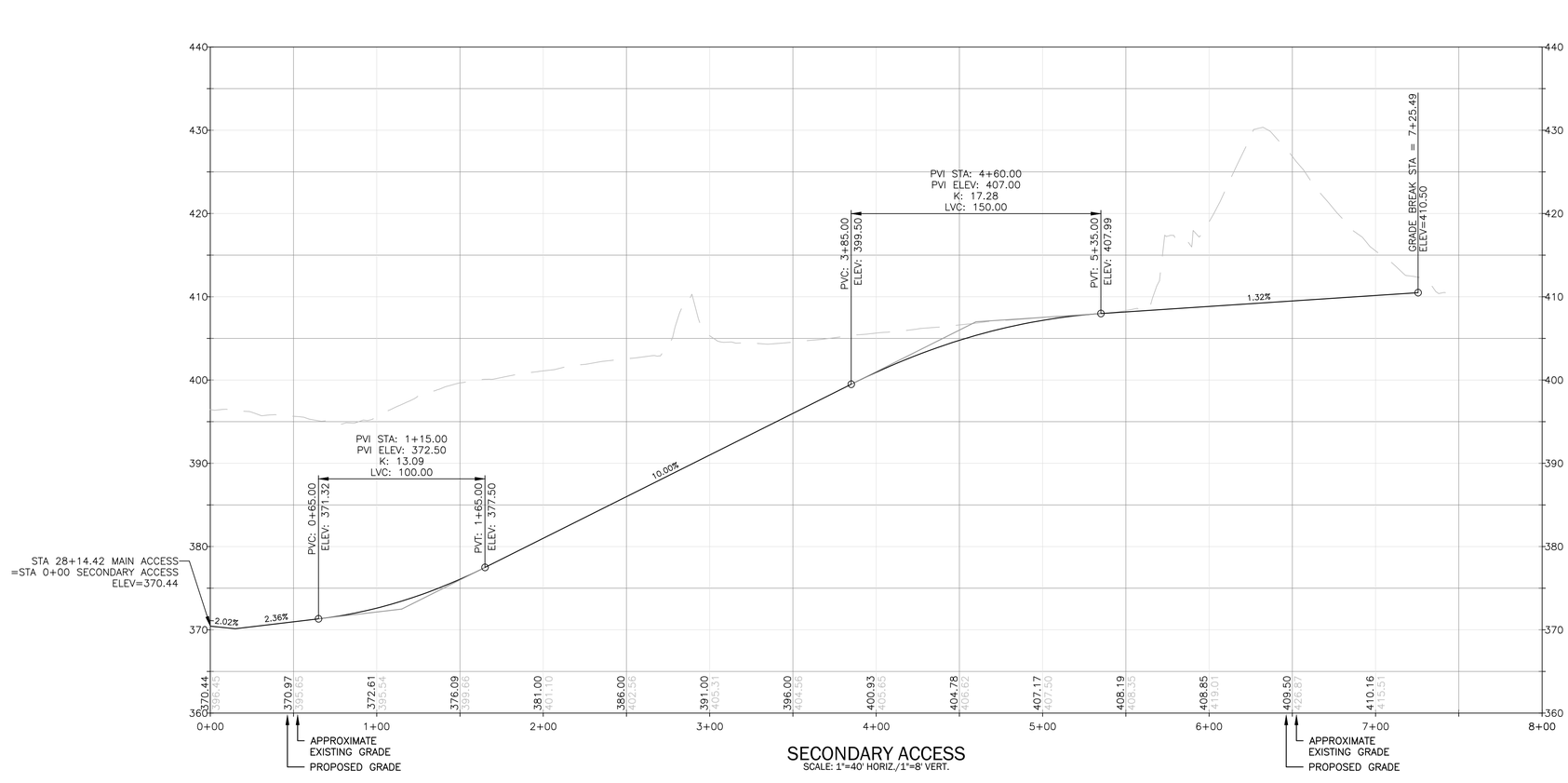
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C401

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ACCESS DRIVE
SCALE: 1"=40' HORIZ./1"=8' VERT.



SECONDARY ACCESS
SCALE: 1"=40' HORIZ./1"=8' VERT.

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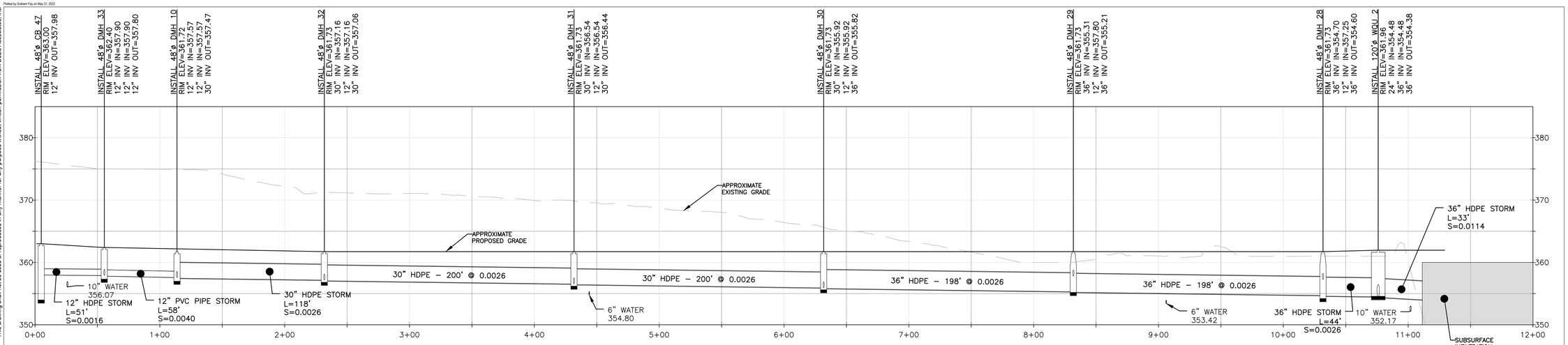
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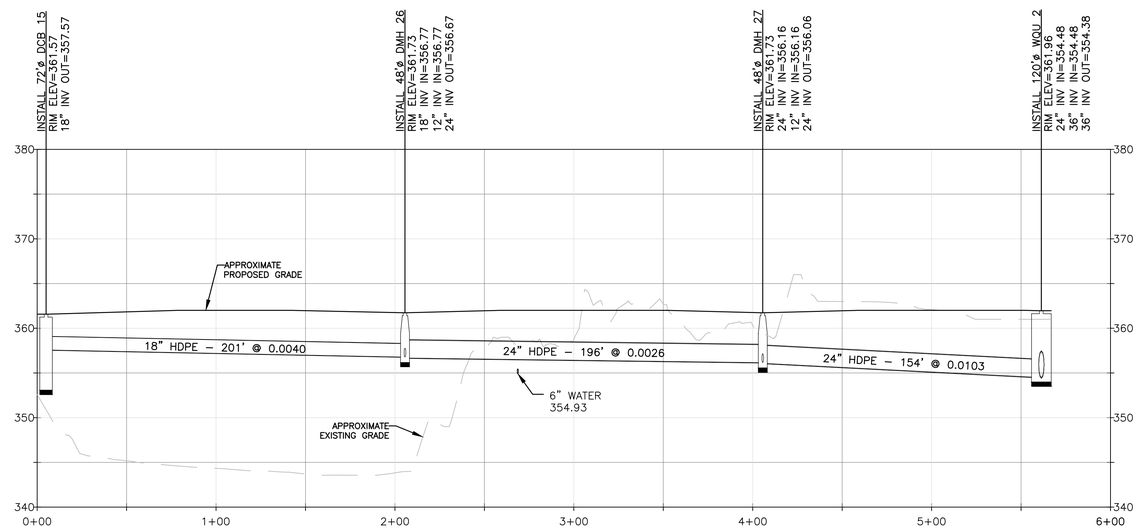
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Plotted by Graham Fay on May 31, 2022

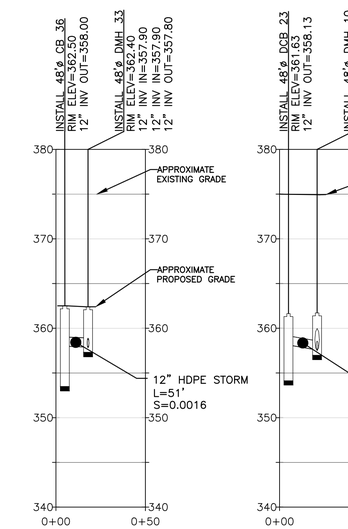
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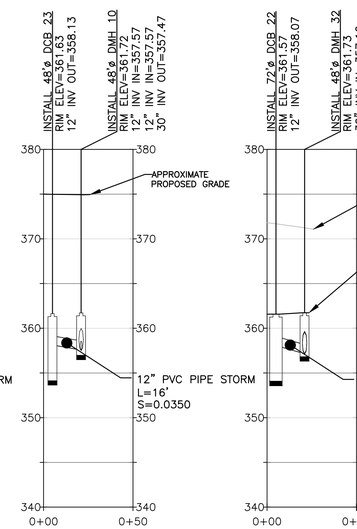
DRAIN PROFILE A-A
SCALE: 1"=40' HORIZ./1"=8' VERT.



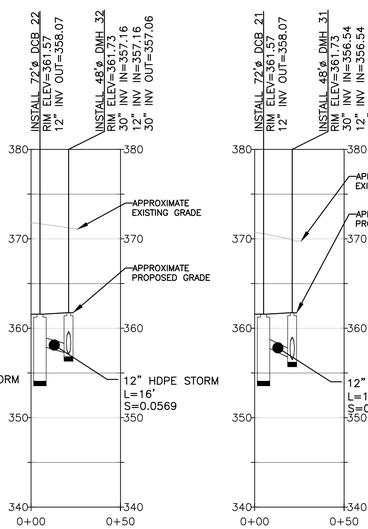
DRAIN PROFILE A-B
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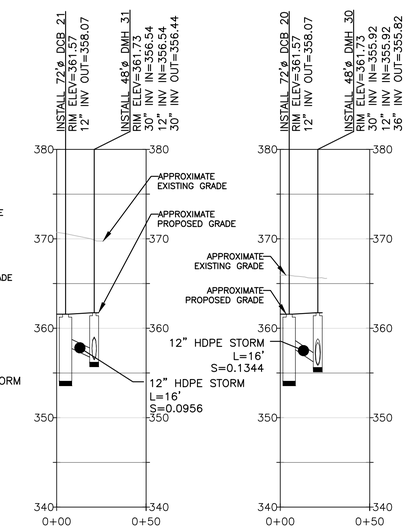
DRAIN PROFILE A-C
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-D
SCALE: 1"=40' HORIZ./1"=8' VERT.

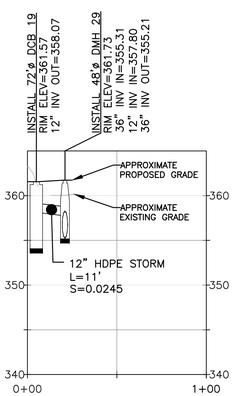


DRAIN PROFILE A-E
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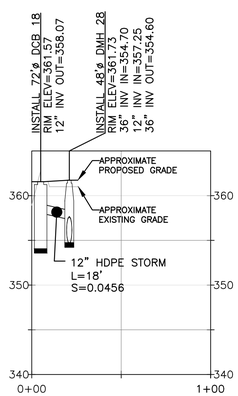


DRAIN PROFILE A-F
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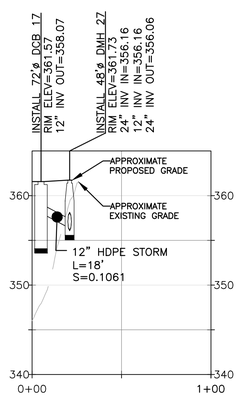
DRAIN PROFILE A-G
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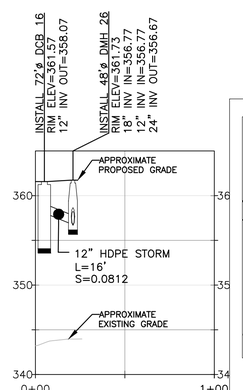
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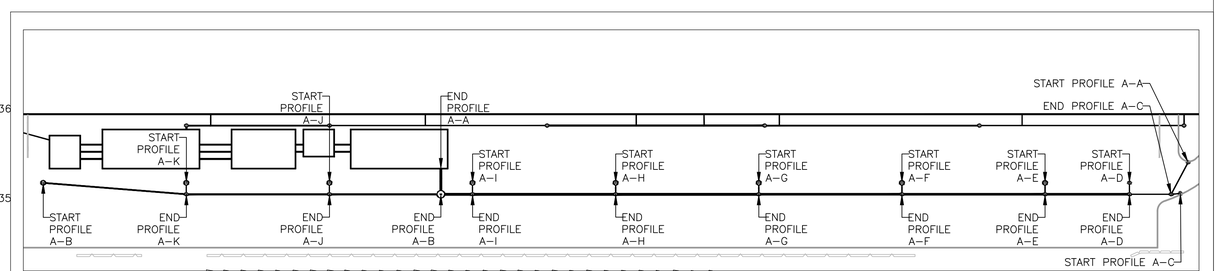
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SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-J
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-K
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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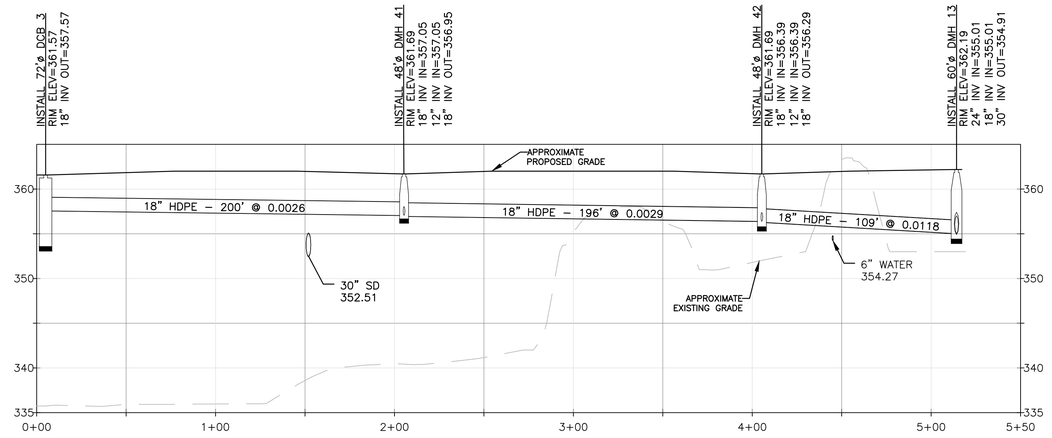
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Proj. No.: C-1203	Issue Date: 02.11.22
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Sheet Title
STORM DRAIN PROFILES

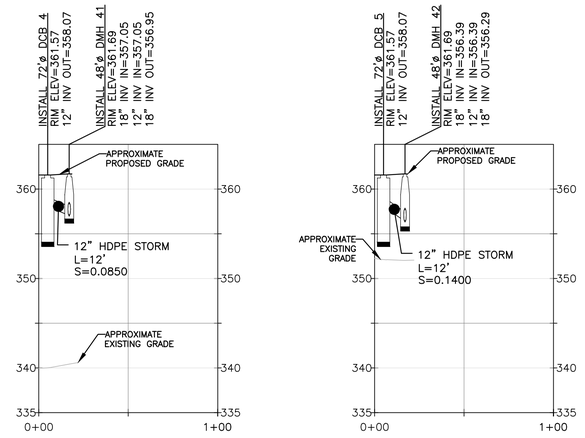
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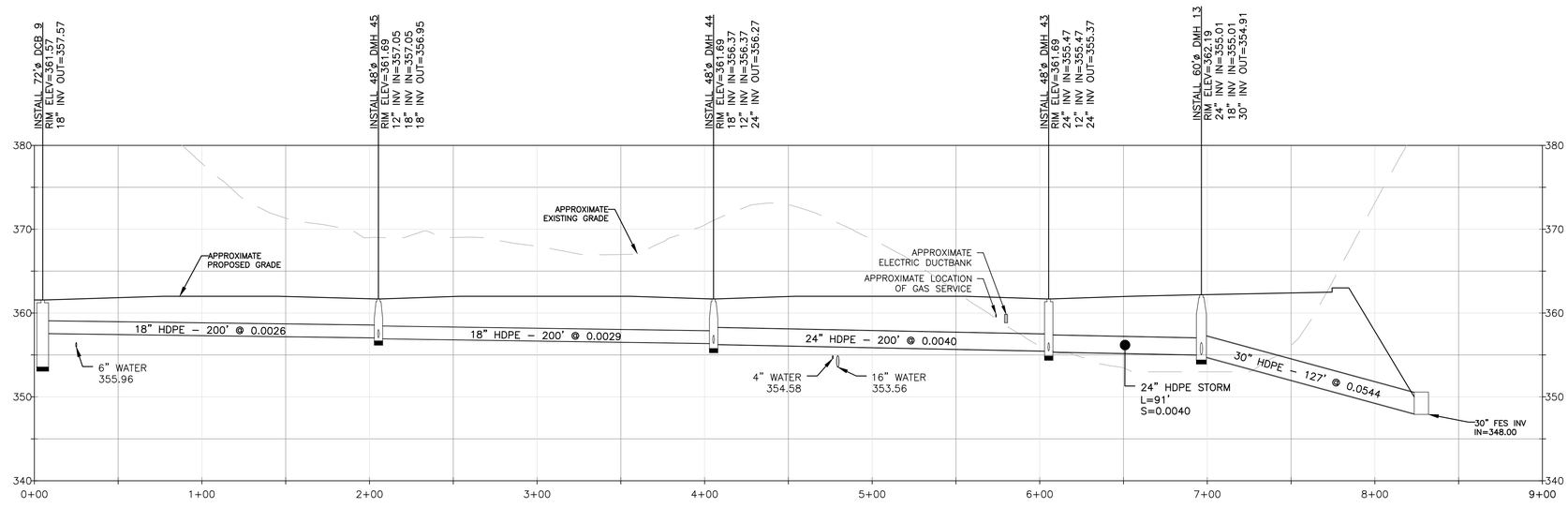


DRAIN PROFILE A-L
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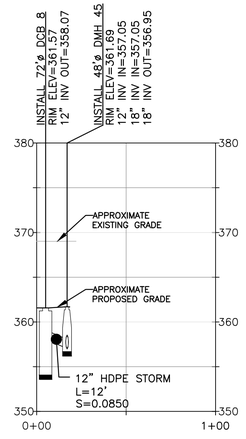


DRAIN PROFILE A-M
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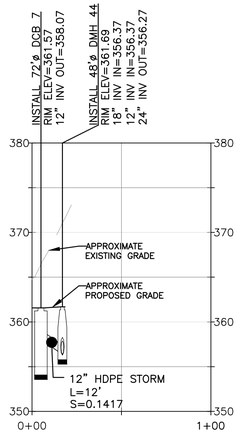
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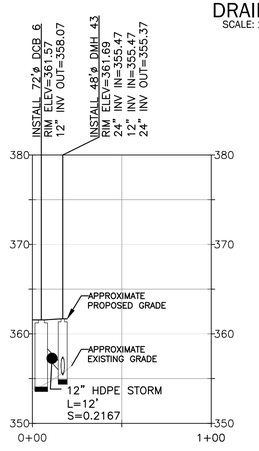
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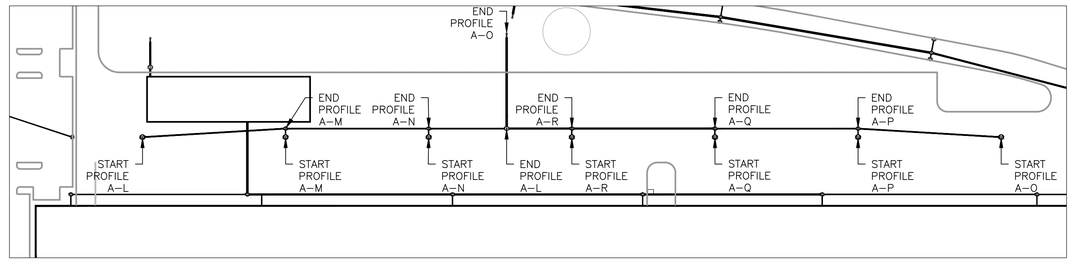
DRAIN PROFILE A-P
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-Q
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-R
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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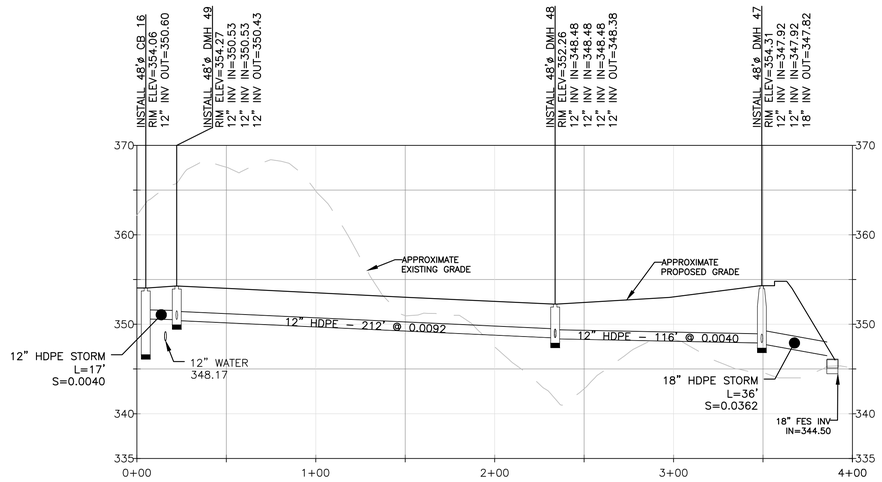
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Sheet Title
STORM DRAIN PROFILES

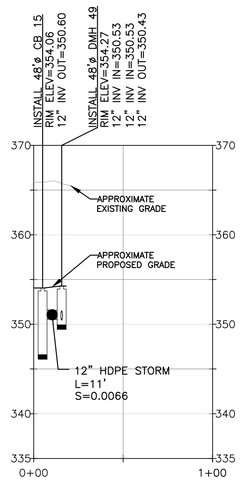
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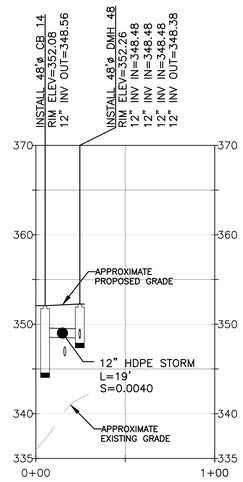
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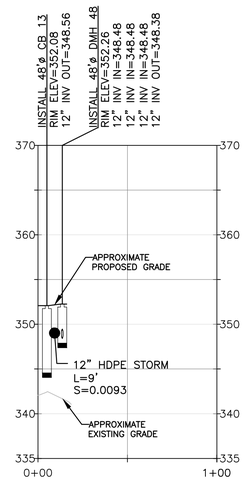
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DRAIN PROFILE A-T
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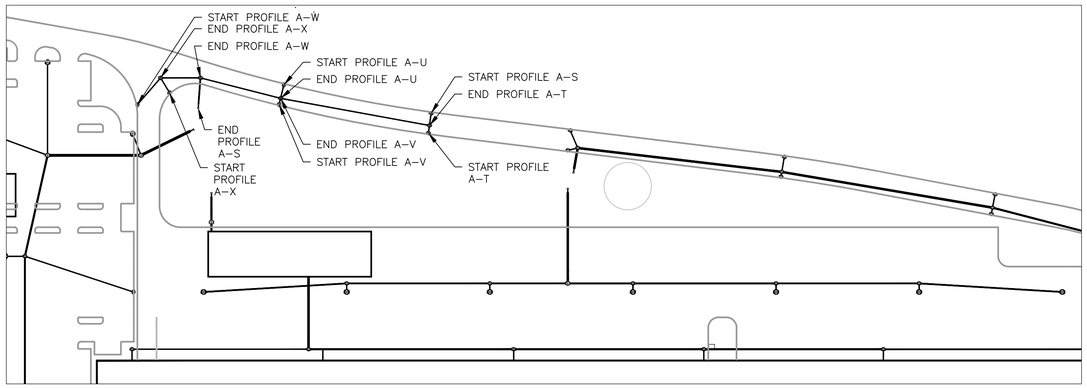
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DRAIN PROFILE A-V
SCALE: 1"=40' HORIZ./1"=8' VERT.

DRAIN PROFILE A-W
SCALE: 1"=40' HORIZ./1"=8' VERT.

DRAIN PROFILE A-X
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

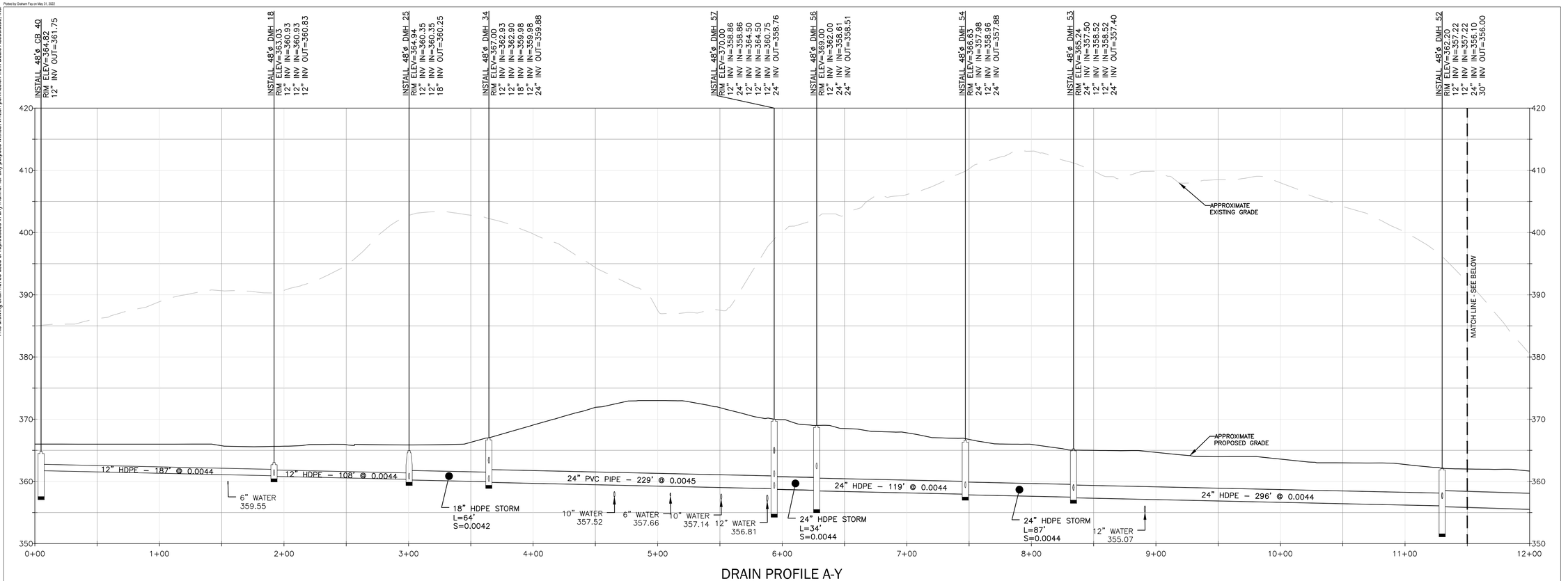
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Sheet Title
STORM DRAIN PROFILES

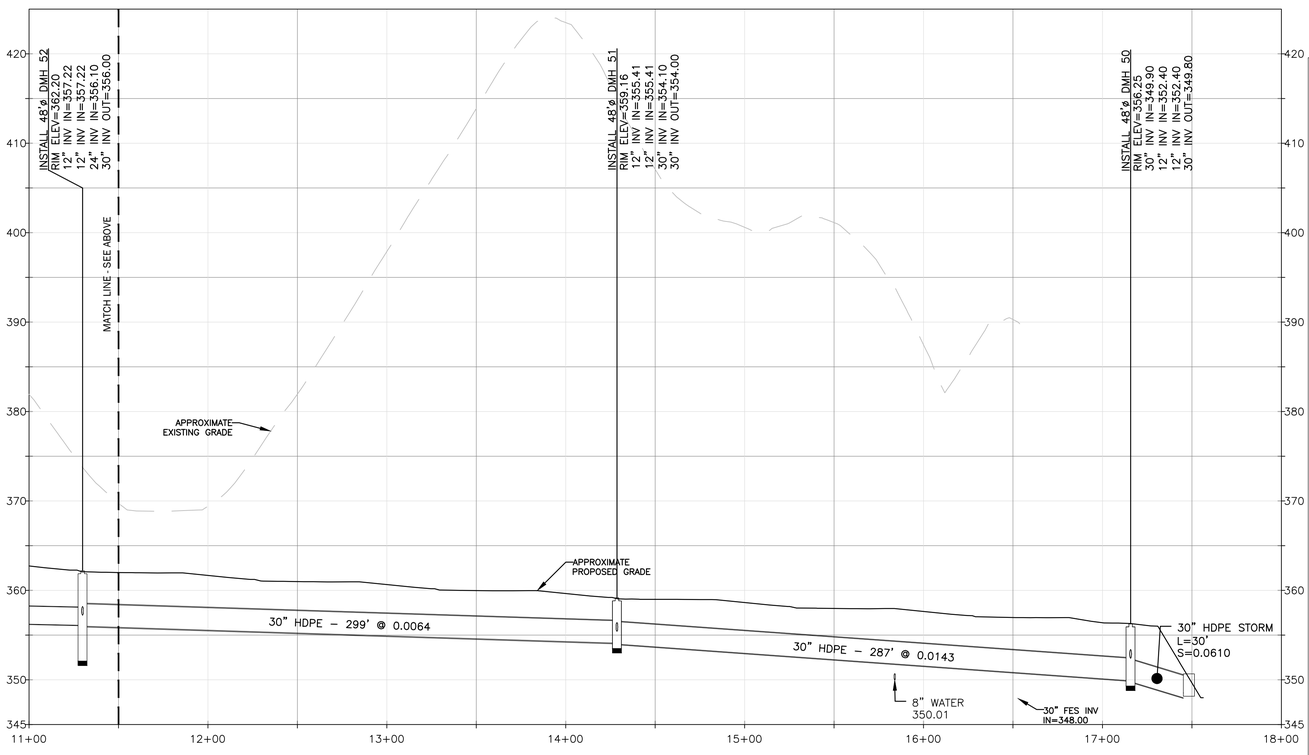
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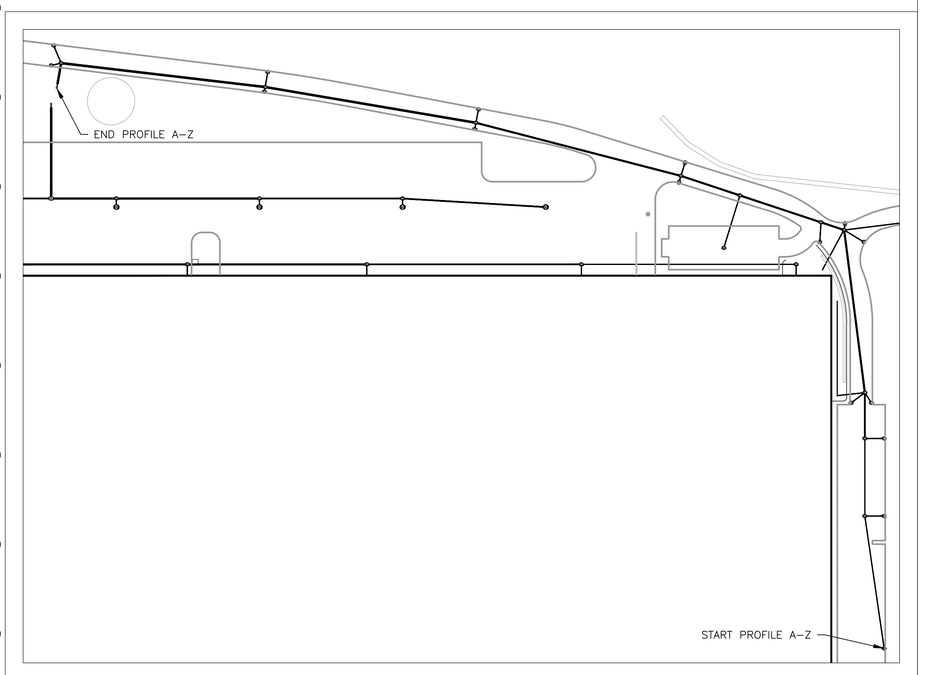
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DRAIN PROFILE A-Y
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE A-Y.1
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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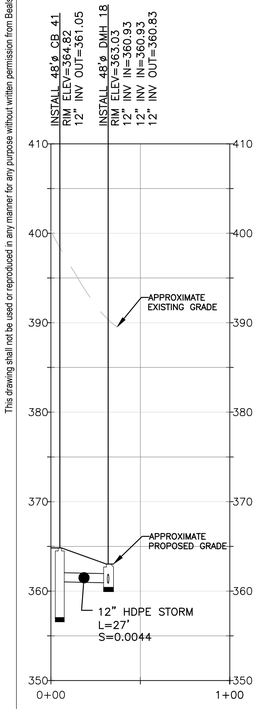
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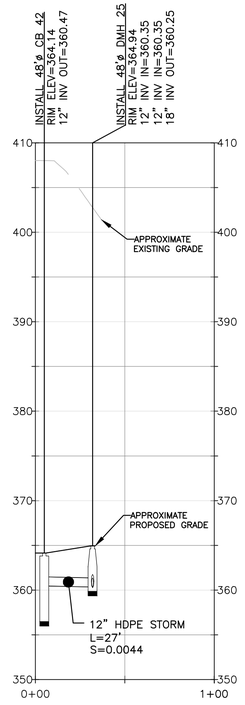
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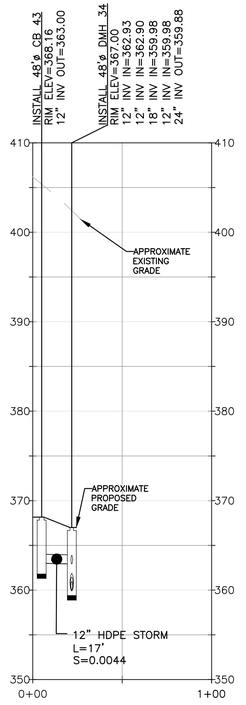
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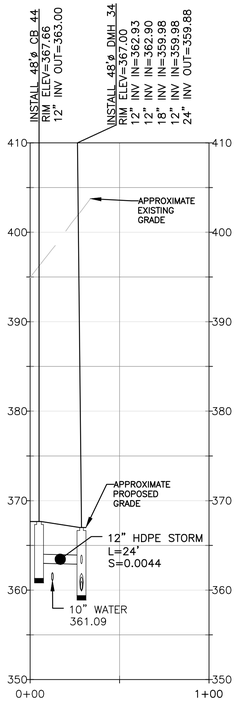
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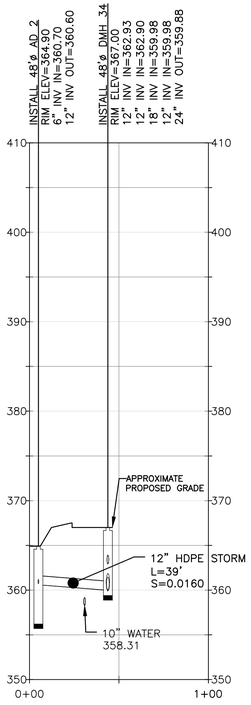
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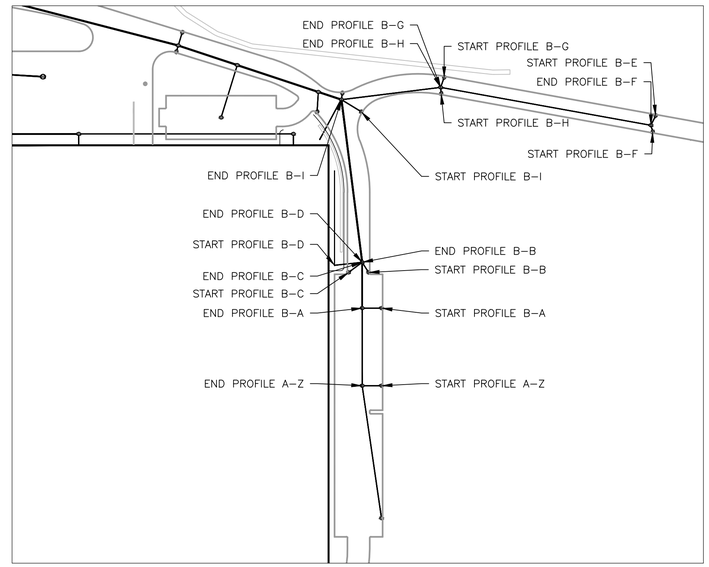
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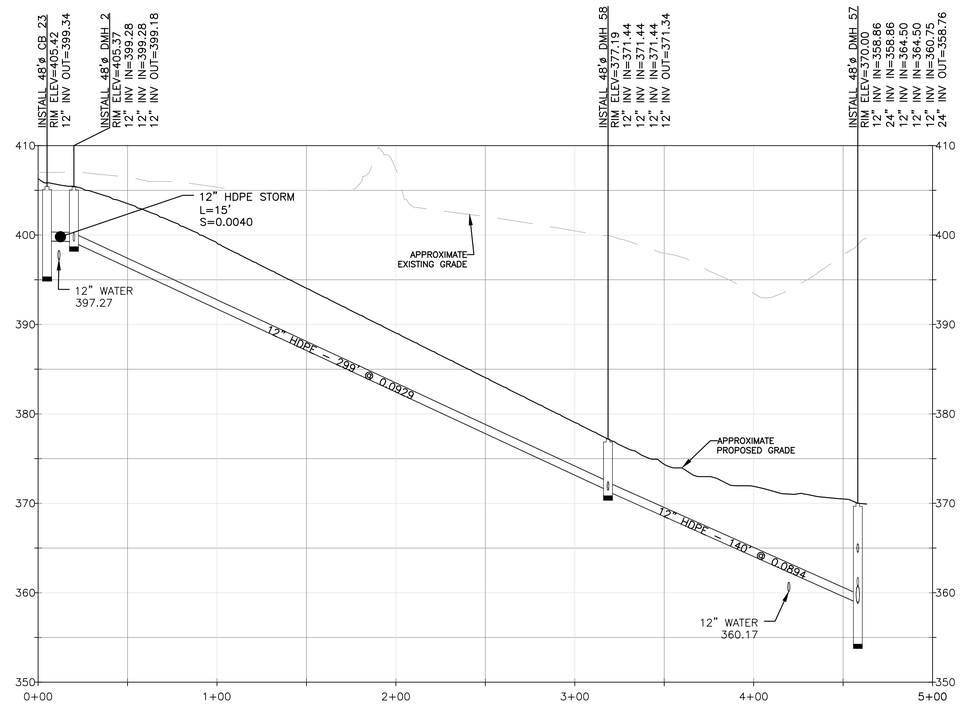
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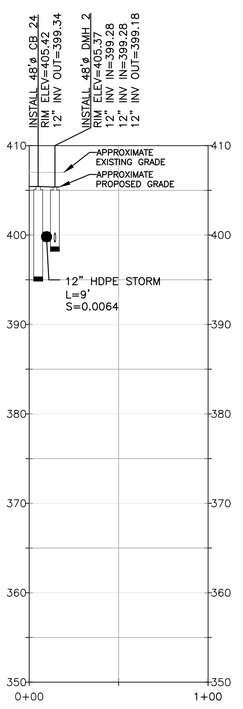
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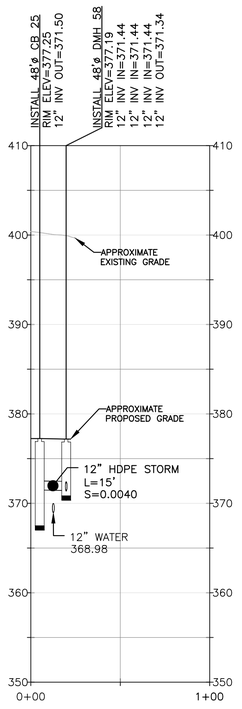
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SCALE 1"=100'



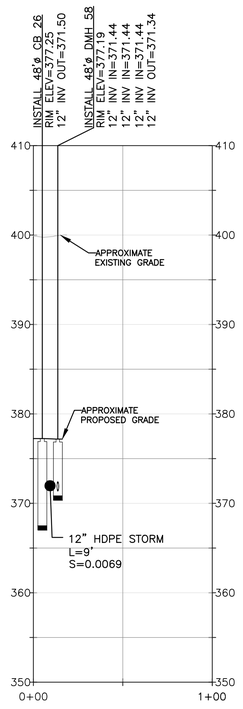
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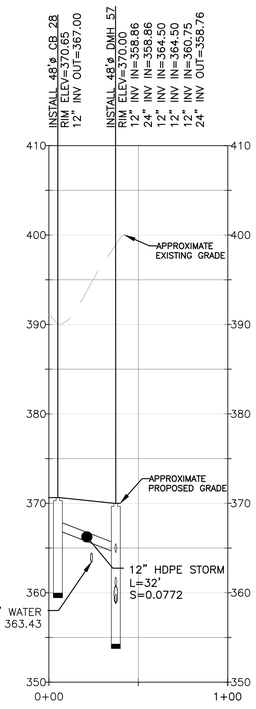
DRAIN PROFILE B-F
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DRAIN PROFILE B-G
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DRAIN PROFILE B-H
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE B-I
SCALE: 1"=40' HORIZ./1"=8' VERT.

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Warehouse Distribution Facility

Gilboa Street
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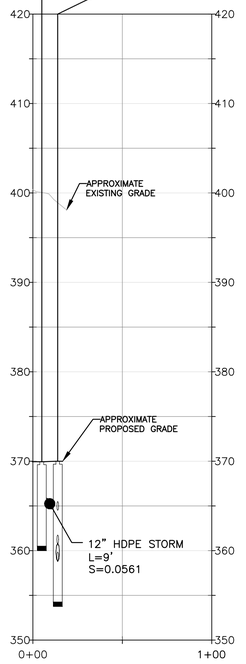
Sheet Title
STORM DRAIN PROFILES

Sheet Number
C414

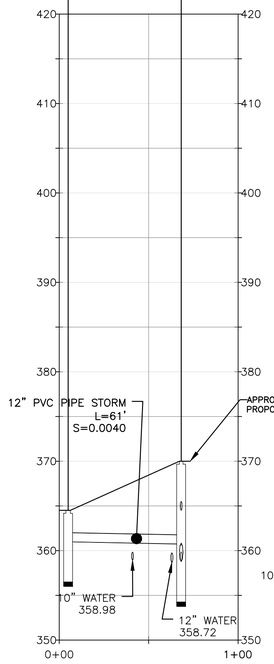
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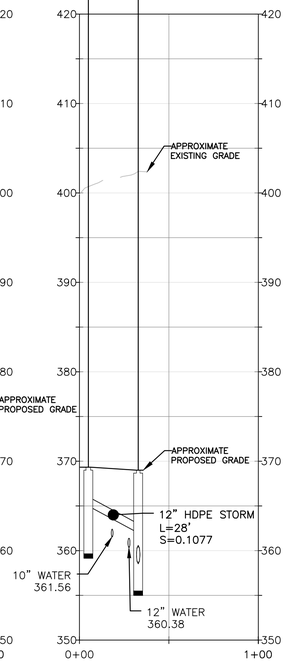
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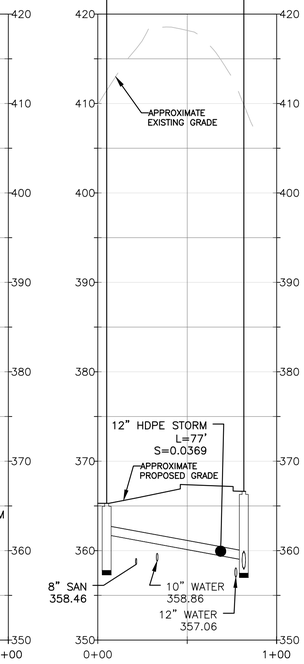
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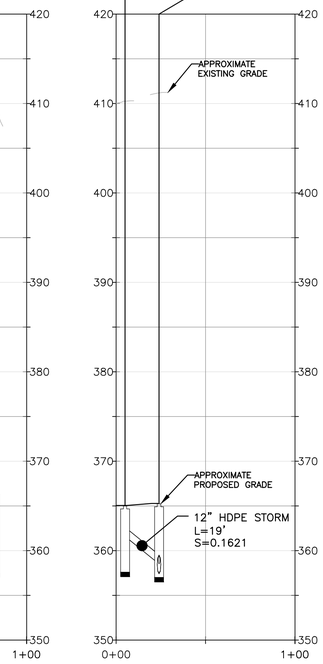
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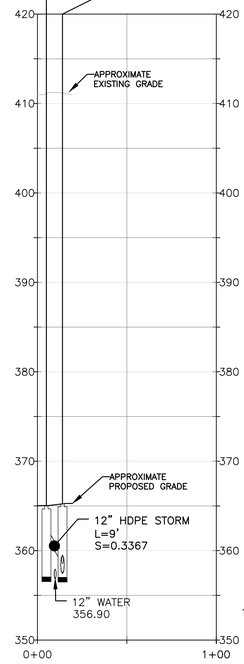
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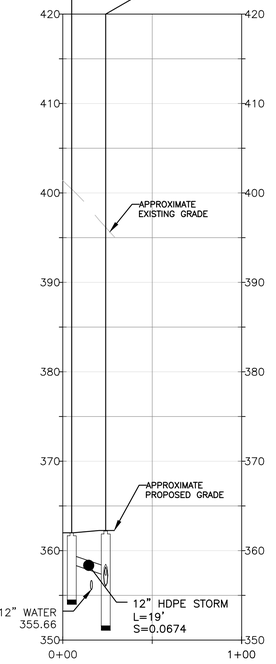
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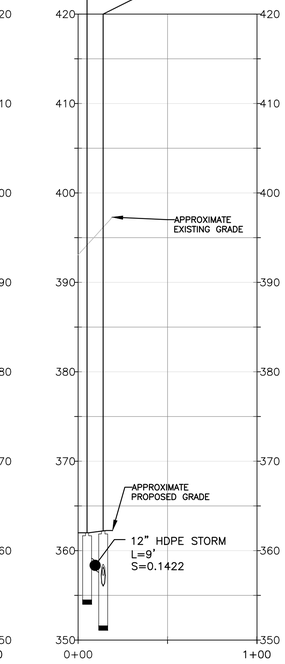
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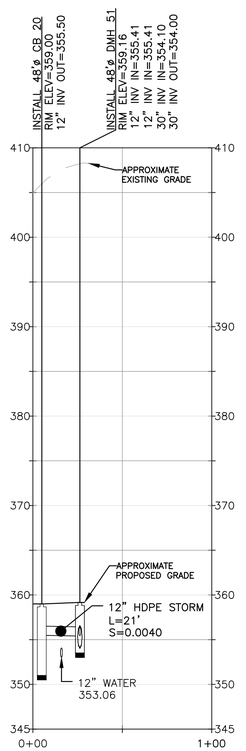
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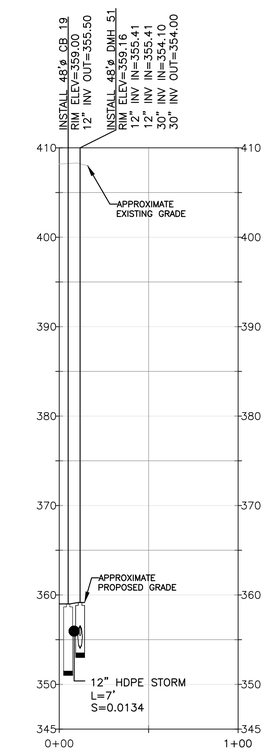
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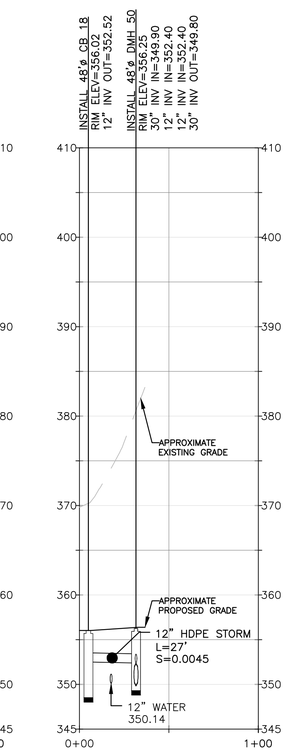
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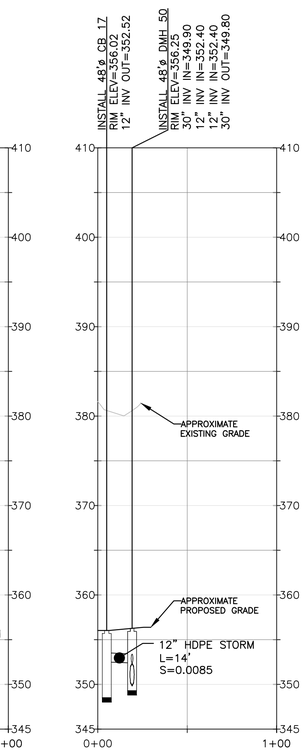
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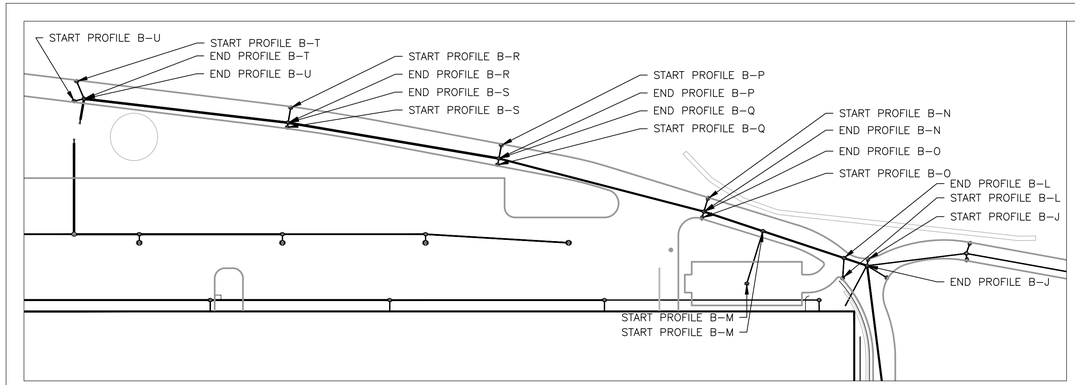
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DRAIN PROFILE B-T
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE B-U
SCALE: 1"=40' HORIZ./1"=8' VERT.



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SCALE 1"=100'

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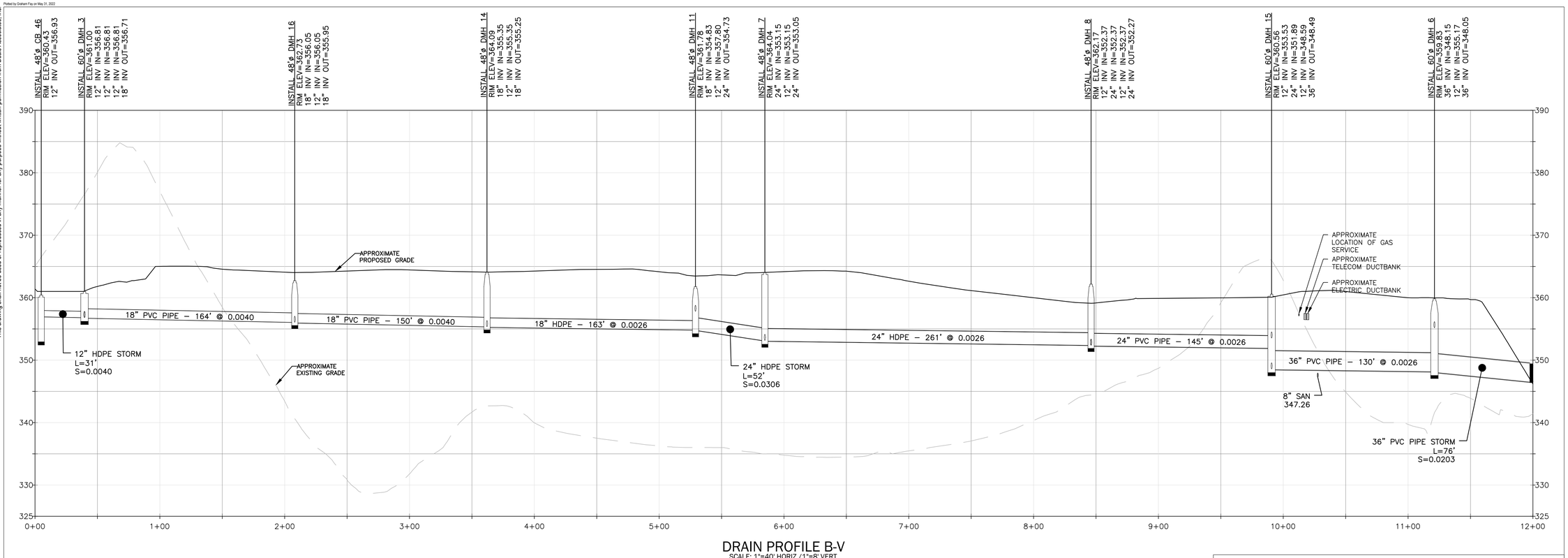
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STORM DRAIN PROFILES

Sheet Number
C415

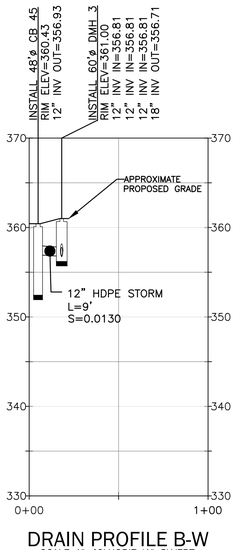
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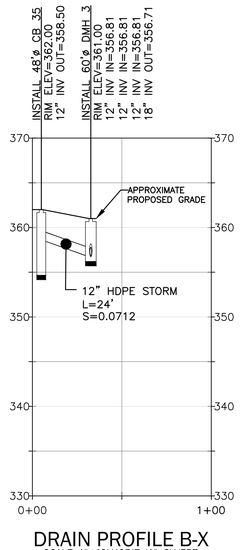
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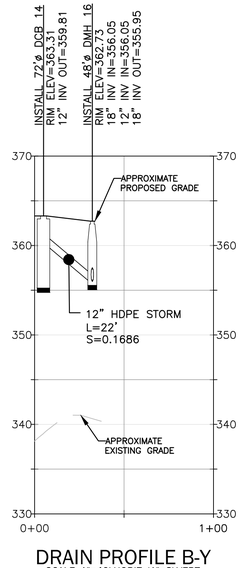
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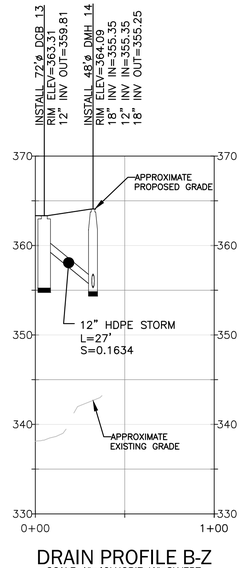
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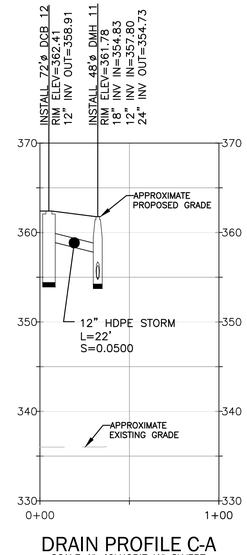
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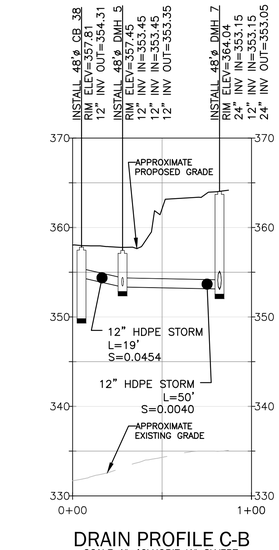
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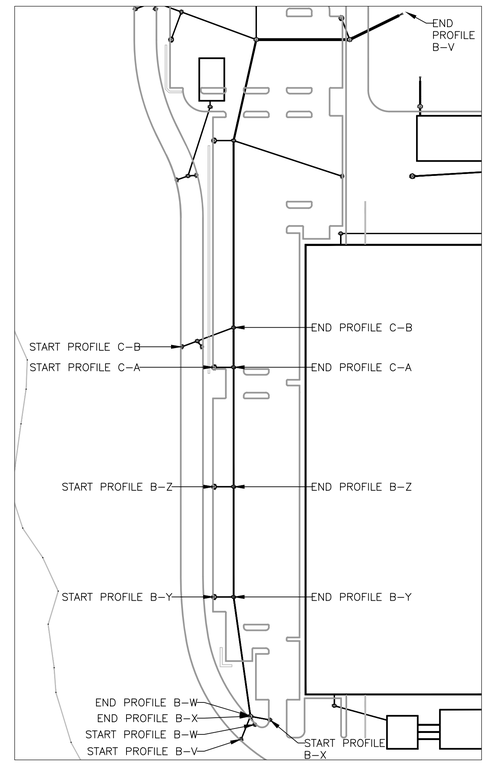
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DRAIN PROFILE C-A
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-B
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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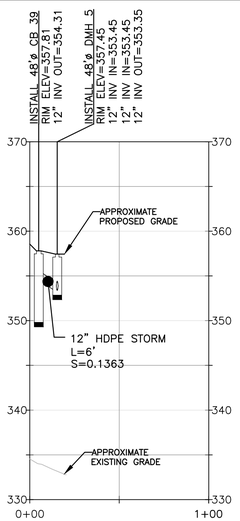
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Sheet Title
STORM DRAIN PROFILES

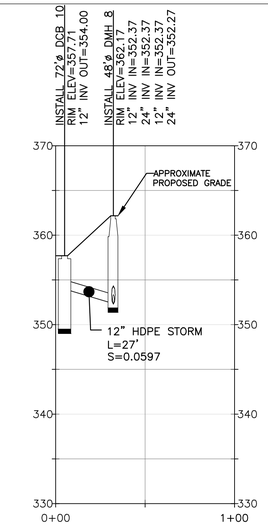
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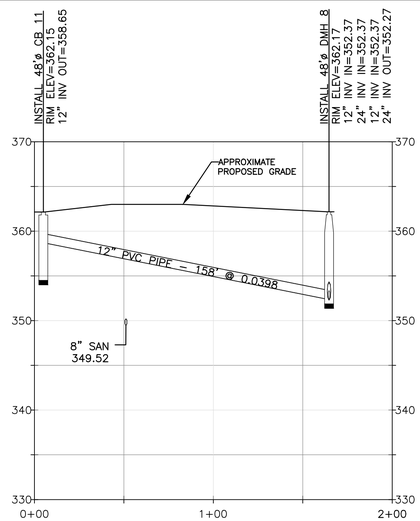
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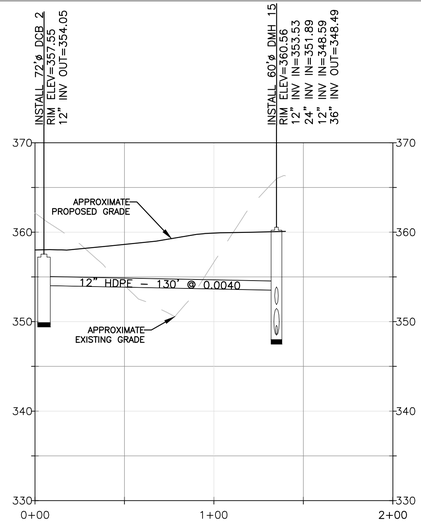
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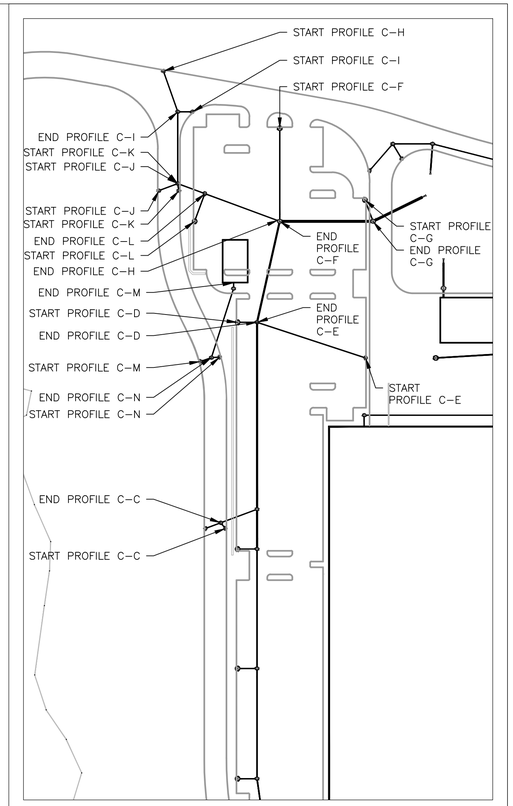
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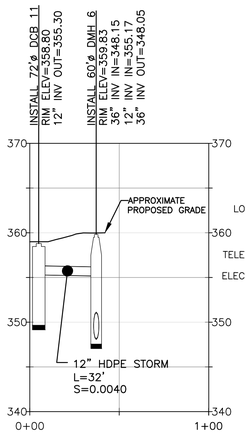
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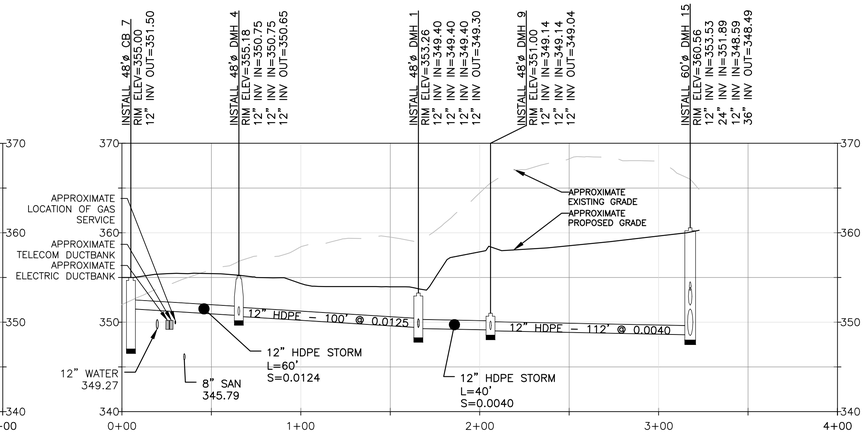
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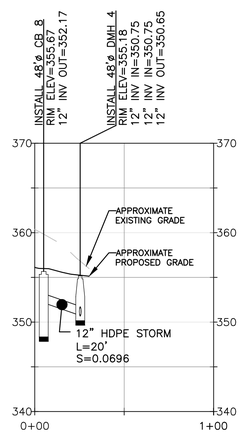
LOCUS MAP
SCALE 1"=100'



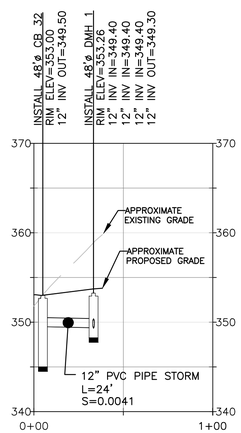
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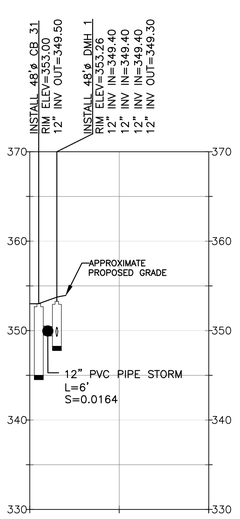
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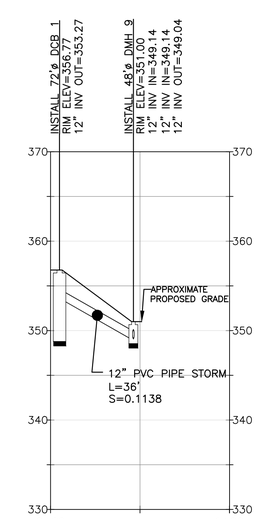
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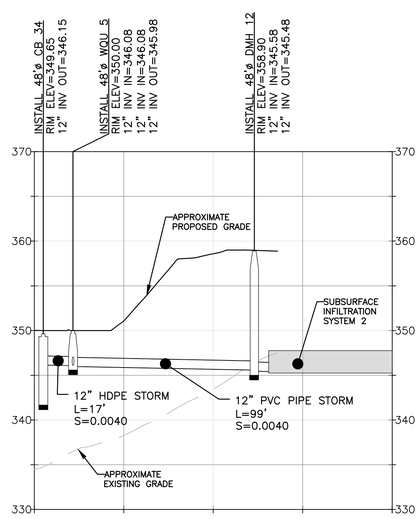
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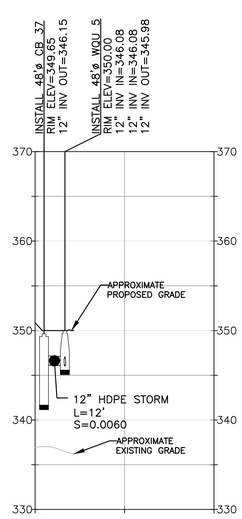
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SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-L
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-M
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-N
SCALE: 1"=40' HORIZ./1"=8' VERT.

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No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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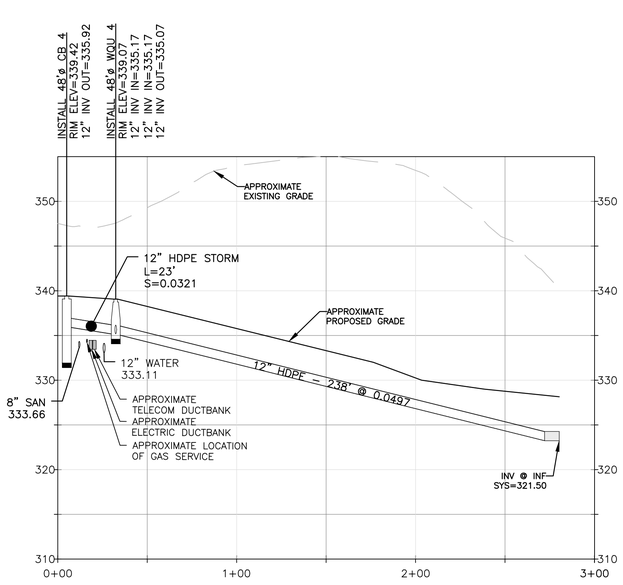
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Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: AS NOTED	

Sheet Title
STORM DRAIN PROFILES

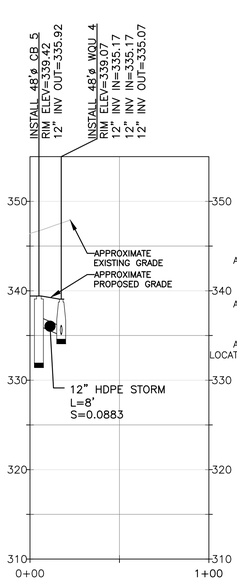
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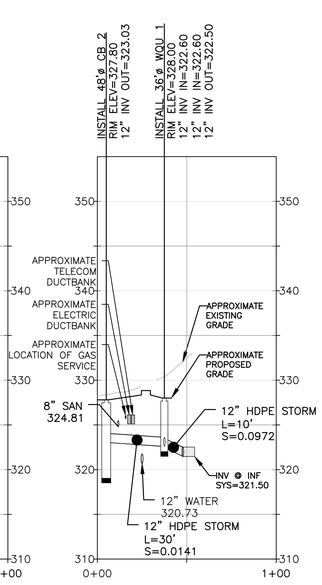
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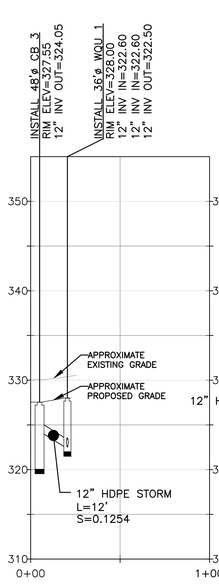
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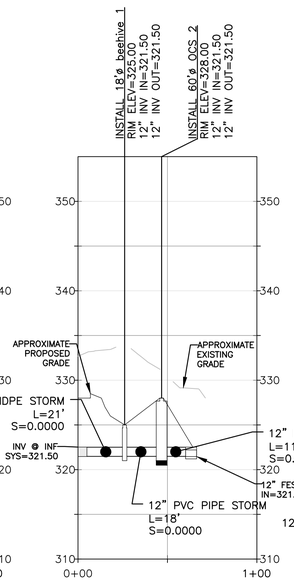
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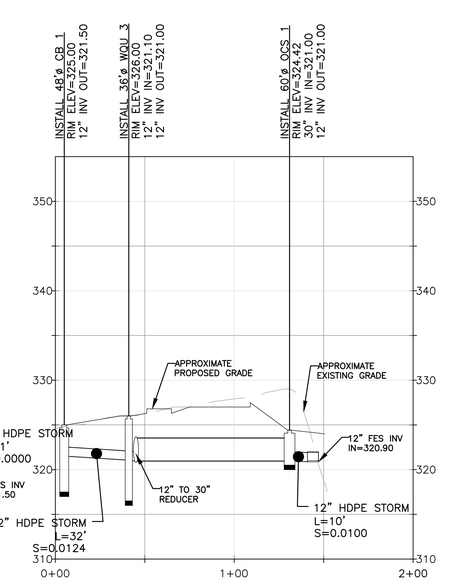
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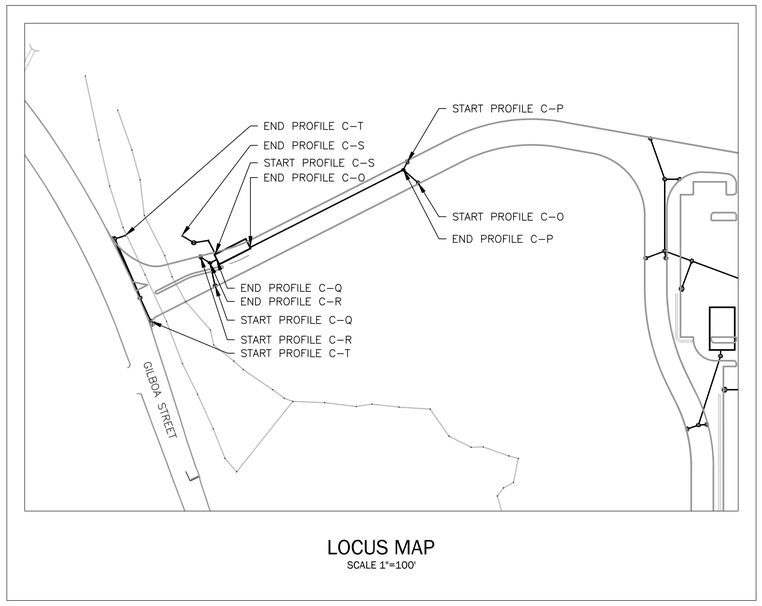
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SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-S
SCALE: 1"=40' HORIZ./1"=8' VERT.



DRAIN PROFILE C-T
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=100'

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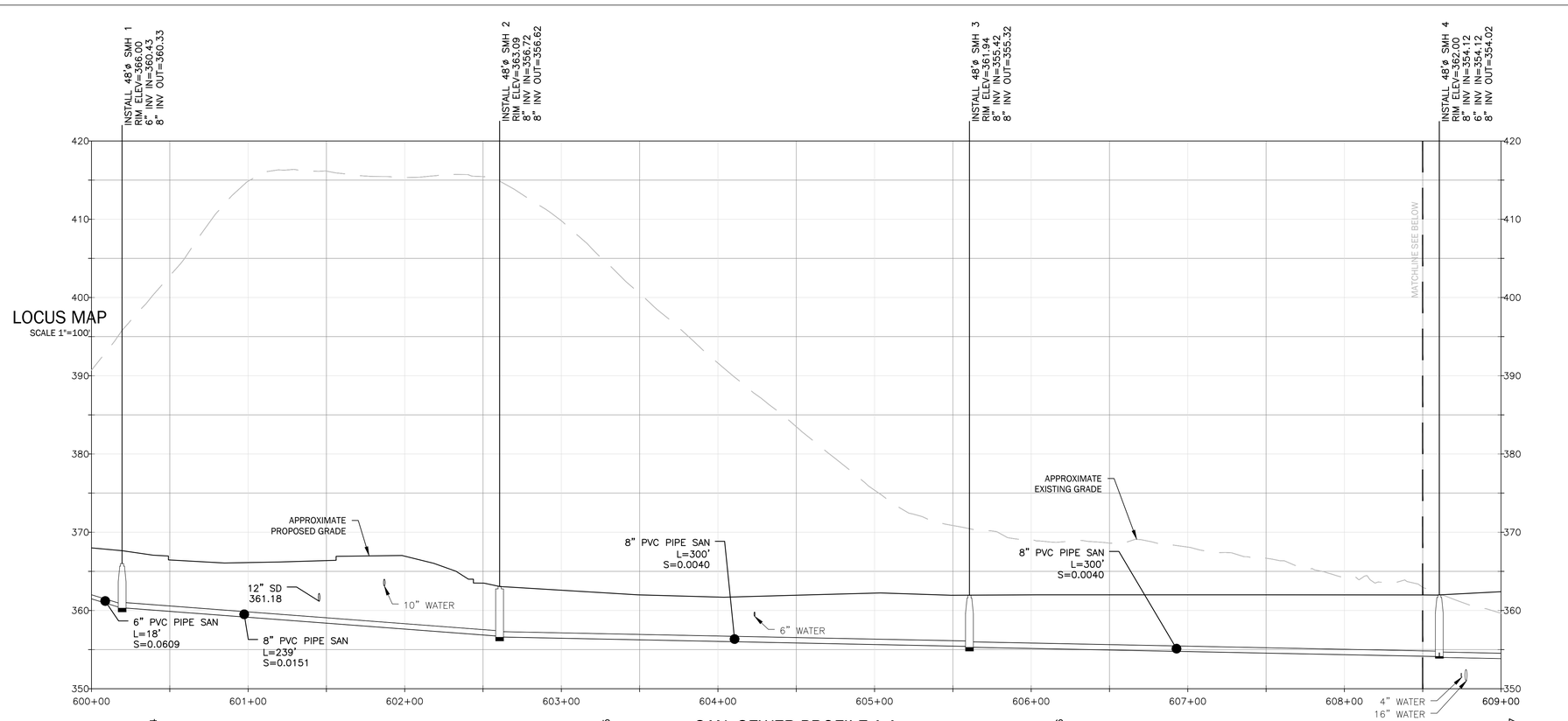
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Sheet Title
STORM DRAIN PROFILES

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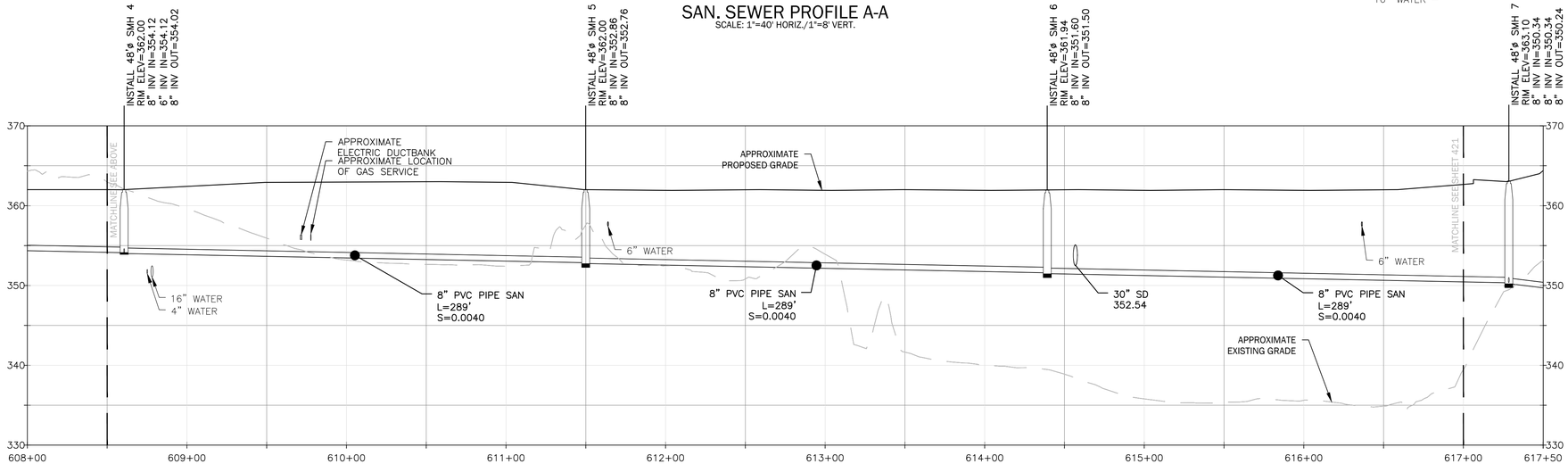
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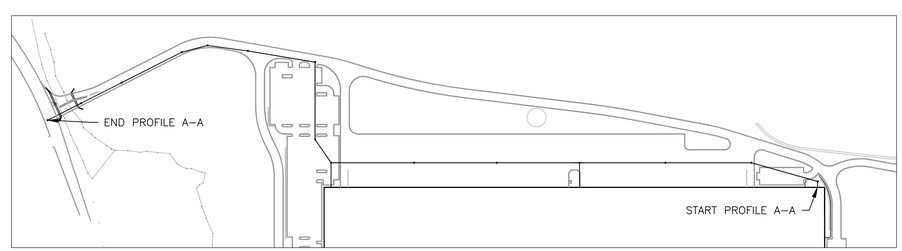


LOCUS MAP
SCALE 1"=100'

SAN. SEWER PROFILE A-A
SCALE: 1"=40' HORIZ./1"=8' VERT.



SAN. SEWER PROFILE A-A
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=250'

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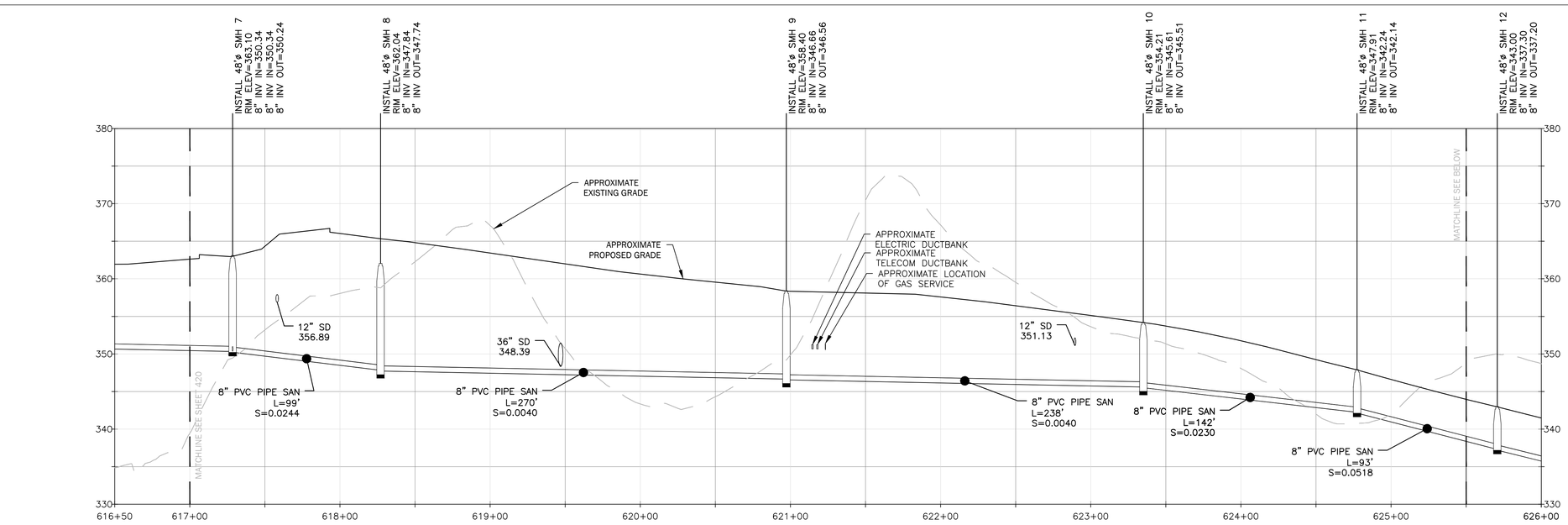
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SANITARY SEWER PROFILES

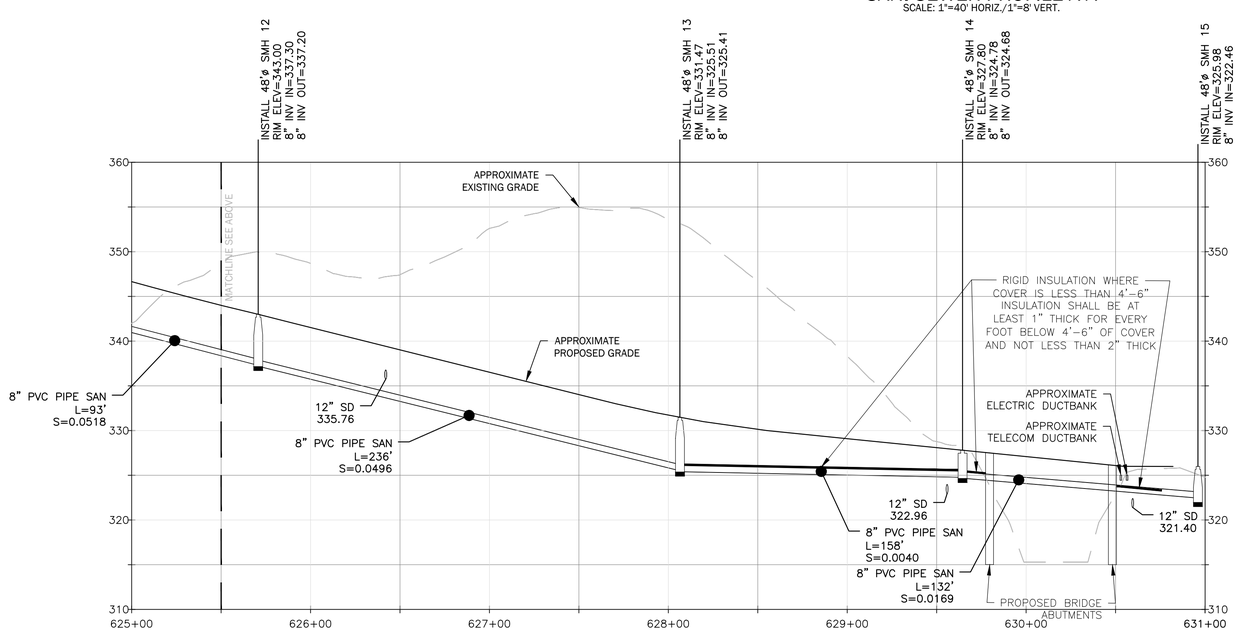
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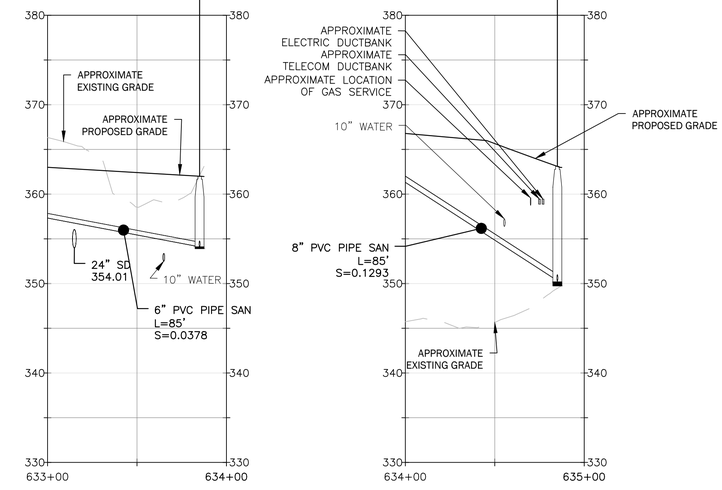
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SAN. SEWER PROFILE A-A
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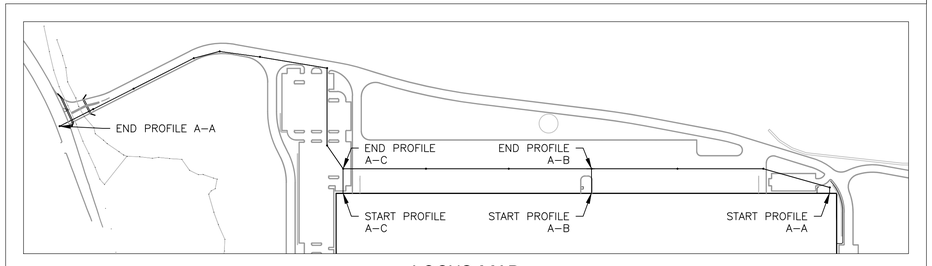


SAN. SEWER PROFILE A-A
SCALE: 1"=40' HORIZ./1"=8' VERT.



SAN. SEWER PROFILE A-B
SCALE: 1"=40' HORIZ./1"=8' VERT.

SAN. SEWER PROFILE A-C
SCALE: 1"=40' HORIZ./1"=8' VERT.



LOCUS MAP
SCALE 1"=250'

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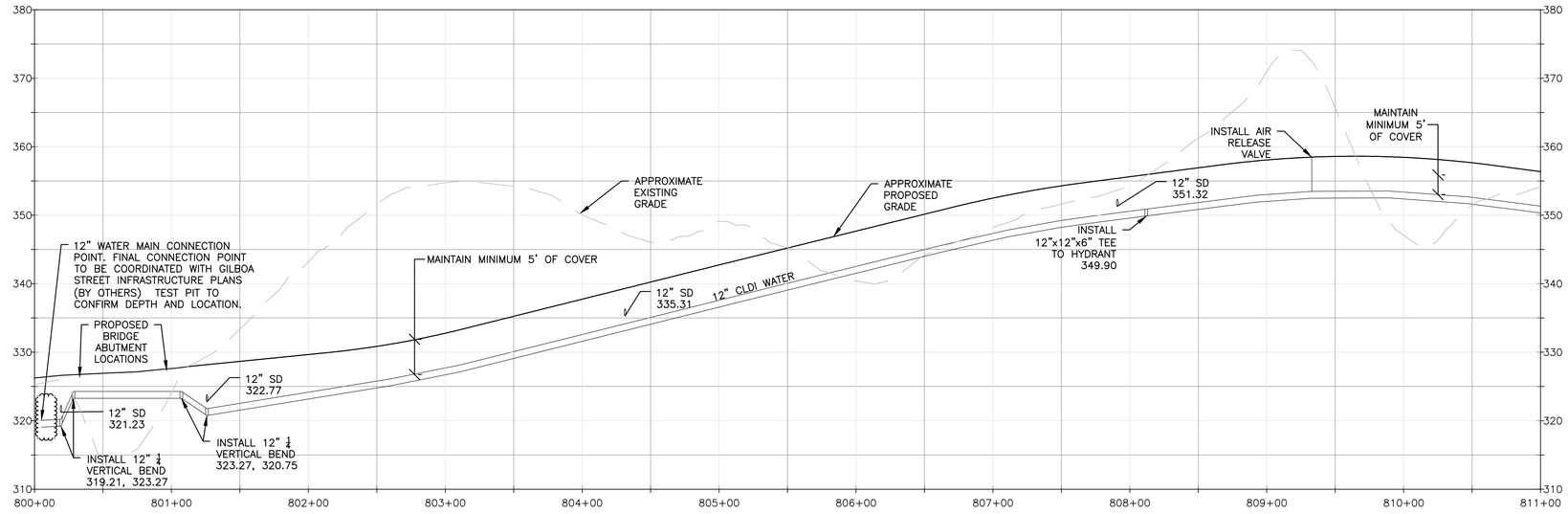
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SANITARY SEWER PROFILES

Sheet Number
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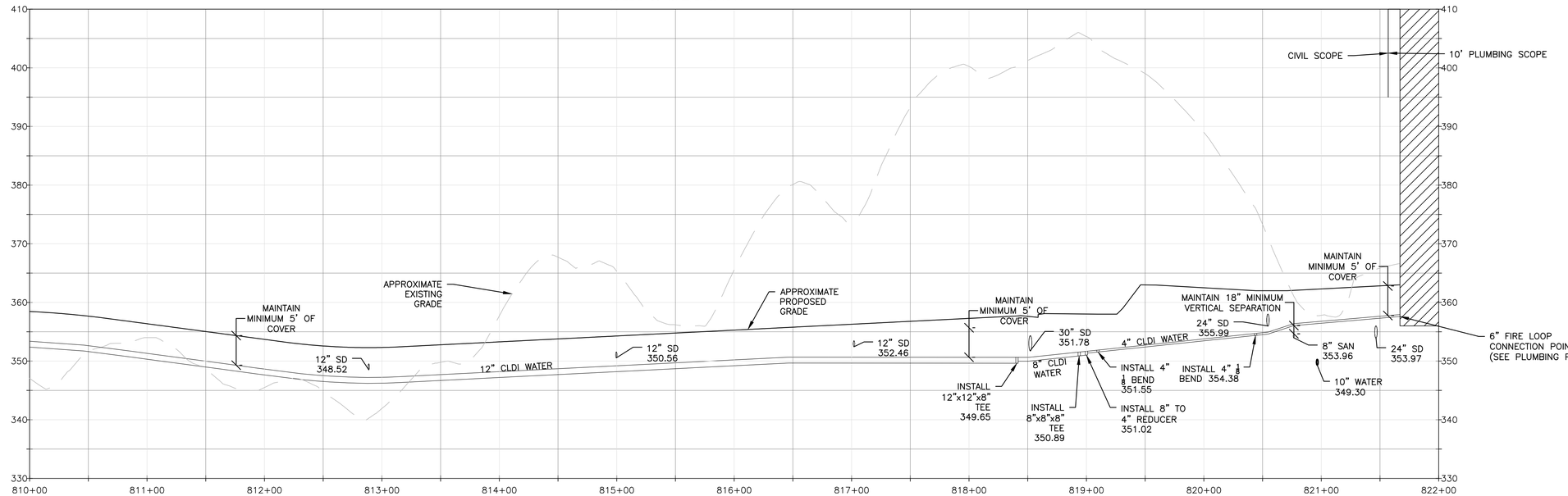
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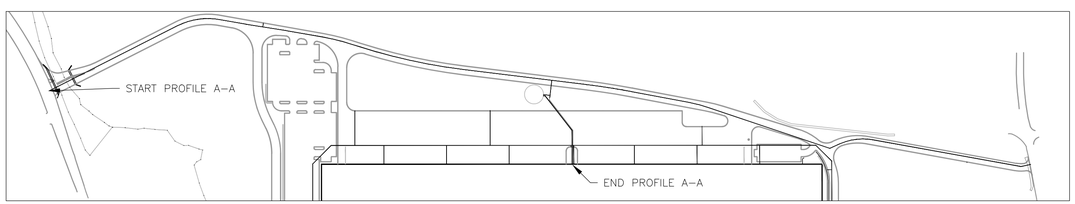
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WATER PROFILE A-A
SCALE: 1"=50' HORIZ./1"=10' VERT.



WATER PROFILE A-A
SCALE: 1"=50' HORIZ./1"=10' VERT.



LOCUS PLAN
SCALE: 1"= 250'

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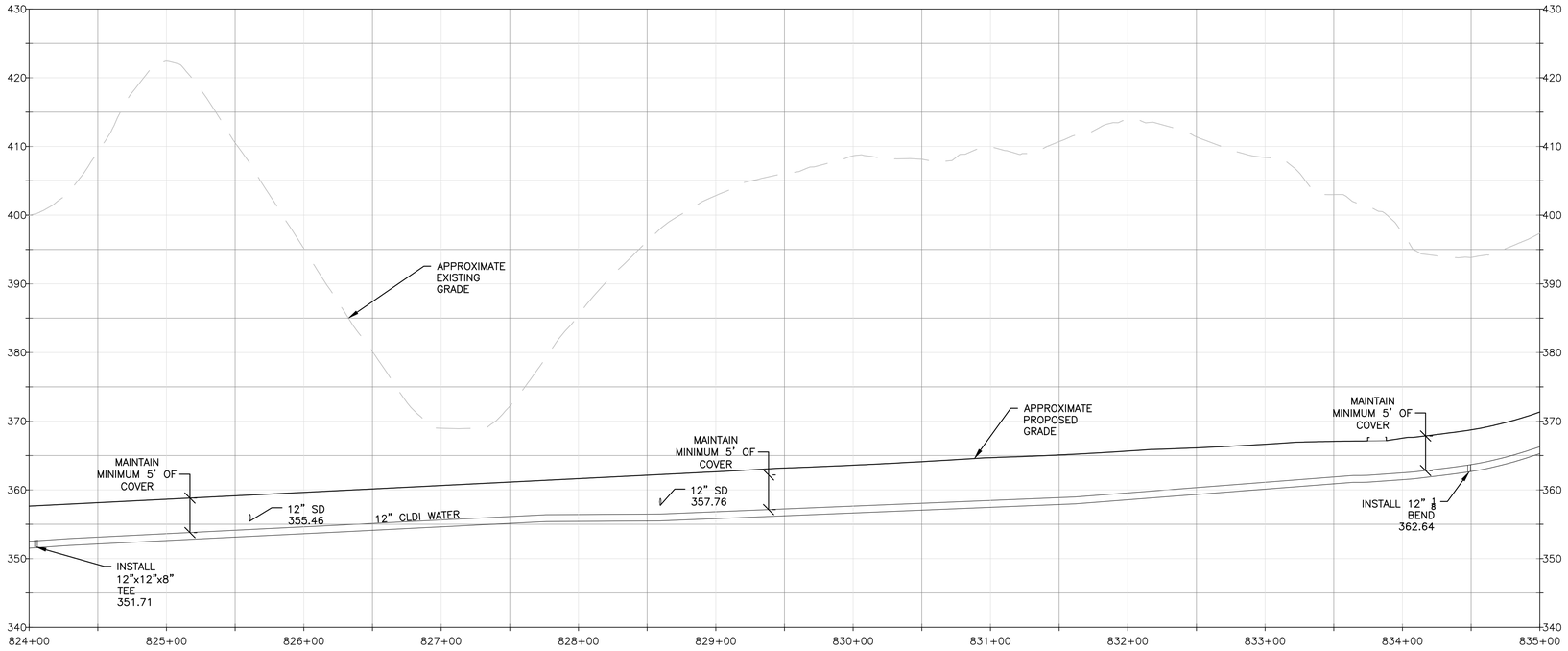
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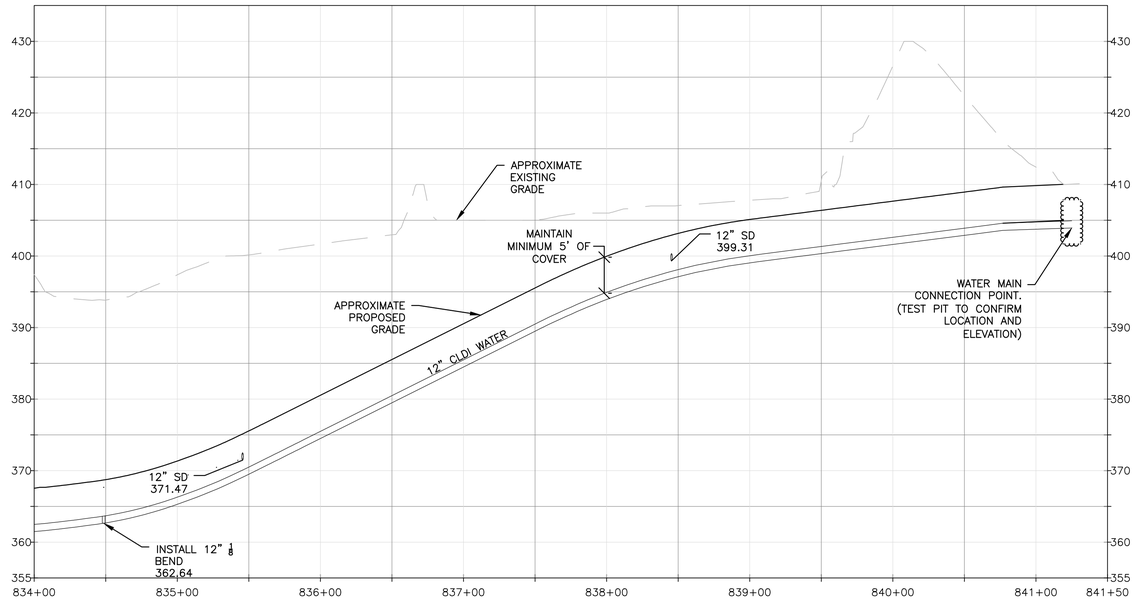
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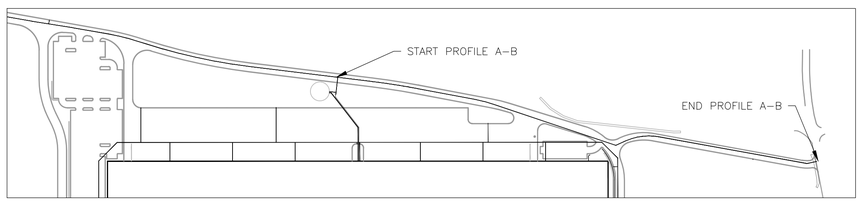
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WATER PROFILE A-B
SCALE: 1"=50' HORIZ./1"=10' VERT.



WATER PROFILE A-B
SCALE: 1"=50' HORIZ./1"=10' VERT.



LOCUS PLAN
SCALE: 1"= 250'

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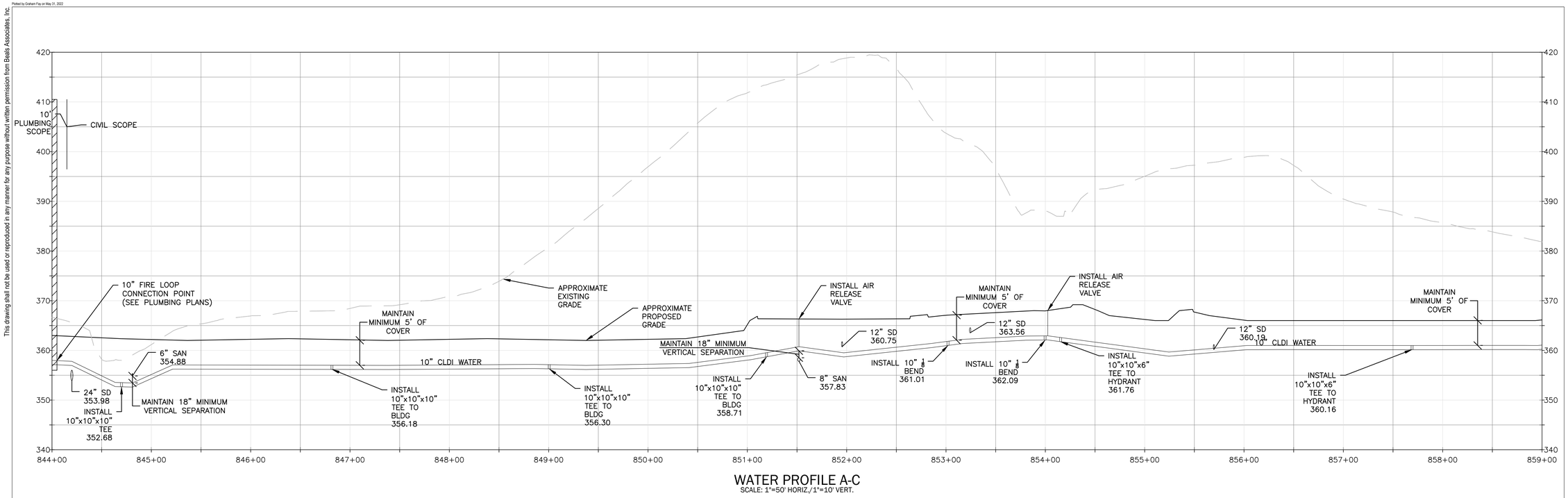
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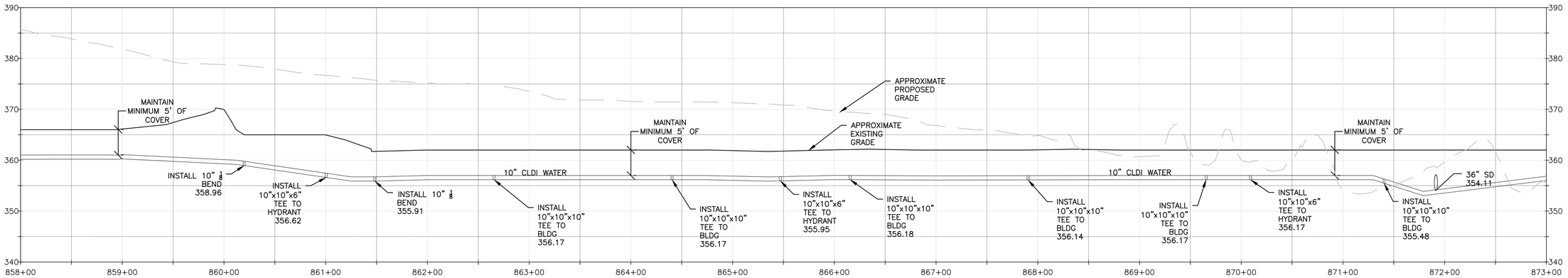
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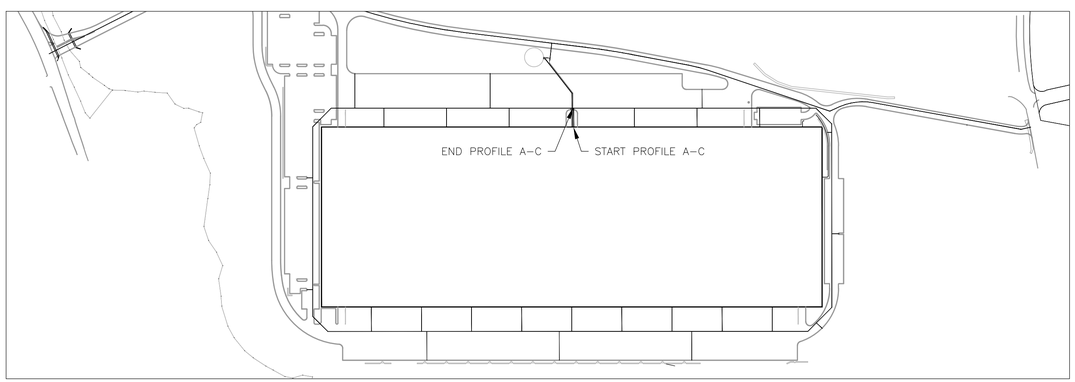
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WATER PROFILE A-C
SCALE: 1"=50' HORIZ./1"=10' VERT.



WATER PROFILE A-C
SCALE: 1"=50' HORIZ./1"=10' VERT.



LOCUS PLAN
SCALE: 1"= 250'

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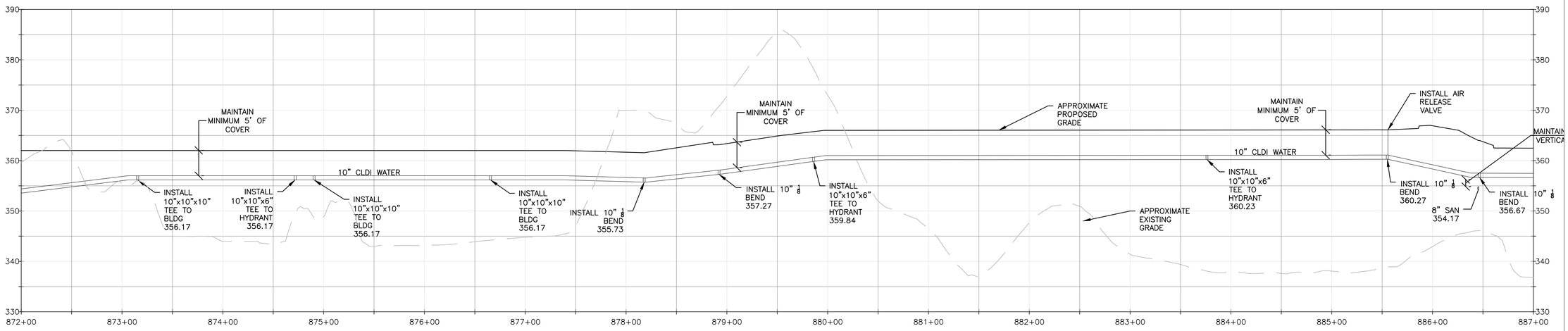
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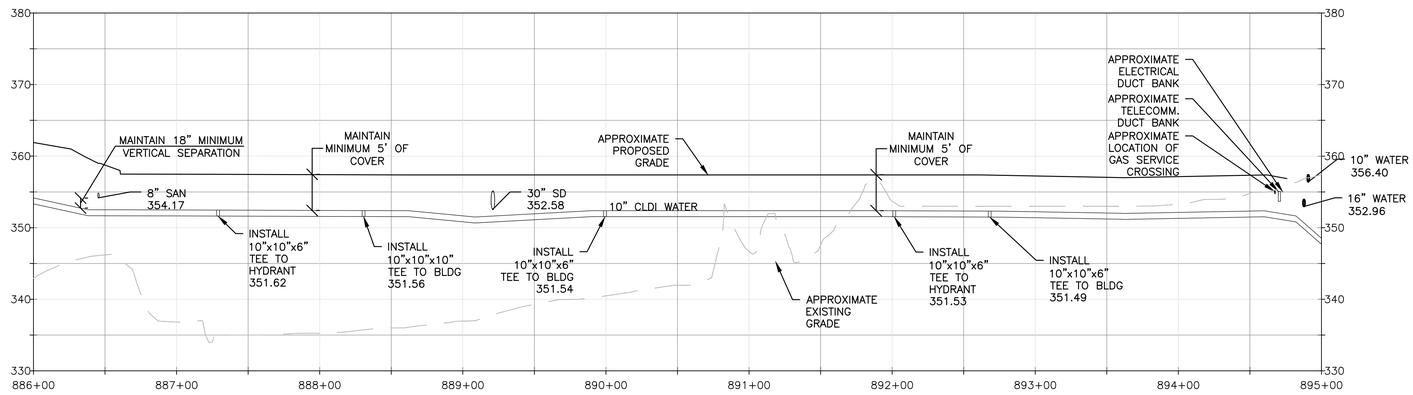
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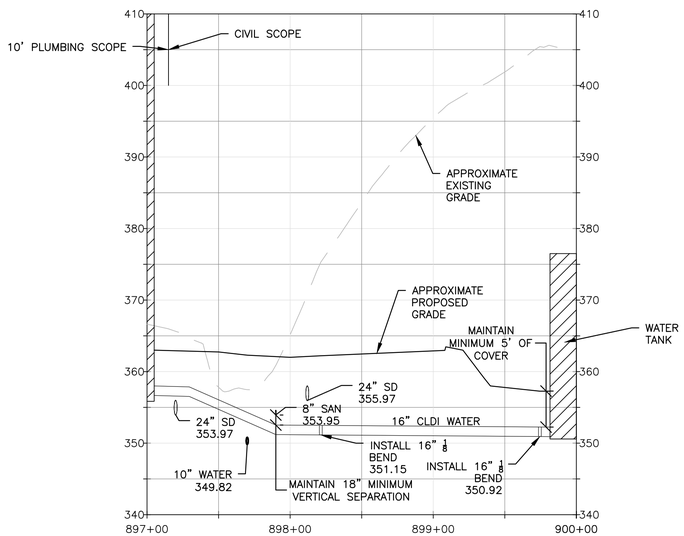
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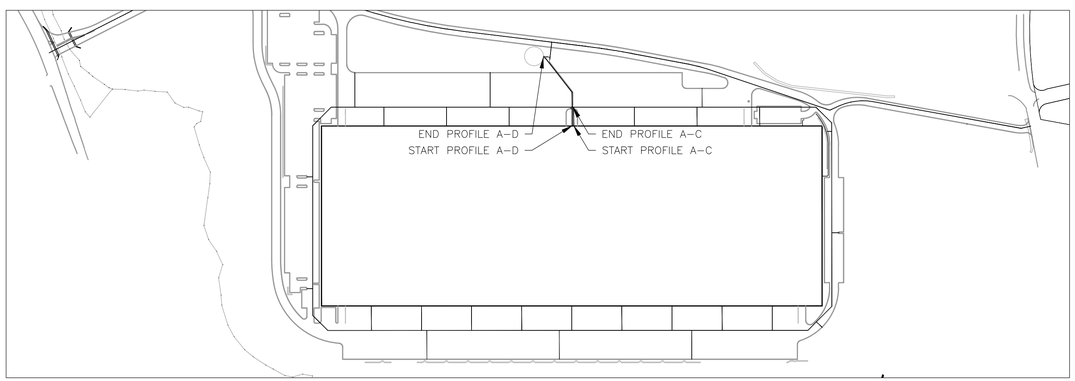
WATER PROFILE A-C
SCALE: 1"=50' HORIZ./1"=10' VERT.



WATER PROFILE A-C
SCALE: 1"=50' HORIZ./1"=10' VERT.



WATER PROFILE A-D
SCALE: 1"=50' HORIZ./1"=10' VERT.



LOCUS PLAN
SCALE: 1"= 250'

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PATH:H:\C-1203 Douglas\Autocad\2022.05.26 Control Documents - CURRENT CAD\Sections and Profiles\Water Network & Profiles.dwg

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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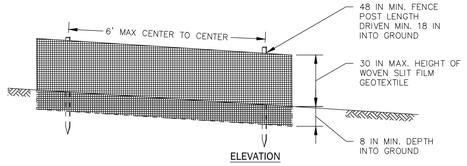
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Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: AS NOTED	

Sheet Title
WATER PROFILES

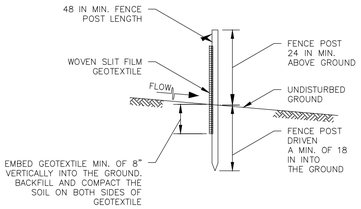
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Plotted by Ben Enos on May 17, 2022

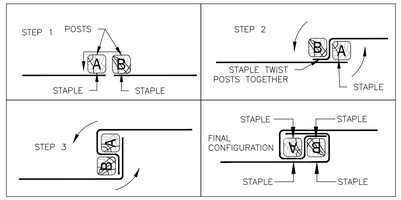
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ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

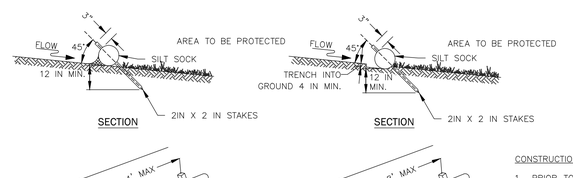
CONSTRUCTION SPECIFICATIONS

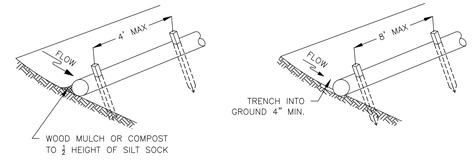
1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 48 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 8 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
5. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
6. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

SILT FENCE

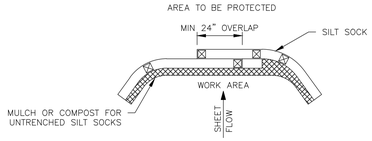
N.T.S.

DET NO. 4-2





ISOMETRIC VIEW



PLAN

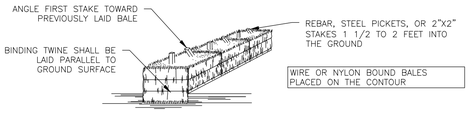
CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF SILT SOCK.
2. SILT SOCK SHALL BE MINIMUM 12" DIAMETER.
3. FILL SOCK NETTING UNIFORMLY WITH COMPOST, STRAW, WOOD CHIPS, OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT SOCKS DO NOT DEFORM.
4. INSTALL SILT SOCK PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
5. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG SOCK.
6. FOR UNTRENCHED OR ENTRENCHED APPLICATIONS STAKE SILT SOCK EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF SOCK.
7. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE SOCK.
8. WHEN MORE THAN ONE SOCK IS NEEDED, OVERLAP ENDS 24 INCHES MINIMUM AND STAKE.
9. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF SOCK AND REPLACE MULCH. REPLACE SILT SOCK IF TORN. REINSTALL SILT SOCK IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED SILT SOCK.

SILT SOCK DETAIL

N.T.S.

DET NO. 4-8



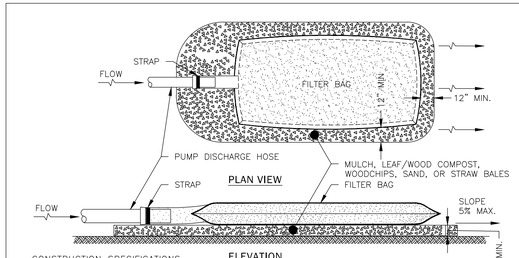
INSTALLATION PROCEDURE FOR SHEET FLOW APPLICATIONS:

1. EXCAVATE A 4 INCH DEEP TRENCH THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER. THE BARRIER SHOULD FOLLOW THE SLOPE CONTOUR. IF THE BARRIER IS AT THE TOE OF THE SLOPE, PLACE IT 5 TO 6 FEET AWAY FROM THE SLOPE IF POSSIBLE. THIS PLACEMENT WILL PROVIDE ACCESS FOR MAINTENANCE AND ALLOW COURSE SEDIMENT TO DROP OUT OF SUSPENSION BEFORE IT REACHES THE BARRIER.
2. PLACE BALES IN THE TRENCH WITH THEIR ENDS TIGHTLY ABUTTING. CORNER ABUTMENT IS NOT ACCEPTABLE. A TIGHT FIT IS IMPORTANT TO PREVENT SEDIMENT FROM ESCAPING THROUGH THE SPACES BETWEEN BALES.
3. ALL BALES MUST BE EITHER WIRE-BOUND OR STRING TIED. INSTALL BALES SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. IF THE BINDING IS PLACED IN CONTACT WITH THE SOIL, IT WILL SOON DISINTEGRATE AND CAUSE THE BALE TO FALL APART.
4. SECURELY ANCHOR EACH BALE BY DRIVING AT LEAST TWO STAKES THROUGH THE BALE. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES AT LEAST 1 1/2 FEET INTO THE GROUND. WOOD STAKES 2 BY 2 INCHES BY 4 FT. ARE BEST. REBAR ALSO CAN BE USED AS STAKES, BUT THEY ARE NOT RECOMMENDED BECAUSE THEY CAN POSE A HAZARD TO EQUIPMENT WHEN BALES DISINTEGRATE.
5. FILL ANY GAPS BETWEEN BALES BY WEDGING LOOSE STRAW BETWEEN THE BALES. LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY. IT IS PICKED UP BY RUNOFF AND TRANSPORTED TO HOLES IN THE BARRIER, WHICH IT TENDS TO SEAL. BACKFILL THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT IT. THE BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE OF THE BARRIER AND SHOULD BE BUILT UP TO 4 INCHES ABOVE THE GROUND ON THE UPHILL SIDE OF THE BALES.
6. INSPECT AND REPAIR OR REPLACE DAMAGED BALES PROMPTLY. STRAW BALES TYPICALLY DETERIORATE WITHIN THREE MONTHS WHEN WET. REMOVE THE STRAW BALES WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

STRAW BALE

N.T.S.

DET NO. 4-7



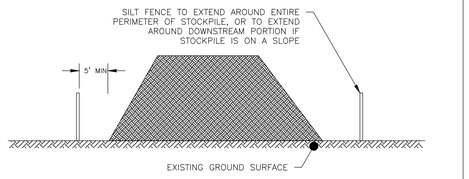
CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

FILTER BAG

N.T.S.

DET NO. 4-1



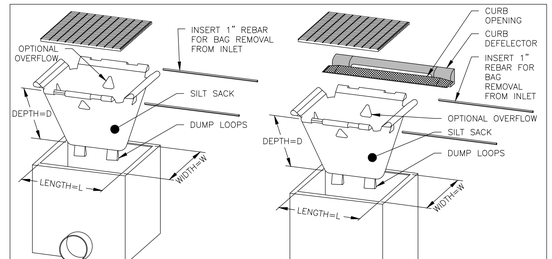
NOTES

1. AN ON-SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE STOCKPILE AND OFF-SITE PROPERTY.
2. REFERENCE IS MADE TO THE SILT FENCE DETAIL FOR MATERIALS AND INSTALLATION METHODS.
3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH STRAW BLANKET OR SEEDED TO MINIMIZE EROSION.
4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF HALF INCH (1/2") PER DAY OR EQUAL SNOW MELT. REPAIR OR REPLACEMENT OF SILT FENCE SHALL BE MADE PROMPTLY AS REQUIRED.
5. SEDIMENT TRAPPED BY THE SILT FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SEDIMENT ACCUMULATION DEPTH AT THE SILT FENCE IS APPROXIMATELY EQUAL TO 12 INCHES OR ONE HALF THE SILT FENCE HEIGHT, WHICHEVER IS LESS.
6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY THE ENGINEER.

TEMPORARY STOCKPILE DETAIL

N.T.S.

DET NO. 4-11



NOTES:

1. SILTSACKS SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT GREATER THAN 0.25 INCHES.
2. IF THERE HAVE BEEN NO MAJOR RAIN EVENTS, SILTSACKS SHOULD BE INSPECTED EVERY TWO TO THREE WEEKS.
3. WHEN THE EXPANSION RESTRAINT CORD IS NO LONGER VISIBLE, SILTSACKS SHOULD EITHER BE REMOVED, CLEANED AND REINSTALLED, OR DISCARDED AND REPLACED.

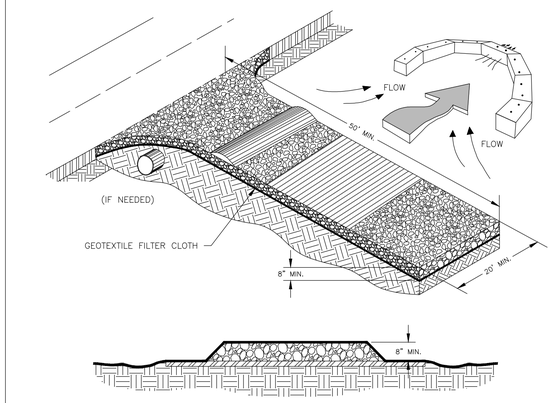
SILT SACK TYPE A

SILT SACK TYPE B

SILT SACK INSTALLATION DETAIL

N.T.S.

DET NO. 4-5



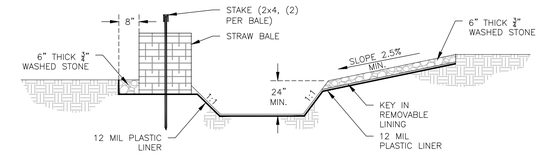
NOTES:

1. STONE SHALL BE COURSE AGGREGATE, 2 TO 3 INCH STONE.
2. THE LENGTH OF THE CONSTRUCTION EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE FAMILY RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE MINIMUM THICKNESS OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 8 INCHES.
4. THE WIDTH SHALL NOT BE LESS THAN THE FULL WIDTH OF THE INGRESS OR EGRESS POINT OR 20 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
6. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
7. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SIDE SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR PIPE.
8. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT WILL REMOVE MUD AND DIRT.
9. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH THE USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
10. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.

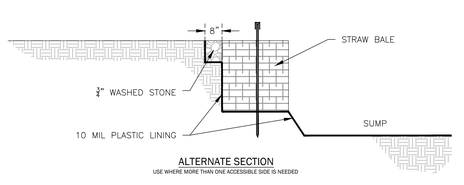
STABILIZED CONSTRUCTION ENTRANCE

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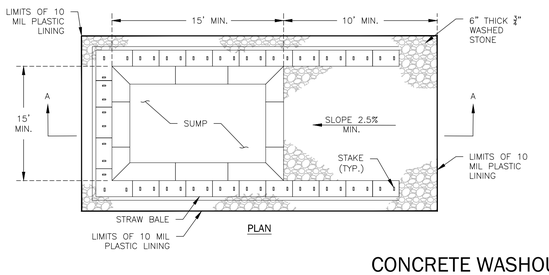
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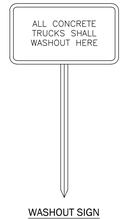
SECTION A-A



ALTERNATE SECTION
USE WHERE MORE THAN ONE ACCESSIBLE SIDE IS NEEDED



PLAN



WASHOUT SIGN

NOTES:

1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
2. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
3. FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12."
4. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
5. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
6. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
7. MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

CONCRETE WASHOUT AREA DETAIL

N.T.S.

DET NO. 4-13

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Warehouse Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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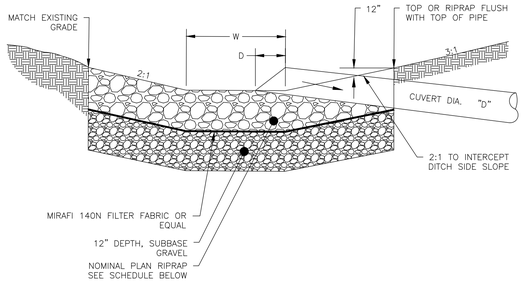
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Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title
EROSION CONTROL DETAILS

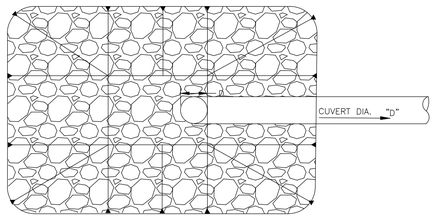
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Plotted by Ben Enos on May 17, 2022

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SECTION VIEW



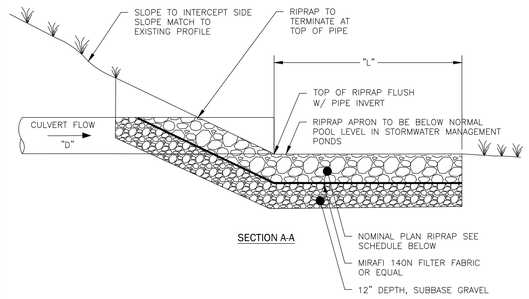
PLAN VIEW

RIPRAP SCHEDULE			
CULVERT DIAMETER (D)	WIDTH (W)	STONE D_{50}	RIPRAP THICKNESS
12"	2'	6"	14"
15"	4'	6"	14"
18"	4'	6"	14"
24"	6'	6"	14"
30"	8'	12"	27"
36"	8'	12"	27"
42"	10'	12"	27"
48"	12'	12"	27"

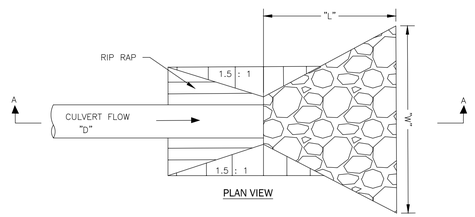
RIPRAP INLET APRON

N.T.S.

DET NO. 4-12



SECTION A-A



PLAN VIEW

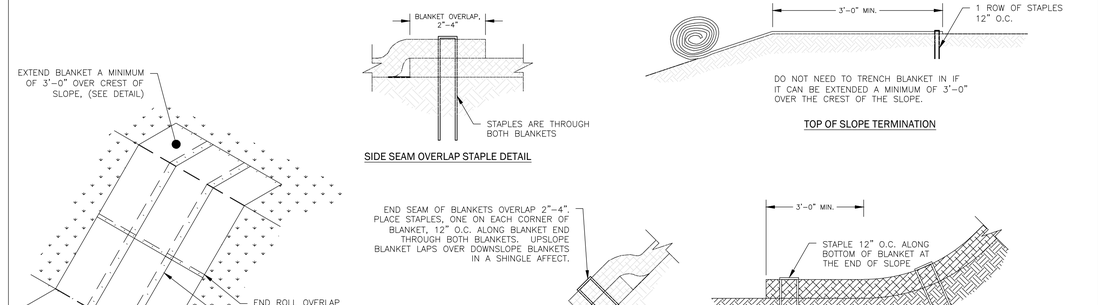
NOTE:
RIPRAP GRADATION AND PLACEMENT– THE RIPRAP GRADATION SHALL BE WELL– GRADED MIX FROM ABOUT 1.5 TIMES THE D SIZE TO ABOUT 25 PERCENT OF THE D SIZE. THE RIPRAP STONES SHALL BE CAREFULLY PLACED WORKING FROM THE TOE OF THE SLOPE UPWARD. THE STONES SHOULD BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12 INCHES ONTO THE GEOTEXTILE. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH UNIFORMLY SLOPED SURFACE.

RIPRAP SCHEDULE				
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE d_{50}	RIPRAP THICKNESS
12"	8'	12'	6"	14"
15"	8'	12'	6"	14"
18"	10'	12'	6"	14"
24"	12'	14'	6"	14"
30"	20'	23'	12"	27"
36"	20'	23'	12"	27"
42"	24'	28'	12"	27"
48"	28'	32'	12"	27"

RIPRAP OUTLET APRON

N.T.S.

DET NO. 4-15



SLOPE DETAIL

SIDE SEAM OVERLAP STAPLE DETAIL

TOP OF SLOPE TERMINATION

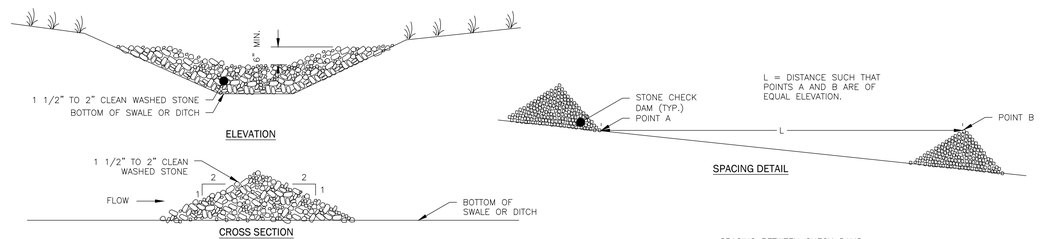
END ROLL OVERLAP

BOTTOM OF SLOPE TERMINATION

CURLEX BLANKET

N.T.S.

DET NO. 4-4



ELEVATION

CROSS SECTION

SPACING DETAIL

GUIDELINES:

1. THE DRAINAGE AREA OF THE DITCH OR SWALE BEING PROTECTED SHOULD NOT EXCEED 10 ACRES EXCEPT AS MAY BE REQUIRED BY THE PLANS.
2. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED ONE HALF THE DEPTH OF THE CHANNEL.
3. THE MAXIMUM SPACING BETWEEN THE CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.

MAINTENANCE:

1. SEDIMENT MUST BE REMOVED WHEN IT ACCUMULATES TO 25% OF THE ORIGINAL HEIGHT OF THE CENTER OF THE CHECK DAM. SOILS ARE TO BE PLACED WHERE THEY WILL NOT BE WASHED BACK INTO A DRAINAGE SYSTEM OR WETLAND AREA.

REMOVAL:

1. CHECK DAMS ARE TO BE REMOVED ONLY WHEN THEY ARE NO LONGER NEEDED. IN PERMANENT GRASSED DRAINAGE WAYS, CHECK DAMS SHOULD BE REMOVED ONLY AFTER THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE WATERWAY.

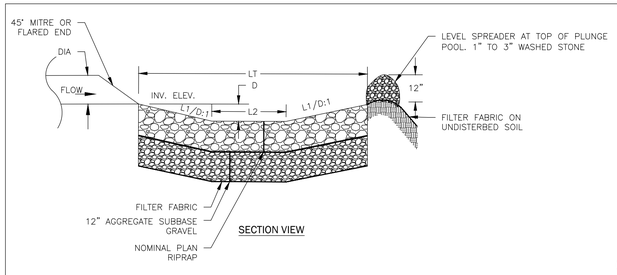
SPACING BETWEEN CHECK DAMS

SLOPE (FT./FT.)	L (FT.)
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20

TEMPORARY STONE CHECK DAM

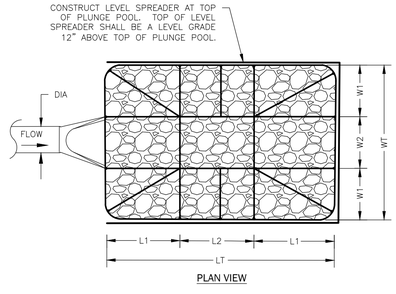
N.T.S.

DET NO. 4-3



SECTION VIEW

SCHEDULE									
DIA.	L1	L2	LT	W1	W2	WT	D	STONE D50	RIPRAP THICHKNESS
6"–18"	4'	2'	10'	3'	2'	8'	2'	6"	14"
24"	6'	3'	15'	4.5'	3'	12'	3'	6"	14"
30"–42"	8'	4'	20'	6'	4'	14'	4'	12"	27"
48"	10'	5'	25'	7.5'	5'	20'	5'	12"	27"

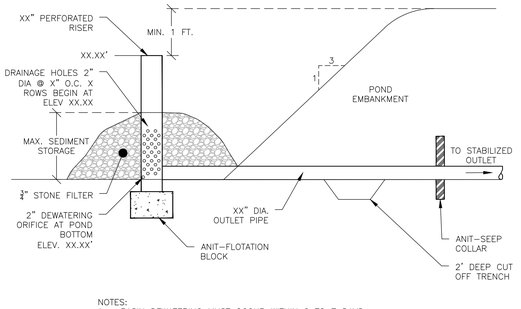


PLAN VIEW

RIPRAP PLUNGE POOL WITH LEVEL SPREADER

N.T.S.

DET NO. 4-14

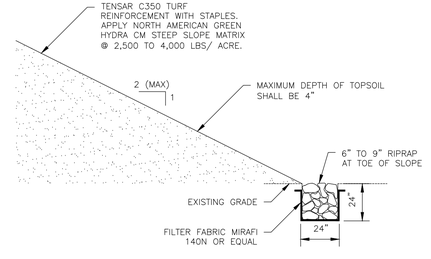


NOTES:
1. BASIN DEWATERING MUST OCCUR WITHIN 2 TO 7 DAYS.
2. INLET PROTECTION MUST BE PROVIDED AT RISER. WASHED STONE ON PERFORATED PIPE, GRAVEL HORSESHOE, SKIMMER OR ALTERNATE METHOD OF DEWATERING BASIN MUST BE IMPLEMENTED.

PERFORATED RISER DETAIL

N.T.S.

DET NO. 3-4.3



STEEP SLOPE PROTECTION SLOPE BETWEEN 3:1 AND 2:1

N.T.S.

DET NO. 4-18

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

Designed by: DPH	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: N.T.S.	

Sheet Title
EROSION CONTROL DETAILS

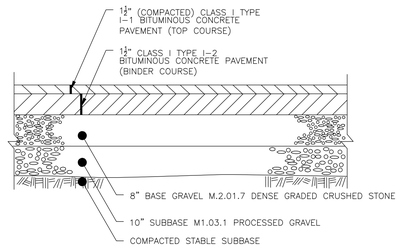
Sheet Number
C501

Plotted by Ben Enos on May 17, 2022

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NOTES:

1. ALL MATERIALS SHALL CONFORM TO MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST REVISION.
2. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT.
3. AN ADDITIONAL LAYER OF GEOGRID MAY BE REQUIRED IN AREAS OF WET OR UNSTABLE SUBGRADE. CONTACT ENGINEER FOR CLARIFICATION.



SECTION

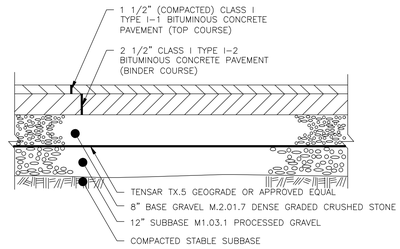
STANDARD DUTY PAVEMENT

N.T.S.

DET NO. 1-1.1

NOTES:

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SECTION

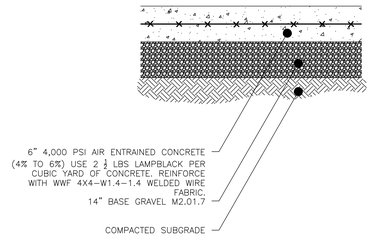
HEAVY DUTY PAVEMENT

N.T.S.

DET NO. 1-1.2

NOTES:

1. ALL MATERIALS SHALL CONFORM TO MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST REVISION.
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4. SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.



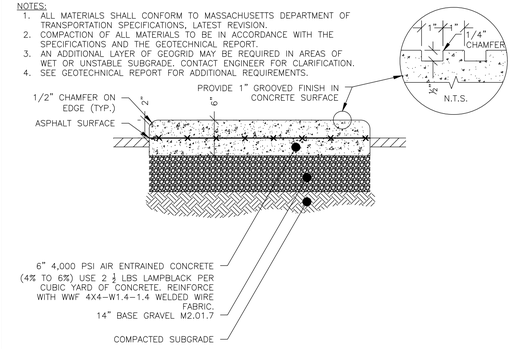
CONCRETE PAVEMENT DETAIL

N.T.S.

DET NO. 1-1.4

NOTES:

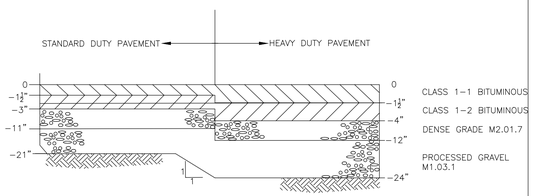
1. ALL MATERIALS SHALL CONFORM TO MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST REVISION.
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4. SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.



CONCRETE MEDIAN WITH RUMBLE STRIPS DETAIL

N.T.S.

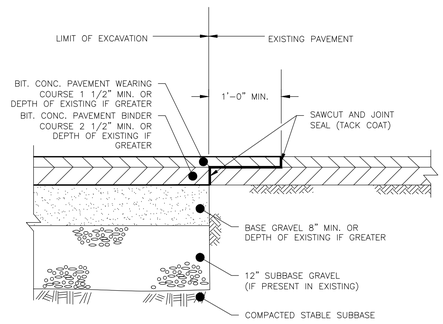
DET NO. 1-1.15



HEAVY DUTY TO STANDARD DUTY PAVEMENT TRANSITION DETAIL

N.T.S.

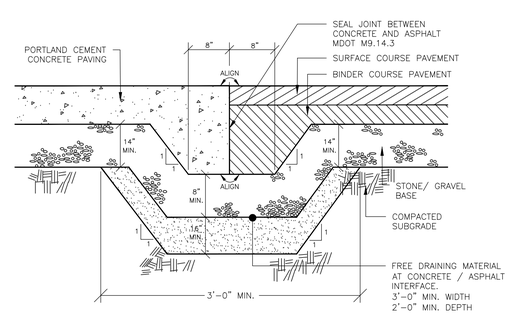
DET NO. 1-1.13



PAVEMENT MATCHING DETAIL

N.T.S.

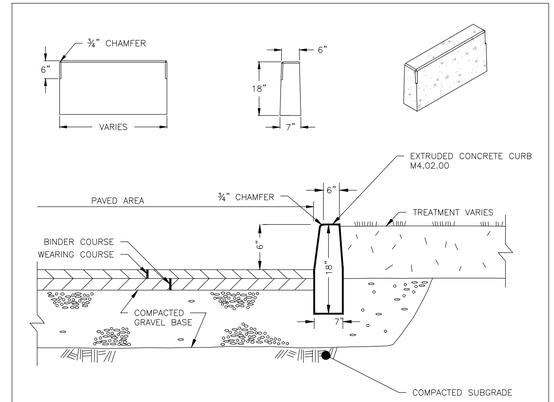
DET NO. 1-1.8



CONCRETE TO ASPHALT PAVING JOINT DETAIL

N.T.S.

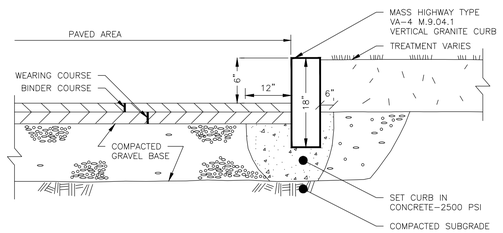
DET NO. 1-1.7



EXTRUDED CONCRETE TRENCH CURB

N.T.S

DET NO. 1-5.13

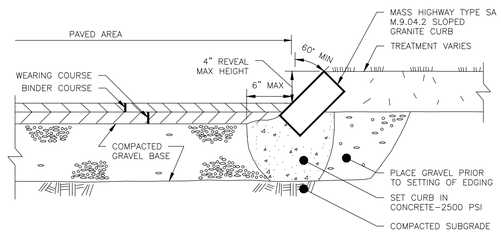


VERTICAL GRANITE CURB

N.T.S

DET NO. 1-5.1

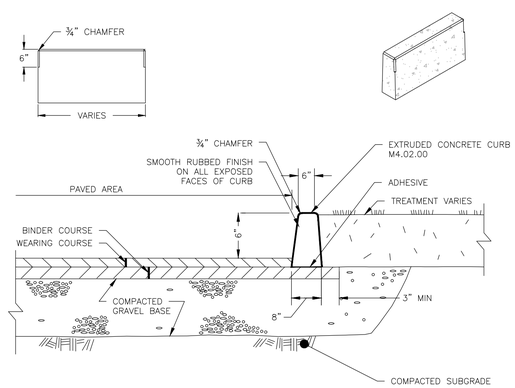
NOTE:
THE REVEAL IS TO BE A MAXIMUM OF 4" UNDER ALL CONDITIONS. THE ANGLE IS TO BE A MINIMUM OF 60° FROM VERTICAL UNDER ALL CONDITIONS.



SLOPED GRANITE CURB

N.T.S

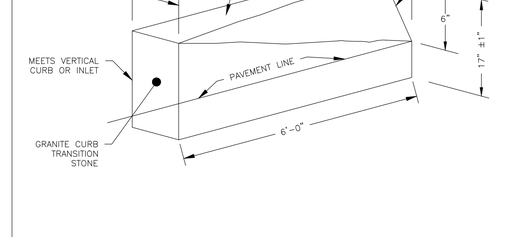
DET NO. 1-5.4



6" CONCRETE CURB

N.T.S

DET NO. 1-5.13



VERTICAL GRANITE CURB TRANSITION STONE

N.T.S.

DET NO. 1-5.3

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Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
–	Revised for Issuance of Control Documents	05.09.2022

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Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title
SITE DETAILS

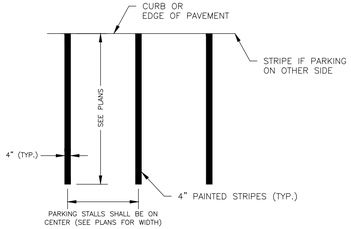
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Plotted by Ben Enos on May 17, 2022

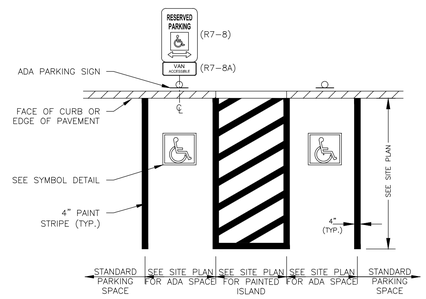
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PARKING STALLS SHALL BE PAINTED WHITE ON BITUMINOUS PAVEMENT SURFACES AND YELLOW ON CONCRETE SURFACES UNLESS OTHERWISE NOTED.

PARKING STALL STRIPING
N.T.S.

DET NO.
2-1



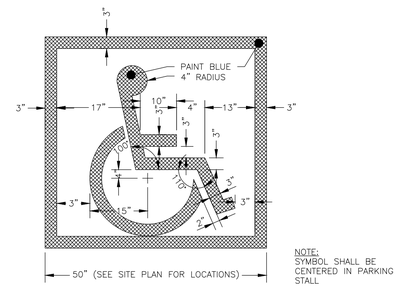
8'-0" ACCESS AISLE ADJACENT TO VAN SPACE, OTHERWISE USE 5'-0" ACCESS AISLE

NOTES:
1. R7-8 SIGNS SHALL BE MOUNTED AT A HEIGHT OF NO LESS THAN 5 FEET AND NOT MORE THAN 8 FEET TO THE TOP OF THE SIGN.
2. R7-8A SIGNS SHALL BE MOUNTED UNDERNEATH THE R7-8 SIGN ONLY WHEN ADJACENT TO AN 8' MIN. WIDE PAINTED ISLAND.

ADA REQUIREMENTS:
1. WALKS SHALL NOT EXCEED 5% SLOPE
2. WALKS CROSS SLOPE SHALL NOT EXCEED 2%.
3. HANDICAP SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION.

ADA STALL STRIPING
N.T.S.

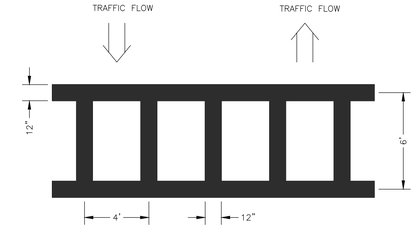
DET NO.
2-2



NOTE:
SYMBOL SHALL BE CENTERED IN PARKING STALL

ADA SYMBOL
N.T.S.

DET NO.
2-3

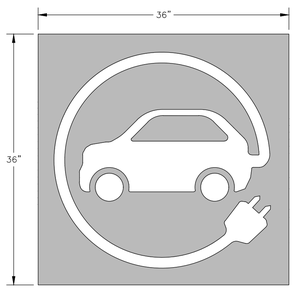


NOTE:
ALL STRIPING SHALL BE 12" REFLECTORIZED THERMOPLASTIC WHITE LINE (M.H.D. 866.12)

PLAN

CROSSWALK STRIPING
N.T.S.

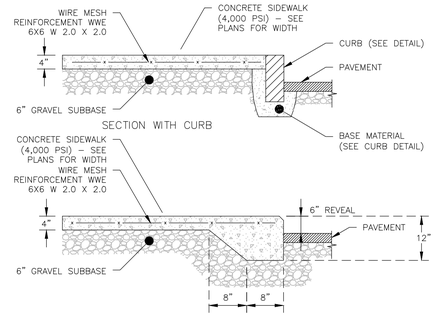
DET NO.
1-6.7



NOTES:
1. ELECTRIC VEHICLE CHARGER STATION MARKINGS SHALL CONFORM TO ALL LOCAL AND STATE REGULATIONS AS APPLICABLE.
2. PAVEMENT MARKINGS MAY BE SUBSTITUTED WITH APPROVAL BY DESIGN ENGINEER.
3. ALL MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC WHITE AND GREEN.
4. PAVEMENT MARKINGS SHALL BE CENTERED IN THE PARKING STALL.
5. STALL STRIPING SHALL BE REFLECTORIZED GREEN.

EV CHARGING PAVEMENT MARKING
N.T.S.

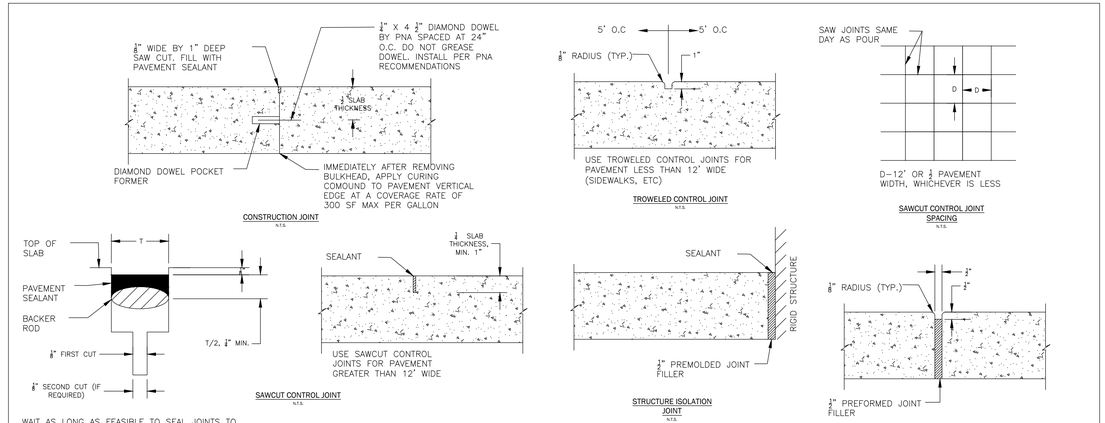
DET NO.
1-10.2



NOTES:
1. CONTROL JOINT SPACING SHALL BE EQUAL TO OR LESS THAN SIDEWALK WIDTH - 35 S.F. MAX.
2. EXPANSION JOINTS @ 20' O.C. (MAX.) - JOINT FILLER MDOT M9.14.0.
3. ALL JOINTS SEALED WITH POLYURETHANE JOINT SEALER MDOT M9.14.3
4. CONCRETE SHALL BE MDOT M4.02.00 (AIR ENTRAINED 4,000 PSI $\frac{3}{4}$", 610).
5. WELDED WIRE REINFORCEMENT SHALL BE BROKEN AT ALL JOINTS.
6. CONCRETE MIX SHALL CONTAIN 2 $\frac{1}{2}$ LB LAMP BLACK PER CUBIC YARD.

CONCRETE SIDEWALK
N.T.S.

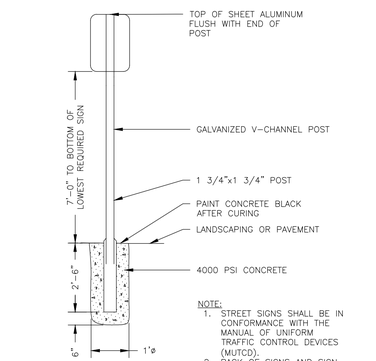
DET NO.
1-3.1



WAIT AS LONG AS FEASIBLE TO SEAL JOINTS TO ALLOW CONCRETE SHRINKAGE TO OCCUR. IF REQUIRED, REWAS JOINT IMMEDIATELY PRIOR TO INSTALLING SEALANT TO ACHIEVE A $\frac{1}{4}$" JOINT WIDTH. ENSURE JOINT IS CLEAN, DRY AND SIDES PREPARED PER MFR'S RECOMMENDATIONS.

EXPANSION AND CONTROL JOINT DETAILING
N.T.S.

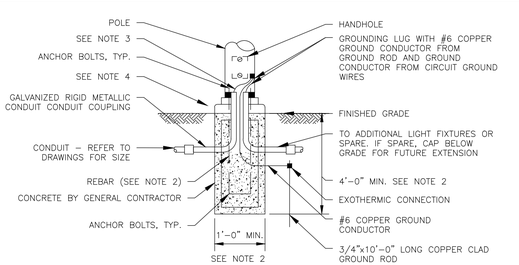
DET NO.
10-3



NOTE:
1. STREET SIGNS SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. BACK OF SIGNS AND SIGN POSTS SHALL BE PAINTED MATTE BLACK.

SIGN POST INSTALLATION
N.T.S.

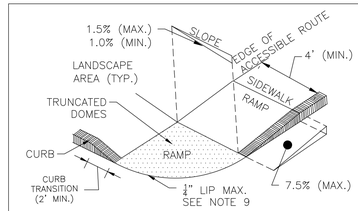
DET NO.
1-10.1



NOTE:
1. FURNISH POLE BASE TEMPLATE TO GENERAL CONTRACTOR PRIOR TO CONCRETE POUR.
2. REFER TO ARCHITECTURAL AND DETAIL DRAWINGS FOR BASE SIZE AND REBAR REQUIREMENTS.
3. PROVIDE GROUNDING BUSHINGS PER NATIONAL ELECTRIC CODE (NEC).
4. COORDINATE DIMENSIONS WITH ARCHITECT.
5. THE CONSTRUCTION STANDARDS FOR ELECTRICAL SERVICE LINES AND APPURTANCES, INCLUDING STREETLIGHTING FACILITIES, SHALL BE DESIGNED ACCORDING TO SPECIFICATIONS OF THE TOWN/CITY LIGHT DEPARTMENT.
6. CONDUIT WITH CABLE SHALL BE INSTALLED ANTICIPATING FUTURE CABLE SERVICE. LIGHT BASE AND CONDUIT FOR FUTURE STREETLIGHTS SHALL BE INSTALLED AS SPECIFIED BY THE TOWN/CITY LIGHT DEPARTMENT.
7. LIGHT POLE HEIGHT AND TYPE SHALL BE AS SPECIFIED BY THE TOWN/CITY REGULATIONS.

LIGHT POLE FOUNDATION
N.T.S.

DET NO.
12-4



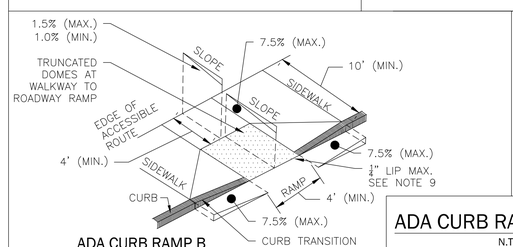
ADA CURB RAMP A

NOTE:
1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE RAMP.
2. DETECTABLE WARNING PANELS SHALL BE PALE YELLOW IN COLOR, CONFORMING TO FEDERAL NO. 23594.
3. ALL CEMENT CONCRETE RAMPS SHALL BE 6" THICK. AT BRICK RAMPS, A 6" THICK CEMENT CONCRETE PAD IS REQUIRED UNDER THE AREA OF EACH WARNING PANEL.
4. DETECTABLE WARNING PANELS SHALL BE MANUFACTURED BY ADA SOLUTIONS, INC. OF NORTH BILLERICA, MA OR AN APPROVED EQUAL.
5. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECCOMENDATIONS.

DETECTABLE WARNING PAD NOTES

NOTES:
1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB, AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP SECTION CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'X5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING AT RAMP WHERE IT ABUTS ROADWAY, EXCEPT WHERE VERTICAL CURBING IS INDICATED ON THE DRAWINGS TO BE SET FLUSH.
10. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
11. DETECTIBLE WARNINGS SHALL BE INSTALLED PERPENDICULAR TO THE ACCESSIBLE ROUTE.

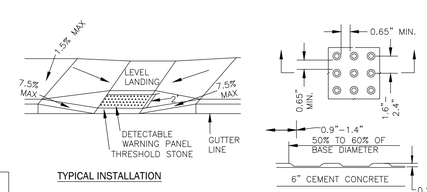
ADA CURB RAMP NOTES



ADA CURB RAMP B

ADA CURB RAMP DETAILS
N.T.S.

DET NO.
X-XX



DETECTABLE WARNING PAD DETAIL

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CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit
Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

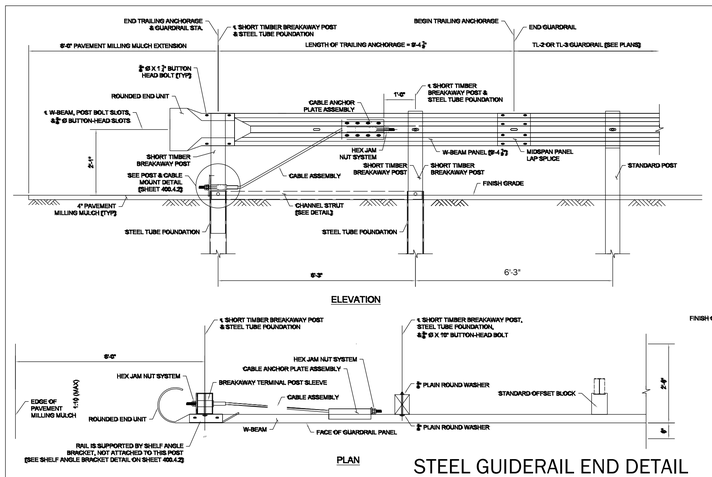
Sheet Title
SITE DETAILS

Sheet Number
C511

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Plotted by Ben Enos on May 17, 2022

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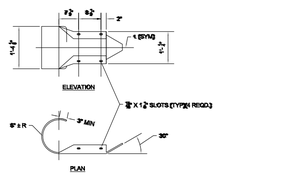
ELEVATION

PLAN

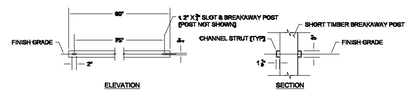
STEEL GUIDERAIL END DETAIL

N.T.S.

DET NO. 1-7.1B



ROUNDED END UNIT



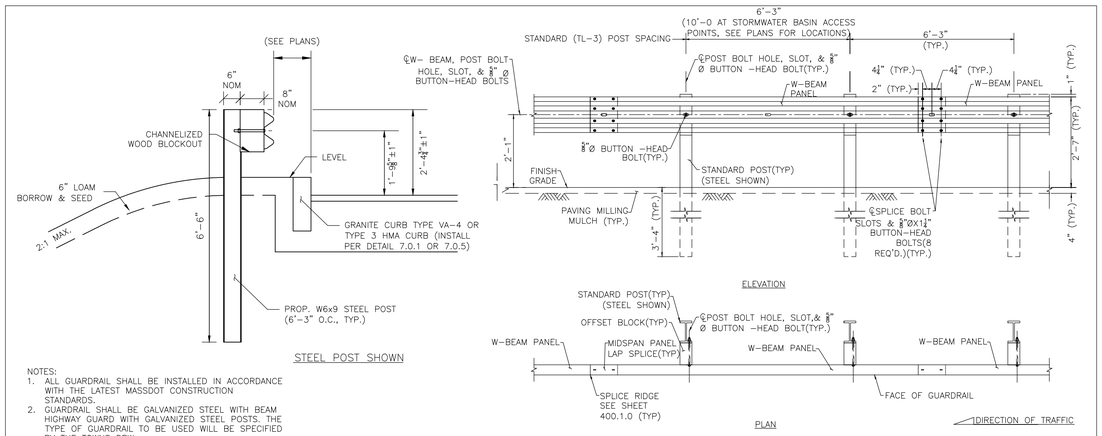
CHANNEL STRUT

NOTES:

1. FOR ADDITIONAL DETAILS, SEE 400.4.2.
2. LAP THE ROUNDED END UNIT OVER THE FACE OF THE W-BEAM PANEL.
3. INSTALL STEEL TUBE FOUNDATIONS BY ONE OF THE FOLLOWING METHODS:

A. EXCAVATE, INSTALL TUBE, BACKFILL, AND SUITABLY COMPACT MATERIALS; OR

B. DRIVE THE TUBE USING A DUMMY TIMBER POST TO PREVENT DAMAGE TO THE SHORT BREAKAWAY POST.



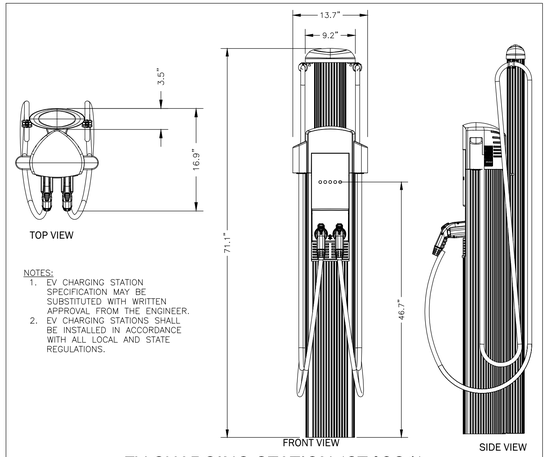
NOTES:

1. ALL GUARDRAIL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST MASSDOT CONSTRUCTION STANDARDS.
2. GUARDRAIL SHALL BE GALVANIZED STEEL WITH BEAM HIGHWAY GUARD WITH GALVANIZED STEEL POSTS. THE TYPE OF GUARDRAIL TO BE USED WILL BE SPECIFIED BY THE TOWNS DPW.
3. REGARDLESS OF POST TYPE USED, WHERE FULL 3'-3" OFFSET TO THE INTERSECTION OF TANGENTS (IT) IS NOT FEASIBLE DUE TO SITE CONSTRAINTS. THE POST LENGTH SHALL BE INCREASED TO 8'-0".

TL-3 STEEL GUARDRAIL AND POST

N.T.S.

DET NO. 1-7.1

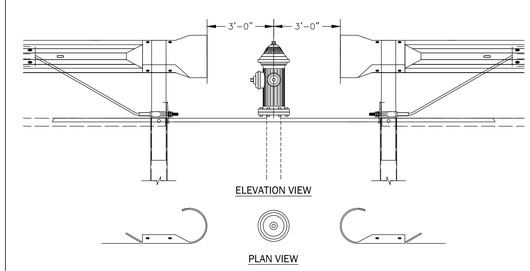


NOTES:
1. EV CHARGING STATION SPECIFICATION MAY BE SUBSTITUTED WITH WRITTEN APPROVAL FROM THE ENGINEER.
2. EV CHARGING STATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND STATE REGULATIONS.

EV CHARGING STATION (CT4021)

DETAIL OBTAINED FROM CHARGEPOINT

N.T.S.

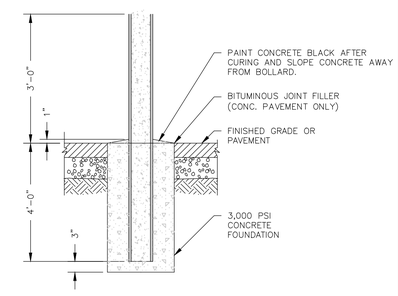


NOTES:
1. THIS SAFETY RAIL IS INTENDED TO PROVIDE A VISUAL BARRIER AND GUIDE ALONG ROUTES WHERE OFF PAVEMENT CONDITIONS MAY BE CONSIDERED ROADSIDE HAZARDS. THIS RAIL IS NOT INTENDED TO PREVENT VEHICLES FROM TRAVELING OFF PAVEMENT AND WILL NOT WITHSTAND VEHICLE STRIKES.
2. STEEL GUIDERAIL IS BASED OFF OF STEEL GUIDERAIL END DETAIL.
3. TAPERS TO BE INSTALLED AT ENDS OF SAFETY RAIL.
4. BURIED SECTIONS OF POSTS SHALL BE TREATED WITH A WOOD PRESERVATIVE PRIOR TO BURIAL.

STEEL SAFETY RAIL AT HYDRANT

N.T.S.

DET NO. 1-7.1C



STEEL BOLLARD DETAIL

N.T.S.

DET NO. 1-8.1

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CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse & Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.09.2022

Not for Construction

Permit Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title

SITE DETAILS

Sheet Number

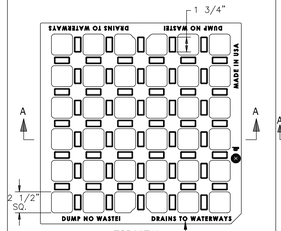
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Plotted by Devin Howe on May 31, 2022

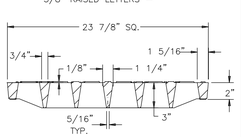
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CATCH BASIN GRATE SHALL BE EJCO 5520M5 GRATE OR APPROVED EQUAL



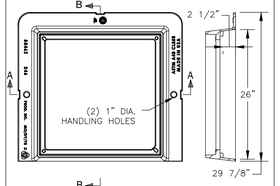
TOP VIEW

3/8" RAISED LETTERS

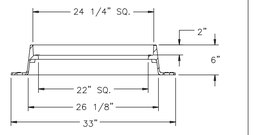


SECTION A-A

CATCH BASIN FRAME SHALL BE EJCO 5546Z FRAME OR APPROVED EQUAL



SECTION B-B



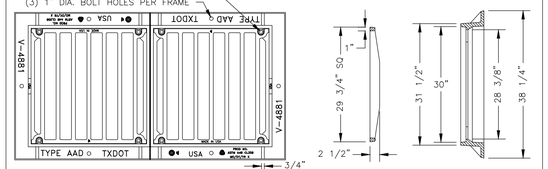
SECTION A-A

CATCH BASIN GRATE AND FRAME DETAIL

(DETAILS OBTAINED FROM EJCO)

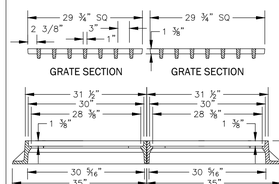
N.T.S.

DET NO. 3-4



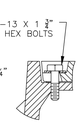
FRAME AND GRATE TOP VIEW

GRATE SECTION FRAME SECTION



GRATE SECTION GRATE SECTION

FRAME SECTION FRAME SECTION



BOLT DOWN DETAIL SLOT SECTION SLOT PLAN

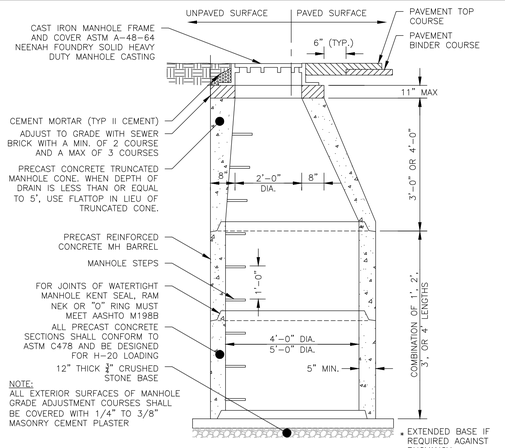
NOTES:
1. DOUBLE GRATE CATCH BASIN FRAME AND GRATE SHALL BE EJCO V4881 V488-2 SET OR APPROVED EQUAL
2. CLEAR OPENING LENGTH AND WIDTH IS 28.375 INCHES. THE CLEAR OPENING AREA=5.59 SQUARE-FEET

DOUBLE GRATE CATCH BASIN GRATE AND FRAME DETAIL

(DETAILS OBTAINED FROM EJCO)

N.T.S.

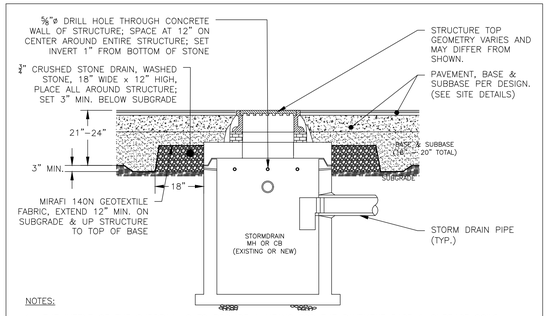
DET NO. 3-5



STANDARD DRAINAGE MANHOLE

N.T.S.

DET NO. 3-3.1



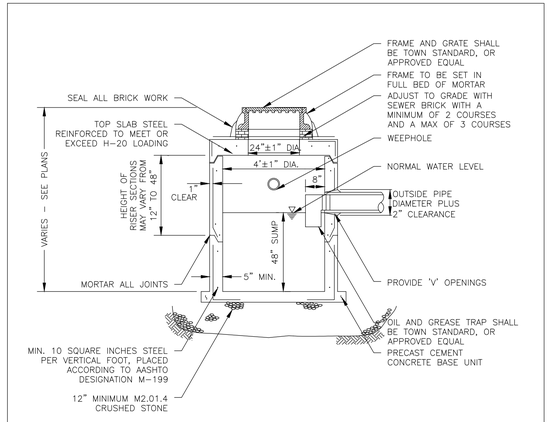
NOTES:

1. THE INTENT OF THE SUBDRAIN IS TO PROVIDE A MEANS FOR THE PAVEMENT BASE & SUBBASE SOILS TO DRAIN STORMWATER AND/OR GROUNDWATER TO IMPROVE PAVEMENT LIFE.
2. THE SUBDRAIN SHALL EXTEND AROUND THE ENTIRE CIRCUMFERENCE OF THE MH/CB STRUCTURE
3. HOLES ARE 5/8" DIAMETER AND SHALL BE DRILLED AT A SLIGHT ANGLE DOWNWARD THROUGH THE STRUCTURE WALLS.
4. STONE FOR SUBDRAIN SHALL BE 3/4" SIZE AND SHALL BE WASHED.
5. THE PAVEMENT BASE, SUBBASE AND ASPHALT THICKNESS SHOWN WILL ULTIMATELY DEPEND ON THE PAVEMENT DESIGN TYPE (STANDARD DUTY OR HEAVY DUTY). REFER TO GEOTECHNICAL REPORT FOR THESE.

STANDARD MANHOLE & CATCH BASIN SUBDRAIN DETAIL

N.T.S.

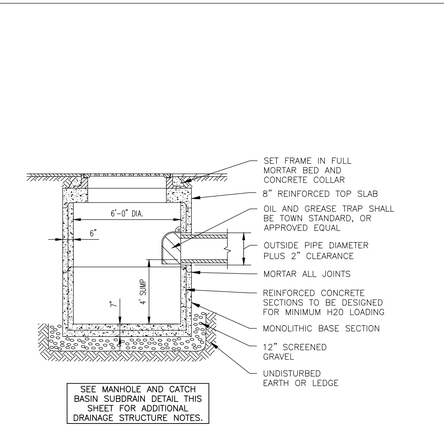
DET NO. X.XX



STANDARD CATCH BASIN

N.T.S.

DET NO. 3-2.1

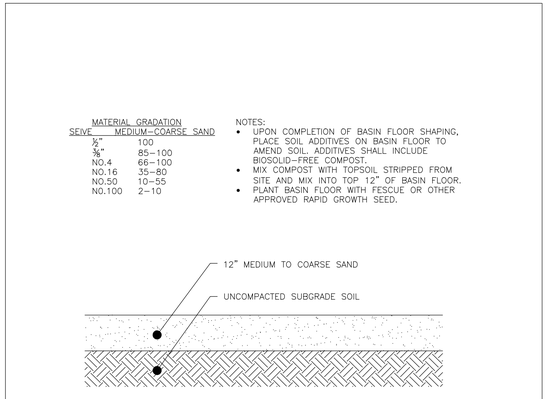


SEE MANHOLE AND CATCH BASIN SUBDRAIN DETAIL THIS SHEET FOR ADDITIONAL DRAINAGE STRUCTURE NOTES.

6' DIA. DOUBLE GRATE CATCH BASIN DETAIL

N.T.S.

DET NO. 3-3



MATERIAL GRADATION

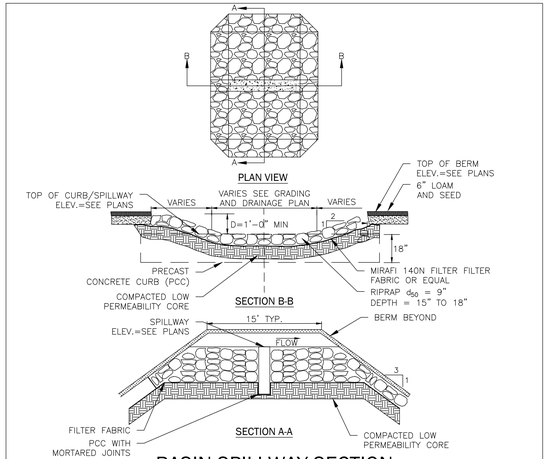
SEIVE	MEDIUM-COARSE SAND
½"	100
⅜"	85-100
NO.4	66-100
NO.16	35-80
NO.50	10-55
NO.100	2-10

NOTES:
- UPON COMPLETION OF BASIN FLOOR SHAPING, PLACE SOIL ADDITIVES ON BASIN FLOOR TO AMEND SOIL. ADDITIVES SHALL INCLUDE BIOSOLID-FREE COMPOST.
- MIX COMPOST WITH TOPSOIL STRIPPED FROM SITE AND MIX INTO TOP 12" OF BASIN FLOOR.
- PLANT BASIN FLOOR WITH FESCUE OR OTHER APPROVED RAPID GROWTH SEED.

INFILTRATION BASIN SUBGRADE

N.T.S.

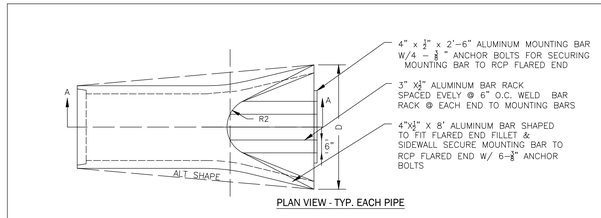
DET NO. 3-6.5



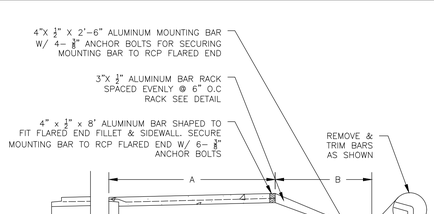
BASIN SPILLWAY SECTION

N.T.S.

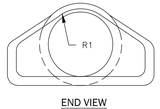
DET NO. 3-8.2



PLAN VIEW - TYP. EACH PIPE



SECTION VIEW



END VIEW

*USE FIELD MITRE FOR CULVERTS WITH A DIAMETER LESS THAN 18"
*BAR RACKS ARE ONLY REQUIRED ON PIPES 18" AND OVER IN SIZE.

DIA.	OVERALL LAYING LENGTH L	A	B	C	D	R1	R2	WALL THICKNESS T
12"	6'-1"	4'-1"	2'-0"	4"	24"	10.1"/8"	8"	2"
15"	6'-1"	3'-10"	2'-3"	6"	30"	12.5"	11"	2.25"
18"	6'-1"	3'-10"	2'-3"	9"	36"	15.1"/2"	12"	2.1"/2"
24"	6'-1"	2'-6"	3'-7"	9.1"/2"	48"	16.13"/16"	14"	3"
30"	6'-1"	1'-7"	4'-6"	12	60"	18.1"/2"	15"	3.1"/2"
36"	8'-1"	2'-11"	5'-3"	15"	72"	24.5"/16"	20"	4"
42"	8'-2"	2'-11"	5'-3"	21"	78"	27.1"/2"	22"	4.1"/2"
48"	8'-2"	2'-2"	6'-0"	24"	84"	28.1"/2"	22"	0'-5"
54"	8'-2"	2'-9"	5'-5"	27"	90"	33.1"/8"	24"	5.1"/2"
60"	8'-3"	3'-3"	5'-0"	30"	96"	36.11"/16"	24"	6"

NOTE:
JOINTS MAY BE FURNISHED WITH EITHER BELL & SPIGOT OR TONGUE AND GROOVE ENDS.

CONCRETE FLARED END WITH BAR RACK DETAIL

N.T.S.

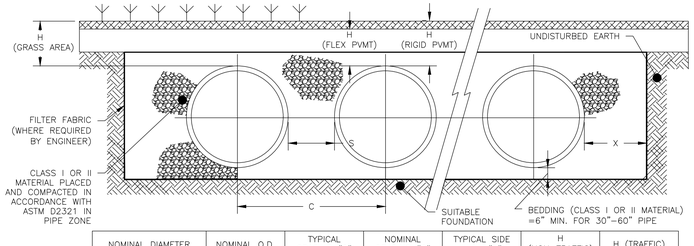
DET NO. 3-7

NOTES:

1. ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
4. FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
8. MINIMUM COVER: MINIMUM COVER OVER ALL RETNETION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

DET NO. 3-5.1.1

SEE DETENTION PIPE ANCHOR DETAIL IF DETERMINED NECESSARY BY ENGINEER



NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	NOMINAL SPACING "C"	TYPICAL SIDE WALL "X"	H (NON-TRAFFIC)	H (TRAFFIC)
48"	54"	24"	78"	18"	12"	24"

DETENTION SYSTEM CROSS-SECTION

(DETAIL OBTAINED FROM ADVANCED DRAINAGE SYSTEMS, INC.)

N.T.S.

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Warehouse Distribution Facility
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No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title
STORMWATER DETAILS

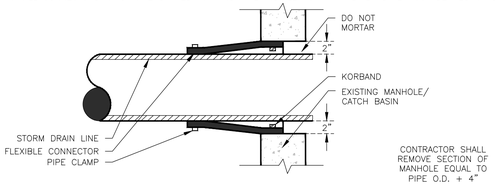
Sheet Number
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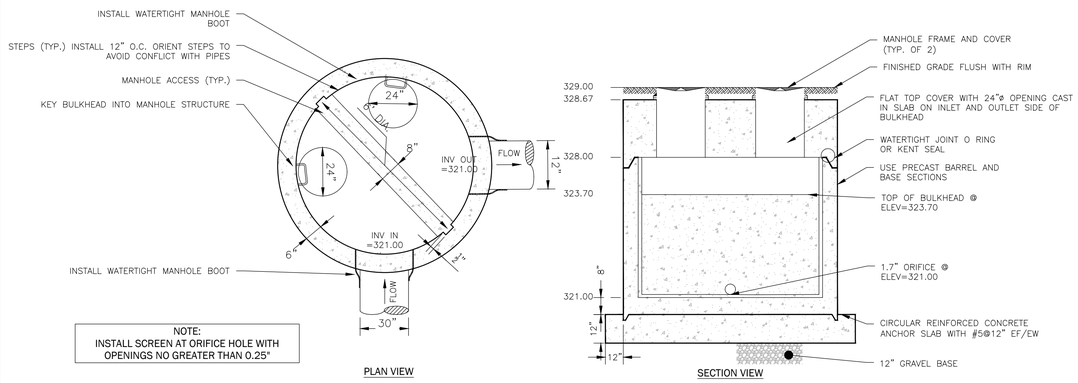
NOTES:
1. A FLEXIBLE PIPE MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF ALL PIPE TO MANHOLE JUNCTIONS.
2. THE CONNECTOR SHALL BE KOR-N-SEAL AS MANUFACTURED BY NPC SYSTEMS, INC. OF MILFORD, NH OR EQUAL.
3. THE CONNECTOR SHALL BE THE SOLE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS KNOW TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS.
4. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET AT 60/90 IN/LBS..
5. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.
6. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.
7. ALL CONNECTORS WHICH ARE CAPPED AWAITING PIPE INSTALLATION AT A LATER DATE MUST BE RESTRAINED.



SANITARY SEWER AND STORM DRAINAGE STRUCTURES CORE AND SEAL CONNECTION TO EXISTING

N.T.S.

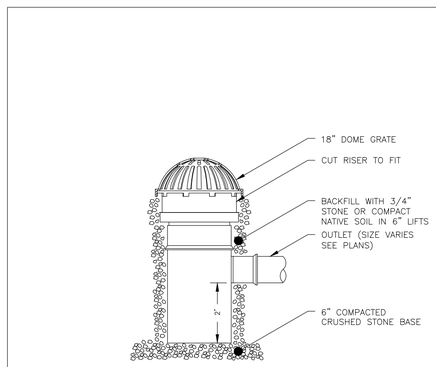
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OUTLET CONTROL STRUCTURE #1

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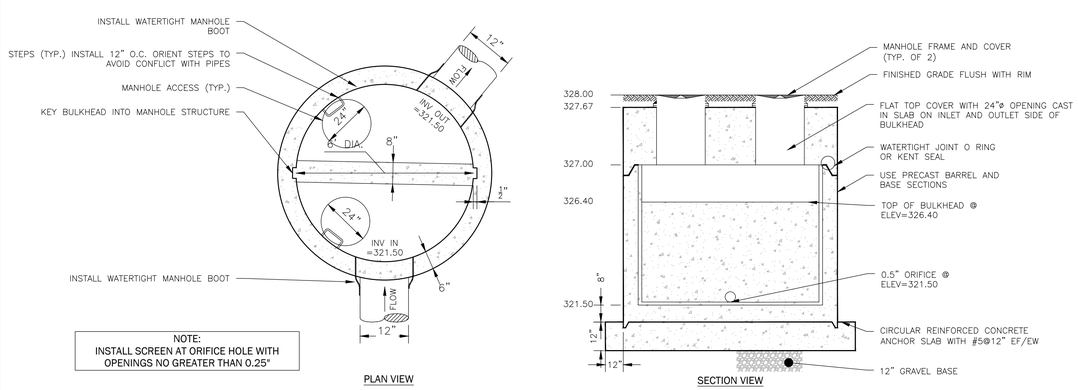


CROSS SECTION

TYPICAL BEEHIVE DRAIN

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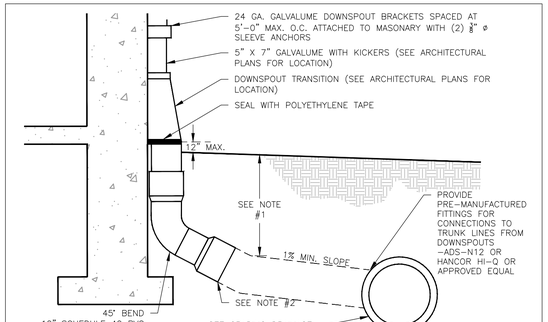
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OUTLET CONTROL STRUCTURE #2

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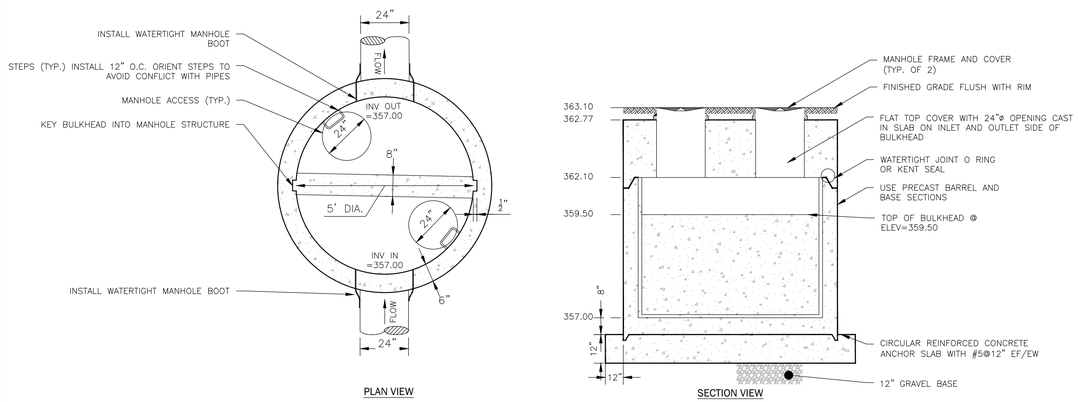


NOTES:
1. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFACTIONS FOR ALLOWABLE PIPE TYPES.
2. A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER TYPE OF PIPE.
3. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITEWORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO THE DOWNSPOUT TRANSITION. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE DOWNSPOUT TRANSITION.

ROOF DRAIN DETAIL

N.T.S.

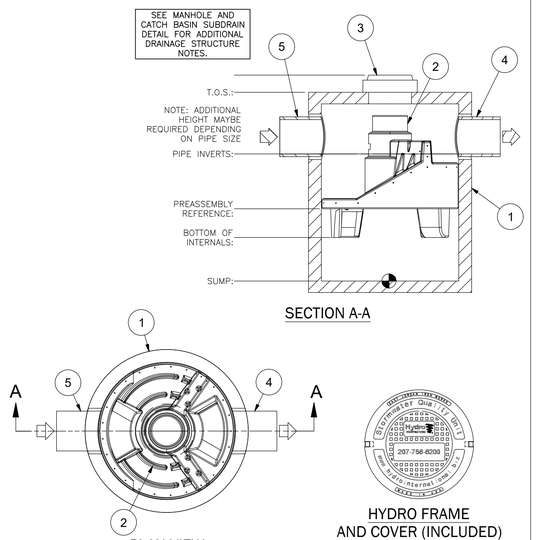
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OUTLET CONTROL STRUCTURE #3

N.T.S.

DET NO. 3.1.4



SECTION A-A

PLAN VIEW

HYDRO FRAME AND COVER (INCLUDED)

GRADE RINGS BY OTHERS AS REQUIRED

FDHC-3 INFORMATION

PRODUCT SPECIFICATION:

1. PEAK HYDRAULIC FLOW: 15 cfs
2. WATER QUALITY FLOW RATE: XX cfs
3. MIN SEDIMENT STORAGE CAPACITY: 0.4 YD³
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 18 IN.
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
6. FOR MORE PRODUCT INFORMATION INCLUDING REGULATORY ACCEPTANCES, PLEASE VISIT https://hydro-int.com/en/products/first-defense

PARTS LIST			
ITEM	QTY	SIZE (IN)	DESCRIPTION
1	1	36	I.D. PRECAST MH
2	1		INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	FRAME AND COVER (ROUND)
4	1	18 (MAX)	OUTLET PIPE (BY OTHERS)
5		18 (MAX)	INLET PIPE (BY OTHERS)

FDHC-4 INFORMATION

PRODUCT SPECIFICATION:

1. PEAK HYDRAULIC FLOW: 18 cfs
2. WATER QUALITY FLOW RATE: 1.50 cfs
3. MIN SEDIMENT STORAGE CAPACITY: 0.7 YD³
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 IN.
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
6. FOR MORE PRODUCT INFORMATION INCLUDING REGULATORY ACCEPTANCES, PLEASE VISIT https://hydro-int.com/en/products/first-defense

PARTS LIST			
ITEM	QTY	SIZE (IN)	DESCRIPTION
1	1	48	I.D. PRECAST MH
2	1		INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	FRAME AND COVER (ROUND)
4	1	30 (MAX)	OUTLET PIPE (BY OTHERS)
5		30 (MAX)	INLET PIPE (BY OTHERS)

FDHC-10 INFORMATION

PRODUCT SPECIFICATION:

1. PEAK HYDRAULIC FLOW: 50 cfs
2. WATER QUALITY FLOW RATE: 11.75 cfs
3. MIN SEDIMENT STORAGE CAPACITY: 4.4 YD³
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 48 IN.
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
6. FOR MORE PRODUCT INFORMATION INCLUDING REGULATORY ACCEPTANCES, PLEASE VISIT https://hydro-int.com/en/products/first-defense

PARTS LIST			
ITEM	QTY	SIZE (IN)	DESCRIPTION
1	1	120	I.D. PRECAST MH
2	1		INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	FRAME AND COVER (ROUND)
4	1	48 (MAX)	OUTLET PIPE (BY OTHERS)
5	1	48 (MAX)	INLET PIPE (BY OTHERS)

GENERAL NOTES:
1. GENERAL ARRANGEMENT DRAWINGS ONLY. CONTACT HYDRO INTERNATIONAL FOR SITE SPECIFIC DRAWINGS.
2. THE DIAMETER OF THE INLET AND OUTLET PIPES MAY BE NO MORE THAN THE MAXIMUM SIZE SPECIFIED FOR EACH UNIT.
3. MULTIPLE INLET PIPES POSSIBLE (REFER TO PROJECT PLAN).
4. INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK (REFER TO PROJECT PLAN.S)
5. PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER. ENGINEER SHALL REVIEW WHETHER THE PEAK FLOW RATE IS ACCEPTABLE FOR THE PROJECT. A BYPASS STRUCTURE MAY BE REQUIRED.
6. LARGER SEDIMENT STORAGE CAPACITY MAY BE PROVIDED WITH A DEEPER SUMP DEPTH.

ADDITIONAL NOTES:
1. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
2. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

NOTE:
WQU 1, WQU 3, AND WQU 4 SHALL BE FDHC-3 OR APPROVED EQUAL
WQU 2 SHALL BE FDHC-10 OR APPROVED EQUAL
WQU 5 SHALL BE FDHC-4

WATER QUALITY UNIT (WQU) FIRST DEFENSE DETAILS

(DETAILS OBTAINED FROM HYDRO INTERNATIONAL)

N.T.S.

DET NO. 3.3.1

BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE 617-232-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title
STORMWATER DETAILS

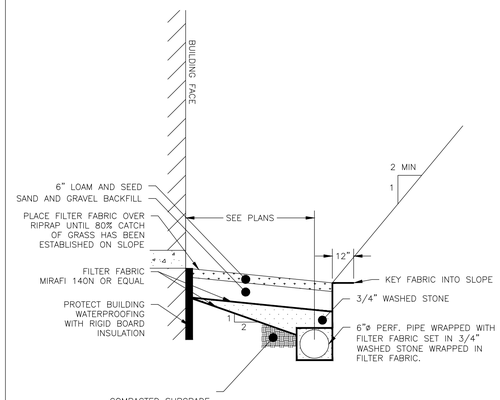
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Plotted by Devin Howe on May 31, 2022

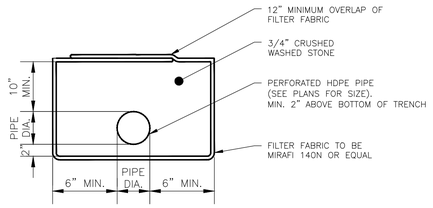
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SLOPE DRAIN

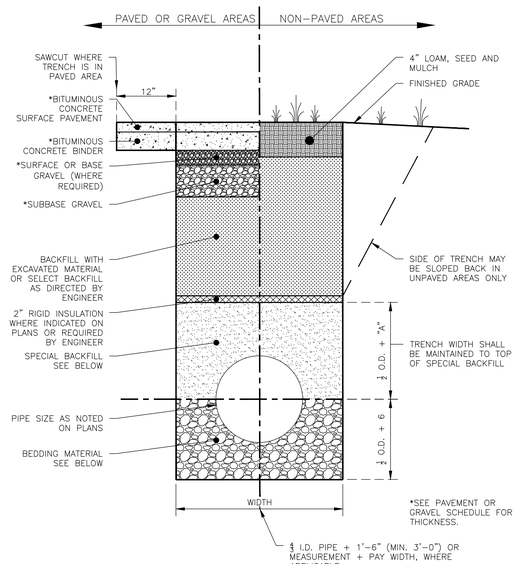
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PERFORATED PIPE TRENCH SECTION DETAIL

N.T.S.



NOTES:

1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. WHERE APPLICABLE, SERVICE TO BE SIMILAR EXCEPT MINIMUM PAY WIDTH IS 2 ½ FT.
3. TRENCH BACKFILL TO BE USED WITHIN THE RIGHT-OF-WAY SHALL CONSIST OF EITHER GRAVEL BORROW MEETING MASSDOT SPECIFICATION M1.03.0, TYPE "B" OR PROCESSED GRAVEL BRORROW FOR SUBBASE MEETING MASSDOT SPECIFICATION M1.03.1
4. WHERE THE REMOVAL OF 100 SQUARE FEET OR LESS OF ASPHALT IS REQUIRED WITHIN THE RIGHT-OF-WAY, THEN THE TRENCH BACKFILL MATERIAL SHALL CONSIST OF CONTROLLED DENSITY FILL MEETING MASSDOT SPECIFICATION M4.08.0, TYPE "1E" OR "2E".
5. TRENCH BACKFILL MATERIAL TO BE USED OUTSIDE OF THE RIGHT-OF-WAY MAY CONSIST OF MATERIAL GENERATED DURING EXCAVATIONS PROVIDED ALL STONES GREATER THAN 4" ARE REMOVED PRIOR TO PLACEMENT AND COMPACTION.
6. GRANULAR TRENCH BACKFILL MATERIAL USED WITHIN THE RIGHT-OF-WAY SHALL BE PLACED IN MAXIMUM 6" LIFTS AND MECHANICALLY COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY AND 90% ELSEWHERE AS DETERMINED BY ASTM D 1557.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND MAINTAINING PROPER TRENCH PROTECTION AND OBTAINING ALL REQUIRED PERMITS.

SCHEDULE OF BASE BACKFILL				
TYPE OF PIPE	BEDDING MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL - COVER "A"	SELECT BACKFILL
CONCRETE	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49-A-3 OR BETTER	12"	GRANULAR AASHTO M145-49-A-3 OR BETTER
PVC	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49-A-3 OR BETTER	6"	GRANULAR AASHTO M145-49-A-3 OR BETTER
HDPE	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49-A-3 OR BETTER	6"	GRANULAR AASHTO M145-49-A-3 OR BETTER
DUCTILE IRON	GRANULAR AASHTO M145-49-A-3 OR BETTER	GRANULAR AASHTO M145-49-A-3 OR BETTER	6"	GRANULAR AASHTO M145-49-A-3 OR BETTER

STORM DRAIN TRENCH SECTION DETAIL

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BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-242-1120
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CRG | INTEGRATED REAL ESTATE SOLUTIONS

Warehouse Distribution Facility

Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction

Permit Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title

STORMWATER DETAILS

Sheet Number

C522

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Plotted by Devin Howe on May 31, 2022

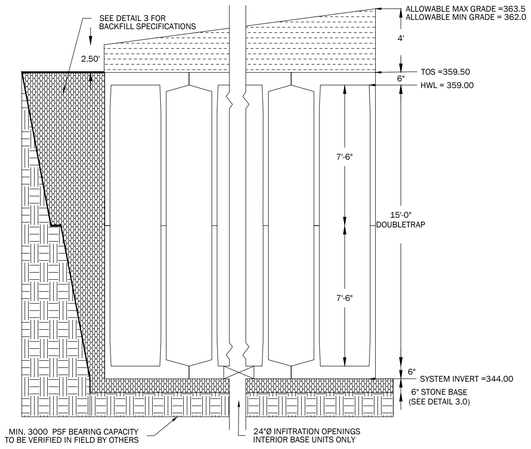
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STRUCTURAL DESIGN LOADING CRITERIA
LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 3000 PSF
SOIL DENSITY:120 PCF
EQUIVALENT UNSATURATED
LATERAL ACTIVE EARTH PRESSURE: 35 PSF /FT.
EQUIVALENT SATURATED
LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT.
(IF WATER TABLE PRESENT)
APPLICABLE CODES:ASTM C857
ACI-318
BACKFILL TYPE:SEE SHEET 4.0 FOR BACKFILL OPTIONS

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 2'-50" MAX. 4.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM. IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.

DESIGN CRITERIA
ALLOWABLE MAX GRADE = 363.5
ALLOWABLE MIN GRADE =362.00
INSIDE HEIGHT ELEVATION =359.00
SYSTEM INVERT =344.00



15'-0" DOUBLETRAP

LOADING DISCLAIMER
STORMTRAP IS NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADINGS FROM NEARBY STRUCTURES NEXT TO OR OVER THE TOP OF STORMTRAP. IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY.

TREE LOADING DISCLAIMER:

THE STORMTRAP SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT THE ADDITIONAL WEIGHT OF ANY TREES. FURTHERMORE, THE ROOTS OF THE TREES MUST BE CONTAINED TO PREVENT FUTURE DAMAGE TO THE STORMTRAP SYSTEM. STORMTRAP ACCEPTS NO LIABILITY FOR DAMAGES CAUSED BY TREES OR OTHER VEGETATION PLACE AROUND OR ON TOP OF THE SYSTEM.

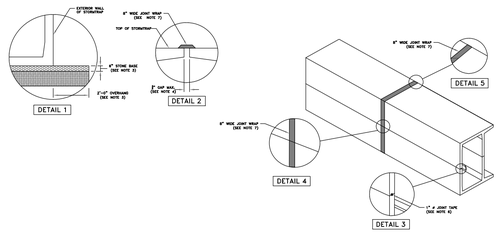
SEDIMENT/SAND FILTER DISCLAIMER:

FOR SYSTEMS CONTAINING SEDIMENT AND SAND FILTER MODULES; IF REQUIRED TO BE SEALED TO PREVENT SAND AND/OR PRE-TREATED WATER FROM MIGRATING INTO ADJOINING MODULES, IT IS THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THOSE MODULES ARE SEALED.

NOTES:
1. DIMENSIONING OF STORMTRAP SYSTEM SHOWN BELOW ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
3. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.
4. SP - INDICATES A MODULE WITH MODIFICATIONS.
5. P - INDICATES A MODULE WITH A PANEL ATTACHMENT.
6. CONTRACTORS RESPONSIBILITY TO ENSURE CONSISTENCY/ACCURACY TO FINAL ENGINEER OF RECORD PLAN SET.
7. IF A WATERTIGHT SOLUTION IS REQUIRED FOR AN OUTLET CONTROL STRUCTURE, ALL EXTERIOR COLD JOINTS, INCLUDING JOINT BETWEEN TOP AND BASE MODULES, BETWEEN TOP AND BASE OF ADJOINING SYMONS WALLS, AND JOINTS BETWEEN MODULE AND ADJACENT END PANELS WILL BE THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO PROVIDE AND INSTALL THE WATERTIGHT APPLICATION PER THE EOR'S SPECIFICATION.

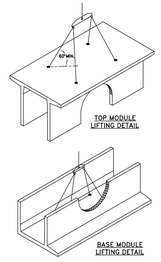
STORMTRAP INSTALLATION SPECIFICATIONS

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891, STANDARD FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES, THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. STORMTRAP MODULES CAN BE PLACED ON A LEVEL, 6" FOUNDATION OF ¾" AGGREGATE EXTENDING 2'-0" PAST THE OUTSIDE OF THE SYSTEM (SEE DETAIL 1) AND SHALL BE PLACED ON PROPERLY COMPACTED SOILS (SEE SHEET 1.0 FOR SOIL BEARING CAPACITY REQUIREMENTS), AND IN ACCORDANCE WITH ASTM C891 STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED ¾" (SEE DETAIL 2). IF THE SPACE EXCEEDS ¾", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. STORMTRAP MODULES ARE NOT WATERTIGHT. IF A WATERTIGHT SOLUTION IS REQUIRED, CONTACT STORMTRAP FOR RECOMMENDATIONS. THE WATERTIGHT APPLICATION IS TO BE PROVIDED AND IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SELECTED WATERTIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
6. THE PERIMETER HORIZONTAL JOINT BETWEEN THE TOP AND BASE LEG CONNECTION OF THE STORMTRAP MODULES SHALL BE SEALED WITH PREFORMED MASTIC JOINT TAPE ACCORDING TO ASTM C891, 8.8 AND 8.12. (SEE DETAIL 3). THE MASTIC JOINT TAPE DOES NOT PROVIDE A WATERTIGHT SEAL.
7. ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN , HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 4, & 5). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
   - 7.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE JOINT WRAP IS TO BE APPLIED.
   - 7.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
8. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
9. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND TO DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
10. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.

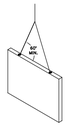


STORMTRAP MODULE LIFTING INSTALLATION NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE (SEE RECOMMENDATIONS 2 & 3).
2. MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
3. CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
4. IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.



TOP MODULE LIFTING DETAIL

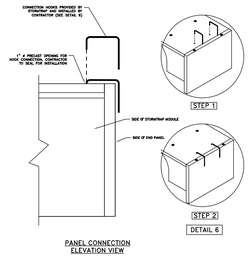


END PANEL LIFTING DETAIL

BASE MODULE LIFTING DETAIL

END PANEL ERECTION/INSTALLATION NOTES

1. END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
2. PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
3. CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
4. ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
5. JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



PANEL CONNECTION ELEVATION VIEW

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/ PROCEDURES

1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS).
2. DURING PLACEMENT OF MATERIAL OVERTOP THE SYSTEM, AT NO TIME SHALL MACHINERY BE USED OVERTOP THAT EXCEEDS THE DESIGN LIMITATIONS OF THE SYSTEM. WHEN PLACEMENT OF MATERIAL OVERTOP, MATERIAL SHALL BE PLACED SUCH THAT THE DIRECTION OF PLACEMENT IS PARALLEL WITH THE OVERALL LONGITUDINAL DIRECTION OF THE SYSTEM WHENEVER POSSIBLE.
3. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED AT A MINIMUM OF 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN HS-20 LOADING CRITERIA TRAVEL OVERTOP THE SYSTEM WITHOUT THE MINIMUM DESIGN COVERAGE. IF TRAVEL IS NECESSARY OVERTOP THE SYSTEM PRIOR TO ACHIEVING THE MINIMUM DESIGN COVER, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. IN SOME CASES, IN ORDER TO ACHIEVE REQUIRED COMPACTION, HAND COMPACTION MAY BE NECESSARY IN ORDER NOT TO EXCEED THE ALLOTTED DESIGN LOADING. SEE CHART FOR TRACKED VEHICLE WIDTH AND ALLOWABLE MAXIMUM PRESSURE PER TRACK.
4. STONE AGGREGATE FOUNDATION IN ZONE 1 MAY BE REQUIRED FOR THE FOLLOWING:
   A.) INFILTRATION - IF INFILTRATION IS REQUIRED, A FREE DRAINING MATERIAL SHALL BE USED AT A DEPTH DETERMINED BY THE EOR. FREE DRAINING AGGREGATE IS DEFINED AS 80% AGGREGATE RETAINED ON ½" SIEVE, MAJORITY OF AGGREGATE SIZE BETWEEN ¾" AND 1", AND ONLY 5%" OF MATERIAL PASSING # ¾" SIEVE.
   B.) LEVELING -STORMTRAP RECOMMENDS STONE SUBBASE FOR LEVELING PURPOSES ONLY (OPTIONAL).

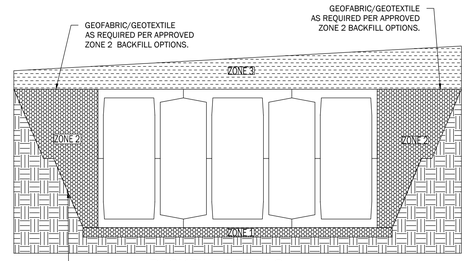
APPROVED ZONE 2 BACKFILL OPTIONS

OPTION	REMARKS
¾" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1	FOUNDATION AGGREGATE	#5 (2") STONE AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED

FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT(KIPS)	MAX GROUND PRESSURE
12"	12"	51.8	1690 PSF
	18"	56.1	1219 PSF
	24"	68.1	1111 PSF
	30"	76.7	1000 PSF
	36"	85.0	924 PSF

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.



BACKFILL DETAILS

RECOMMENDED ACCESS OPENING SPECIFICATIONS

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 3'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED.
2. PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC OR APPROVED EQUAL (SEE STEP DETAIL) ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)

RECOMMENDED PIPE OPENING SPECIFICATION

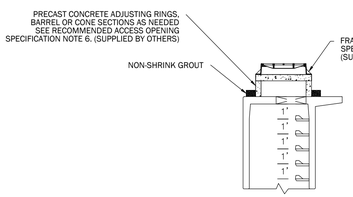
1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE Ø 36" OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
3. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND AN AGGREGATE CRADLE FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
4. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

RECOMENDED PIPE INSTALLATION INSTRUCTIONS

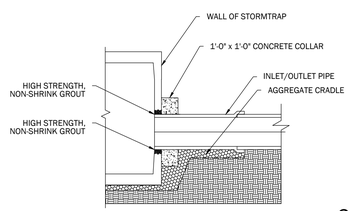
CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.

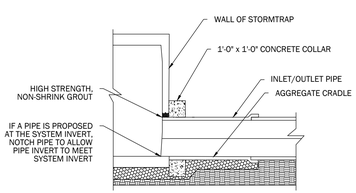
5. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
6. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.

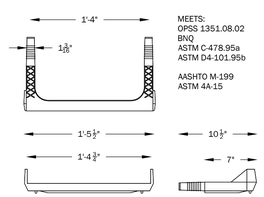


RISER/ STAIR DETAIL





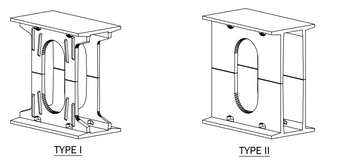
PIPE CONNECTION DETAIL



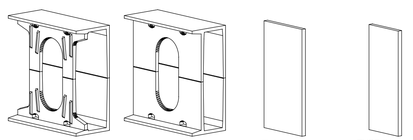
MEETS:
OPSS 1351.08.02
BNQ
ASTM C-478.95a
ASTM D4-101.95b

AASHTO M-199
ASTM 4A-15

STEP DETAIL



TYPE I TYPE II



TYPE III TYPE IV TYPE II END PANEL TYPE IV END PANEL

NOTES:
1. OPENING LOCATIONS AND SHAPES MAY VARY.
2. SP- INDICATEDA MODULE WITH MODIFICATIONS.
3. P- INDICATES A MODULEWITHA PANEL ATTATCHMENT.
4. POCKET WINDOW OPENING ARE OPTIONAL.

GENERAL DETAILS

N.T.S. DETAIL OBTAINED FROM STORMTRAP

DET NO.
3.1.4

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BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-262-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

CRG INTEGRATED REAL ESTATE SOLUTIONS

Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

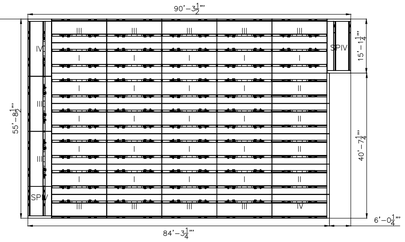
Sheet Title
STORMWATER DETAILS

Sheet Number
C523

Plotted by Devin Howe on May 31, 2022

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BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
21	I	15'-0" DOUBLETRAP	18998	19008
4	II	15'-0" DOUBLETRAP	23403	23414
11	III	15'-0" DOUBLETRAP	20873	20881
2	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
2	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
4	T2 PANEL	8" THICK PANEL	13467	
5	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
10	JOINT WRAP	150' PER ROLL		
32	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =80				
TOTAL PANELS= 9				
HEAVIEST PICK WEIGHT= 23,414				



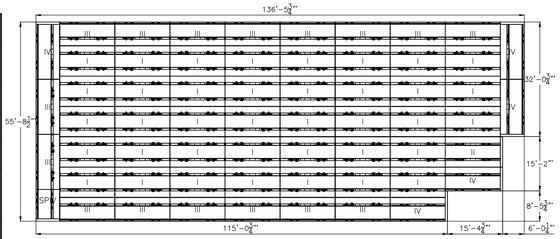
STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV:69,340.05 CUBIC FEET
WATER STORAGE PROV:64,662.94 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 3,600.00 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 1,077.11 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

1P-A 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
38	I	15'-0" DOUBLETRAP	18998	19008
1	II	15'-0" DOUBLETRAP	23403	23414
16	III	15'-0" DOUBLETRAP	20873	20881
5	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
1	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
1	T2 PANEL	8" THICK PANEL	13467	
6	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
14	JOINT WRAP	150' PER ROLL		
40	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =122				
TOTAL PANELS= 7				
HEAVIEST PICK WEIGHT= 23,414				



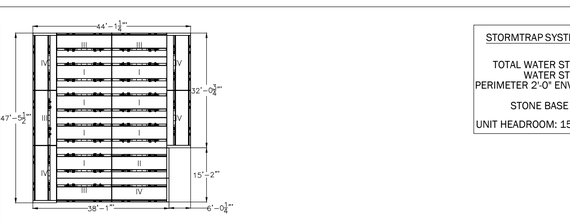
STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV:106,203.48 CUBIC FEET
WATER STORAGE PROV:99,898.12 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 4,708.50 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 1,596.86 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

2P-A 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
38	I	15'-0" DOUBLETRAP	18998	19008
1	II	15'-0" DOUBLETRAP	23403	23414
16	III	15'-0" DOUBLETRAP	20873	20881
5	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
1	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
1	T2 PANEL	8" THICK PANEL	13467	
6	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
14	JOINT WRAP	150' PER ROLL		
440	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =122				
TOTAL PANELS= 7				
HEAVIEST PICK WEIGHT= 23,414				



STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV:106,203.48 CUBIC FEET
WATER STORAGE PROV:99,898.12 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 4,708.50 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 1,596.86 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

1P-B 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
6	I	15'-0" DOUBLETRAP	18998	19008
–	II	15'-0" DOUBLETRAP	23403	23414
2	III	15'-0" DOUBLETRAP	20873	20881
6	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
-	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
–	T2 PANEL	8" THICK PANEL	13467	
6	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
5	JOINT WRAP	150' PER ROLL		
16	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =28				
TOTAL PANELS= 6				
HEAVIEST PICK WEIGHT= 23,414				

STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV:23,949.12 CUBIC FEET
WATER STORAGE PROV:21,469.48 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 2,084.46 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 395.18 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

2P-B 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
7	I	15'-0" DOUBLETRAP	18998	19008
1	II	15'-0" DOUBLETRAP	23403	23414
4	III	15'-0" DOUBLETRAP	20873	20881
5	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
-	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
1	T2 PANEL	8" THICK PANEL	13467	
6	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
5	JOINT WRAP	150' PER ROLL		
16	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =34				
TOTAL PANELS= 6				
HEAVIEST PICK WEIGHT= 23,414				

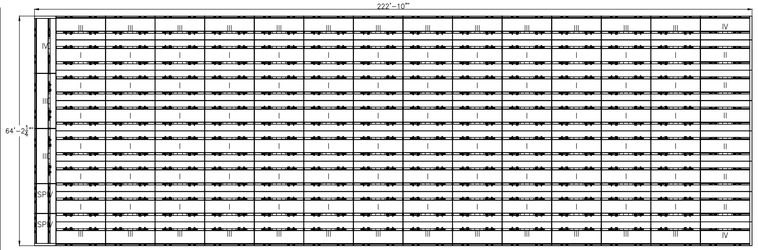
STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV:29,178.45 CUBIC FEET
WATER STORAGE PROV:26,409.86 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 2,293.50 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 475.09 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

1P-C 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BILL OF MATERIALS				
QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
78	I	15'-0" DOUBLETRAP	18998	19008
6	II	15'-0" DOUBLETRAP	23403	23414
28	III	15'-0" DOUBLETRAP	20873	20881
3	IV	15'-0" DOUBLETRAP	23075	23084
-	VII	15'-0" DOUBLETRAP	-	-
2	SPIV	15'-0" DOUBLETRAP	VARIES	VARIES
6	T2 PANEL	8" THICK PANEL	13467	
4	T4 PANEL	8" THICK PANEL	10600	
-	T7 PANEL	8" THICK PANEL	-	
26	JOINT WRAP	150' PER ROLL		
56	JOINT TAPE	14.5' PER ROLL		
TOTAL PIECES =234				
TOTAL PANELS= 10				
HEAVIEST PICK WEIGHT= 23,414				



STORMTRAP SYSTEM INFORMATION

TOTAL WATER STORAGE PROV: 204,994.30 CUBIC FEET
WATER STORAGE PROV :194,916.32 CUBIC FEET
PERIMETER 2'-0" ENVELOPE PROV: 6,984.54 CUBIC FEET
40% VOIDS
STONE BASE STORAGE PROV: 3,093.44 CUBIC FEET
40% VOIDS
UNIT HEADROOM: 15'-0" DOUBLETRAP

8P-A 15-0

(DETAIL OBTAINED FROM STORMTRAP)
N.T.S.

BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE 617-232-1120
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INTEGRATED REAL ESTATE SOLUTIONS

CRG

Warehouse Distribution Facility

Gilboa Street
Douglas, MA

No.	Revision	Date
–	Revised for Issuance of Control Documents	05.26.2022

Not for Construction

Permit Documents

Designed by: DPH	Checked by: TPM
Proj. No.: C-1203	Issue Date: 02.11.22
Drawing Scale: N.T.S.	

Sheet Title

STORMWATER DETAILS

Sheet Number

C524

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Plotted by Devin Howe on May 31, 2022

1. STORMTECH ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICE REPRESENTATIVES AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PREINSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 860-529-8188 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER FOR THE SC-740, DC-780 AND SC-310 CHAMBERS IS 18" (457 MM) NOT INCLUDING PAVEMENT; MAXIMUM COVER FOR THE SC-740 AND SC-310 CHAMBERS IS 96" (2.4 M) INCLUDING PAVEMENT DESIGN; MAXIMUM COVER FOR THE DC-780 CHAMBER IS 12' (3.6 M) INCLUDING PAVEMENT DESIGN. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24" (610 MM), MAXIMUM COVER IS AS STATED ABOVE.
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH THE BEARING CAPACITY OF THE SUBGRADE MATERIALS TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (ADS601 OR EQUAL) (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBER ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 / MC4500 CONSTRUCTION GUIDE.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 / MC-4500 CONSTRUCTION GUIDE.
8. THE CONTRACTOR MUST REFER TO STORMTECH MC-3500 / MC-4500 CONSTRUCTION GUIDE FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT THE STORMTECH WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. CONTACT STORMTECH FOR WARRANTY INFORMATION.

STORMTECH GENERAL NOTES

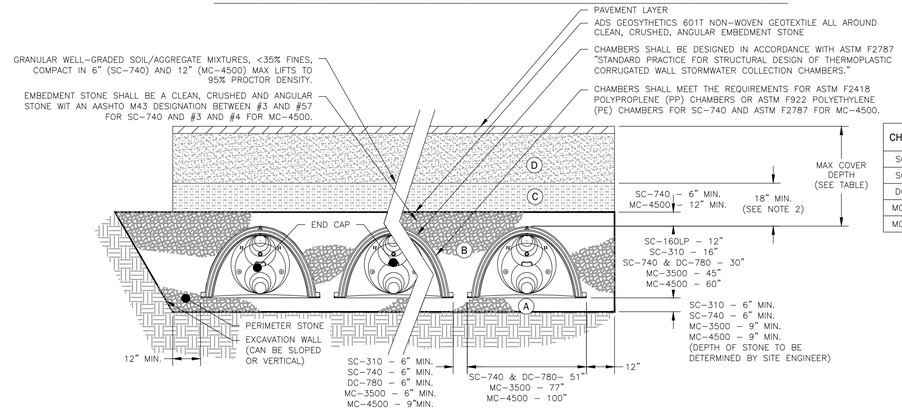
1. CHAMBERS SHALL BE STORMTECH CHAMBERS SPECIFIED ON PLANS, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16A (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR:
   A. LONG-DURATION DEAD LOADS AND
   B. SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO TO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   A. TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   B. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   C. TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, A) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN, AND B) TO RESIST SOFTENING DURING HOT, SUNNY INSTALLATION CONDITIONS, CHAMBERS SHALL BE PRODUCED FROM LIGHT, REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   A. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   B. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY

STORMWATER CHAMBER SPECIFICATIONS

ACCEPTABLE FILL MATERIALS				
	MATERIAL LOCATION	DESCRIPTION	AASHTO M43 MATERIAL CLASSIFICATION	COMPACTION/DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" [457 mm] ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" [305 mm] OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" [152 mm] LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY (2). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs [53 kN]. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs [89 kN].
B	**EMBEDMENT STONE:** EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	AASHTO M145[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	**FOUNDATION STOUNE:** FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	AASHTO M145[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEM



CHAMBER	MAX COVER DEPTH
SC-310	8'-0"
SC-740	8'-0"
DC-780	12'-0"
MC-3500	8'-0"
MC-4500	7'-0"

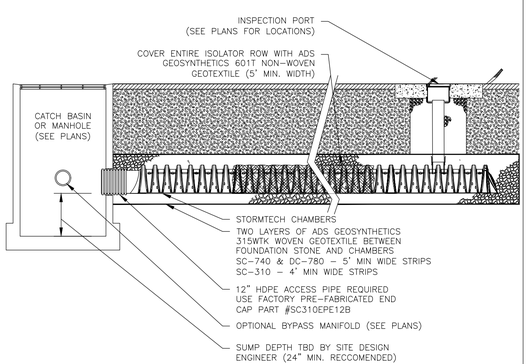
NOTES:
1. THE SUBGRADE OF THE EXCAVATION SHALL BE ABLE TO SUPPORT THE SYSTEM BASE WHILE REMAINING POROUS TO ALLOW FOR INFILTRATION. TO ACHIEVE THIS, THE SUBGRADE SHALL NOT BE COMPACTED BUT MUST SUPPORT A MINIMUM OF 2,000 PSF. IF THE BEARING CAPACITY OF THE SUBGRADE IS BELOW 2,000 PSF, A QUALIFIED ENGINEER SHALL BE CONSULTED FOR GUIDANCE ON BRINGING THE BEARING CAPACITY UP TO MINIMUM REQUIREMENTS WHILE NOT REDUCING THE INFILTRATION CAPACITY OF THE SOIL.
2. MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" FOR SC-740 AND 30" FOR MC-4500.

STANDARD CROSS SECTION

N.T.S.

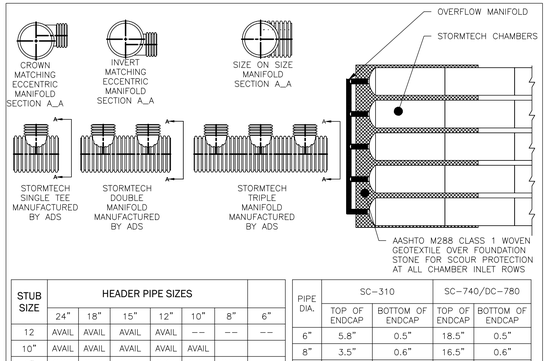
NOTE:
THE DETAILS AND SPECIFICATIONS ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY IN ORDER TO PROVIDE GENERAL INFORMATION ON STORMTECH PRODUCTS. CONTACT THE LOCAL SALES REPRESENTATIVE FOR UPDATED DETAILS AND SPECIFICATIONS.

NOTE: NON-WOVEN GEOTEXTILE OVER DC-780 ISOLTATOR ROW CHAMBERS IS NOT REQUIRED.



SC-310 ISOLATOR ROW DETAIL

N.T.S.



STUB SIZE	HEADER PIPE SIZES						
	24"	18"	15"	12"	10"	8"	6"
12"	AVAIL	AVAIL	AVAIL	AVAIL	--	--	--
10"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL		
8"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	
6"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
AVAIL - STANDARD HEADERS AVAILABLE							

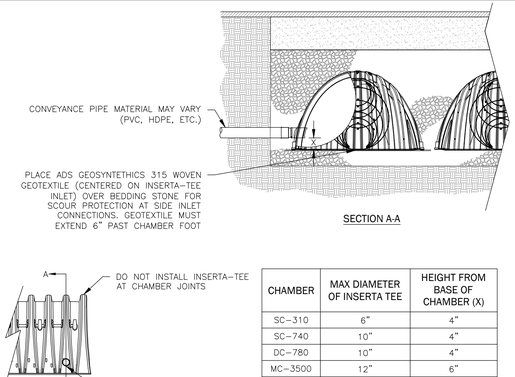
MANIFOLDS ARE DESIGNED TO BE COUPLED TO STORMTECH PREFABRICATED END CAPS. WHEN USING STANDARD END CAPS, CORRUGATED PIPE UP TO 10 INCHES CAN BE INSERTED DIRECTLY INTO THE END CAP. FOR 12" INLET PIPES, A CORRUGATED TO SMOOTH PIPE ADAPTER IS REQUIRED.

PIPE DIA.	SC-310		SC-740/DC-780	
	TOP OF ENDCAP	BOTTOM OF ENDCAP	TOP OF ENDCAP	BOTTOM OF ENDCAP
6"	5.8"	0.5"	18.5"	0.5"
8"	3.5"	0.6"	16.5"	0.6"
10"	1.4"	0.7"	14.5"	0.7"
12"	N/A	0.9"	12.5"	1.2"
15"	N/A	0.5"	9"	1.3"
18"	N/A	0.5"	5"	1.6"
24"	N/A	N/A	N/A	0.1"

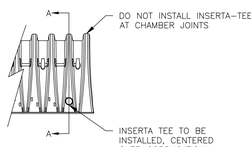
TABLE OF STANDARD DISTANCES FROM BASE OF CHAMBER TO INVERT OF INLET AND OUTLET MANIFOLDS ON STORMTECH END CAPS.

TYPICAL MANIFOLD DETAIL

N.T.S.



SECTION A-A

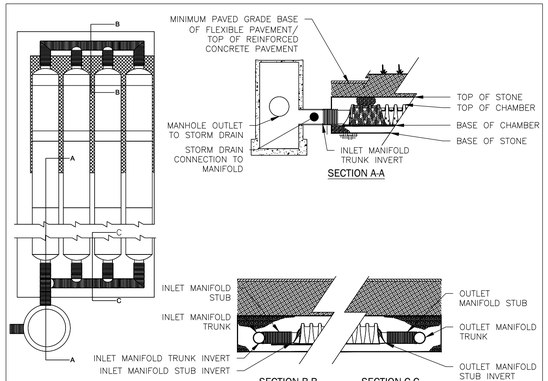


SIDE VIEW

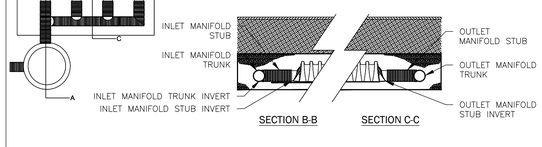
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6"	4"
SC-740	10"	4"
DC-780	10"	4"
MC-3500	12"	6"
MC-4500	12"	8"
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

INSERTA TEE DETAIL

N.T.S.



SECTION A-A

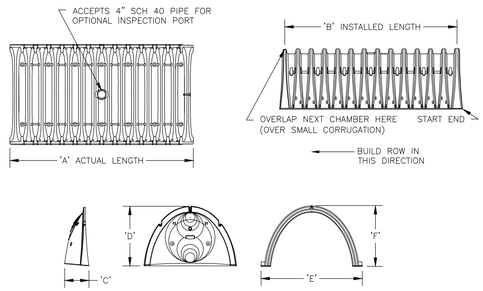


SECTION B-B SECTION C-C

STORMTECH ELEVATIONS

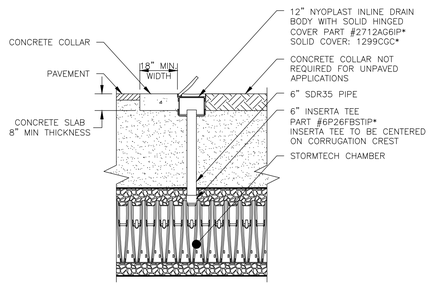
N.T.S.

SCHEDULE						
CHAMBER	'A'	'B'	'C'	'D'	'E'	'F'
SC-310	90.7"	85.4"	9.9"	15.6"	34.0"	16.0"
SC-740	90.7"	85.4"	12.2"	29.3"	51.0"	30.0"
DC-780	90.7"	85.4"			51.0"	30.0"
MC-3500	90.0"	86.0"	25.7"	45.0"	77.0"	45.0"
MC-4500	52.0"	48.3"	35.1"	59.4"	100.0"	60.0"



TECHNICAL SPECIFICATION

N.T.S.



*THE PART #2712AG6IPKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

6" INSPECTION PORT DETAIL

N.T.S.

BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-262-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

CRG | INTEGRATED REAL ESTATE SOLUTIONS

Warehouse Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
-	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit Documents

Designed by: DPH | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: N.T.S.

Sheet Title
STORMWATER DETAILS

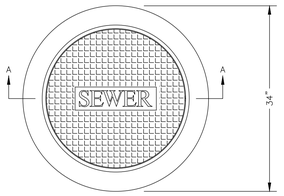
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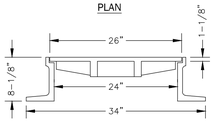
Plotted by Ben Enos on May 17, 2022

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MINIMUM REQUIREMENTS



PLAN



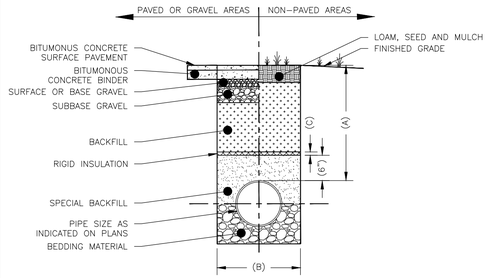
SECTION A-A

NOTE:
FRAME AND COVER SHALL BE LOCAL STANDARD MARKED SEWER, OR APPROVED EQUAL.

SEWER MANHOLE FRAME AND COVER

N.T.S.

DET NO. S-2

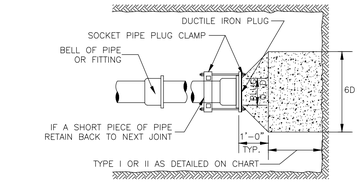


COVER OVER PIPELINE CROWN (A)			MINIMUM WIDTH OF INSULATION (B)	MINIMUM THICKNESS OF INSULATION (C)
SEWER	WATER	STORM DRAIN		
<5'	<5'		(2 X PIPE O.D.)+12" (CENTERED ON PIPE)	1"
<4'	<4'	<2'		2"
<3'	<3'			3"

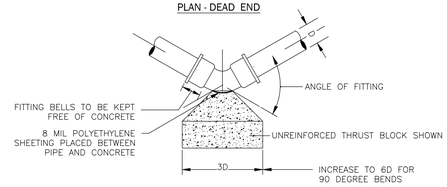
RIGID INSULATION DETAIL

N.T.S.

DET NO. T-10



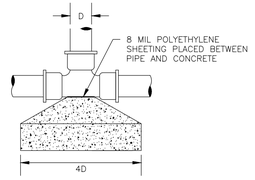
PLAN - DEAD END



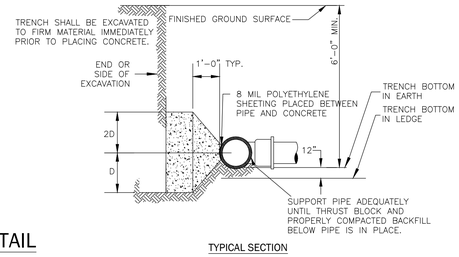
PLAN - BEND

NOTES:

1. ALL CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI AFTER 28 DAYS.
2. ANCHORS BASED ON MAXIMUM WATER PRESSURE OF 125 PSI.
3. ALL FITTINGS SHALL BE ANCHORED BY MECHANICAL MEANS OR BY CONCRETE THRUST BLOCKS, OR BOTH, IF REQUIRED BY THE PUBLIC WORKS DEPARTMENT OR AS NOTED ON THE CONTRACT PLANS.
4. ALL EXPOSED METAL SHALL BE PAINTED OR COATED.
5. THE ACTUAL METHOD OF RESTRAINT MUST BE DETERMINED BY ACTUAL FIELD CONDITIONS.
6. THESE ARE TYPICAL INSTALLATIONS TO BE USED AS A GUIDE TO THE DESIGNER.
7. FINAL DESIGNS ARE SUBJECT TO REVIEW BY THE DEPARTMENT OF PUBLIC WORKS.



PLAN - TEE



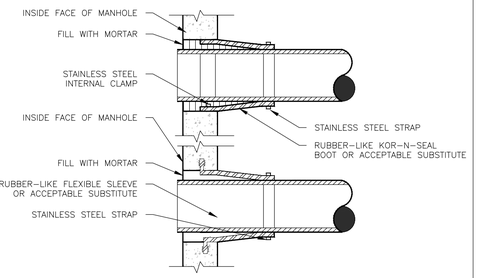
TYPICAL SECTION

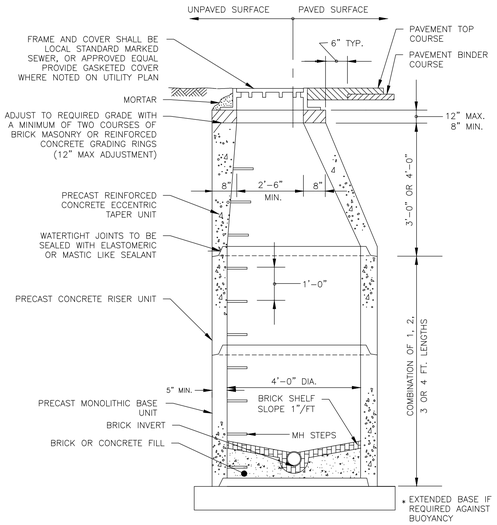
THRUST BLOCK DETAIL

N.T.S.

DET NO. S-2

NOTE:
1. ALL EXTERIOR SURFACES OF MANHOLE GRADE ADJUSTMENT COURSES SHALL BE COVERED WITH 1/4" TO 3/8" MASONRY CEMENT PLASTER
2. ALL CONCRETE SHALL BE 4000 PSI
3. ALL CHANNELS FOR INVERTS LARGER THAN 12" DIAMETER MAY BE CONSTRUCTED OF MORTAR FILL. INVERT CHANNELS 12" DIAMETER AND LESS MAY BE OF BRICK OR 3000 PSI MORTAR FILL, BOTH TO FULL HEIGHT OF PIPE
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.



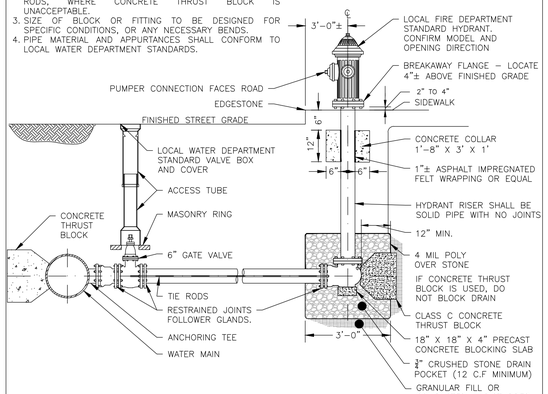


SEWER MANHOLE DETAIL

N.T.S.

DET NO. S-1

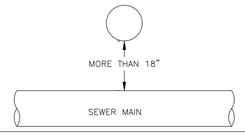
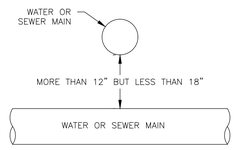
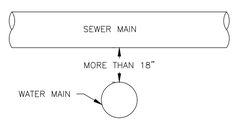
NOTES:
1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH.
2. USE RESTRAINED JOINT FOLLOWER GLANDS, OR TIE RODS, WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE.
3. SIZE OF BLOCK OR FITTING TO BE DESIGNED FOR SPECIFIC CONDITIONS, OR ANY NECESSARY BENDS.
4. PIPE MATERIAL AND APPURTANCES SHALL CONFORM TO LOCAL WATER DEPARTMENT STANDARDS.

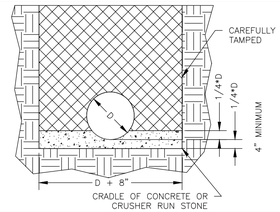


TYPICAL HYDRANT DETAIL

N.T.S.

DET NO. 6-1

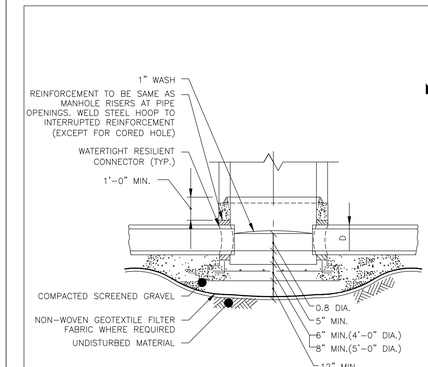
WATER MAIN ABOVE SEWER MAIN		NOTE: IN NO CASE SHALL PIPES BE CLOSER THAN 12" APART HORIZONTALLY. DISTANCES ARE MEASURED BETWEEN OUTSIDES OF PIPES. A. WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT EACH CROSSING. EACH LENGTH OF PIPE TO BE 10' MINIMUM. B. WATER SERVICE CROSSING SEWER MAIN SHALL BE A MINIMUM OF 18" VERTICAL SEPARATION. ALL WATER SERVICE LINES SHALL BE TYPE "K" COPPER.
WATER MAIN ABOVE OR BELOW SEWER MAIN		A. THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATERLINE WITH SEWER JOINT AS FAR AS POSSIBLE FROM WATER JOINTS. B. THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20' EITHER SIDE OF THE CROSSING OR A TOTAL OF 3 PIPE LENGTHS, WHICHEVER IS GREATER. C. THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 145 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND 1' ABOVE THE PIPE TO ASSURE WATER TIGHTNESS. D. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.
SEWER MAIN ABOVE WATER MAIN		A. WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT EACH CROSSING. EACH LENGTH OF PIPE SHALL BE 10' MINIMUM. B. PROVIDE CRADLE OF CONCRETE OR CRUSHER RUN STONE (SEE TRENCH DETAIL BELOW) FOR WATER LINE AND SEWER LINE FOR 10' ON EITHER SIDE OF CROSSING.



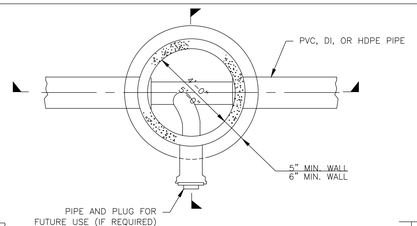
WATER MAIN/SEWER MAIN CROSSING DETAIL

N.T.S.

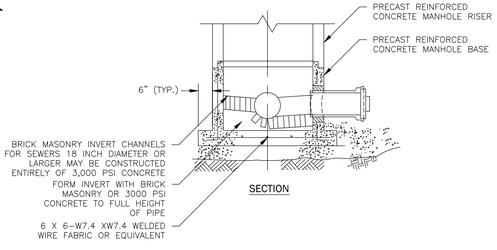
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SECTION



PLAN

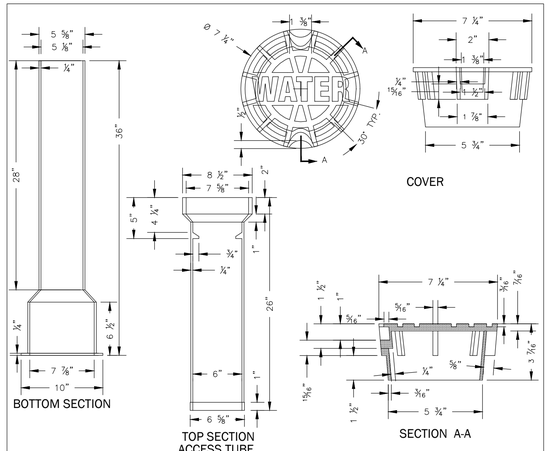


SECTION

SEWER MANHOLE BASE

N.T.S.

DET NO. S-3



BUFFALO TYPE VALVE BOX

N.T.S.

DET NO. 6-5

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No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

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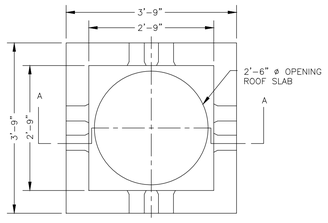
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Sheet Title
UTILITY DETAILS

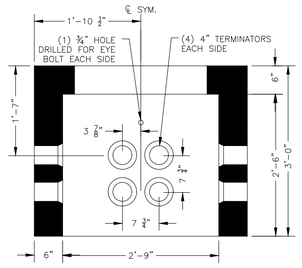
Sheet Number
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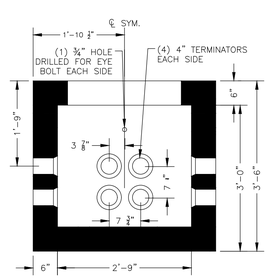
PLAN



SECTION A-A

36" HIGH STRUCTURE

	WEIGHT
SHEA CONCRETE	2680 LBS



SECTION A-A

48" HIGH STRUCTURE

	WEIGHT
SHEA CONCRETE	3690 LBS

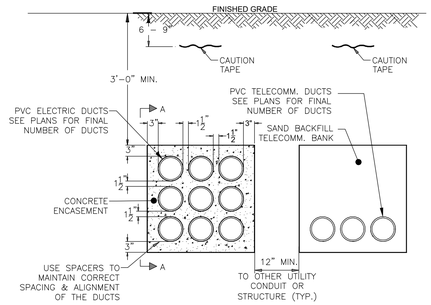
NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1".
3. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
4. OPTIONAL OPENINGS AVAILABLE BY SPECIAL ORDER.

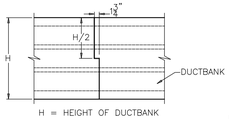
TELECOM MANHOLE

N.T.S.

DET NO. 7-6



PROFILE



H = HEIGHT OF DUCTBANK

SECTION A-A

NOTES:

1. FOR DUCTBANKS INSTALLED OVER LEDGE; A MINIMUM 2" LAYER OF COMPACTED GRAVEL SHALL BE PLACED BETWEEN THE BOTTOM OF THE DUCTBANK AND THE LEDGE. THE SIDE FORMS SHALL BE REMOVED AFTER THE CONCRETE IS SET.
2. MAINTAIN A CLEAR DISTANCE OF 12" (MIN) FROM ALL STRUCTURES THAT CROSS ABOVE OR BELOW THE ELECTRIC DUCTBANK.
3. PVC SOLVENT CEMENT SHALL BE USED TO CREATE WATER-TIGHT JOINTS FOR ALL CONDUIT INSTALLED.
4. RED CAUTION TAPE REQUIRED. CENTERED ABOVE ALL DUCT LINES.
5. OTHER UTILITIES SHALL MAINTAIN A 12" MIN. CLEAR DISTANCE FROM ELECTRIC WHEN SHARING SAME TRENCH & SHALL NOT BE IN THE SAME CONCRETE ENCASEMENT.

CONCRETE SPECIFICATION:

1. CONCRETE SHALL BE NORMAL WEIGHT WITH PEASTONE MIX, 2500 PSI @ 28 DAY COMPRESSIVE STRENGTH.
2. UNLESS OTHERWISE SPECIFIED, CONSTRUCTION SHALL CONFORM TO ACI-318 (LATEST EDITION) WHERE REINFORCEMENT IS SPECIFIED.

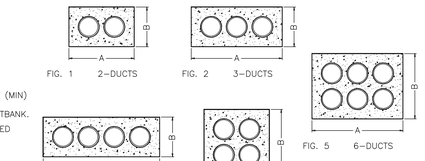


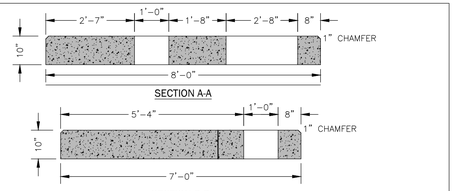
FIG	DIMENSIONS					
	4" Ducts		5" Ducts		6" Ducts	
	A Inches	B Inches	A Inches	B Inches	A Inches	B Inches
1	16-1/2"	10-1/2"	18-1/2"	11-1/2"	21"	12-1/2"
2	22-1/2"	10-1/2"	25-1/2"	11-1/2"	29"	12-1/2"
3	28-1/2"	10-1/2"	32-1/2"	11-1/2"	37"	12-1/2"
4	16-1/2"	16-1/2"	18-1/2"	18-1/2"	21"	21"
5	22-1/2"	16-1/2"	25-1/2"	18-1/2"	29"	21"

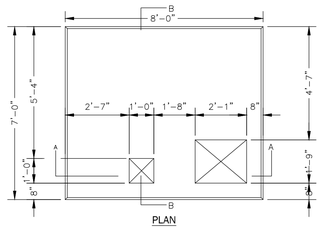
DUCT BANK LAYOUT FOR 4", 5", & 6" CONDUIT
(NON REINFORCED CONCRETE)

ELECTRIC & TELECOMMUNICATIONS DUCT BANK

N.T.S.

DET NO. 7-2





NOTES:

1. CONCRETE MINIMUM STRENGTH 5,000 PSI AFTER 28 DAYS.
2. STEEL REINFORCEMENT – ASTM A615, GRADE 60.
3. MINIMUM STEEL COVER – 1 INCH.

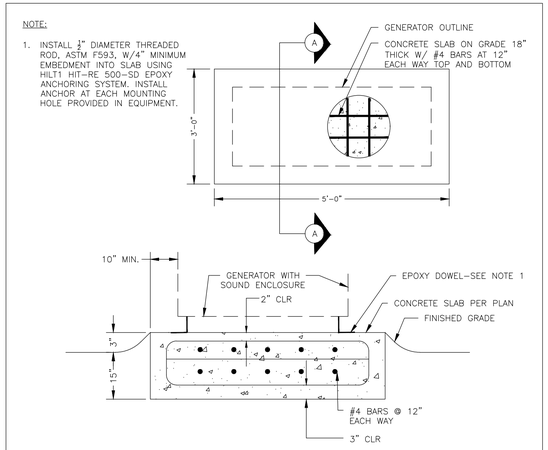
TRANSFORMER PAD DETAIL

N.T.S.

DET NO. 7-3

NOTE:

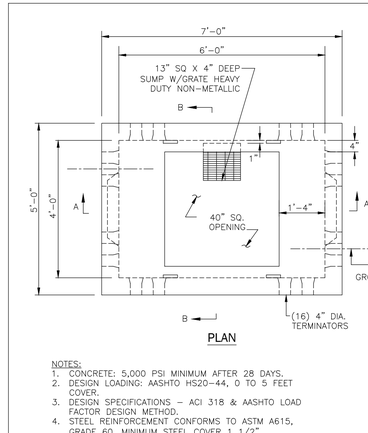
1. INSTALL ½" DIAMETER THREADED ROD, ASTM F593, W/4" MINIMUM EMBEDMENT INTO SLAB USING HILTI HIT-RE 500-SD EPOXY ANCHORING SYSTEM. INSTALL ANCHOR AT EACH MOUNTING HOLE PROVIDED IN EQUIPMENT.

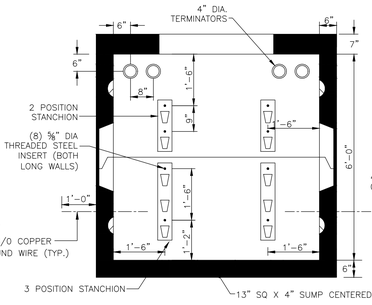


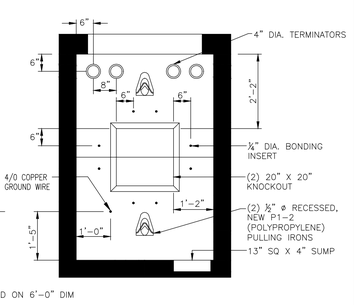
GENERATOR PAD DETAIL

N.T.S.

DET NO. 7-4







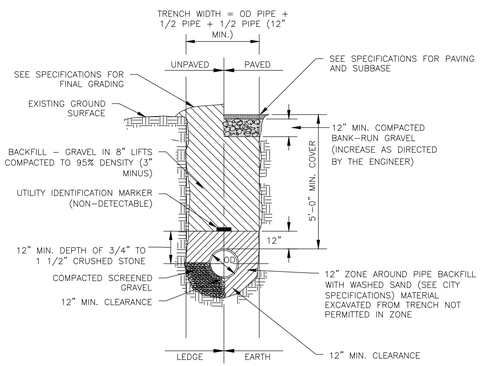
NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. DESIGN SPECIFICATIONS – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD.
4. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1 1/2"
5. ALL TERMINATORS SHALL HAVE BELL ENDS FLUSH WITH THE INSIDE WALL.
6. CONSTRUCTION JOINT SHALL BE SEALED WITH 1"ø BUTYL RUBBER OR APPROVED EQUAL.
7. RACKING/STANCHIONS SOLD SEPARATELY.

4' x 6' x 6' ELECTRIC MANHOLE

N.T.S.

DET NO. 7-5



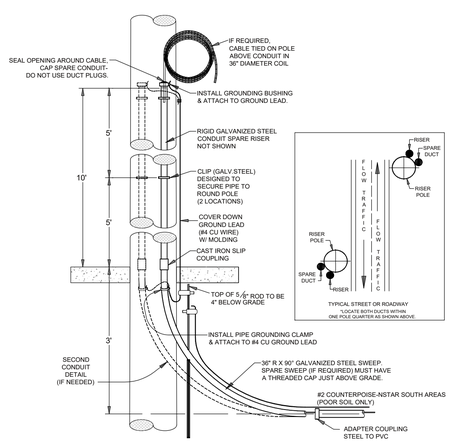
NOTES:

1. CONTRACTOR RESPONSIBLE FOR DESIGNING AND MAINTAINING PROPER TRENCH PROTECTION AND OBTAINING ALL REQUIRED PERMITS.
2. SEE ADDITIONAL DETAILS FOR EARTH AND PAVING MATERIALS WITHIN THIS PLAN SET.
3. ALL PIPE CONNECTIONS AT FITTINGS AND HORIZONTAL AND VERTICAL BENDS SHALL BE MECHANICALLY RESTRAINED JOINTS.

WATER AND SEWER TRENCH DETAIL

N.T.S.

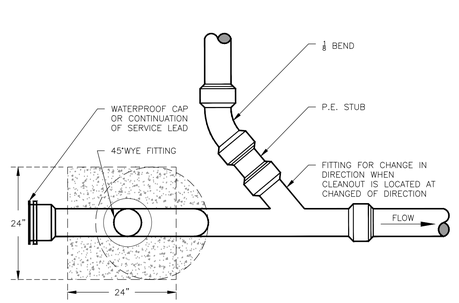
DET NO. 6-3



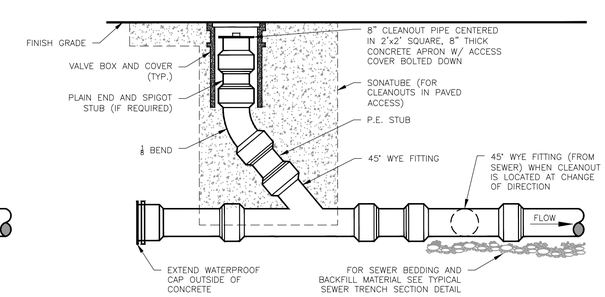
TYPICAL RISER TO UTILITY POLE

N.T.S.

DET NO. 7-1



PLAN VIEW
BELOW WYE FITTING OF CLEANOUT



ELEVATION VIEW

NOTE:
EACH CLEANOUT SHALL BE ENCASED IN CONCRETE TO THE TOP OF THE SEWER. THE CONCRETE SHALL BE FORMED USING A 36" SONATUBE NOTCHED TO PASS OVER MAINLINE SEWER. A 6x6/10x10 WELDED WIRE MESH SHALL BE USED FOR CONCRETE REINFORCEMENT.

CLEANOUTS TO BE USED WHEN:
A. CHANGE OF DIRECTION IS 45° AND OVER

B. WHEN CALLED FOR ON THE PLANS.

C. WHEN THE CLEANOUT IS LOCATED IN AN AREA WHICH IS CURRENTLY PAVED OR PLANNED TO BE PAVED, THE CLEANOUT SHALL BE ENCASED IN CONCRETE. THE CONCRETE ENCASEMENT SHALL EXTEND FROM FINISH GRADE DOWN TO THE MAINLINE SEWER GRANULAR BASE BEDDING MATERIAL. THE CONCRETE SHALL BE FORMED USING A 36" SONATUBE NOTCHED TO PASS OVER MAINLINE SEWER. A 6x6/10x10 WELDED WIRE MESH SHALL BE USED FOR CONCRETE REINFORCEMENT.

PVC CLEANOUT DETAIL

N.T.S.

DET NO. 7-12

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Gilboa Street
Douglas, MA

No.	Revision	Date
–	Revised for Issuance of Control Documents	05.26.2022

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Proj. No.: C-1203	Issue Date: 02.11.22

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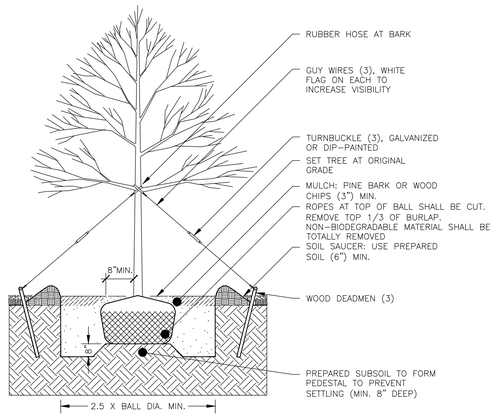
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UTILITY DETAILS

Sheet Number
C531

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Plotted by Ben Enos on May 17, 2022

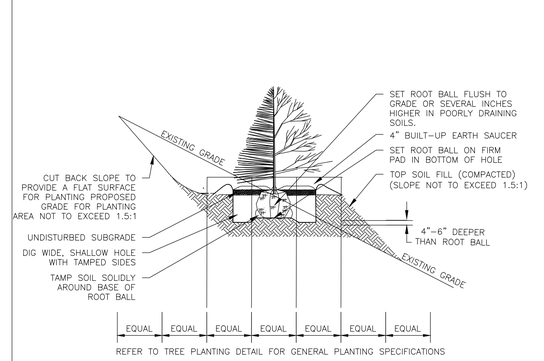
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DECIDUOUS TREE PLANTING

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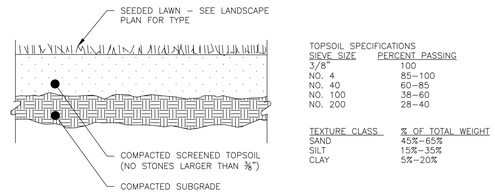
DET NO. 8-6



STEEP SLOPE PLANTING

N.T.S.

DET NO. 8-9



TOPSOIL SPECIFICATIONS

SIEVE SIZE	PERCENT PASSING
3/8"	100
NO. 4	85-100
NO. 40	60-85
NO. 100	38-60
NO. 200	28-40

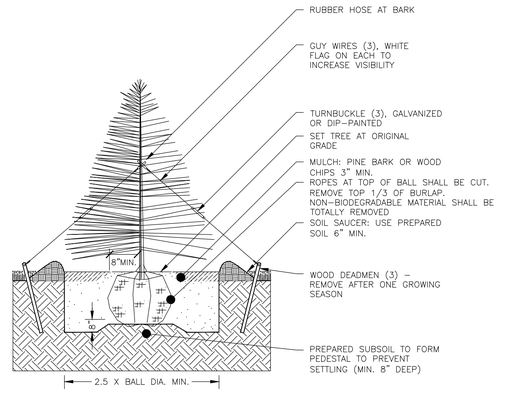
TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45%-65%
SILT	15%-35%
CLAY	5%-20%

NOTES:
1. TOP OF LOAM (TOPSOIL) IS FINISHED GRADE
2. TOPSOIL SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER/ENGINEER WITH TOPSOIL TEST RESULTS FOR APPROVAL PRIOR TO OBTAINING, AND PLACING THE SOIL. IF THE PLANTING SOIL DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL

N.T.S.

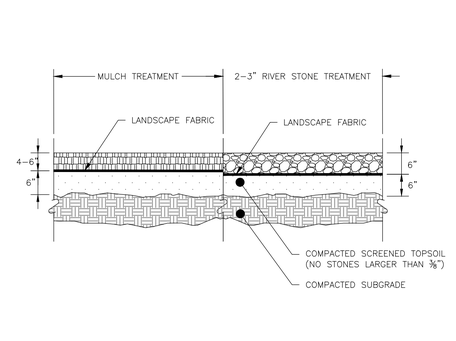
DET NO. 8-9



EVERGREEN TREE PLANTING

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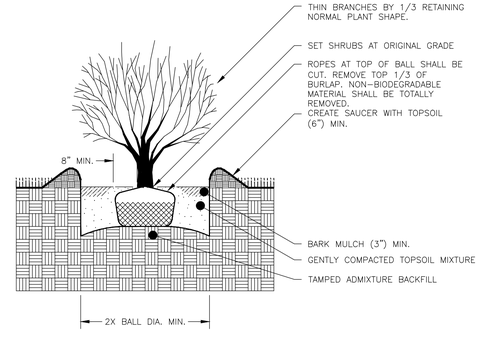
DET NO. 8-8



INTERIOR LANDSCAPED ISLANDS SURFACE TREATMENT

N.T.S.

DET NO. 8-10



SHRUB PLANTING - BALL AND BURLAP

N.T.S.

DET NO. 8-7

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Douglas, MA

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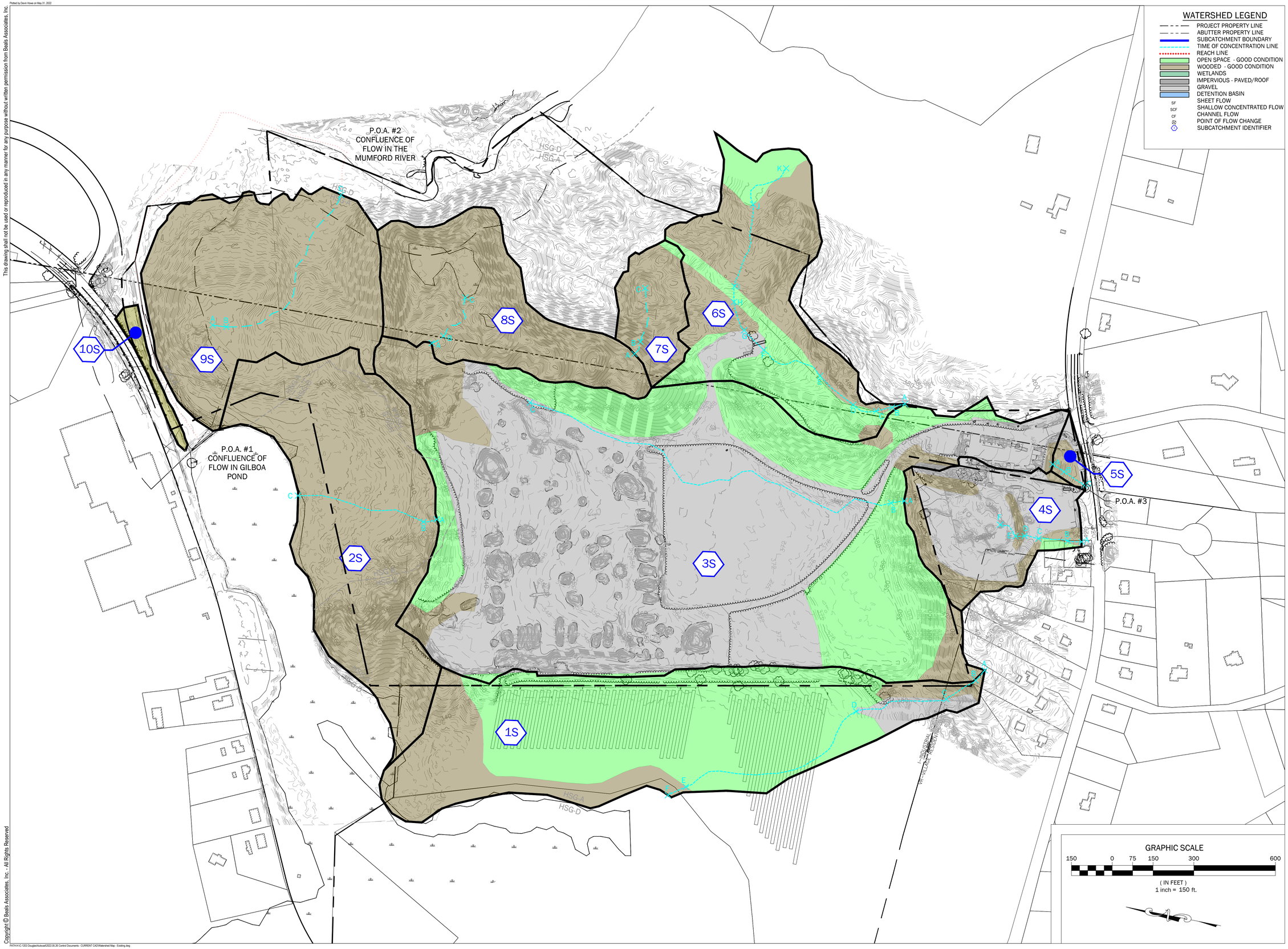
LANDSCAPING DETAILS

Sheet Number

C540

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Proj. No.: C-1203	Issue Date: 02.11.22
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Sheet Title
PRE-DEVELOPMENT
WATERSHED MAP

A B C D E F

Sheet Number
C800

Plotted by Yamaris Torres Martinez on May 26, 2022

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WATERSHED LEGEND

- PROJECT PROPERTY LINE
- ABUTTER PROPERTY LINE
- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION LINE
- REACH LINE
- OPEN SPACE - GOOD CONDITION
- WOODED - GOOD CONDITION
- WETLANDS
- IMPERVIOUS - PAVED/ROOF
- GRAVEL
- DETENTION BASIN
- SF SHEET FLOW
- SCF SHALLOW CONCENTRATED FLOW
- CF CHANNEL FLOW
- POINT OF FLOW CHANGE
- SUBCATCHMENT IDENTIFIER

P.O.A. #2
CONFLUENCE OF FLOW IN THE MUMFORD RIVER

P.O.A. #1
CONFLUENCE OF FLOW IN GILBOA POND
GILBOA POND

P.O.A. #3

WAREHOUSE
DISTRIBUTION BUILDING
1,102,500 G.S.F.

1S 2S 3S 4S 5S 6S 7S 8S 9S 10S 11S 12S 13S 14S 15S 16S 17S 19S

HSG-D

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BEALS • ASSOCIATES INC
2 PARK PLAZA SUITE 200 BOSTON, MA 02116
PHONE: 617-242-1120
•PLANNING •ENGINEERING •PERMITTING •MANAGEMENT

CRG | INTEGRATED REAL ESTATE SOLUTIONS

Warehouse
Distribution Facility
Gilboa Street
Douglas, MA

No.	Revision	Date
1	Revised for Issuance of Control Documents	05.26.2022

Not for Construction
Permit
Documents

Designed by: BWE | Checked by: TPM
Proj. No.: C-1203 | Issue Date: 02.11.22
Drawing Scale: 1"=150

Sheet Title
POST-DEVELOPMENT
WATERSHED MAP

A B C D E F

Sheet Number
C801

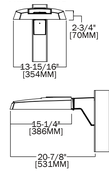
PATH:H:\C-1203 Douglas\Autocad\2022.05.26 Control Documents - CURRENT CAD\2022.05.24 Watershed Map - Post Development.dwg

Plotted by Devin Howe on May 31, 2022

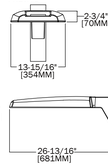
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DIMENSIONAL DETAILS

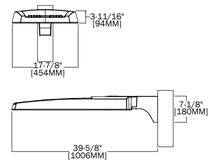
PREVAIL PETITE



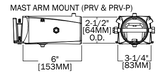
PREVAIL



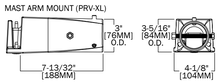
PREVAIL XL



MAST ARM MOUNT (PRV & PRV-P)



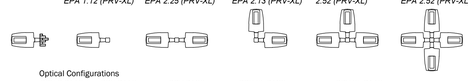
MAST ARM MOUNT (PRV-XL)



MOUNTING CONFIGURATIONS AND EPAS

NOTE: FOR 2 PRV'S MOUNTED AT 90°, REQUIRES MINIMUM 3" SQUARE OR 4" ROUND POLE FOR FIXTURE CLEARANCE. FOR 2 PRV-XL'S MOUNTED AT 90°, REQUIRES MINIMUM 4" SQUARE OR ROUND POLE FOR FIXTURE CLEARANCE. CUSTOMER IS RESPONSIBLE FOR ENGINEERING ANALYSIS TO CONFIRM POLE AND FIXTURE COMPATIBILITY FOR APPLICATIONS.

WALL MOUNT	ARM MOUNT SINGLE	ARM MOUNT 2 @ 180°	ARM MOUNT 2 @ 90°	ARM MOUNT 3 @ 90°	ARM MOUNT 4 @ 90°
	EPA 0.54 (PRV-P) *EPA 0.92 (PRV)* *EPA 1.12 (PRV-XL)*	*EPA 1.08 (PRV-P)* *EPA 1.35 (PRV)* *EPA 2.25 (PRV-XL)*	*EPA 0.84 (PRV-P)* *EPA 1.42 (PRV)* *EPA 2.13 (PRV-XL)*	*EPA 1.38 (PRV-P)* *EPA 1.63 (PRV) EPA 2.52 (PRV-XL)*	*EPA 1.38 (PRV-P)* *EPA 1.63 (PRV)* *EPA 2.52 (PRV-XL)*



MOUNTING DETAILS

POLE MOUNT ARM (PRV & PRV-P)

POLE MOUNT ARM (PRV-XL)

VERSATILE MOUNT SYSTEM

Wall Mount (PRV & PRV-P)

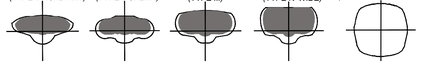
Wall Mount (PRV-XL)

Optical Configurations

PRV-P-PA1X PRV-PA1X PRV-PA2X PRV-XL-PA3X PRV-XL-PA4X

OPTICAL DISTRIBUTIONS

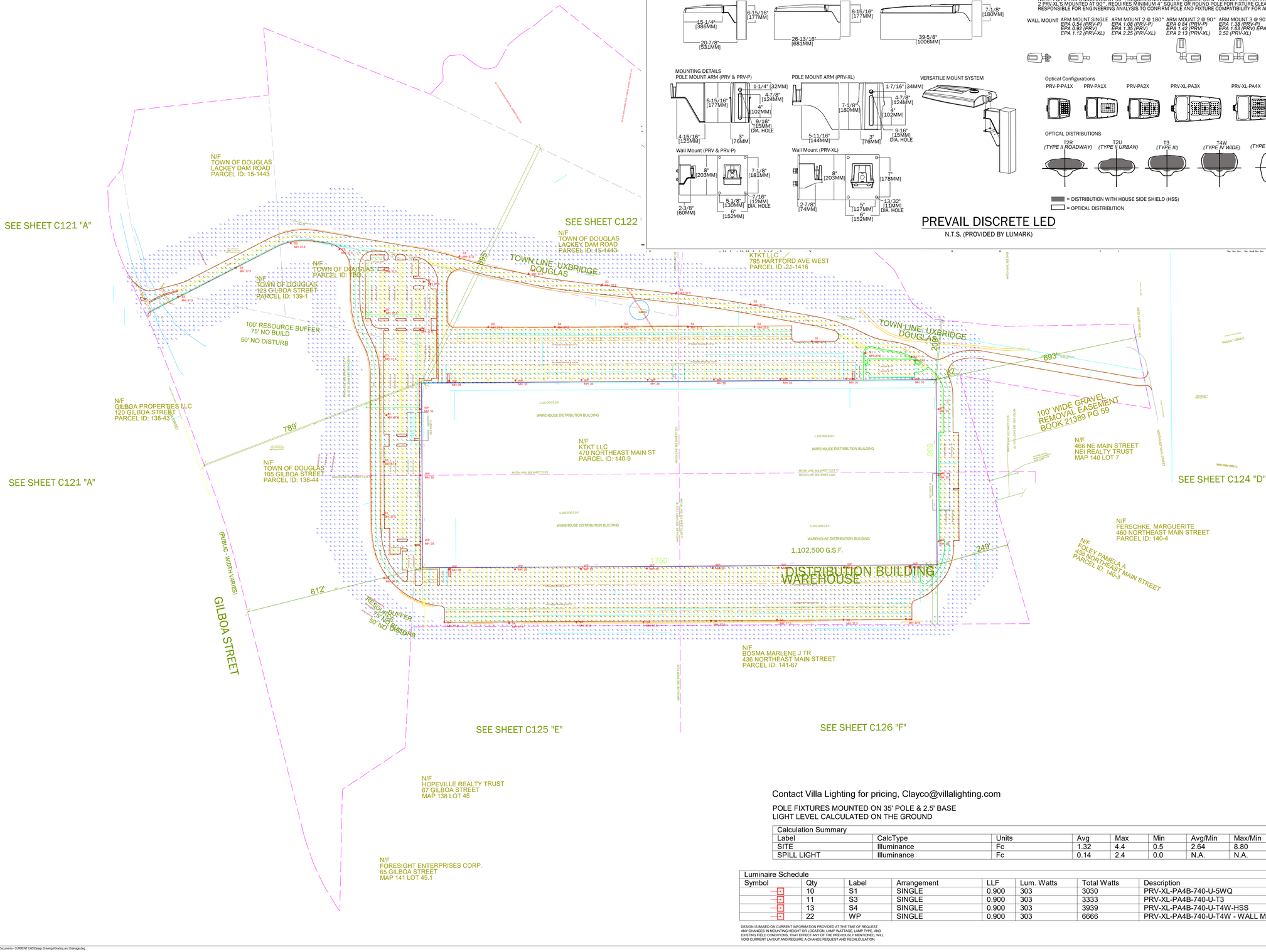
T2R *(TYPE II ROADWAY)* T2U *(TYPE II URBAN)* T3 *(TYPE III)* T4W *(TYPE IV WIDE)* 5WQ *(TYPE V SQUARE WIDE)*



= DISTRIBUTION WITH HOUSE SIDE SHIELD (HSS)
= OPTICAL DISTRIBUTION

PREVAIL DISCRETE LED

N.T.S. (PROVIDED BY LUMARK)



Contact Villa Lighting for pricing, Clayco@villalighting.com

POLE FIXTURES MOUNTED ON 35' POLE & 2.5' BASE
LIGHT LEVEL CALCULATED ON THE GROUND

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Illuminance	Fc	1.32	4.4	0.5	2.64	8.80
SPILL LIGHT	Illuminance	Fc	0.14	2.4	0.0	N.A.	N.A.

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	LLF	Lum. Watts	Total Watts	Description
	10	S1	SINGLE	0.900	303	3030	PRV-XL-PA4B-740-U-5WQ
	11	S3	SINGLE	0.900	303	3333	PRV-XL-PA4B-740-U-T3
	13	S4	SINGLE	0.900	303	3939	PRV-XL-PA4B-740-U-T4W-HSS
	22	WP	SINGLE	0.900	303	6666	PRV-XL-PA4B-740-U-T4W - WALL MOUNT

DESIGN IS BASED ON CURRENT INFORMATION PROVIDED AT THE TIME OF REQUEST. ANY CHANGES IN MOUNTING HEIGHT OR LOCATION, LAMP WATTAGE, LAMP TYPE, AND EXISTING FIELD CONDITIONS, THAT EFFECT ANY OF THE PREVIOUSLY MENTIONED, WILL VOID CURRENT LAYOUT AND REQUIRE A CHANGE REQUEST AND RECALCULATION.

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Drawing Scale: 1"=###	

Sheet Title

PHOTOMETRICS SITE PLAN

A B C D E F

Sheet Number

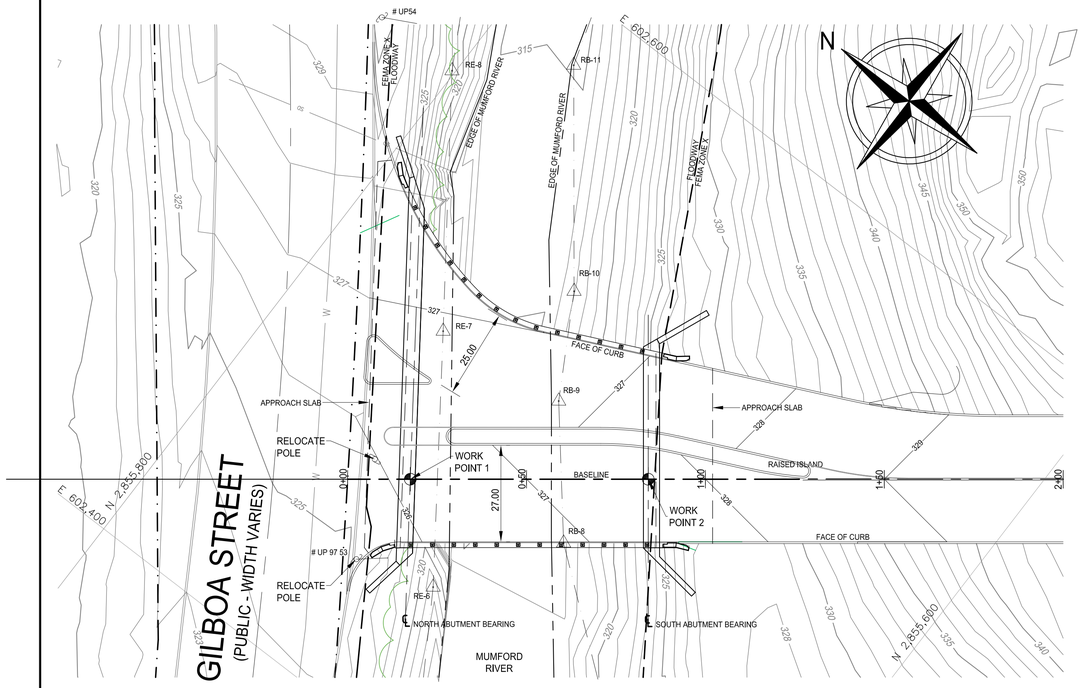
ES.1

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DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	1	--
PROJECT FILE NO.			

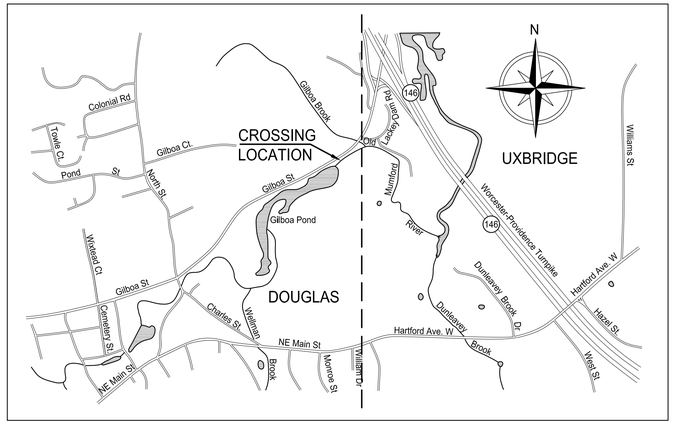
KEY PLAN, PROFILE & INDEX



10 0 5 10 20 40
SCALE 1 inch = 20 feet DATUM NAVD88

KEY PLAN
SCALE: 1" = 20 ft.

WORKING POINTS			
PNT. NO.	STATION	NORTHING	EASTING
1	0+17.50	2,855,740.52	602,463.23
2	0+84.00	2,855,687.81	602,503.77



LOCUS MAP
1000 500 0 1000 2000 3000 4000

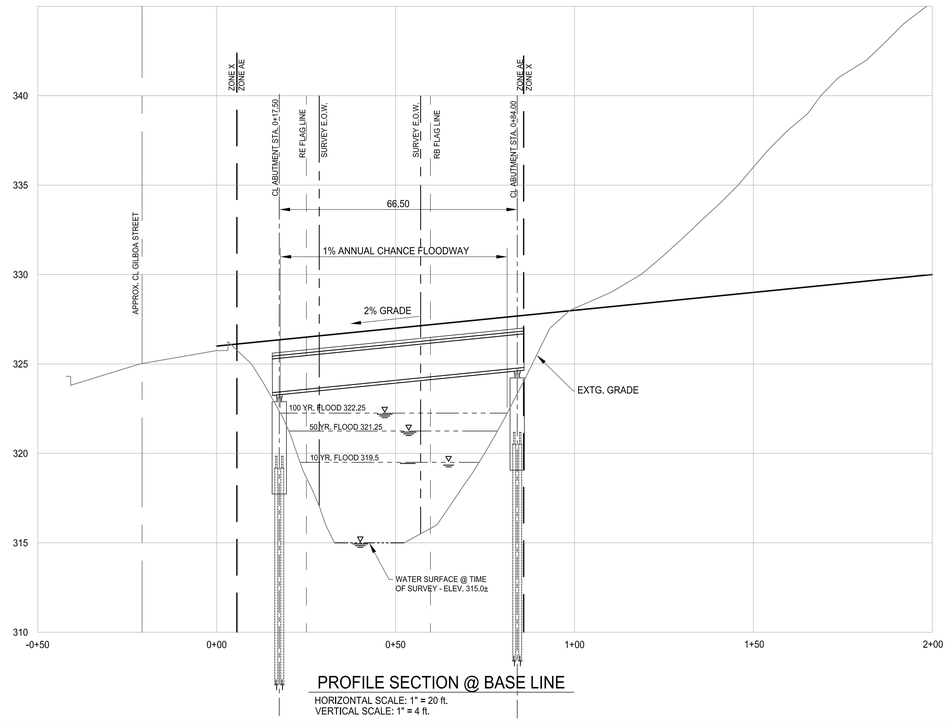
INDEX OF BRIDGE SHEETS:

1.....KEY PLAN AND PROFILES
2.....GENERAL NOTES
3.....BORING LOGS (SHEET 1 of __)
4.....BORING LOGS (SHEET 2 of __)
5.....BORING LOGS (SHEET 3 of __)
6.....BRIDGE PLAN AND SOUTH ELEVATION
7.....NORTH ELEVATION
8.....ABUTMENT PLANS AND ELEVATIONS
9.....ABUTMENT SECTION AND DETAILS 1 of 2
10.....ABUTMENT SECTIONS AND DETAILS 2 of 2
11.....APPROACH SLAB DETAILS
12.....WINGWALL ELEVATIONS 1 of 2
13.....WINGWALL ELEVATIONS 2 of 2
14.....WINGWALL SECTIONS AND DETAILS
15.....TOP OF WALL AND GUARDRAIL TRANSITION BASE
16.....FRAMING PLAN, BEARING DETAILS, AND TYPICAL BEAM DETAILS
17.....DIAPHRAGM DETAILS
18.....CAST IN PLACE DECK PLAN AND DETAILS
19.....END DIAPHRAGM DETAILS
20.....HANDRAIL DETAILS
21.....TOP OF PRECAST CONCRETE HIGHWAY TRANSITION
22.....EXCAVATION SUPPORT DETAILS

ESTIMATED QUANTITIES:

(NOT GUARANTEED)

ITEM	QUANTITY
BRIDGE EXCAVATION	------- CY
CLASS B ROCK EXCAVATION	------- CY
GRAVEL BORROW	------- CY
GRAVEL BORROW BACKFILL STRUCTURES & PIPES	------- CY
CRUSHED STONE FOR BRIDGE FOUNDATIONS	------- CY
SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B - 9.5)	------- TONS
SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B-9.5)	------- TONS
LIGHTWEIGHT AGGREGATE	------- CY
SAWING AND SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES	------- FT
PERMANENT STEEL SHEETING	------- LB
BRIDGE STRUCTURE, BRIDGE NO. _____	1 LS



PROFILE SECTION @ BASE LINE
HORIZONTAL SCALE: 1" = 20 ft.
VERTICAL SCALE: 1" = 4 ft.

MON DD, YEAR	ISSUED FOR CONSTRUCTION

MUMFORD RIVER CROSSING
DOUGLAS, MA

FACILITY_CARRIED
FEATURE_INTERSECTED

ST. JEAN ENGINEERING, LLC
CIVIL, MARINE AND STRUCTURAL CONSULTING ENGINEERING
209 Arnold Neck Drive *Phone: 401.398.0099*
Warwick, Rhode Island 02886 *email: st.jean.engineering@verizon.net*

SHEET 1 OF -- SHEETS

BRIDGE ID: MUMFORD RIVER CROSSING

SUBMISSION_DATE

SUBMISSION_NAME

SHT1.DWG Plotted on 24-May-2022 2:42 PM

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	2	--
PROJECT FILE NO.			

GENERAL NOTES

GENERAL NOTES:

DESIGN
IN ACCORDANCE WITH THE 2017 AMERICAN ASSOCIATIONS OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE SPECIFICATINS WITH CURRENT INTERRIM SPECIFICATIONS THROUGH 2021, FOR HL-93 LOADING

REFERENCE PLANS:
1. PROPERTY SURVEY AND TOPOGRAPHIC PLANS BY:
2. FEMA FIS STUDY:
3. SITE DEVELOPMENT PLANS BY:

EXISTING CONDITIONS:
DIMENSIONS AND GRADES SHOWN ON BASED ON PROPERTY AND TOPOGRAPHIC PLANS PROVIDED BY BEAL ASSOCIATES. EXISTING UTILITIES SHOWN APPROXIMATE LOCATIONS AS IDENTIFIED BY OTHERS. CONTRACTOR SHALL NOTIFY DIG SAFE TO MARK ALL UTILITIES IN THE AREA PRIOR TO START OF WORK. THE CONTRACTOR SHALL PROTECT ALL UTILITIES.

BENCH MARK:
THE CONTRACTOR IS DIRECTED TO THE CIVIL SITE PLANS FOR LOCATION OF ALL PROJECT BENCH MARKS.
ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OR 1988.

DATE:
TO BE PLACED ON THE INSIDE FACE OF THE NORTHEAST AND SOUTHWEST HIGHWAY GUARDRAIL TRANSITIONS. DATES TO BE PLACED ON THE LEADING HIGHWAY GUARDRAIL TRANSITION. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HIGHWAY GUARDRAIL TRANSITION IS CONSTRUCTED. BOTH HIGHWAY GUARDRAIL TRANSITIONS SHALL FEATURE THE SAME DATE.

SCALES:
SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS.

FOUNDATIONS:
FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH APPROVAL OF THE ENGINEER..

UNSUITABLE MATERIALS:
ALL UNSUITABLE MATERIALS SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

REINFORCEMENT:
REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 12" OF CONCRETE BELOW BAR	29"	38"
3. EPOXY COATED BARS, COVER < $3d_b$, OR CLEAR SPACING < $6\ d_b$	31"	39"
4. EPOXY COATED BARS, ALL OTHER CASES	25"	31"
5. CONDITIONS 2, AND 3.	35"	44"
6. CONDITIONS 2, AND 4.	34"	43"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

EPOXY COATED BARS:
ALL REINFORCING BARS AND SUPPORTING DEVICES SHALL BE COATED UNLESS OTHERWISE NOTED.

UTILITIES:
LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES.

GEOTECHNICAL INSTRUMENTATION:
CONTRACTOR SHALL FURNISH AND INSTALL GEOTECHNICAL INSTRUMENTATION IN ACCORDANCE WITH ITEM 163, OF THE SPECIAL PROVISIONS. THE INSTRUMENTATION SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK.

CONCRETE MIX:
THE CEMENT CONCRETE SPECIFIED BELOW SHALL BE USED ON THE FOLLOWING BRIDGE COMPONENTS:

4000 PSI, $1\frac{1}{2}$", 565 CEMENT CONCRETE.....ABUTMENT STEMS, ABUTMENT FOOTINGS
APPROACH SLAB, CURTAIN WALL, WINGWALLS

4000 PSI, $\frac{3}{4}$", 610 CEMENT CONCRETE.....BACKWALL, KEEPER BLOCK

4000 PSI, $\frac{3}{4}$", 585 HP CEMENT CONCRETE.....END DIAPHRAGMS, PRECAST DECK PANELS,
DECK CLOSURE POURS

5000 PSI, $\frac{3}{4}$", 685 HP CEMENT CONCRETE.....SAFETY CURBS, PRECAST HIGHWAY GUARDRAIL TRANSITIONS

TRAFFIC DATA	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	N/A	N/A
AVERAGE DAILY TRAFFIC – PRESENT	N/A	N/A
AVERAGE DAILY TRAFFIC – DESIGN YEAR	N/A	N/A
DESIGN HOURLY VOLUME	N/A	N/A
DIRECTIONAL DISTRIBUTION	N/A	N/A
TRUCK PERCENTAGE – AVERAGE DAY	N/A	N/A
TRUCK PERCENTAGE – PEAK HOUR	N/A	N/A
DESIGN SPEED	N/A	N/A
DIRECTIONAL DESIGN HOURLY VOLUME	N/A	N/A

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1000-YR
DESIGN SPECTRA	
As	AS
SDs	SDS
SD1	SD1
SITE CLASS	SITE_CLASS
SEISMIC DESIGN CATEGORY (SDC)	SEISMIC_DES_CAT

HYDRAULIC DESIGN DATA	
DRAINAGE AREA (SQ. MILES)	--
DESIGN FLOOD DISCHARGE (C.F.S.)	--
DESIGN FLOOD FREQUENCY (YEARS)	--
DESIGN FLOOD VELOCITY (F.P.S.)	--
DESIGN FLOOD ELEVATION (FEET, NAVD)	--
BASE (100-YEAR) FLOOD DATA	
BASE FLOOD DISCHARGE (C.F.S.)	--
BASE FLOOD ELEVATION (FEET, NAVD)	--
DESIGN AND CHECK SCOUR DATA	
DESIGN SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	--
DESIGN FLOOD ABUTMENT SCOUR DEPTH (FEET)	--
DESIGN FLOOD PIER SCOUR DEPTH (FEET)	--
CHECK SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	
CHECK FLOOD ABUTMENT SCOUR DEPTH (FEET)	--
CHECK FLOOD PIER SCOUR DEPTH (FEET)	--
FLOOD OF RECORD	
DISCHARGE (C.F.S.)	--
FREQUENCY (IF KNOWN, YEARS)	--
MAXIMUM ELEVATION (FEET, NAVD)	--
DATE (MM/YYYY)	--
HISTORY OF ICE FLOES	--
EVIDENCE OF SCOUR AND EROSION	

TEMPORARY WATER CONTROL DESIGN DATA	
DESIGN FLOOD DISCHARGE (C.F.S.)	--
DESIGN FLOOD FREQUENCY (YEARS)	--
DESIGN FLOOD VELOCITY (F.P.S.)	--
DESIGN FLOOD ELEVATION (FEET, NAVD)	--

SUBMISSION_DATE

SUBMISSION_NAME

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	3	--
PROJECT FILE NO.			

BORING LOGS
SHEET 1 OF --

FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD, EXETER, RI
GEOTECHNICAL AND MARINE ENGINEERS

BORING NO. B21-1
SHEET 1 OF 2

PROJECT: Proposed Warehouse Distribution Facility, Gilboa Street, Douglas, MA — PROJECT NO.: 21013.00 — CHKD. BY: RWF

BORING CO.: NE Boring Contractors
FOREMAN: Jimmy & Mike
ENGINEER: FEC: MRF
BORING LOCATION: SEE EXPLORATION LOCATION PLAN
GROUND SURFACE ELEVATION: 324 ft+- DATUM: NAVD88
DATE START: 12/15/2021 DATE END: 12/16/2021

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300 lb. HAMMER FALLING 24 IN.
CASING SIZE: 4" diameter OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (ft)	CASING (ft)	SAMPLE NO.	PEN. (in.)/ REC.	DEPTH (FT)	BLOWS/6"	TONS/FT² OR KG/CM²	SAMPLE DESCRIPTION: Burmister CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		1	24/15	0-2	2-4		Loose, 6" dark brown LOAM, to brown SAND & F GRAVEL, trace Silt, (Fill), dry	1,2	LOAM 6"
					5-8				FILL
		2	24/0	2-4	6-5		No recovery		??
					3-4				
5		3	24/2	4-6	4-2		Loose, brown F SAND, some Silt, dry		
					2-1				
10		4	24/9	9-11	6-13		M dense, brown F-M SAND, trace Silt, (trace C Sand in spoon tip), wet		
					13-13				
15		5	24/12	14-16	17-12		M dense, brown gray F SAND & SILT, wet	3	SAND
					12-12				
20		6	24/12	19-21	6-6		M dense, same, wet		
					5-7				
25		7	24/12	24-26	15-19		Dense, 3" gray F SAND, some Silt to 3" gray SAND to gray F-M SAND, some C Sand, little Silt (piece of quartz in spoon tip), wet	2	
					17-15				
					TIME	ROD			29 ft+-
30		C-1	12/2	29-30	1m 0s		White piece of QUARTZ in core barrel (boulder)	4	BOULDER

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0 - 4	V. LOOSE	<2	V. SOFT
4 - 10	LOOSE	2 - 4	SOFT
10 - 30	M.DENSE	4 - 8	M.STIFF
30 - 50	DENSE	8 - 15	STIFF
>50	V.DENSE	15 - 30	V. STIFF
		>30	HARD

REMARKS:
1. Borings completed using a Defco Stratastar 5 ATV rig with Autohammer
2. Rollerbit jumping 23.5 to 24 ft+-; cobbles & boulders inferred
3. Case to 14 ft, S-6 & S-7 taken open hole then drive casing to 24 ft; rollerbit ahead with jumping 26 to 28 ft+-, loosing water; boulders & cobbles inferred.
4. Casing bouncing at 29 ft, core boulder 29 to 30 ft+-.

BURMISTER CLASSIFICATION	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
PERCENT BY WEIGHT	

NOTES:
1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NO. B21-1

FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD, EXETER, RI
GEOTECHNICAL AND MARINE ENGINEERS

BORING NO. B21-1
SHEET 2 OF 2

PROJECT: Proposed Warehouse Distribution Facility, Gilboa Street, Douglas, MA — PROJECT NO.: 21013.00 — CHKD. BY: RWF

DEPTH (ft)	CASING (ft)	SAMPLE NO.	PEN. (in.)/ REC.	DEPTH (FT)	BLOWS/6"	TONS/FT² OR KG/CM²	SAMPLE DESCRIPTION: Burmister CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
								5	
35		8	12/8	34-35	36-70/6"		V dense, gray F SAND & SILT, wet		SAND
40		9	10/9	39-39'10"	50-50/4"		S-9: V Dense, brown gray F SAND, some M Sand & Silt, trace C Sand, wet	6,7	40 ft+-
		C-1	60/54	40-45	2m 15s	RQD			BEDROCK
					3m10s	68.5%			
					4m0s		GRANITE GNEISS, pinkish gray, moderately hard, slightly weathered, moderate to slightly fractured (extremely fractured in upper 18 inches), medium to coarse grain		
					3m45s				
45					5m5s				
							BOB @ 45 ft: Core Bedrock		

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0 - 4	V. LOOSE	<2	V. SOFT
4 - 10	LOOSE	2 - 4	SOFT
10 - 30	M.DENSE	4 - 8	M.STIFF
30 - 50	DENSE	8 - 15	STIFF
>50	V.DENSE	15 - 30	V. STIFF
		>30	HARD

REMARKS:
5. Rollerbit jumping 32 to 33 ft+-; cobbles & boulders inferred
6. Rollerbit on something hard at 40 ft+-, start core
7. Core using NV-II core barrel w/ diamond bit

BURMISTER CLASSIFICATION	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
PERCENT BY WEIGHT	

NOTES:
1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NO. B21-1

FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD, EXETER, RI
GEOTECHNICAL AND MARINE ENGINEERS

BORING NO. B21-2
SHEET 1 OF 2

PROJECT: Proposed Warehouse Distribution Facility, Gilboa Street, Douglas, MA — PROJECT NO.: 21013.00 — CHKD. BY: RWF

BORING CO.: NE Boring Contractors
FOREMAN: Jimmy & Mike
ENGINEER: FEC: MRF
BORING LOCATION: SEE EXPLORATION LOCATION PLAN
GROUND SURFACE ELEVATION: 328 ft+- DATUM: NAVD88
DATE START: 12/13/2021 DATE END: 12/14/2021

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300 lb. HAMMER FALLING 24 IN.
CASING SIZE: 4" diameter OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
14-Dec	11:30+-	11 ft+-	18 ft+-	30 min+-

DEPTH (ft)	CASING (ft)	SAMPLE NO.	PEN. (in.)/ REC.	DEPTH (FT)	BLOWS/6"	TONS/FT² OR KG/CM²	SAMPLE DESCRIPTION: Burmister CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		1	24/18	0-2	2-4		Loose, 4" dark brown LOAM & FOREST DUFF, to brown orange F SAND, trace Silt (Subsoil?), dry	1,2	LOAM 4"
					4-3				
		2	24/18	2-4	2-1		Loose, 9" dark brown F SAND to light brown F SAND, dry		
					5-8				
5		3	24/24	4-6	9-6		M dense, light brown F SAND, trace(-) Silt, dry	3	
					8-12				
10		4	24/12	9-11	14-27		V dense, gray brown F-M SAND, trace C Sand & Silt, wet		SAND
					29-25			4	
15		5	24/6	14-16	31-13		M dense, brown gray F-M SAND, trace(+) C Sand & F Gravel, wet		
					16-18				
								5	18 ft+-
20									WEATHERED ROCK?
					TIME	ROD			23 ft+-
		C-1	60/58	23-28	2m 45s	93.3%	GRANITE GNEISS, pinkish gray, hard, slightly weathered, slightly fractured, medium to coarse grained	6	
25					2m 50 s				BEDROCK
					4m				
					2m 35s				
					3m 30s				
		C-2	60/60	28-33	2m	96.7%	same		
30					2m 10s				
					2m				
					2m				

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0 - 4	V. LOOSE	<2	V. SOFT
4 - 10	LOOSE	2 - 4	SOFT
10 - 30	M.DENSE	4 - 8	M.STIFF
30 - 50	DENSE	8 - 15	STIFF
>50	V.DENSE	15 - 30	V. STIFF
		>30	HARD

REMARKS:
1. Borings completed using a Defco Stratastar 5 ATV rig with Autohammer
2. Relocate 50 ft east of stake to accommodate revised bridge location
3. Open hole to S-3, drive casing for sampling below S-3
4. Rollerbit jumping 11 to 13 ft+-; boulders & cobbles inferred
5. Install casing to 18 ft+- and encounter refusal; rollerbit thru what appears to be weathered rock to hard material at 23 ft+- and start core.
6. Core using NV-II core barrel w/ diamond bit

BURMISTER CLASSIFICATION	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
PERCENT BY WEIGHT	

NOTES:
1). THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NO. B21-2

BORING/PROBE NOTES:

1. LOCATION OF BORING SHOWN ON THE PLAN THUS
2. LOCATION OF PROBES SHOWN ON THE PLAN THUS
3. BORINGS AND PROBES ARE TAKEN FOR THE PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS AND PROBE POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
4. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DON NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
5. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" I.D. SPLIT SPOON SAMPLER 24" USING A 140 POUND WEIGHT FALLING 30".
6. BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED AT ----------. THE CONTRACTOR MAY EXAMINE THE SOIL AND SAMPLES BY CONTACTING THE ------.
7. ALL BORINGS WERE MADE IN _____ OF 2021. ALL PROBES WERE MADE IN _____ OF 2021.
8. BORINGS AND PROBES WERE MADE BY _____. (ADDRESS)
9. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

SUBMISSION_DATE
SUBMISSION_NAME

FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD, EXETER, RI
GEOTECHNICAL AND MARINE ENGINEERS

BORING NO. B21-2
SHEET 2 OF 2

PROJECT Proposed Warehouse Distribution Facility — PROJECT NO. 21013.00
Gilboa Street, Douglas, MA — CHKD. BY RWF

DEPTH (ft)	CASING DEPTH	SAMPLE NO.	SAMPLE PEN. (in.)/ REC.	SAMPLE DEPTH (FT.)	SAMPLE BLOWS/6"	SAMPLE TON/SFT² OR KG/CM²	SAMPLE DESCRIPTION (Burmister — CLASSIFICATION)	REMARKS	STRATUM DESCRIPTION
		C-2	60/60	28-33	2m 15s				BEDROCK
35							BOB @ 33 ft: Core Bedrock		
40									
45									

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0 - 4	V. LOOSE	<2	V.SOFT
4 - 10	LOOSE	2 - 4	SOFT
10 - 30	M.DENSE	4 - 8	M.STIFF
30 - 50	DENSE	8 - 15	STIFF
>50	V.DENSE	15 - 30	V.STIFF
		>30	HARD

REMARKS:

BURMISTER CLASSIFICATION	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
PERCENT BY WEIGHT	

NOTES:
1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NO. B21-2

FAIRBANKS ENGINEERING CORPORATION
42 COBBLESTONE HILL ROAD, EXETER, RI
GEOTECHNICAL AND MARINE ENGINEERS

BORING NO. B21-17
SHEET 1 OF 1

PROJECT Proposed Warehouse Distribution Facility — PROJECT NO. 21013.00
Gilboa Street, Douglas, MA — CHKD. BY RWF

BORING CO. NE Boring Contractors
FOREMAN Jimmy & Mike
ENGINEER FEC: MRF
BORING LOCATION SEE EXPLORATION LOCATION PLAN
GROUND SURFACE ELEVATION 328 ft+- DATUM NAVD88
DATE START 12/14/2021 DATE END 12/14/2021

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300 lb. HAMMER FALLING 24 IN.
CASING SIZE: 4" diameter OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
15-Dec	7:30	12.5 ft+-	19 ft	16 hrs+-

DEPTH (ft)	CASING DEPTH	SAMPLE NO.	SAMPLE PEN. (in.)/ REC.	SAMPLE DEPTH (FT.)	SAMPLE BLOWS/6"	SAMPLE TON/SFT² OR KG/CM²	SAMPLE DESCRIPTION (Burmister — CLASSIFICATION)	REMARKS	STRATUM DESCRIPTION
								1,2	
5		1	24/18	4-6	4-3		Loose, brown F SAND, trace(-) Silt, dry		
					4-6			3	
10		2	24/9	9-11	13-20		V dense, brown F GRAVEL & SAND, trace Silt (w/ white piece of quartz in spoon tip), wet		SAND
					52-19				
15		3	21/8	14-15'9"	18-18		V dense, brown F SAND, trace M-C Sand & Silt, wet		
					50-50/3"				
20		4	12/9	19-20	33-70/6"		V dense, brown SAND & F GRAVEL, little Silt (w/ pieces of quartz in upper 2" of sample), wet	4	
								5	
25							BOB @ 22 ft: Refusal on Bedrock or Boulder		
30									

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0 - 4	V. LOOSE	<2	V.SOFT
4 - 10	LOOSE	2 - 4	SOFT
10 - 30	M.DENSE	4 - 8	M.STIFF
30 - 50	DENSE	8 - 15	STIFF
>50	V.DENSE	15 - 30	V.STIFF
		>30	HARD

REMARKS:
1. Borings completed using a Defco Stratastar 5 ATV rig with Autohammer
2. Boring located 30-40 ft east of B21-2
3. Rollerbit jumping from 6 to 8 ft+-; boulders & cobbles inferred
4. Rollerbit ahead below casing to refusal at 22 ft+-; rollerbit grinding at 21 ft+- during advance; boulder or cobble inferred.
5. Groundwater is believed to be same as the adjacent river elevation

BURMISTER CLASSIFICATION	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
PERCENT BY WEIGHT	

NOTES:
1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NO. B21-17

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	4	--
PROJECT FILE NO.			

BORING LOGS
SHEET 2 OF --

SUBMISSION_DATE

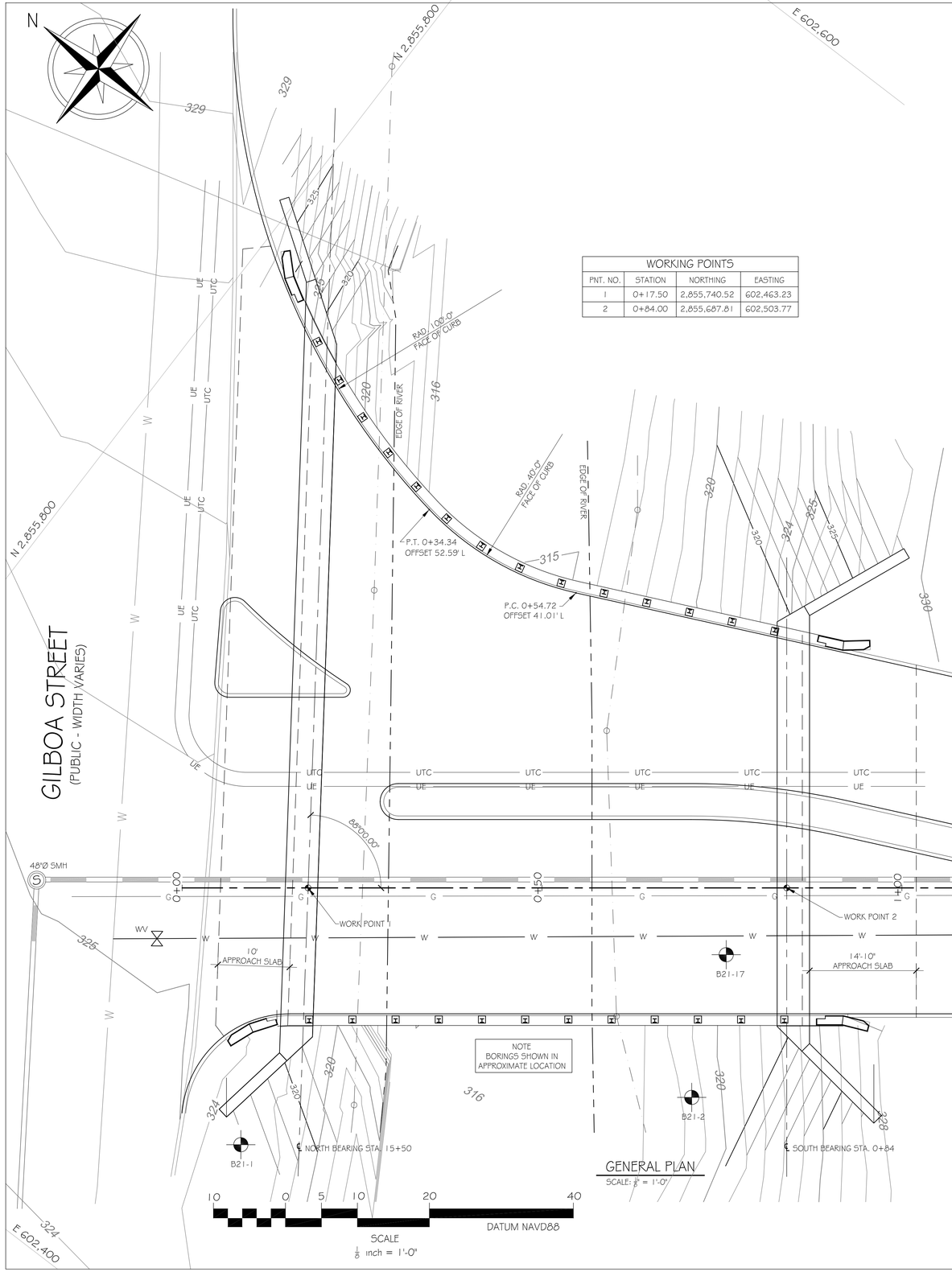
SUBMISSION_NAME

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	5	--
PROJECT FILE NO.			

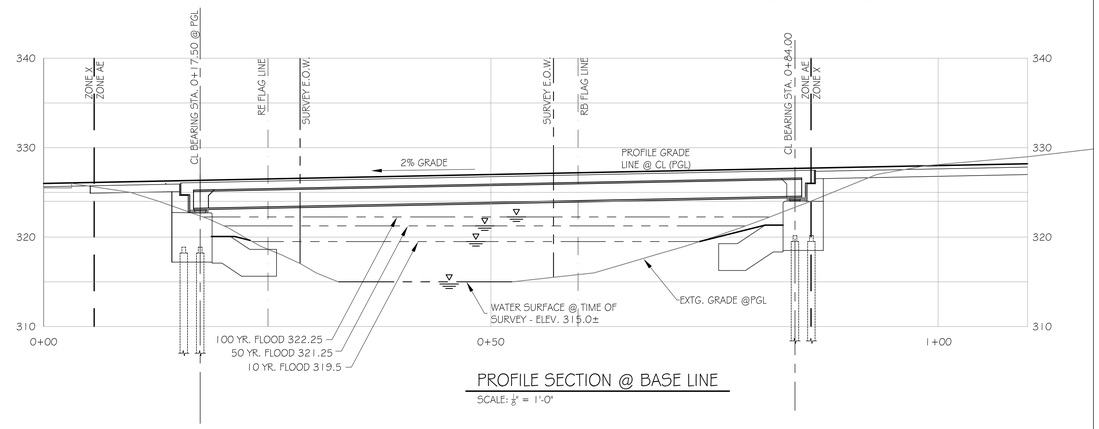
BRIDGE PLAN AND ELEVATIONS

WORKING POINTS			
PNT. NO.	STATION	NORTHING	EASTING
1	0+17.50	2,855,740.52	602,463.23
2	0+84.00	2,855,687.81	602,503.77

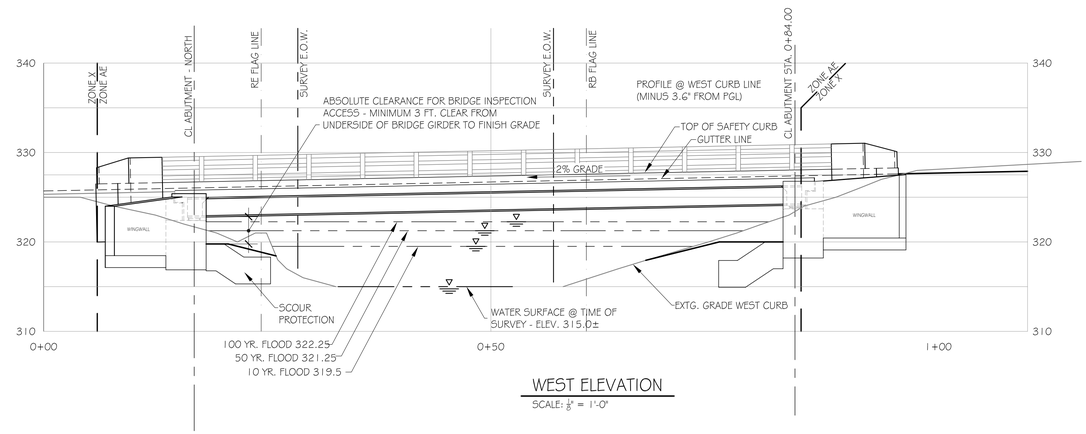


GENERAL PLAN
SCALE: 1" = 1'-0"

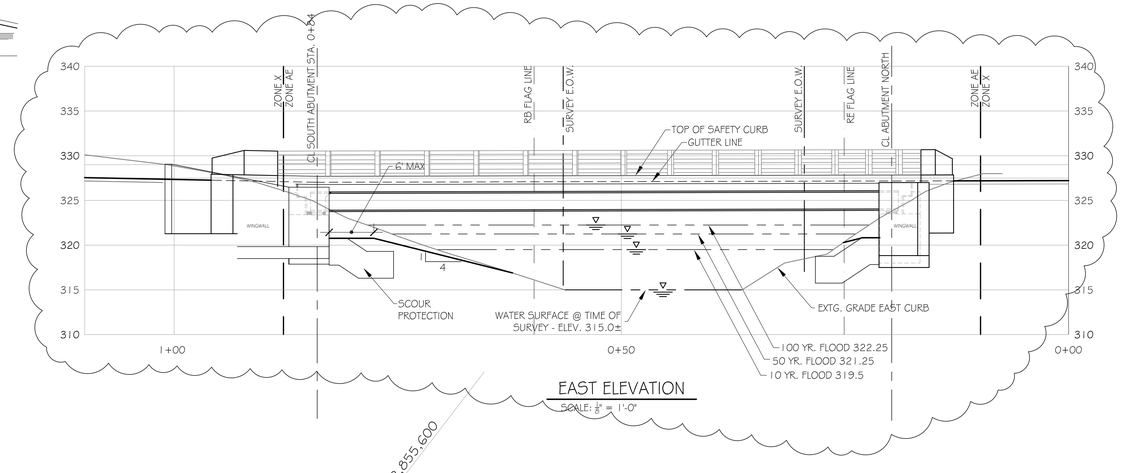
SCALE
1/8 inch = 1'-0"
10 0 5 10 20 40
DATUM NAVD88



PROFILE SECTION @ BASE LINE
SCALE: 1/8" = 1'-0"



WEST ELEVATION
SCALE: 1/8" = 1'-0"



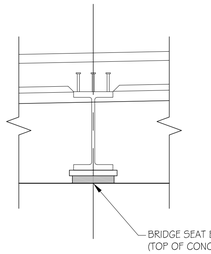
EAST ELEVATION
SCALE: 1/8" = 1'-0"

SUBMISSION_DATE

SUBMISSION_NAME

BRIDGE ID: MUMFORD RIVER CROSSING

N

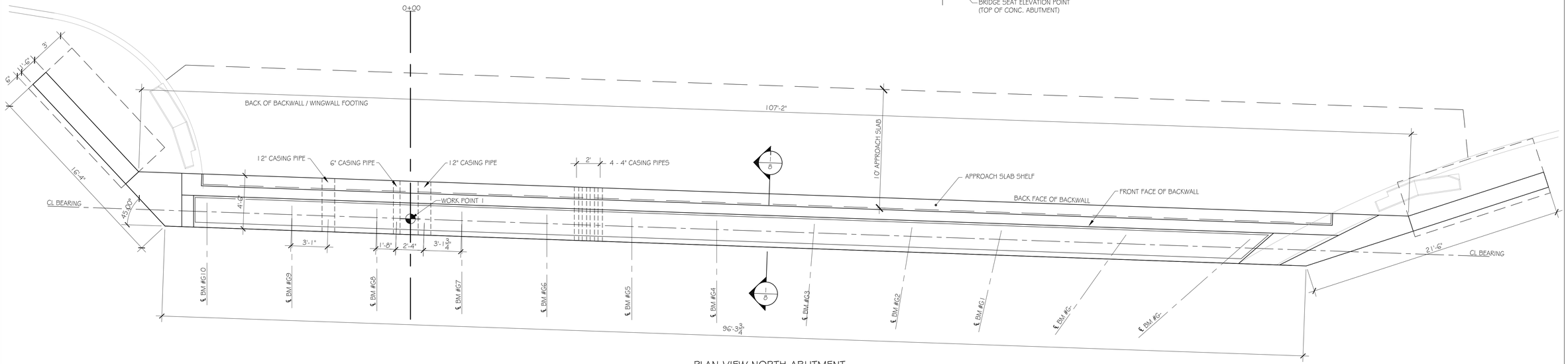


BRIDGE SEAT ELEVATION	
SOUTH ABUTMENT	
BEAM	ELEVATION
G1C	323.86
G1B	323.74
G1A	323.62
G1	323.50
G2	323.36
G3	323.23
G4	323.10
G5	322.98
G6	322.86
G7	322.74
G8	322.61
G9	322.47
G10	322.33

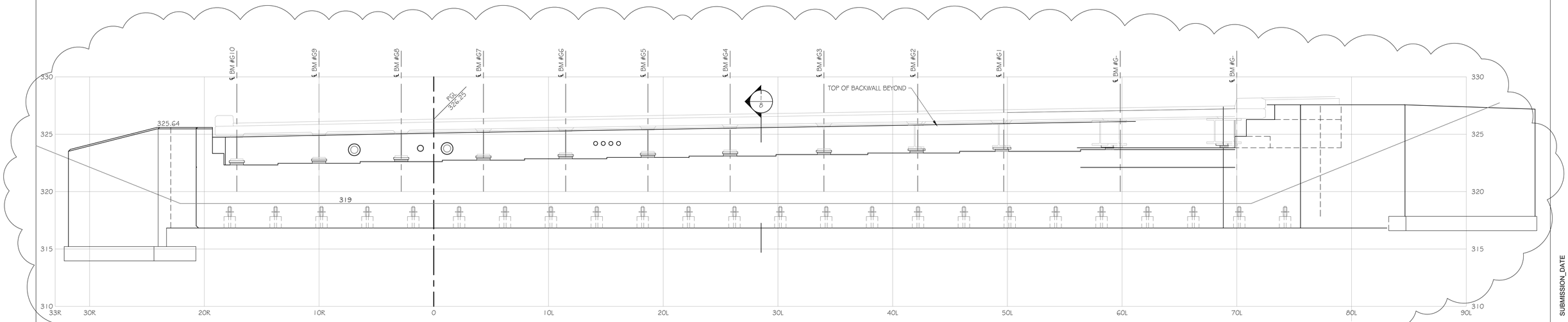
DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	6	--
PROJECT FILE NO.			

NORTH ABUTMENT PLAN & ELEVATION



PLAN VIEW NORTH ABUTMENT
SCALE: 1/4" = 1'-0"



ELEVATION NORTH ABUTMENT
SCALE: 1/4" = 1'-0"

SUBMISSION_DATE

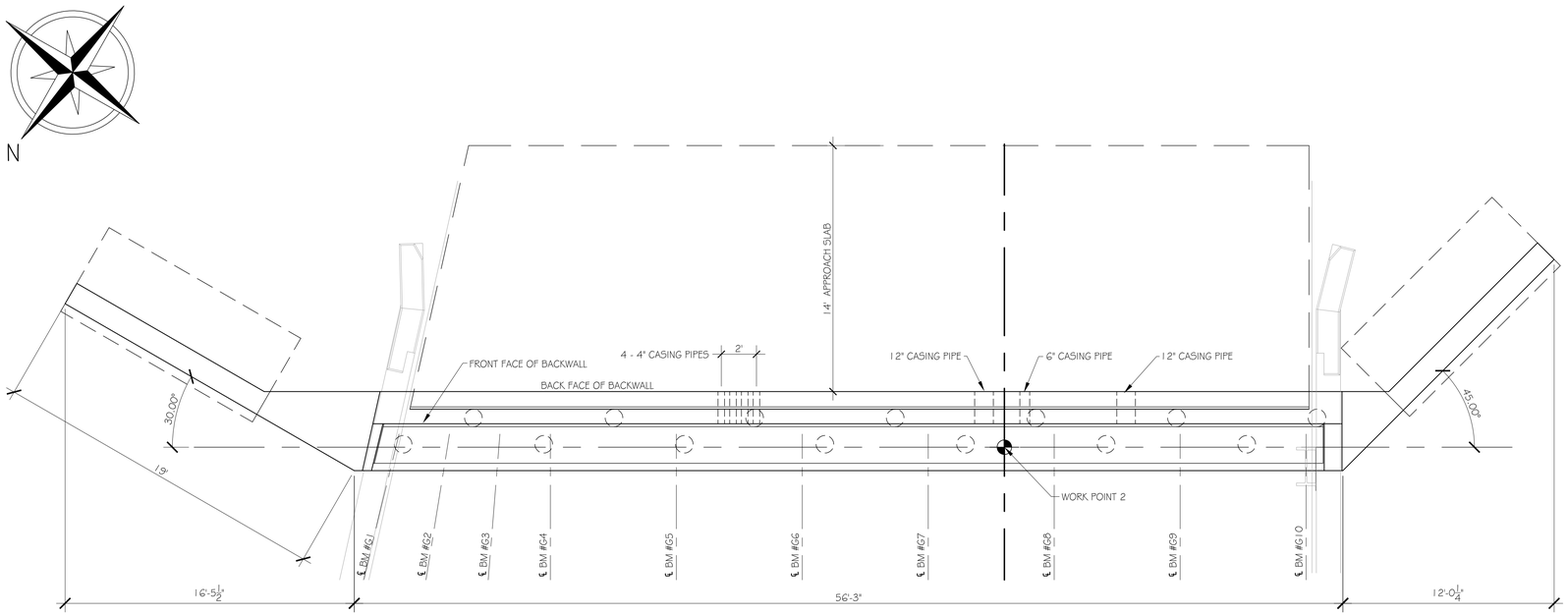
SUBMISSION_NAME

BRIDGE ID: MUMFORD RIVER CROSSING

DOUGLAS-MA
MUMFORD RIVER CROSSING

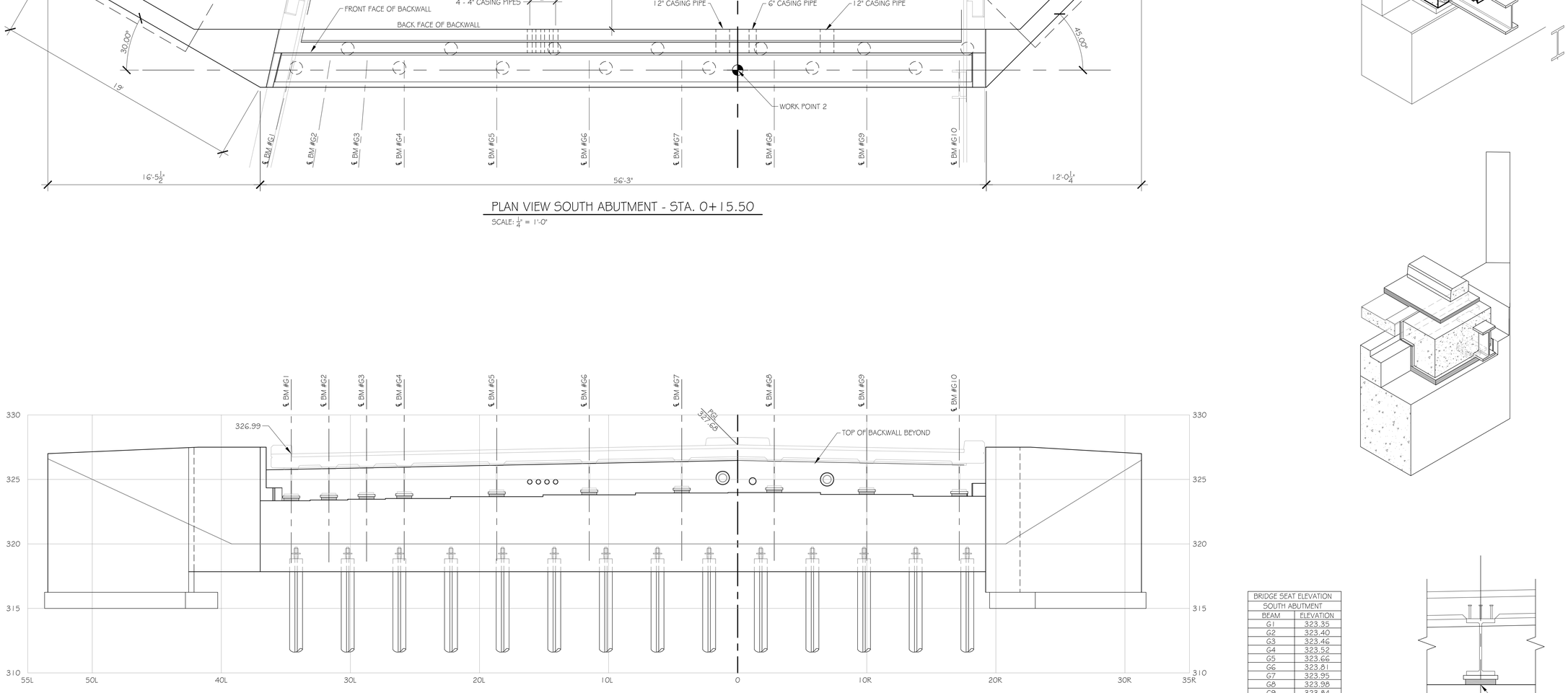
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	7	--
PROJECT FILE NO.			

SOUTH ABUTMENT PLAN & ELEVATION



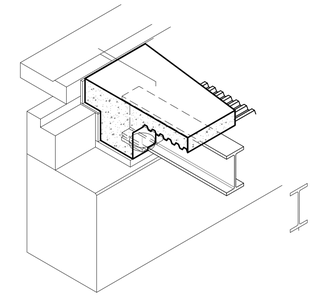
PLAN VIEW SOUTH ABUTMENT - STA. 0+15.50

SCALE: ¼" = 1'-0"

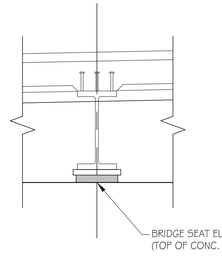


ELEVATION SOUTH ABUTMENT - STA. 0+84.00

SCALE: ¼" = 1'-0"



BRIDGE SEAT ELEVATION	
SOUTH ABUTMENT	
BEAM	ELEVATION
G1	323.35
G2	323.40
G3	323.46
G4	323.52
G5	323.66
G6	323.81
G7	323.95
G8	323.98
G9	323.84
G10	323.69

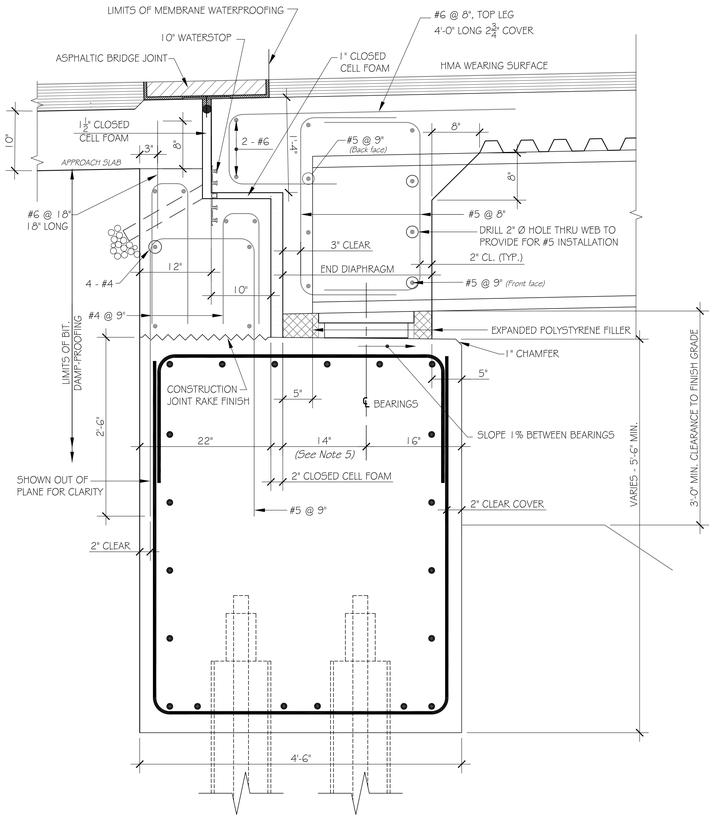


SUBMISSION_DATE

SUBMISSION_NAME

BRIDGE ID: MUMFORD RIVER CROSSING

3.7.14

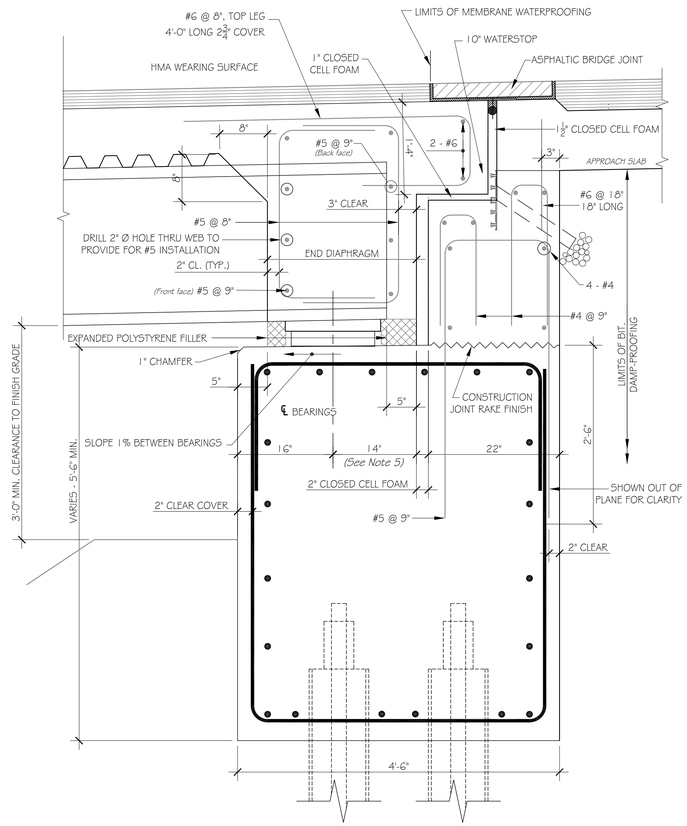


NORTH ABUTMENT CAP SECTION

SCALE: 1" = 1'-0"

ROADWAY SECTION NOTES:

1. ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED, EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
2. TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
3. BACKWALL, KEEPER BLOCK AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
4. THE END DIAPHRAGM CONCRETE SHALL BE 4000 PSI, ¾ IN, 585 HP CEMENT CONCRETE AND SHALL BE PLACED MONOLITHICALLY WITH THE DECK.
5. PRIOR TO PLACING THE END DIAPHRAGM CONCRETE, CLOSED CELL FOAM OF THE SPECIFIED THICKNESSES SHALL BE ATTACHED WITH ADHESIVE TO ALL SURFACES OF THE BACKWALL, KEEPER BLOCKS, AND CURTAIN WALLS AS SHOWN ON THE PLANS. EXPANDED POLYSTYRENE SHALL BE PLACED UNDER THE BEAM BOTTOM FLANGE AND THE BOTTOM OF THE END DIAPHRAGM SHALL BE FORMED AS SPECIFIED. THE CONTRACTOR SHALL INSURE THAT ALL ABUTMENT CONCRETE IS PROPERLY LINED. END DIAPHRAGM CONCRETE MUST NOT COME IN DIRECT CONTACT WITH THE ABUTMENT CONCRETE.
6. AFTER THE END DIAPHRAGM HAS CURED SUFFICIENTLY, PLACE THE APPROACH SLAB CONCRETE AND BACKWALL CONCRETE AT SIDEWALK. THE BACKWALL TROUGH WILL BE FORMED WITH CLOSED CELL FOAM AND CARE SHALL BE TAKEN TO INSURE THAT CONCRETE DOES NOT ENTER THE TROUGH DRAINS.
7. COVER THE BACKWALL TROUGH OPENING SECURELY TO KEEP DEBRIS OUT UNTIL READY TO INSTALL THE ASPHALTIC BRIDGE JOINT.



SOUTH ABUTMENT CAP SECTION

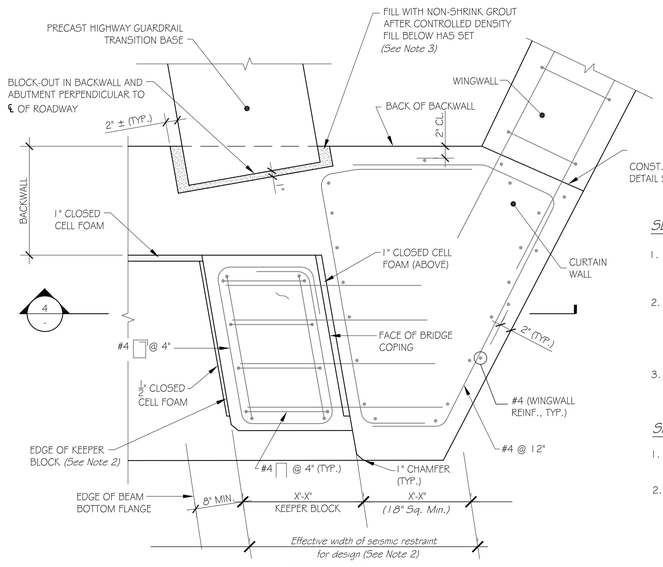
SCALE: 1" = 1'-0"

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	8	--
PROJECT FILE NO.			

ABUTMENT SECTIONS & DETAILS

3.7.5



SECTION 3

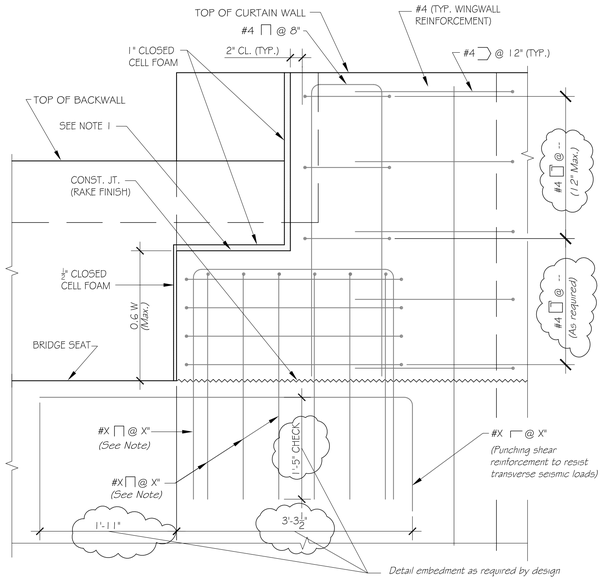
SCALE: 1" = 1'-0"

SECTION 3 NOTES:

1. DETAIL SHOWN IS FOR ABUTMENTS WITH PAVEMENT SAWCUT. MODIFY DRAWING AND PROVIDE CLOSED CELL FOAM AS REQUIRED FOR THE ABUTMENT TYPE USED.
2. EDGE OF KEEPER BLOCK SHALL NOT EXTEND BEYOND THE HIGHWAY GUARDRAIL TRANSITION BASE. THE CURTAIN WALL AND KEEPER BLOCK CAN BE COMBINED FOR THE DESIGN OF THE SEISMIC RESTRAINT. IF THE WIDTH IS STILL NOT SUFFICIENT, USE INTERMEDIATE ABUTMENT KEEPER BLOCKS.
3. SEE CHAPTER 3, PRECAST HIGHWAY GUARDRAIL TRANSITIONS, FOR ADDITIONAL INFORMATION AND RELEVANT DETAILS.

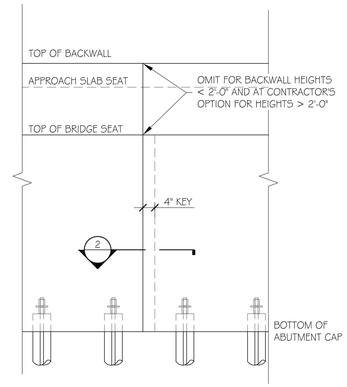
SECTION 4 NOTES:

1. TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH PARALLEL TO PROFILE GRADE.
2. ABUTMENT REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.

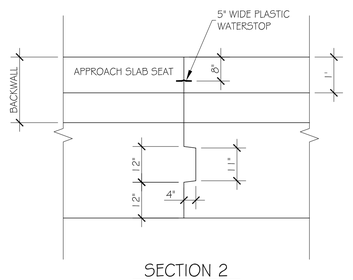


SECTION 4

SCALE: 1" = 1'-0"



ELEVATION OF ABUTMENT CAP



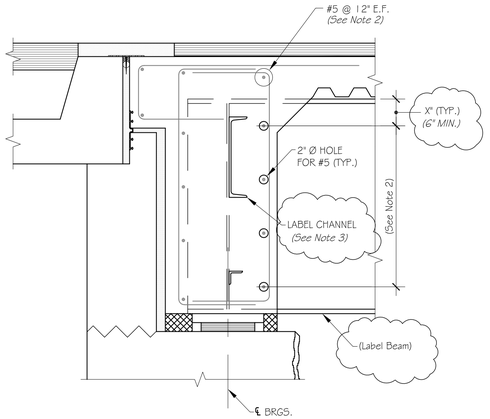
SECTION 2

CONSTRUCTION JOINT DETAILS

SCALE: ½" = 1'-0"

BRIDGE ID: MUMFORD RIVER CROSSING

5.4.2

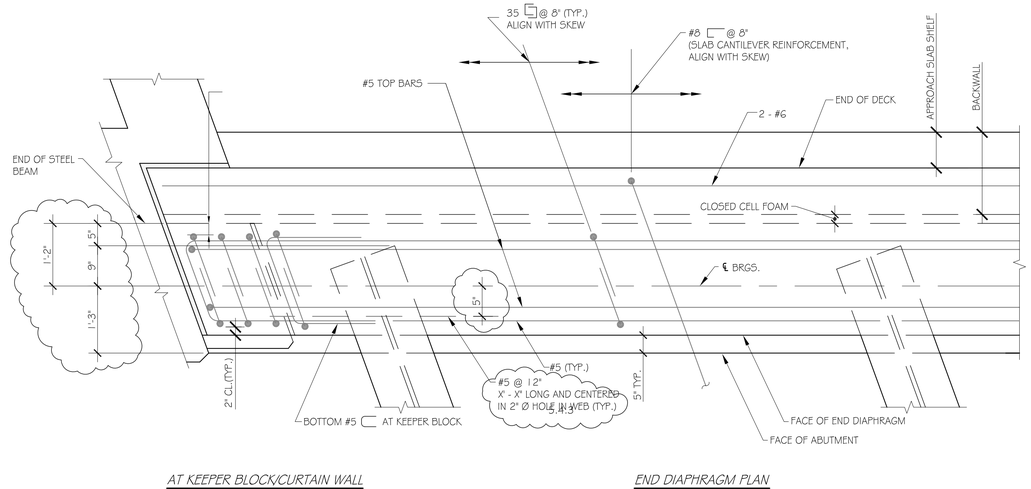


DETAILS AT ABUTMENT - ROADWAY SECTION

SCALE: 1" = 1'-0"

NOTES:

1. MODIFY THE GENERIC ROADWAY/SIDEWALK SECTION DETAILS OF DWG. NO.'S 3.7.14 AND 3.7.15 AS SHOWN ABOVE FOR STEEL STRINGER BRIDGES.
2. 12" SPACING TYPICAL. 10" MIN. IF REQUIRED FOR PROPER DISTRIBUTION OF REINFORCEMENT.
3. IF STAGE CONSTRUCTION IS PRESENT, OMIT END DIAPHRAGMS IN THE AFFECTED BAYS AND PROVIDE ADDITIONAL REINFORCING THAT IS TO BE SPLICED USING DOWEL BAR SPLICES.



AT KEEPER BLOCK/CURTAIN WALL

END DIAPHRAGM PLAN

END DIAPHRAGM PLAN

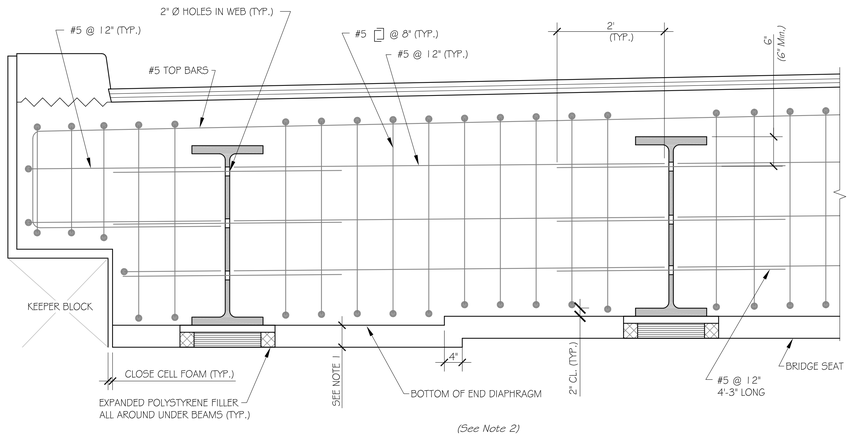
SCALE: 3/4" = 1'-0"

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	9	--
PROJECT FILE NO.			

END DIAPHRAGM DETAILS

5.4.4



AT KEEPER BLOCK/CURTAIN WALL

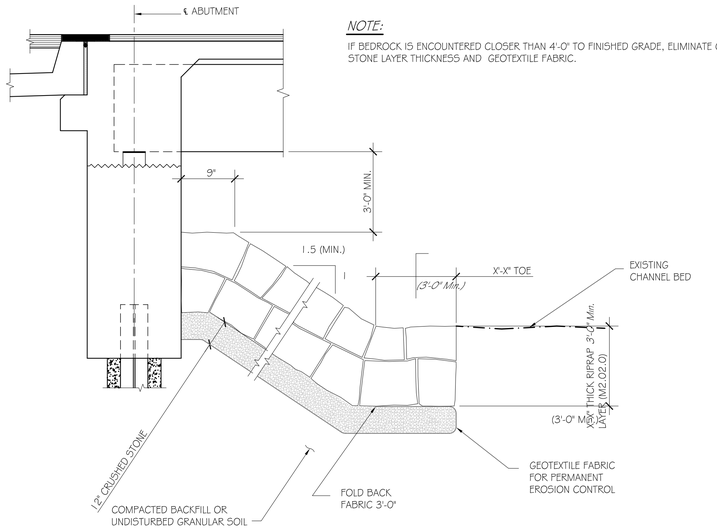
TYPICAL INTERIOR BAY

END DIAPHRAGM ELEVATION

SCALE: 3/4" = 1'-0"

NOTES:

1. CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE DIAPHRAGM.



NOTE:

IF BEDROCK IS ENCOUNTERED CLOSER THAN 4'-0" TO FINISHED GRADE, ELIMINATE CRUSHED STONE LAYER THICKNESS AND GEOTEXTILE FABRIC.

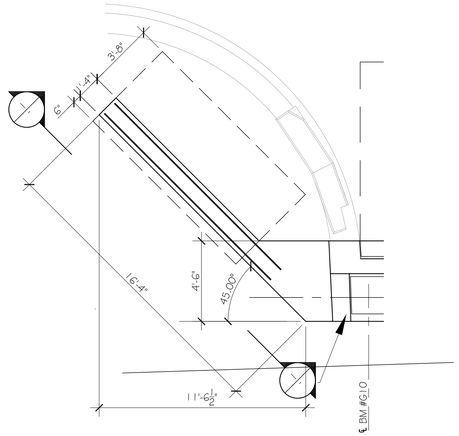
RIPRAP DETAIL

SCALE: N.T.S.

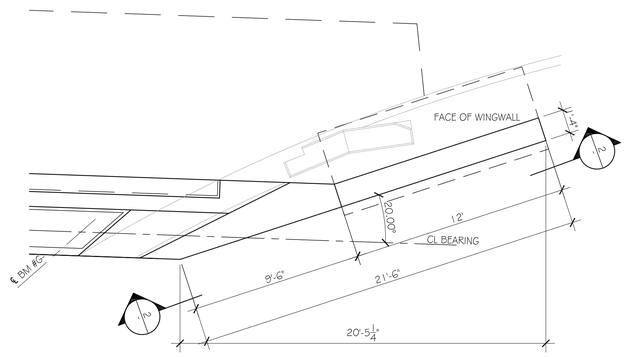
DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	10	--
PROJECT FILE NO.			

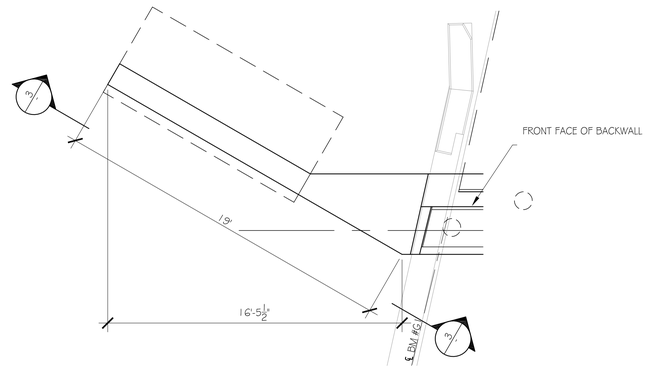
WINGWALL SECTIONS & DETAILS



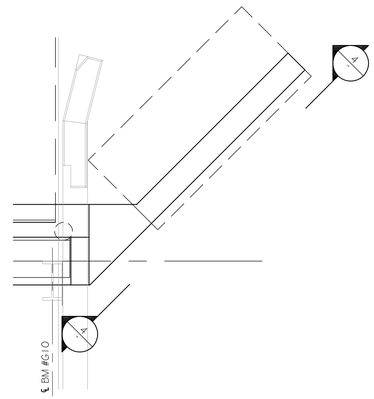
NORTHWEST WINGWALL PLAN
SCALE: ¼" = 1'-0"



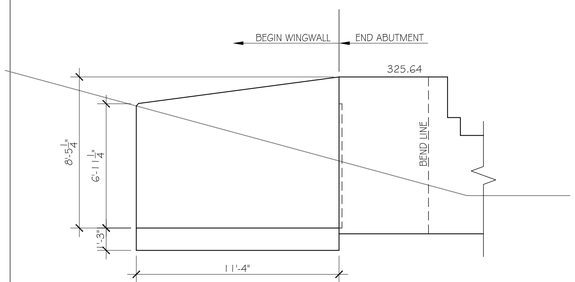
NORTHEAST WINGWALL PLAN
SCALE: ¼" = 1'-0"



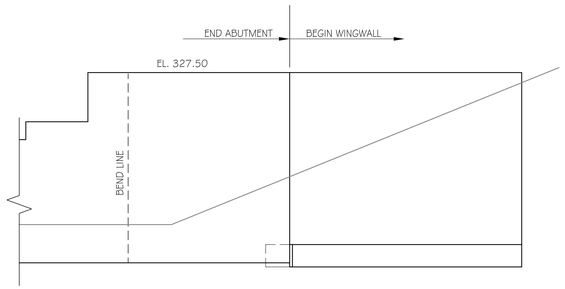
SOUTHEAST WINGWALL PLAN
SCALE: ¼" = 1'-0"



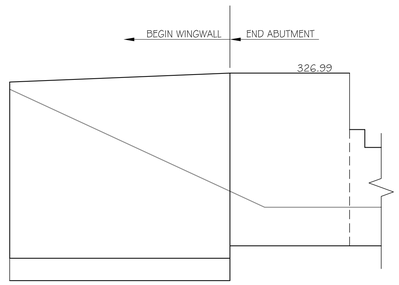
SOUTHWEST WINGWALL PLAN
SCALE: ¼" = 1'-0"



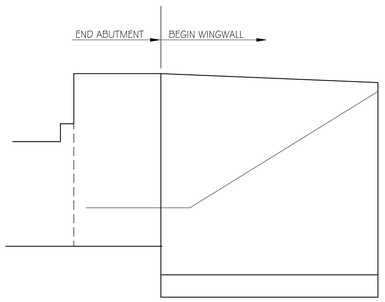
NORTHWEST WINGWALL ELEVATION
SCALE: ¼" = 1'-0"



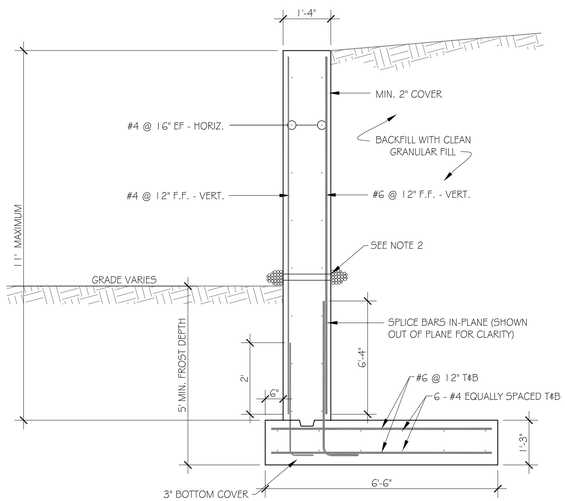
NORTHEAST WINGWALL ELEVATION
SCALE: ¼" = 1'-0"



SOUTHEAST WINGWALL ELEVATION
SCALE: ¼" = 1'-0"



SOUTHWEST WINGWALL ELEVATION
SCALE: ¼" = 1'-0"



TYPICAL WINGWALL SECTION
SCALE: ½" = 1'-0"

WINGWALL NOTES:

1. MEMBRANE WATERPROOFING AND 8" x 16" x 2", 4000 psi, $\frac{345}{3}$ in. 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MHD STANDARD SPECIFICATIONS.
2. 4" Ø WEEP HOLES 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 4000 psi, 1½ IN. 565 CEMENT CONCRETE.
4. EXTEND EVERY 3rd BAR FULL LENGTH AS SHOWN.

FOR SPREAD FOOTINGS:

5. THE FACTORED BEARING PRESSURE = XXX KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

   FACTORED BEARING RESISTANCE = XXX KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.XX.

FOR PILES:

5. THE FACTORED AXIAL DESIGN LOAD PER PILE IS X KIPS AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

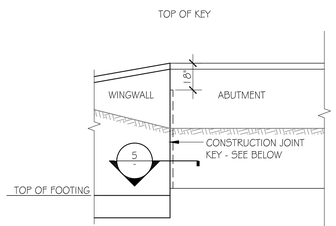
   THE FACTORED STRUCTURAL RESISTANCE PER PILE IS X KIPS AND IS THE PRODUCT OF THE NOMINAL STRUCTURAL RESISTANCE OF X KIPS AND A RESISTANCE FACTOR OF 0.XX.

6a. THE FACTORED GEOTECHNICAL PILE RESISTANCE IS X KIPS AND IS THE PRODUCT OF THE NOMINAL GEOTECHNICAL RESISTANCE OF X KIPS AND A RESISTANCE FACTOR OF 0.XX. THE ESTIMATED TIP ELEVATION IS XXX FEET.

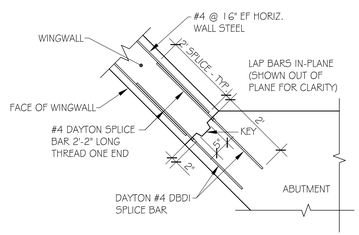
6b. THE MINIMUM TIP ELEVATION IS XXX FEET.

6c. PILES SHALL BE DRIVEN TO BEDROCK WITH AN ESTIMATED TIP ELEVATION OF XXX FEET. HEAVY DUTY PILE SHOES SHALL BE INSTALLED ON THE TIPS OF ALL PILES. PREFABRICATED PILE SHOES MAY BE USED IF APPROVED BY THE ENGINEER.

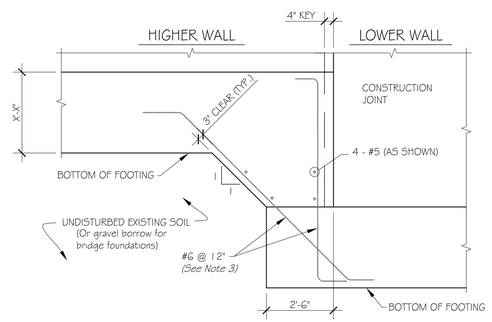
7. DETERMINATION OF THE DRIVEN PILE RESISTANCE, PILE DRIVING CRITERIA, AND PILE INTEGRITY SHALL BE PERFORMED USING THE XX DRIVING/TESTING METHOD WITH A RESISTANCE FACTOR OF 0.XX. PILES SHALL BE INSTALLED TO ACHIEVE A FACTORED DRIVEN RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED AXIAL DESIGN LOAD.
8. THE CONTRACTOR SHALL SUBMIT A PILE SCHEDULE, PILE INSTALLATION, AND PILE DRIVING/TESTING PLAN FOR REVIEW AND APPROVAL OF THE ENGINEER.
9. REINFORCING STEEL IN BACK OF WALL SHALL BE DESIGNED FOR BENDING AND DIRECT STRESS AND SHALL CONFORM TO AASHTO M 31 GRADE 60.
10. DESIGN BASE WIDTH INCLUDING ANY LIVE LOAD SURCHARGE AND THE EFFECTS OF SLOPING BACKFILL.



ELEVATION
WINGWALL TO ABUTMENT CONSTRUCTION JOINT



SECTION 5 -TYPICAL CONSTRUCTION JOINT
SCALE: N.T.S.



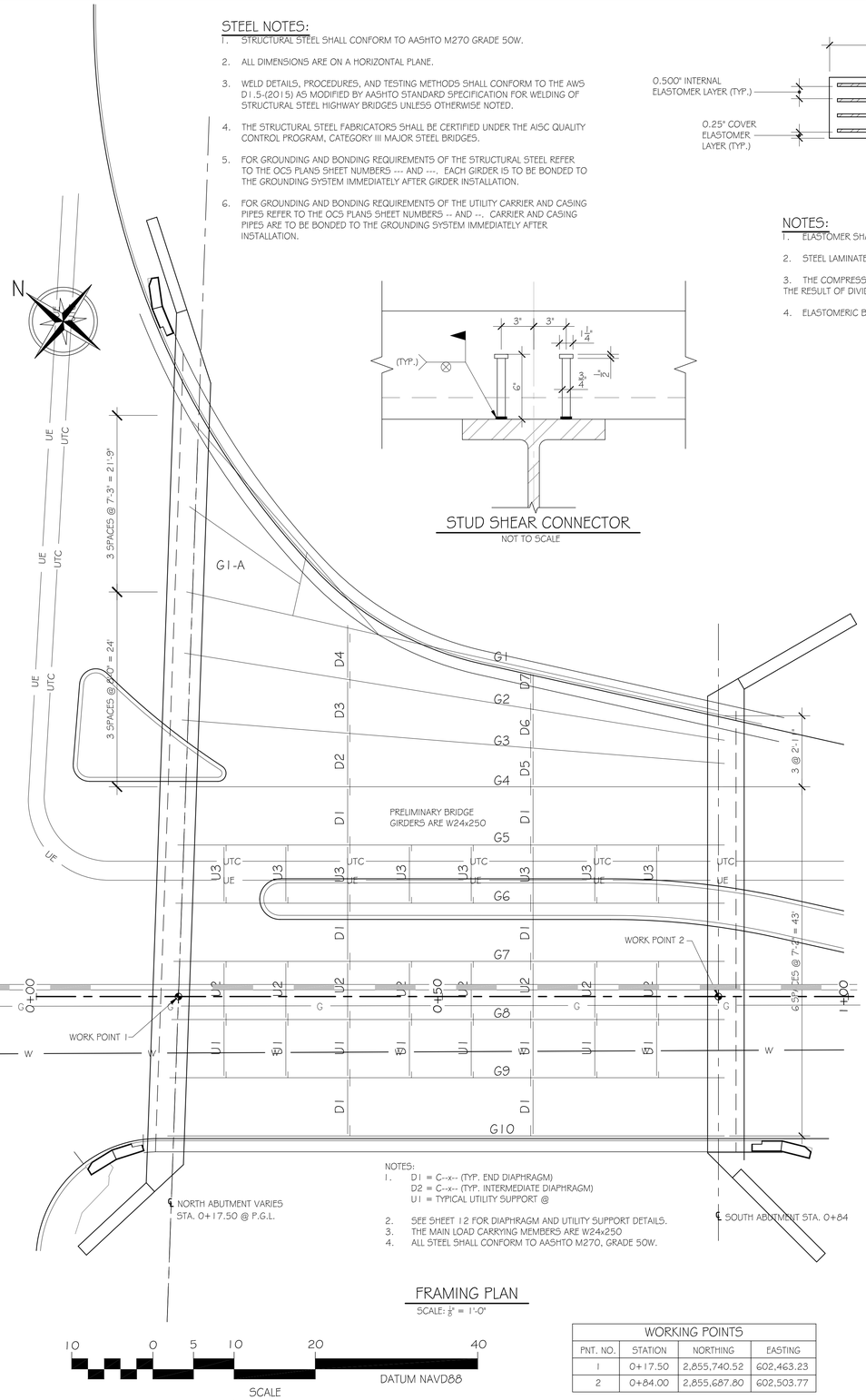
STEPPED-UP FOOTING DETAIL @ CONSTRUCTION JOINT
SCALE: ¾" = 1'-0"

NOTES:

1. THIS DETAIL MAY BE USED FOR CANTILEVER OR GRAVITY WALLS OR A COMBINATION OF CANTILEVER AND GRAVITY WALLS.
2. HEIGHT OF STEP FROM BOTTOM OF HIGHER FOOTING TO BOTTOM OF LOWER FOOTING SHALL NOT BE EXCESSIVE. A STEP HEIGHT OF ABOUT 5'-0" IS REASONABLE.
3. PROVIDE PROPER EMBEDMENT LENGTHS AND CLEARANCES FOR #6 @ 12" ON THE CONSTRUCTION DRAWINGS.

STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50W.
2. ALL DIMENSIONS ARE ON A HORIZONTAL PLANE.
3. WELD DETAILS, PROCEDURES, AND TESTING METHODS SHALL CONFORM TO THE AWS D1.5-(2015) AS MODIFIED BY AASHTO STANDARD SPECIFICATION FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES UNLESS OTHERWISE NOTED.
4. THE STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER THE AISC QUALITY CONTROL PROGRAM, CATEGORY III MAJOR STEEL BRIDGES.
5. FOR GROUNDING AND BONDING REQUIREMENTS OF THE STRUCTURAL STEEL REFER TO THE OCS PLANS SHEET NUMBERS --- AND ---. EACH GIRDER IS TO BE BONDED TO THE GROUNDING SYSTEM IMMEDIATELY AFTER GIRDER INSTALLATION.
6. FOR GROUNDING AND BONDING REQUIREMENTS OF THE UTILITY CARRIER AND CASING PIPES REFER TO THE OCS PLANS SHEET NUMBERS -- AND --. CARRIER AND CASING PIPES ARE TO BE BONDED TO THE GROUNDING SYSTEM IMMEDIATELY AFTER INSTALLATION.



NOTES:
1. D1 = C--x-- (TYP. END DIAPHRAGM)
   D2 = C--x-- (TYP. INTERMEDIATE DIAPHRAGM)
   U1 = TYPICAL UTILITY SUPPORT @
2. SEE SHEET 12 FOR DIAPHRAGM AND UTILITY SUPPORT DETAILS.
3. THE MAIN LOAD CARRYING MEMBERS ARE W24x250
4. ALL STEEL SHALL CONFORM TO AASHTO M270, GRADE 50W.

FRAMING PLAN

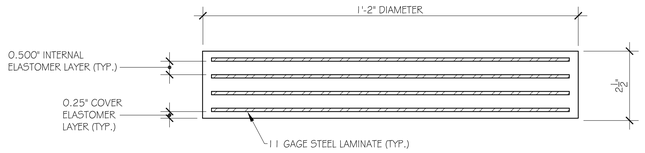
SCALE: $\frac{1}{8}$" = 1'-0"

10 0 5 10 20 40

SCALE
$\frac{1}{8}$ inch = 1'-0"

DATUM NAVD88

WORKING POINTS			
PNT. NO.	STATION	NORTHING	EASTING
1	0+17.50	2,855,740.52	602,463.23
2	0+84.00	2,855,687.80	602,503.77



ELASTOMERIC BEARING PAD

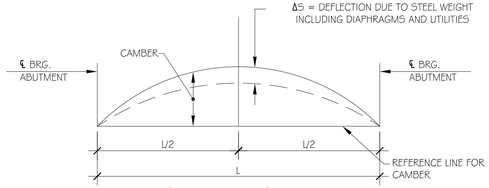
NOT TO SCALE

NOTES:

1. ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
2. STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
3. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS XXX KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO XXX KSI.
4. ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

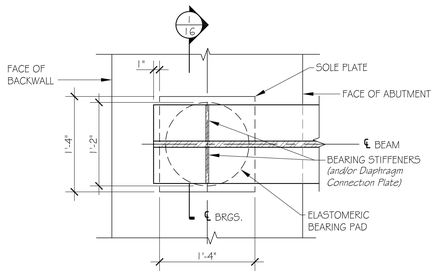
STUD SHEAR CONNECTOR

NOT TO SCALE



CAMBER DIAGRAM

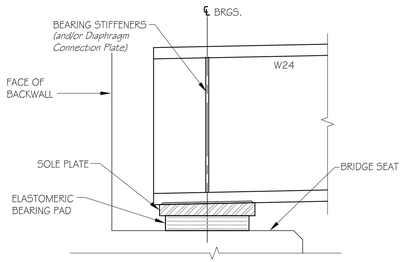
CAMBER TABLE												
BM NO.		℄ BRG. N. ABUT.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7	0.8L	0.9L	℄ BRG. S. ABUT.
1	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
2	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
3	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
4	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
5	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
6	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
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7	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
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	CONC. DL DEFLECTION											
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	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
10	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											
11	STEEL DL DEFLECTION ΔS											
	CONC. DL DEFLECTION											
	SDL DEFLECTION											
	TOTAL CAMBER											



(WS)

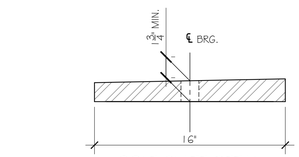
ELASTOMERIC BEARING PAD PLAN

SCALE: $1\frac{1}{2}$" = 1'-0"



ELASTOMERIC BEARING PAD ELEVATION

SCALE: $\frac{1}{2}$" = 1'-0"

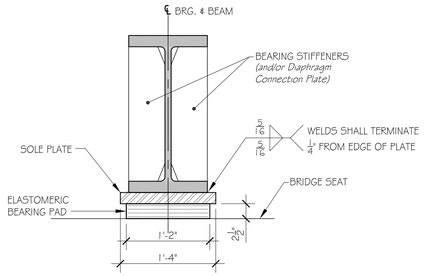


SOLE PLATE DETAIL

SCALE: 3" = 1'-0"

BEARING NOTES:

1. STEEL SOLE PLATE SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE HOT DIP GALVANIZED.
2. CENTER ELASTOMERIC PAD UNDER THE SOLE PLATE DURING BEAM ERECTION.
3. BEAMS SHALL BE ERECTED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 50° F AND 77° F. IF BEAMS ARE ERECTED AT OTHER AMBIENT TEMPERATURES, THEY WILL HAVE TO BE JACKED AND THE ELASTOMERIC BEARINGS RE-CENTERED WHEN THE TEMPERATURE RETURNS TO THAT RANGE.



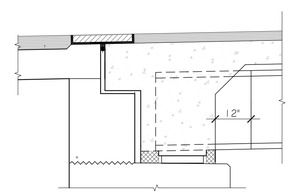
ELASTOMERIC BEARING PAD SECTION 1

SCALE: $\frac{1}{2}$" = 1'-0"



TYPICAL BEAM ELEVATION

SCALE: N.T.S.



LIMITS OF PAINTED WEATHERING STEEL

SCALE: $\frac{1}{2}$" = 1'-0"

NOTE:
THE UNPAINTED WEATHERING STEEL STRINGER AND ATTACHED PLATES EMBEDDED IN THE ABUTMENT AND WITHIN 12" OF THE ABUTMENT FACE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE FINISH COAT COLOR SHALL MATCH COLOR CHIP NO. 30045 OF FEDERAL STANDARD 595A. THE STEEL DIAPHRAGM SHALL NOT BE PAINTED.

DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	11	--
PROJECT FILE NO.			

FRAMING PLAN BEARING DETAILS, AND TYPICAL BEAM DETAILS

SUBMISSION_DATE

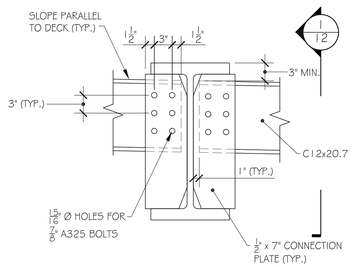
SUBMISSION_NAME

BRIDGE ID: MUMFORD RIVER CROSSING

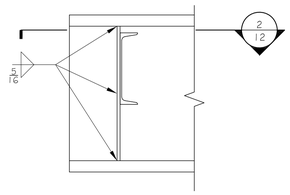
DOUGLAS-MA
MUMFORD RIVER CROSSING

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	12	--
PROJECT FILE NO.			

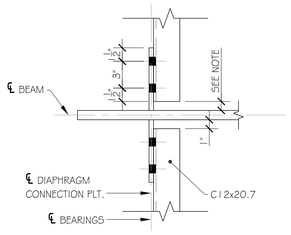
ABUTMENT SECTIONS & DETAILS



ELEVATION VIEW
NOTE: SEE CLIP DETAIL THIS SHEET



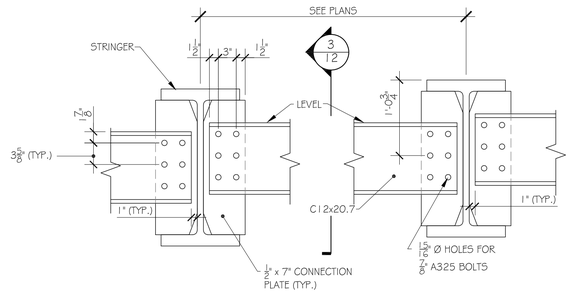
SECTION 1-12



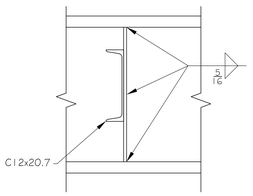
NOTE: FLANGE OF CHANNEL MAY BE CLIPPED TO AVOID INTERFERENCE WITH WEB.

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

D1 - END DIAPHRAGM DETAILS
SCALE: 1" = 1'-0"

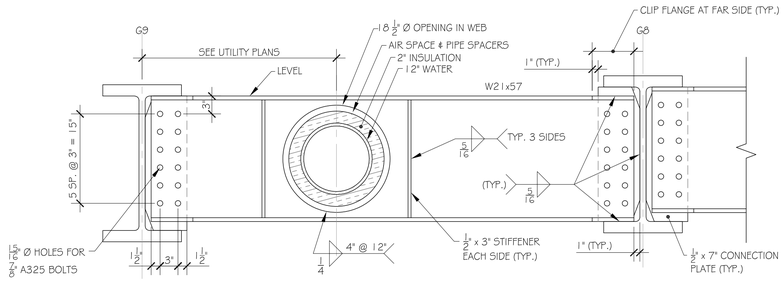


ELEVATION VIEW
NOTE: SEE CLIP DETAIL THIS SHEET



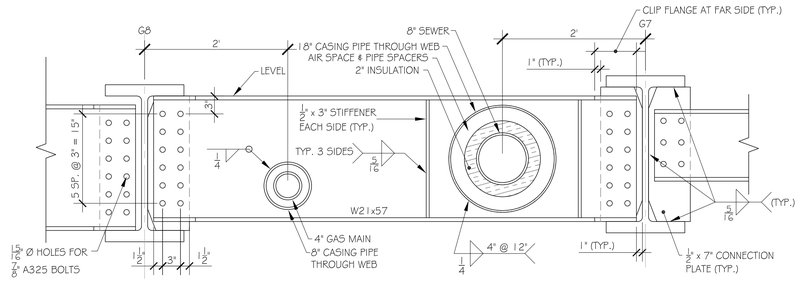
SECTION 3-12

D1 THRU D7- INTERMEDIATE DIAPHRAGM DETAILS
SCALE: 1" = 1'-0"



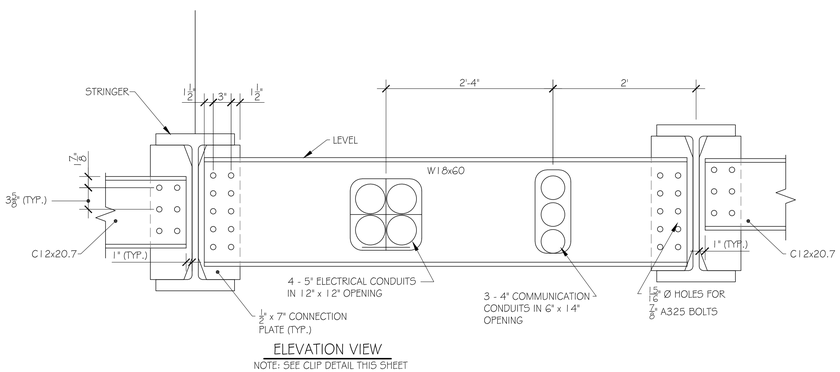
NOTE: SEE DIAPHRAGM CLIP DETAIL ON THIS SHEET

U1 - UTILITY SUPPORT @ END AND INTERMEDIATE DIAPHRAGMS
SCALE: 1" = 1'-0"



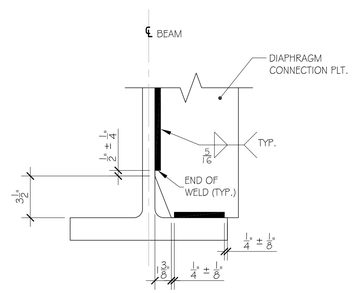
NOTE: SEE DIAPHRAGM CLIP DETAIL ON THIS SHEET

U2 - UTILITY SUPPORT @ END AND INTERMEDIATE DIAPHRAGMS
SCALE: 1" = 1'-0"



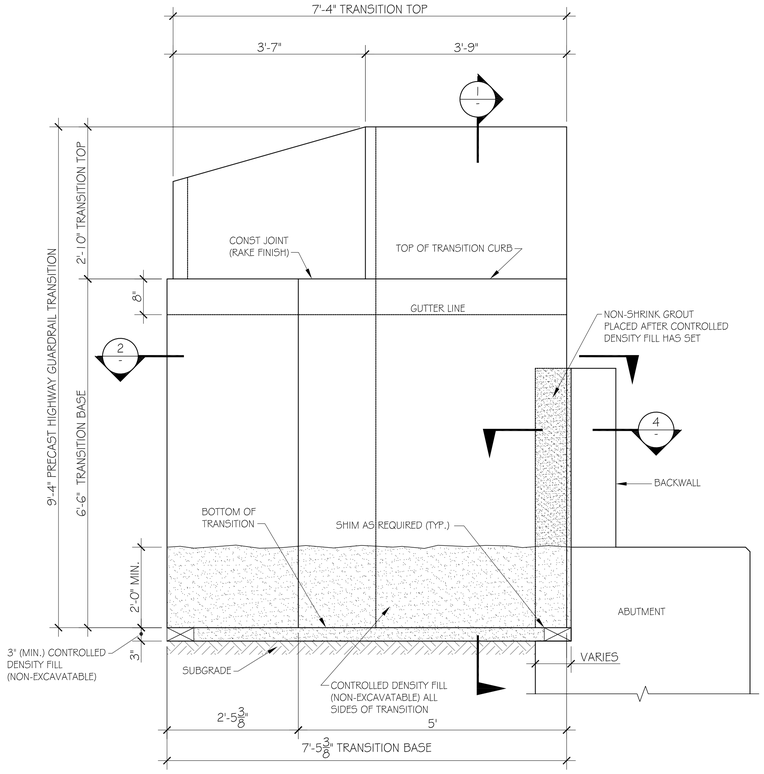
ELEVATION VIEW
NOTE: SEE CLIP DETAIL THIS SHEET

D1 - INTERMEDIATE DIAPHRAGM DETAILS
SCALE: 1" = 1'-0"



CLIP DETAIL
NOT TO SCALE

BRIDGE ID: MUMFORD RIVER CROSSING

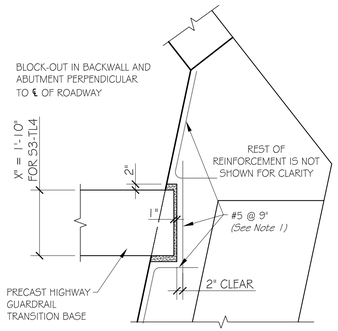


GUARDRAIL TRANSITION ELEVATION

SCALE: $\frac{3}{4}$" = 1'-0"

NOTES:

1. PRECAST GUARDRAIL TRANSITION SHALL BE 5,000 PSI, $\frac{3}{4}$", 685 HP CEMENT CONCRETE.
2. GRAVEL BORROW SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF 3" (MIN.) BELOW THE INTENDED BOTTOM OF THE PRECAST GUARDRAIL TRANSITION BASE AND TO A HEIGHT OF 2'-0" (MIN.) ON ALL SIDES OF THE TRANSITION BASE TO FORM A TRENCH IN WHICH TO SET THE TRANSITION. WHERE NO GRAVEL BORROW IS REQUIRED BELOW THE BASE, IT SHALL BE PLACED ON UNDISTURBED SOIL.
3. CONTRACTOR SHALL SET THE PRECAST GUARDRAIL TRANSITION TO THE REQUIRED ELEVATION AND ALIGNMENT, AND BACKFILL PRECAST GUARDRAIL TRANSITION WITH CONTROLLED DENSITY FILL (NON-EXCAVATABLE) TO THE ELEVATION SHOWN.
4. AFTER CONTROLLED DENSITY FILL (NON-EXCAVATABLE) HAS SET FILL THE GAPS BETWEEN GUARDRAIL TRANSITION AND BLOCK-OUT IN BACKWALL AND ABUTMENT WITH NON SHRINK GROUT UP TO THE TOP OF BACKWALL.
5. THE REST OF REINFORCEMENT IS NOT SHOWN FOR CLARITY.



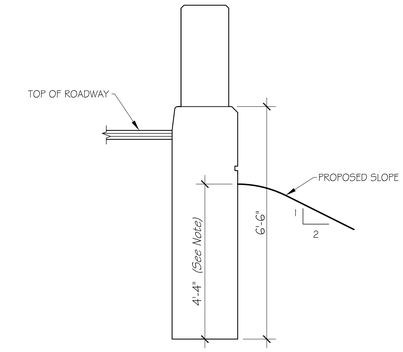
SECTION 4

HORIZ. SECTION @ SPLAYED WINGWALL

SCALE: $\frac{1}{2}$" = 1'-0"

NOTES:

1. *Bar size and spacing shall be the same as the abutment and backwall reinforcement.*
2. *For Construction Notes see Dwg. No. 3.8.3.*

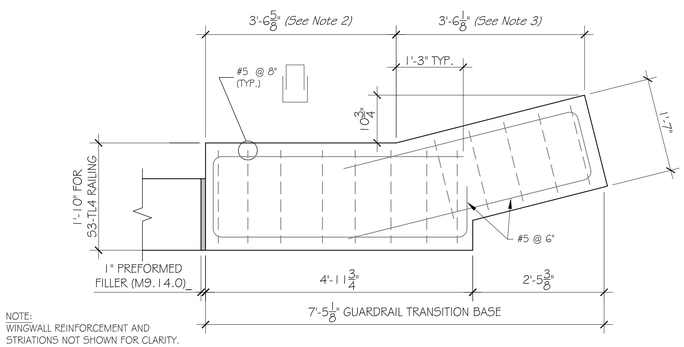


GRADING REQUIREMENTS VERTICAL

SECTION FOR S3-TL4 RAILING @ SAFETY CURB

SCALE: $\frac{1}{2}$" = 1'-0"

NOTE: Dimension is based on 2:1 Fore Slope



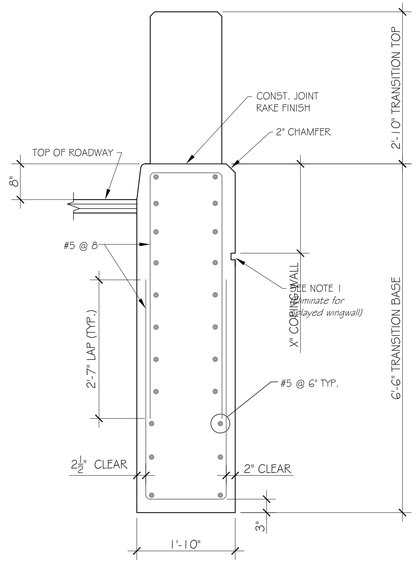
NOTE:
WINGWALL REINFORCEMENT AND STRIATIONS NOT SHOWN FOR CLARITY.

SECTION THRU GUARDRAIL TRANSITION BASE

SCALE: $\frac{3}{4}$" = 1'-0"

NOTES:

1. *2'-0" for CF-PL3 Barrier and 22" for all other railing/barrier systems.*
2. *3'-6 3/8" for CF-PL3 Barrier and 3'-6 5/8" for all other railing/barrier systems.*
3. *3'-5 7/8" for CF-PL3 Barrier and 3'-6 1/8" for all other railing/barrier systems.*
4. *21" for CF-PL3 Barrier and 19" for all other railing/barrier systems.*



SECTION 1

SCALE: $\frac{3}{4}$" = 1'-0"

FOR S3-TL4 RAILING AT SAFETY CURB

DOUGLAS-MA
MUMFORD RIVER CROSSING

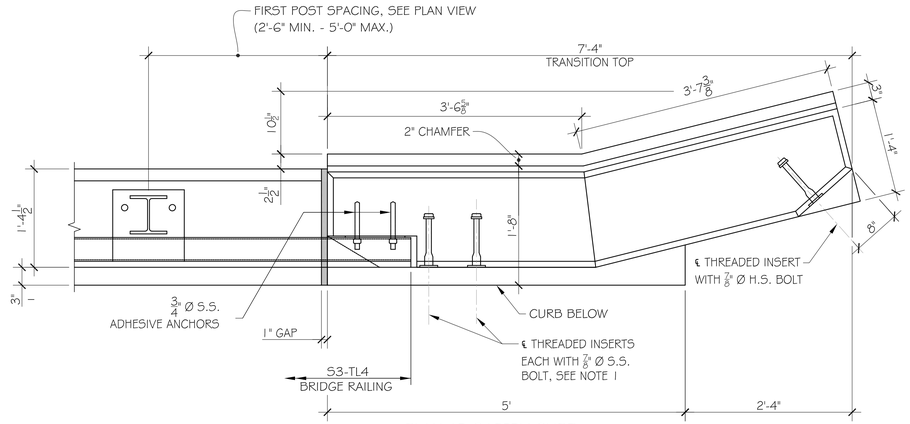
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	13	--
PROJECT FILE NO.			

PRECAST HIGHWAY GUARDRAIL TRANSITION

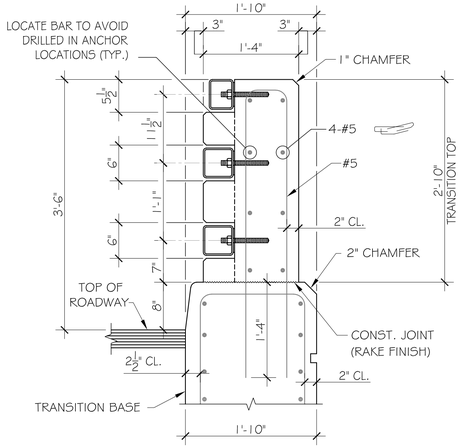
DOUGLAS-MA
MUMFORD RIVER CROSSING

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PROJECT FILE NO.			

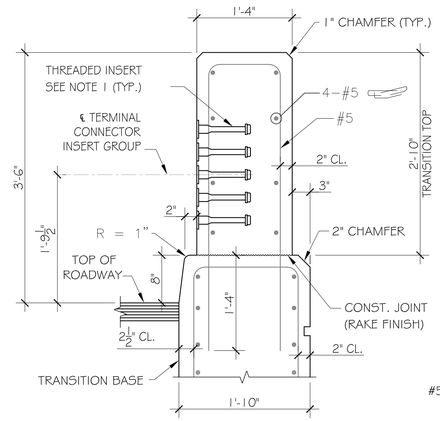
PRECAST HIGHWAY GUARDRAIL TRANSITION



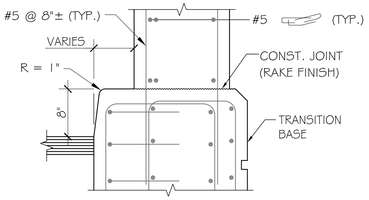
PLAN AT SAFETY CURB
SCALE: 1" = 1'-0"



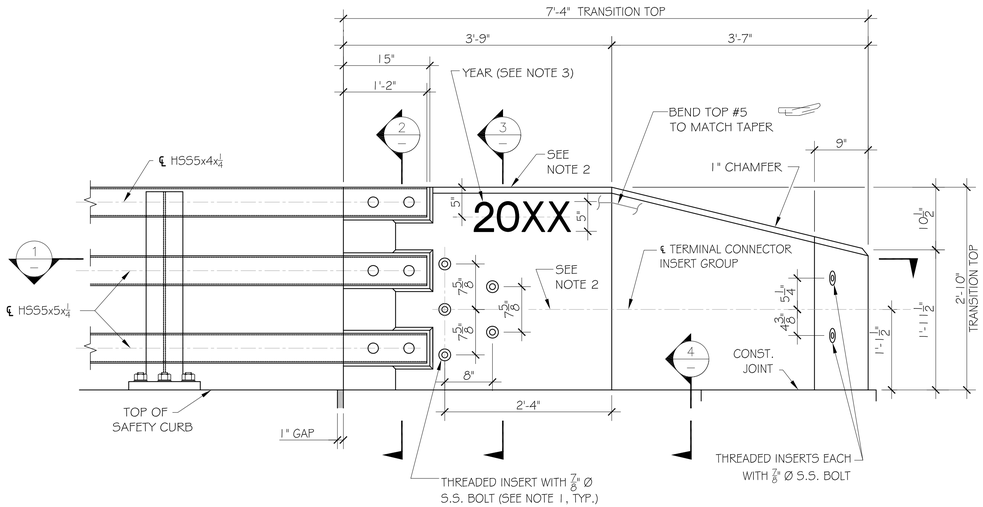
SECTION 2 AT SAFETY CURB
SCALE: 1" = 1'-0"



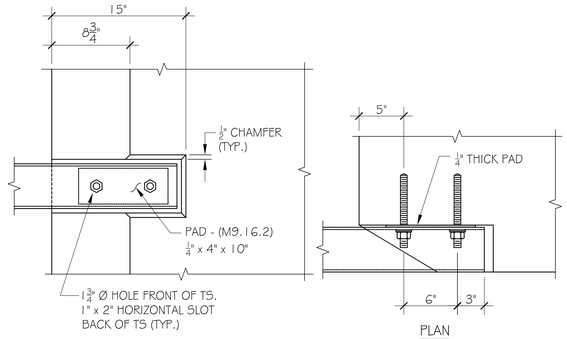
SECTION 3 AT SAFETY CURB
SCALE: 1" = 1'-0"



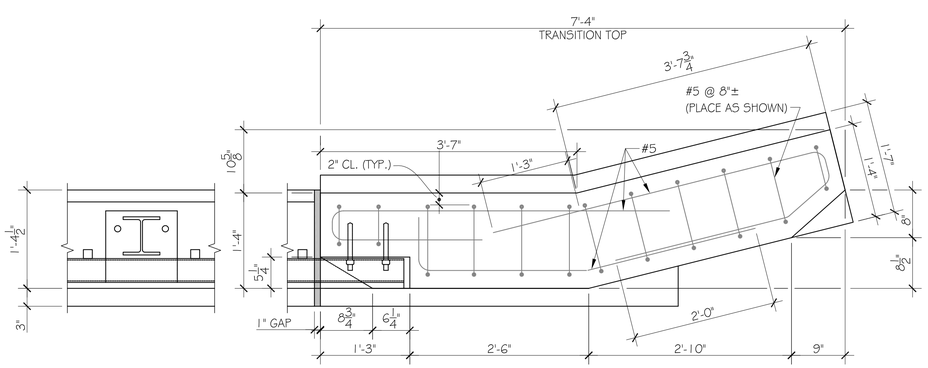
SECTION 4 AT SAFETY CURB
SCALE: 1" = 1'-0"



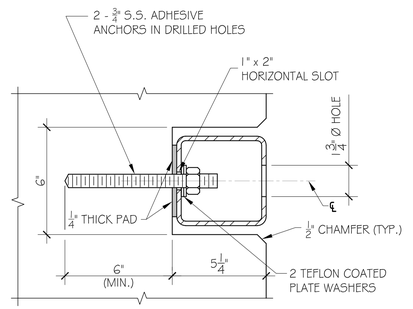
ELEVATION AT SAFETY CURB
SCALE: 1" = 1'-0"



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



SECTION 1
SCALE: 1" = 1'-0"



SECTION 5
SCALE: 3" = 1'-0"

NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø S.S. BOLT. S.S. BOLTS SHALL BE 7/8" Ø x 1 1/2" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR 7/8" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.

2. FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.

   FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF CURB SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.

3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.

4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE.

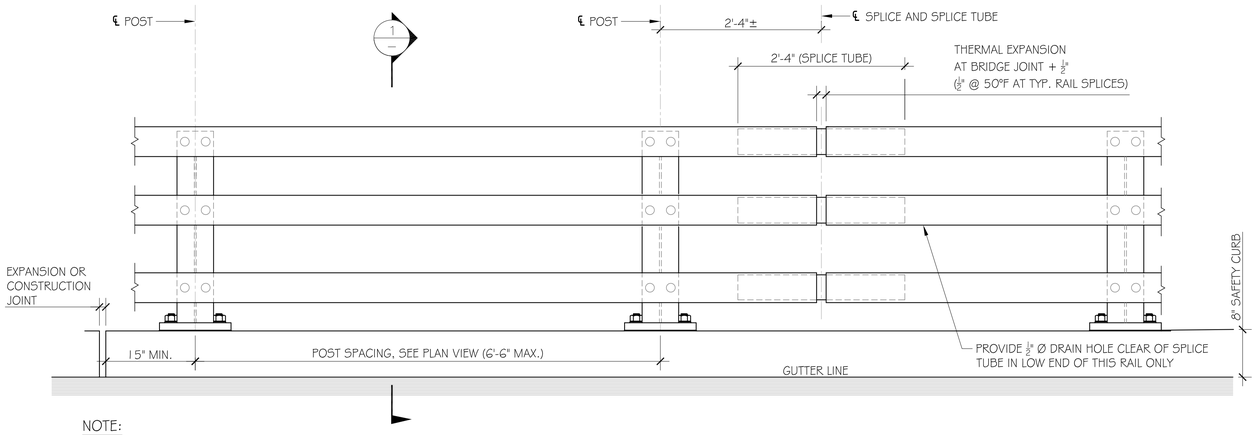
5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1 1/2" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

BRIDGE ID: MUMFORD RIVER CROSSING

DOUGLAS-MA
MUMFORD RIVER CROSSING

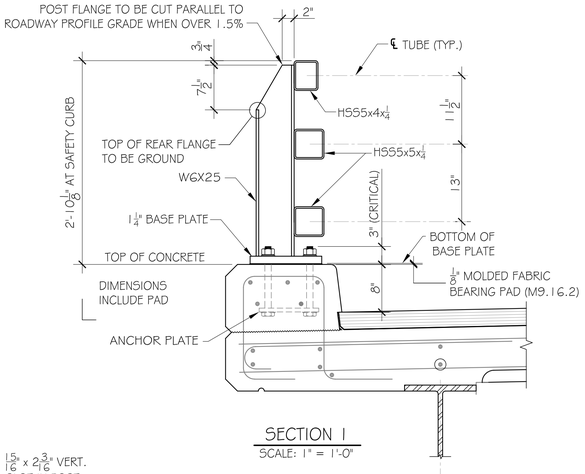
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	15	--
PROJECT FILE NO.			

ABUTMENT SECTIONS & DETAILS

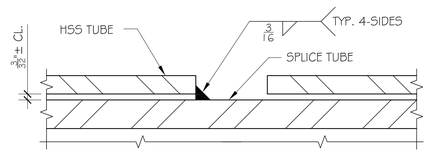


NOTE:
ELEVATION AT SAFETY CURB SHOWN. ELEVATION AT SIDEWALK SIMILAR EXCEPT AS NOTED.

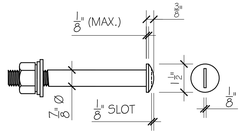
BRIDGE RAILING ELEVATION - LKG FROM ROAD CL TO CURB
SCALE: 1" = 1'-0"



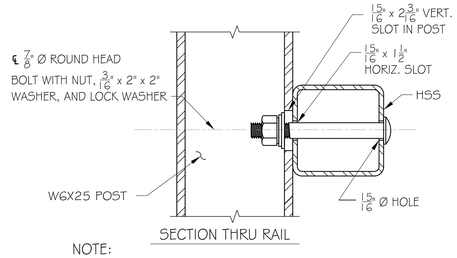
SECTION 1
SCALE: 1" = 1'-0"



SPLICE DETAIL
FULL SIZE



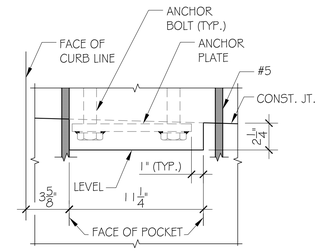
7/8"Ø ROUND HEAD BOLT
SCALE: 3" = 1'-0"



SECTION THRU RAIL

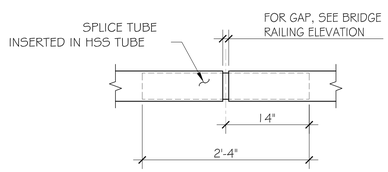
NOTE:
CONNECTIONS AT LOWER RAILS SHOWN.
CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS
SCALE: 3" = 1'-0"

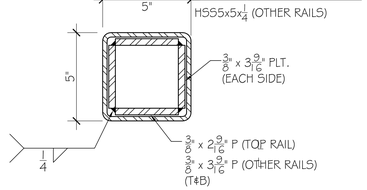


NOTE:
PROVIDE 15 3/4" LONG, 1 1 1/4" WIDE, 2 1/4" DEEP POCKET IN THE DECK SLAB AT THE LOCATION OF EACH RAIL POST AT SAFETY CURB ONLY.

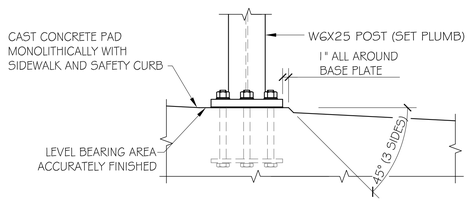
ANCHOR BOLT POCKET
SCALE: 2" = 1'-0"



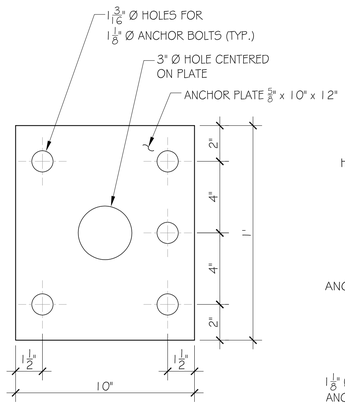
TYPICAL SPLICE
SCALE: 1" = 1'-0"



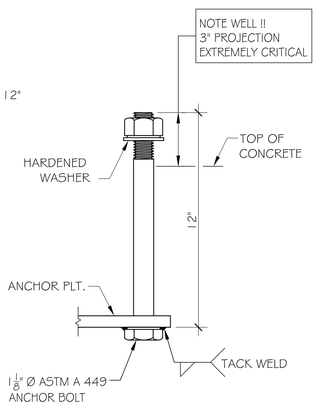
SPLICE TUBE DETAILS
SCALE: 3" = 1'-0"



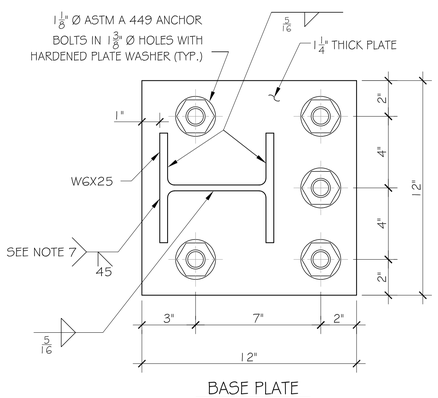
SETTING OF POSTS (PROFILE GRADE OVER 1.5%)
SCALE: 1" = 1'-0"



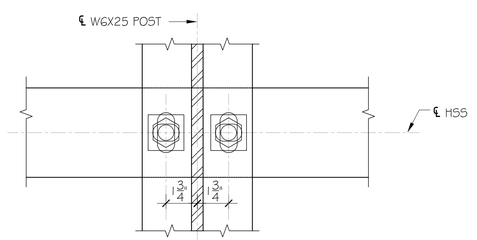
ANCHOR PLATE
SCALE: 3" = 1'-0"



ANCHOR BOLT
SCALE: 3" = 1'-0"



BASE PLATE
SCALE: 3" = 1'-0"



SECTION THRU POST WEB
SCALE: 3" = 1'-0"

RAILING NOTES:

1. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING (HSS) SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500 WITH A CERTIFIED Fy = 50 KSI MINIMUM. THE MINIMUM HORIZONTAL BENDING RADII OF THE HSS TUBING SHALL BE 8 FEET. PICKET CARRIER ANGLES, ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36. PICKET TUBING SHALL CONFORM TO ASTM A 513 WITH Fy = 36 KSI MIN. OR A 500 GRADE B.
2. ALL STEEL (EXCEPT THE 3/4" ANCHOR PLATE AND FASTENERS) SHALL BE GALVANIZED AND PAINTED DARK BRONZE (FEDERAL STD. 595B COLOR NO. 10045). ANCHOR PLATE SHALL BE GALVANIZED ONLY. HEADS OF 7/8" Ø ROUND HEAD BOLTS SHALL BE PAINTED TO MATCH RAIL.
3. ANCHOR BOLTS SHALL BE SET WITH TEMPLATES. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN AFTER STEEL IS IN PLACE.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR (4) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN THE PANELS OVER EXPANSION JOINT.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. ALL POSTS TO BE PLUMB WHEN PROFILE GRADE EXCEEDS 1.5%. FOR PROFILE GRADES LESS THAN 1.5%, POSTS SHALL BE SET PERPENDICULAR TO GRADE.
7. POST FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING. WELD SHALL BE BACK-GOUGED ON BACK SIDE EXCEPT AT WEB. WELD IS THE SAME ON BOTH FLANGES.
8. 7/8" Ø ROUND HEAD BOLTS SHALL CONFORM TO THE CHEMICAL AND PHYSICAL REQUIREMENTS OF AASHTO M 164.

PLAN NOTES

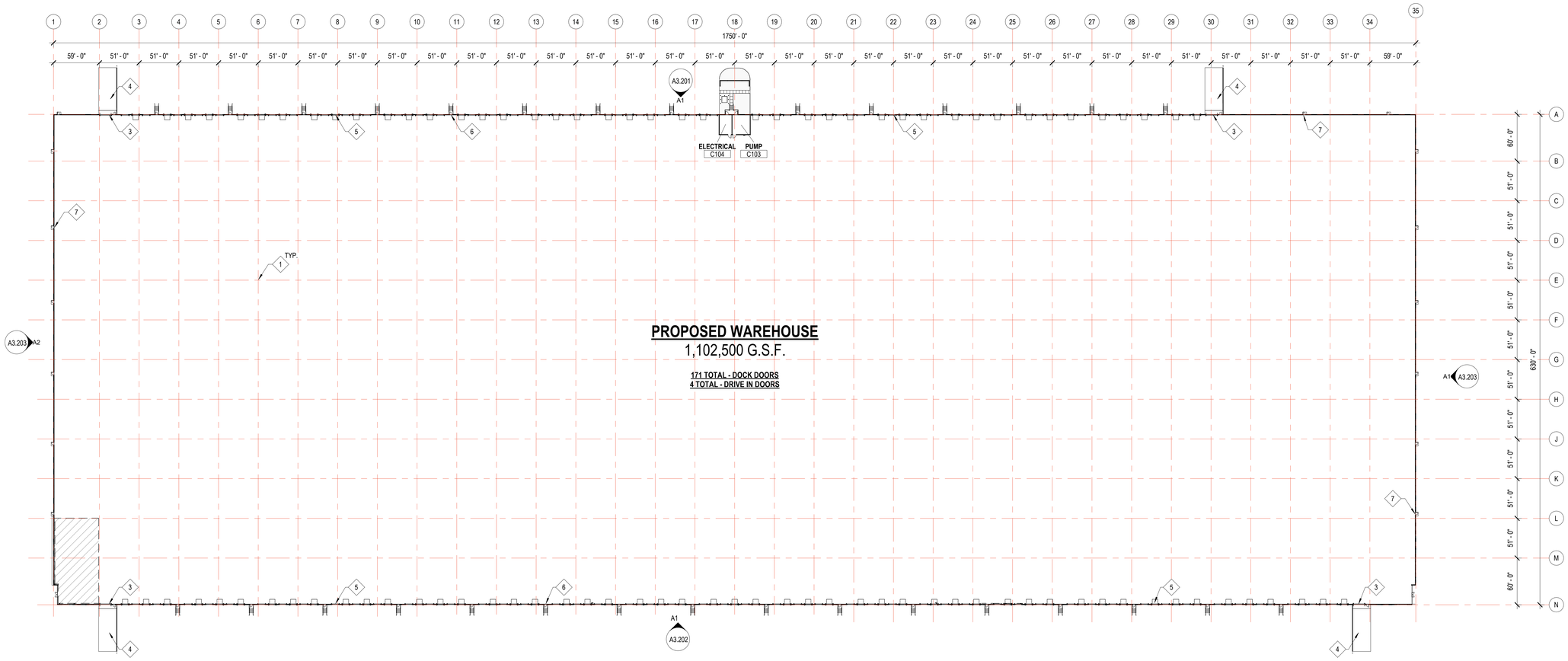
GENERAL NOTES

1. BUILDING COLUMN GRID IS TO THE EXTERIOR FACE OF CONCRETE PANEL.
2. DOOR SCHEDULE AND DOOR TYPES - SEE SHEET **A5.201**
3. STOREFRONT / WINDOW FRAME TYPES - SEE SHEET **A5.301**
4. REFER TO ENLARGED PLANS FOR ADDITIONAL DIMENSIONS & PARTITION TYPES NOT SHOWN.
5. TILT-UP OPENING DIMENSIONS ARE TO THE ROUGH OPENING, U.N.O.
6. REFER TO **A3.702** FOR PROTECTION DETAILS AT DOORS, EQUIPMENT, ETC.
7. REFER TO **A2.101** OVERALL WAREHOUSE PLAN FOR THE LOCATIONS OF THE ENLARGED PARTIAL PLANS SHOWN ON **A2.201A, A2.201B & A2.201C**.

KEYED NOTES

1. STEEL COLUMN, SEE STRUCTURAL. ALSO REFER TO COLUMN SLEEVE DETAIL **C3/A3.605.** COLUMNS TO BE PAINTED TO 12' - 0" A.F.F.
2. PREFAB/PRECAST INSULATED CONCRETE WALL PANELS.
3. 14' - 0" W X 16' - 0" H OVERHEAD SECTIONAL DRIVE-IN DOOR, SEE OVERHEAD DOOR SCHEDULE
4. DRIVE-IN RAMP W/ CONCRETE RETAINING WALL AND GALV. STL. PIPE GUARDRAIL
5. 9' - 0" W X 10' - 0" H DOCK DOOR, SEE OVERHEAD DOOR SCHEDULE
6. HOLLOW METAL DOOR AND FRAME - PAINTED (SEE DOOR SCHEDULE) W/ GALV. STL. DOCK STAIR, SEE DTL. **A1/A6.101**
7. HOLLOW METAL DOOR AND FRAME - PAINTED (SEE DOOR SCHEDULE) W/ CONC. STOOP
8. KNOCKOUT FOR MECHANICAL LOUVER. SIZE AND LOCATIONS TO BE COORDINATED WITH MECHANICAL.
9. PREFINISHED ALUMINUM STOREFRONT SYSTEM
10. PROVIDE RIGID INSULATION AT INSIDE FACE OF FOUNDATION - SHOWN DASHED AT PERIMETER OF OFFICE
11. VAPOR BARRIER AT FUTURE OFFICE AREA, EXTENT SHOWN HATCHED
12. STEEL BRACING, SEE STRUCTURAL
13. 4' - 0" W X 12' - 0" H KNOCKOUT FUTURE WINDOW
14. KNOX BOX, MOUNTED INTO CONCRETE PANEL
15. ELECTRICAL EQUIPMENT W/ BOLLARD PROTECTION, SEE ELECTRICAL DRAWINGS
16. ROOF ACCESS LADDER, SEE SHEET **A6.140**
17. INTERIOR PIPE BOLLARD, SEE DETAIL **A1/A3.702**
18. FIRE RISER W/ BOLLARD PROTECTION, SEE FIRE PROTECTION DRAWINGS
19. ROOF DRAIN PIPING W/ INT. BOLLARD PROTECTION
20. EXTERIOR WALL EXPANSION JOINT. SEE DETAIL **E4/A3.605**
21. STEEL FRAMING FOR PRECAST PANELS AT MAIN ENTRY - SEE STRUCTURAL.

KEY PLAN



A1 / A2.101 OVERALL PLAN - LEVEL 1
1" = 60'-0"
0' 30' 60' 120'

CLAYCO
THE ART & SCIENCE OF BUILDING
2149 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
Ph: 314.429.5100 Fx 314.429.3137

Lamar Johnson Collaborative
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
Ph 314.429.1010

THE CUBES AT DOUGLAS, MA

Gilboa Street
Douglas, MA 01516
1,102,500 S.F.

DRAWING ISSUE

DESCRIPTION	DATE
PRICING DRAWINGS	09.28.2021

BUILDING MAP

DRAWING TITLE
OVERALL WAREHOUSE PLAN

DRAWING NO.
A2.101

Job # 25.005808

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10/2/2021 2:10:44 PM

EXTERIOR ELEVATION NOTES

GENERAL NOTES

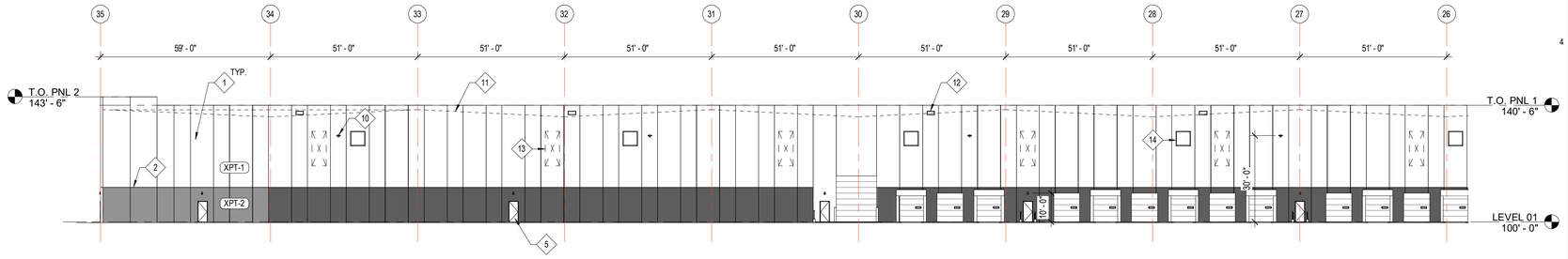
1. PROVIDE TCA GRADE 'A' PATCHING AT OFFICE AREA. ALL OTHER AREAS TO BE TCA GRADE 'B' PATCHING.
2. ALL DIMENSIONS ARE TO FACE OF CONCRETE OR ROUGH OPENING. RE: FLOOR PLANS, SECTIONS, AND ELEVATIONS.
3. ALL EXPOSED SIDES OF CONCRETE PRECAST PANEL TO BE PAINTED.
4. CONCRETE FILLED BOLLARDS TO BE PAINTED " SAFETY YELLOW".
5. ALL DOWNSPOUTS TO MATCH ADJACENT WALL COLOR. SEE BELOW FOR COLOR.
6. ALL EXTERIOR HOLLOW METAL DOORS, FRAMES AND OVERHEAD DOORS TO BE PAINTED TO MATCH ADJACENT WALL COLOR.
7. ALL PRECAST DIMENSIONS TAKEN FROM CENTER OF REVEAL.
8. PROVIDE REVEAL AT TRANSITION OF PAINT COLOR (HORIZONTAL & VERTICAL).
9. SEE SHEET **A3.605** FOR EXTERIOR CONCRETE PANEL JOINTS AND REVEAL PROFILES, U.N.O.
10. EXTERIOR SECTIONAL DOORS TO MATCH ADJACENT WALL COLOR. CUSTOM FACTORY FINISH.
11. DO NOT PROVIDE A REVEAL AT THE KNOCK OUT PANELS.

KEYED NOTES

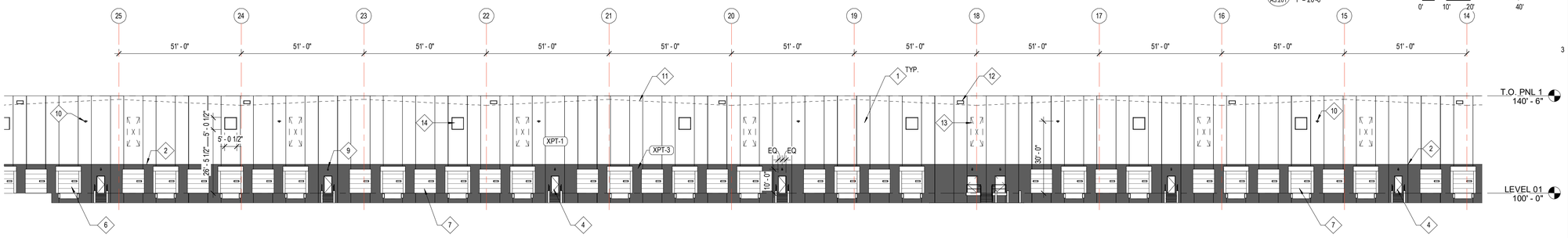
1. PREFAB/PRECAST INSULATED CONCRETE WALL PANEL, PAINTED.
2. "V" TYPE REVEAL IN PRECAST CONCRETE PANEL
3. CONCRETE PRECAST PANEL JOINT
4. HOLLOW METAL DOOR AND FRAME - PAINTED (SEE DOOR SCHEDULE) W/ GALV. STL. DOCK STAIR
5. HOLLOW METAL DOOR AND FRAME - PAINTED (SEE DOOR SCHEDULE) W/ CONCRETE STOOP
6. 14'-0"W x 16'-0"H OVERHEAD SECTIONAL DRIVE-IN DOOR, SEE OVERHEAD DOOR SCHEDULE
7. 9'-0"W x 10'-0"H DOCK DOOR, SEE OVERHEAD DOOR SCHEDULE FOR DOCK EQUIPEMENT LOCATIONS
8. PREFINISHED ALUMINUM STOREFRONT SYSTEM
9. EMERGENCY LIGHT FIXTURE CENTERED ABOVE DOOR. MOUNT 10' - 0" A.F.F. VERIFY W/ELECTRICAL DRAWINGS
10. WALL PACK LIGHTING FIXTURE - CENTER ABOVE OPENING BELOW OR CENTER IN PANEL. MOUNT 30'-0" A.F.F. VERIFY W/ELECTRICAL DRAWINGS
11. ROOF LINE BEYOND
12. 30" X 12.5" THRU-WALL SCUPPER
13. KNOCK-OUT IN CONC. PRECAST PANEL, SHOWN DASHED.
14. PREFIN. ALUM. CLERESTORY WINDOW

LEGEND

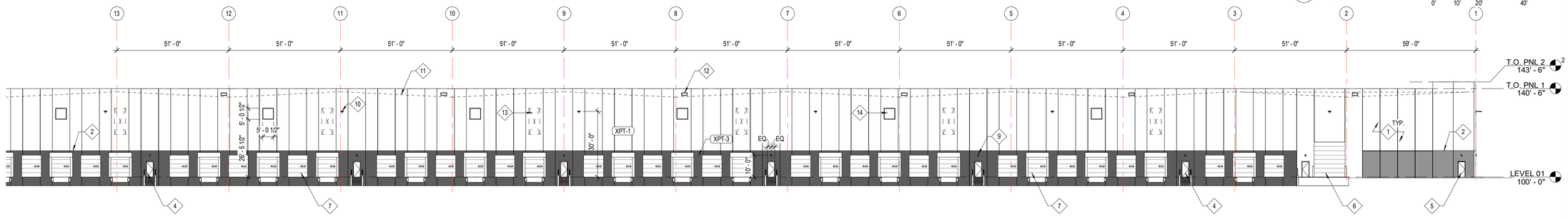
- XPT-1 - SHERWIN WILLIAMS COLOR, CLAYCO FLAGSTONE (518-4)
- XPT-2 - SHERWIN WILLIAMS COLOR, CLAYCO DOVER GRAY (518-5)
- XPT-3 - SHERWIN WILLIAMS COLOR, CLAYCO NIGHTS ARMOR (518-6)
- XPT-4 - SHERWIN WILLIAMS COLOR, CLAYCO RED
- CMP-01 - COMPOSITE METAL PANEL, REYNOBOND - COLORWELD 500 SILVERSMITH



4 A4 A3.201 ENLARGED ELEVATION - NORTH 03 1" = 20'-0" (0' 10' 20' 40')



3 A3 A3.201 ENLARGED ELEVATION - NORTH 02 1" = 20'-0" (0' 10' 20' 40')



2 A2 A3.201 ENLARGED ELEVATION - NORTH 01 1" = 20'-0" (0' 10' 20' 40')



1 A1 A3.201 ELEVATION - NORTH 1" = 50'-0" (0' 50' 100')

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CLAYCO
THE ART & SCIENCE OF BUILDING
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
Ph: 314.429.5100 Fx 314.429.3137

Lamar Johnson Collaborative
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI 63114
Ph 314.429.1010

THE CUBES AT DOUGLAS, MA

Gilboa Street
Douglas, MA 01516
1,102,500 S.F.

DRAWING ISSUE

DESCRIPTION	DATE
PRICING DRAWINGS	09.28.2021

BUILDING MAP

DRAWING TITLE
BUILDING ELEVATIONS - NORTH

DRAWING NO.
A3.201

Job # 25.005808

EXTERIOR ELEVATION NOTES

GENERAL NOTES

1. PROVIDE TCA GRADE 'A' PATCHING AT OFFICE AREA. ALL OTHER AREAS TO BE TCA GRADE 'B' PATCHING.
2. ALL DIMENSIONS ARE TO FACE OF CONCRETE OR ROUGH OPENING. RE: FLOOR PLANS, SECTIONS, AND ELEVATIONS.
3. ALL EXPOSED SIDES OF CONCRETE PRECAST PANEL TO BE PAINTED.
4. CONCRETE FILLED BOLLARDS TO BE PAINTED " SAFETY YELLOW".
5. ALL DOWNSPOUTS TO MATCH ADJACENT WALL COLOR. SEE BELOW FOR COLOR.
6. ALL EXTERIOR HOLLOW METAL DOORS, FRAMES AND OVERHEAD DOORS TO BE PAINTED TO MATCH ADJACENT WALL COLOR.
7. ALL PRECAST DIMENSIONS TAKEN FROM CENTER OF REVEAL.
8. PROVIDE REVEAL AT TRANSITION OF PAINT COLOR (HORIZONTAL & VERTICAL).
9. SEE SHEET **A3.603** FOR EXTERIOR CONCRETE PANEL JOINTS AND REVEAL PROFILES, U.N.O.
10. EXTERIOR SECTIONAL DOORS TO MATCH ADJACENT WALL COLOR. CUSTOM FACTORY FINISH.
11. DO NOT PROVIDE A REVEAL AT THE KNOCK OUT PANELS.

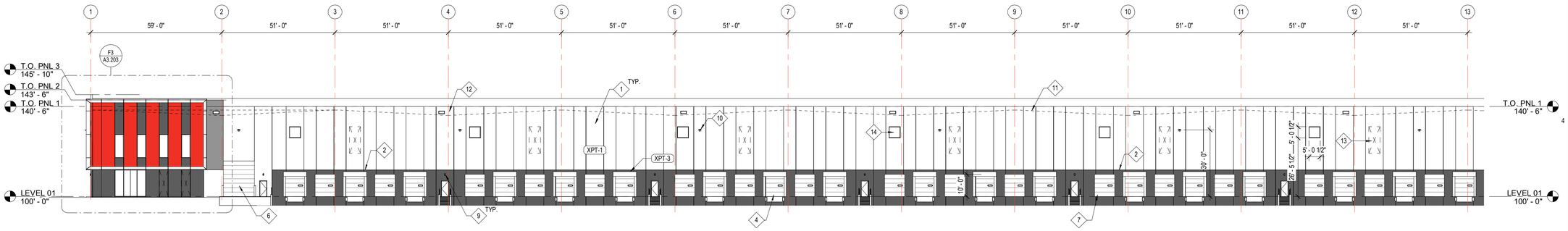
KEYED NOTES

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2. "V" TYPE REVEAL IN PRECAST CONCRETE PANEL
3. CONCRETE PRECAST PANEL JOINT
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9. EMERGENCY LIGHT FIXTURE CENTERED ABOVE DOOR. MOUNT 10' - 0" A.F.F. VERIFY W/ELECTRICAL DRAWINGS
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LEGEND

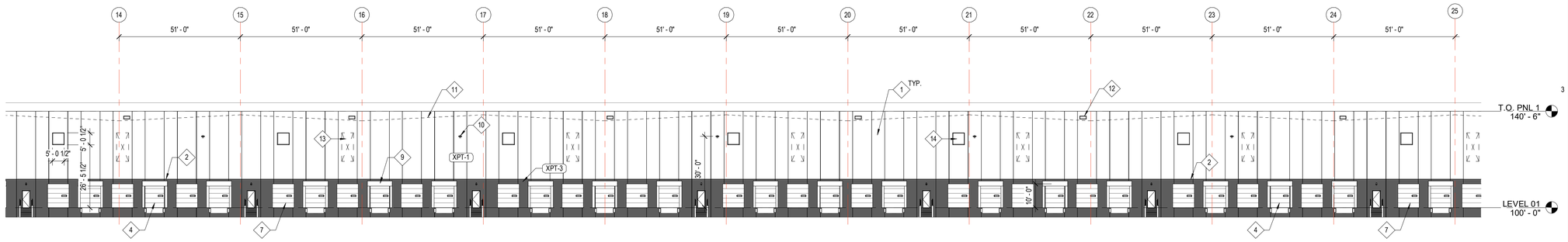
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- XPT-4 - SHERWIN WILLIAMS COLOR, CLAYCO RED
- CMP-01 - COMPOSITE METAL PANEL, REYNOBOND - COLORWELD 500 SILVERSMITH

5



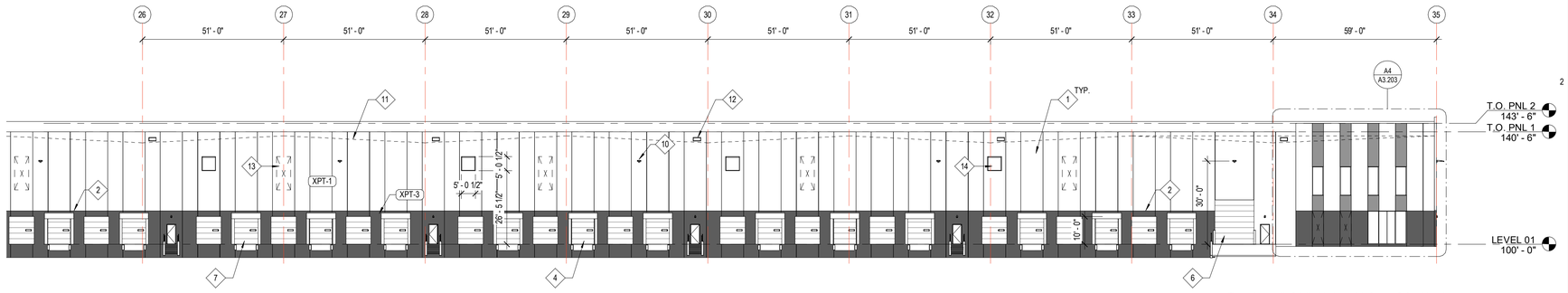
A3 / A3.202 ENLARGED ELEVATION - SOUTH 03
1" = 20'-0"
0' 10' 20' 40'

4



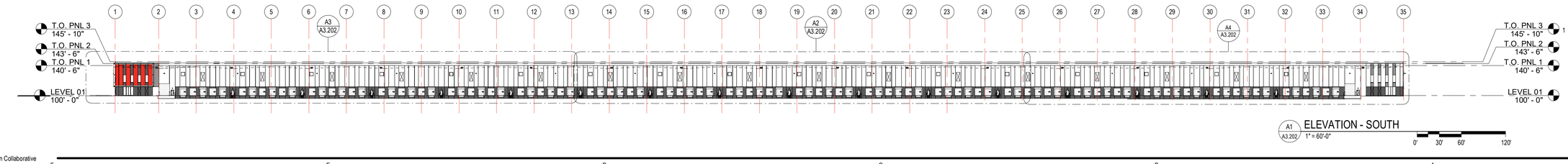
A2 / A3.202 ENLARGED ELEVATION - SOUTH 02
1" = 20'-0"
0' 10' 20' 40'

3



A4 / A3.202 ENLARGED ELEVATION - SOUTH 01
1" = 20'-0"
0' 10' 20' 40'

2



A1 / A3.202 ELEVATION - SOUTH
1" = 60'-0"
0' 30' 60' 120'

1

CLAYCO
THE ART & SCIENCE OF BUILDING
2199 INNERBELT BUSINESS CENTER DRIVE
ST. LOUIS, MISSOURI, 63114
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DRAWING ISSUE

DESCRIPTION	DATE
PRICING DRAWINGS	09.28.2021

BUILDING MAP

DRAWING TITLE
BUILDING ELEVATIONS - SOUTH

DRAWING NO.
A3.202

Job # 25.005808

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