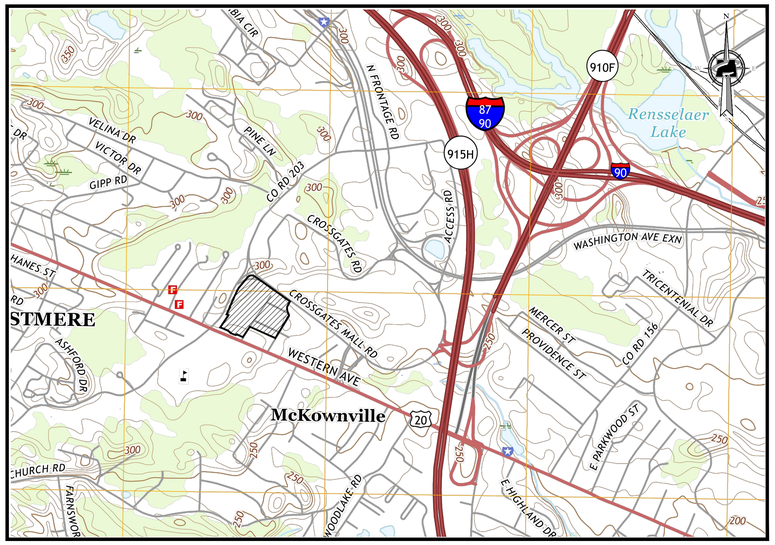
SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

ALBANY CROSSGATES MALL
TAX MAPS 52.10, 52.14 & 52.01
TOWN OF GUILDERLAND
ALBANY COUNTY, STATE OF NEW YORK



KEY MAP

SOURCE: U.S.G.S. TOPOGRAPHY MAP

1000 0 1000

SCALE : 1" = 1000'

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21 OF 22	EMERGENCY VEHICLE MOVEMENT PLAN
22 OF 22	FUEL FACILITY PLAN

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE SITE HEREIN DEPICTED AND THAT I CONCUR WITH THE SUBMISSION.

_____ _____
OWNER DATE

APPROVED BY THE PLANNING BOARD OF THE TOWN OF GUILDERLAND AT THE REGULAR MEETING OF _____.
DATE

_____ _____
CHAIRMAN DATE

_____ _____
SECRETARY DATE

_____ _____
ENGINEER DATE

ZONING TABLE

PROJECT/MUNICIPALITY :	CROSSGATES MALL ROAD AT WESTERN AVENUE TOWN OF GUILDERLAND ALBANY COUNTY, NEW YORK
EXISTING ZONING:	TOD TRANSIT ORIENTED DEVELOPMENT DISTRICT
EXISTING USE:	VACANT RESIDENTIAL SINGLE FAMILY HOMES
PROPOSED USE:	COSTCO FACILITY : 163,268 SQ. FT. WITH CANOPY COSTCO 16 PUMP FUELING FACILITY

ZONING	**REQUIRED**	**PROPOSED**
LOT AREA: MINIMUM	25,000 SQ. FT.	717,212 SQ. FT. (16.46 ACRES)
FRONT YARD: MINIMUM	15 FT.	40.8 FT. +/- COSTCO FACILITY 125.5 FT. +/- FUEL CANOPY
SIDE YARD: MINIMUM REAR YARD: MINIMUM	15 FT.	305 FT. +/- COSTCO FACILITY
BUILDING HEIGHT: MAXIMUM	55 FEET	34 FEET
LOT COVERAGE: MAXIMUM	75% (517,289 SQ. FT.)	83.3% (597,405 SQ. FT.)
GREEN SPACE*	25% (179,303 SQ. FT.)	25.8% (185,147 SQ. FT.)*

SITE DATA	
SITE AREA:	717,212 SQ. FT. (16.46 ACRES) (LEASE PARCEL)
BUILDING COVERAGE:	169,305 SQ FT (COSTCO FACILITY, FUEL KIOSK AND CANOPY)
IMPERVIOUS COVERAGE:	597,405 SQ FT (83.3%)
GREEN AREA	119,807 SQ FT (16.7%)
	65,340 SQ FT (9.1%) - ADDITIONAL GREEN SPACE AREA LOCATED WITHIN TOD AS NOTED BELOW
TOTAL GREEN SPACE	185,147 SQ FT (25.8%)

BUILDING DATA	
OVERALL BUILDING	163,268 SQ FT
LIQUOR SALES AREA:	3,713 SQ FT**
TIRE SALES AND INSTALLATION	2,681 SQ FT**
FUEL FACILITY KIOSK	125 SQ FT**

PARKING	**REQUIRED**	**PROPOSED**
RETAIL STORE: 163,268 SQ. FT. GFA 4 SPACES PER 1,000 SQ. FT. OF GFA MAXIMUM SPACES 125% OF MIN. REQD.	653 SPACES 817 SPACES	770 SPACES
HANDICAP PARKING (2% OF TOTAL)	14 SPACES	16 SPACES
ELECTRIC VEHICLE PARKING	-	8 SPACES
PARKING STALL SIZE: MINIMUM AISLE WIDTH: MINIMUM	9 FT. x 18 T. 24 FEET	10 FT. x 20 FT. 24 FEET

PARKING SHALL BE LOCATED A MINIMUM OF 5 FEET FROM A PROPERTY LINE
PARKING SHALL NOT BE LOCATED WITHIN THE BUILDING SETBACK
ON CORNER LOTS PARKING SHALL BE SETBACK 20 FEET FROM ONE STREET LINE

*GUILDERLAND ZONING CODE SECTION 280-18A(F)(2) STATES, " TO ENCOURAGE CONSOLIDATION OF GREEN SPACE, A REVIEWING BOARD MAY CONSIDER ALL PROPERTY WITHIN THE TOD DISTRICT WHICH IS OWNED OR CONTROLLED BY AN APPLICANT IF THE GREEN SPACE IS IDENTIFIED ON AN APPROVED PLAN. GREEN SPACE FOR THE SITE IS SUPLEMENTED WITH AN ADDITIONAL 1.5 ACRES AS SHOWN ON SHEET 16 (SUPPLEMENTAL GREEN SPACE SURVEY & LEGAL DESCRIPTION).

**THESE AREAS ARE INCLUDED IN THE OVERALL BUILDING AREA (163,268 SQ FT.).

APPLICANT

CROSSGATES REALEASECO, LLC
4 CLINTON SQUARE
SYRACUSE, NY 13202
315-422-7000

OWNER

CROSSGATES REALEASECO, LLC
4 CLINTON SQUARE
SYRACUSE, NY 13202
315-422-7000

ADA INSTRUCTIONS TO CONTRACTOR:

1. CONTRACTOR SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS, THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   A. PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.
   B. CURB RAMPS- SLOPES SHALL NOT EXCEED 1:12 (8.3%).
   C. LANDINGS -SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.
   D. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH), THE SLOPE SHALL BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE.
   E. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.
   F. DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHER WISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE APPLICABLE CODE SECTIONS).
2. IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO COMMENCING WORK.

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REV	DATE	DRAWN BY	DESCRIPTION
1	4/27/20	BB	MINOR MST REVISIONS
2	09/02/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/23/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
Exton, PA 19341
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COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIR	RTM

PROJECT NUMBER: 13001204A
DRAWING NAME: C-COVER

SHEET TITLE: COVER SHEET

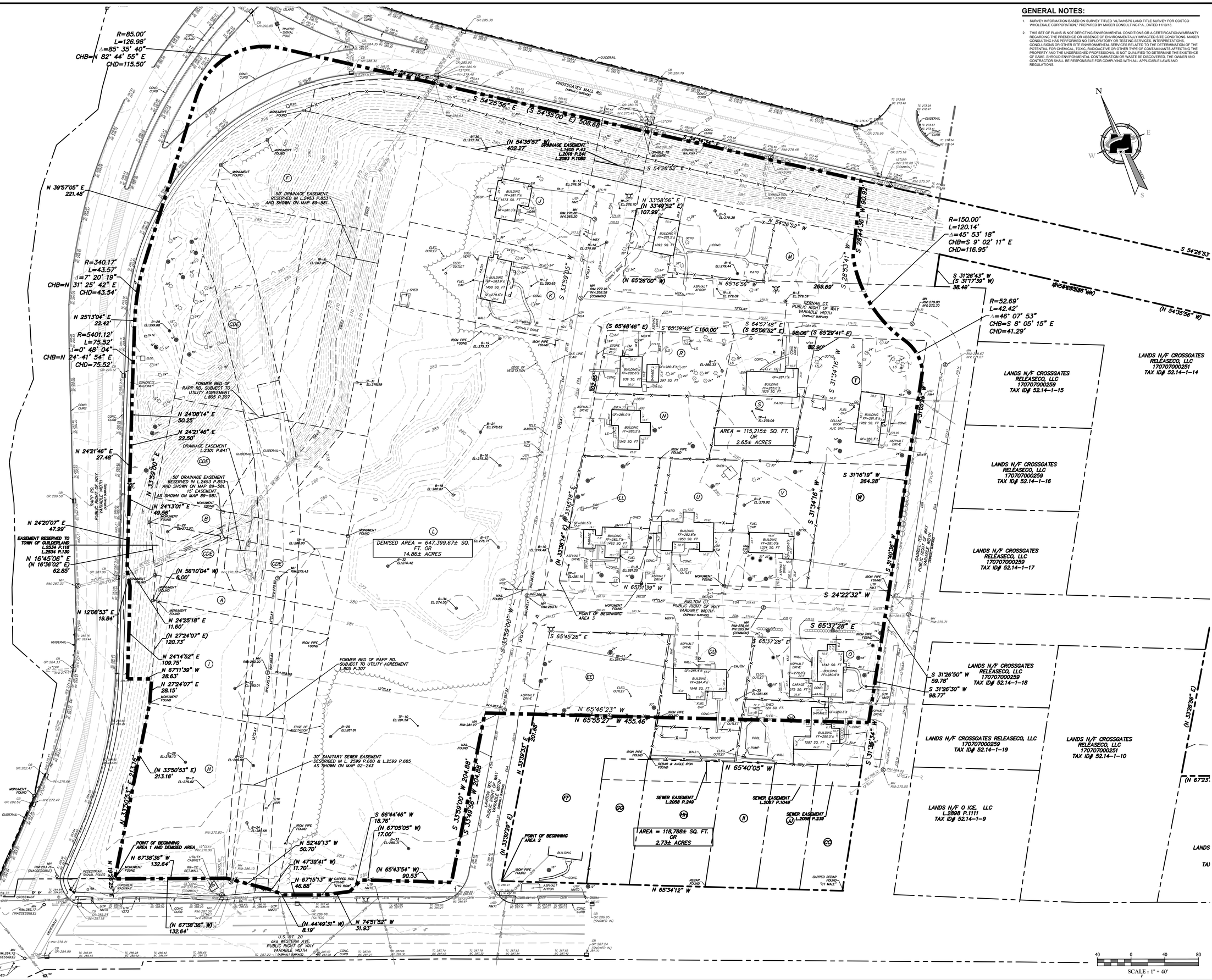
SHEET NUMBER: 1 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2023.01.20 10:04:45 Engineering\Active Projects\CAD\Layout\C-COVER.dwg By: DIBERARDINIS

GENERAL NOTES:

1. SURVEY INFORMATION BASED ON SURVEY TITLED "ALTA/NSPS LAND TITLE SURVEY FOR COSTCO WHOLESALE CORPORATION," PREPARED BY MASER CONSULTING P.A., DATED 11/19/18.
2. THIS SET OF PLANS IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY REGARDING THE PRESENCE OR ABSENCE OF ENVIRONMENTALLY IMPACTED SITE CONDITIONS. MASER CONSULTING HAS PERFORMED NO EXPLORATORY OR TESTING SERVICES, INTERPRETATIONS, CONCLUSIONS OR OTHER SITE ENVIRONMENTAL SERVICES RELATED TO THE DETERMINATION OF THE POTENTIAL FOR CHEMICAL, TOXIC, RADIOACTIVE OR OTHER TYPE OF CONTAMINANTS AFFECTING THE PROPERTY AND THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO DETERMINE THE EXISTENCE OF SAME. SHROUD ENVIRONMENTAL CONTAMINATION OR WASTE BE DISCOVERED, THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LAWS AND REGULATIONS.



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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
1	04/27/20	DIB	ERROR NOTE RESPONS
2	07/02/20	JOD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/20/20	KMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	02/10/23	DIB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIB	RTM

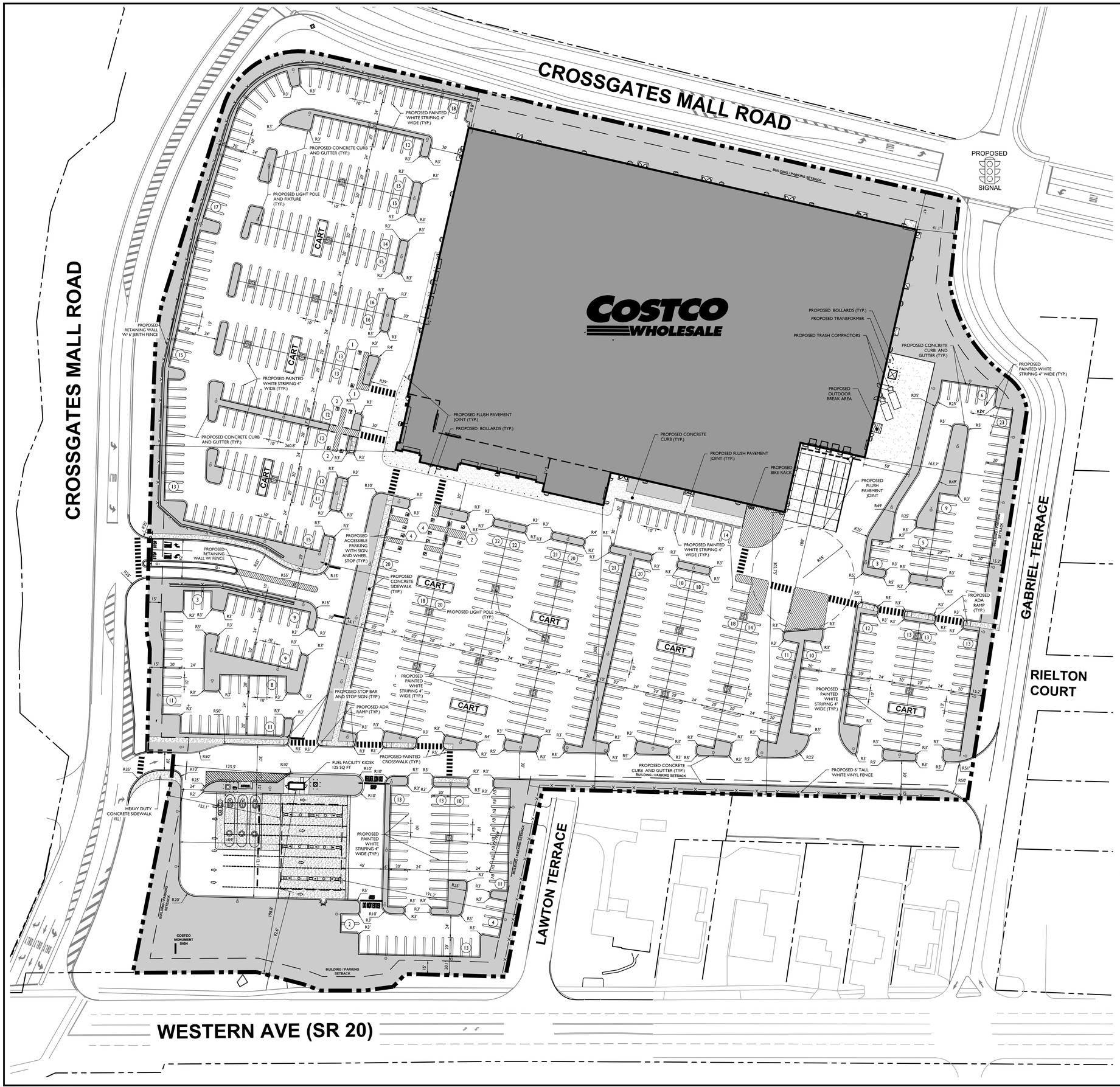
PROJECT NUMBER: 13001204A
DRAWING NAME: C-LAYT

SHEET TITLE:
EXISTING CONDITIONS PLAN

SHEET NUMBER:
2 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2023.10.03 13001204A-Engineering\Civil\Plans\C-LAYT.dwg C-Existing Conditions By: SVD/KMA/DIB



ZONING TABLE

PROJECT/MUNICIPALITY :	CROSSGATES MALL ROAD AT WESTERN AVENUE TOWN OF GUILDERLAND ALBANY COUNTY, NEW YORK
EXISTING ZONING:	TOD TRANSIT ORIENTED DEVELOPMENT DISTRICT
EXISTING USE:	VACANT RESIDENTIAL SINGLE FAMILY HOMES
PROPOSED USE:	COSTCO FACILITY : 163,268 SQ. FT. WITH CANOPY COSTCO 18 PUMP FUELING FACILITY

ZONING	**REQUIRED**	**PROPOSED**
LOT AREA: MINIMUM	25,000 SQ. FT.	717,212 SQ. FT. (16.46 ACRES)
FRONT YARD: MINIMUM	15 FT.	40.8 FT. +/- COSTCO FACILITY 125.5 FT. +/- FUEL CANOPY
SIDE YARD: MINIMUM REAR YARD: MINIMUM	15 FT.	305 FT. +/- COSTCO FACILITY
BUILDING HEIGHT: MAXIMUM	55 FEET	34 FEET
LOT COVERAGE: MAXIMUM	75% (517,289 SQ. FT.)	83.3% (597,405 SQ. FT.)
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SITE DATA	
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	65,340 SQ FT (9.1%) - ADDITIONAL GREEN SPACE AREA LOCATED WITHIN TOD AS NOTED BELOW
TOTAL GREEN SPACE	185,147 SQ FT (25.8%)

BUILDING DATA	
OVERALL BUILDING	163,268 SQ FT
LIQUOR SALES AREA:	3,713 SQ FT**
TIRE SALES AND INSTALLATION	2,681 SQ FT**
FUEL FACILITY KIOSK	125 SQ FT**

PARKING	**REQUIRED**	**PROPOSED**
RETAIL STORE: 163,268 SQ. FT. GFA 4 SPACES PER 1,000 SQ. FT. OF GFA	653 SPACES	770 SPACES
MAXIMUM SPACES 125% OF MIN. REQD.	817 SPACES	
HANDICAP PARKING (2% OF TOTAL)	14 SPACES	16 SPACES
ELECTRIC VEHICLE PARKING	-	8 SPACES
PARKING STALL SIZE: MINIMUM AISLE WIDTH: MINIMUM	9 FT. x 18 T. 24 FEET	10 FT. x 20 FT. 24 FEET

PARKING SHALL BE LOCATED A MINIMUM OF 5 FEET FROM A PROPERTY LINE
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**THESE AREAS ARE INCLUDED IN THE OVERALL BUILDING AREA (163,268 SQ FT.).

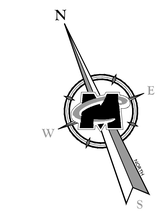
1. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION HAS BEEN PROVIDED TO THE BEST ABILITY OF THE ENGINEER, HOWEVER, THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTORS CONCERNING THE LOCATION OF ALL UTILITIES PRIOR TO BIDDING AND CONSTRUCTION. LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR.
2. THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OR APPROVALS HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION". THE CLIENT OR OWNER AND CONTRACTOR ARE RESPONSIBLE TO ASSURE THAT THE APPROVED PLANS ONLY, ARE USED FOR BIDDING AND CONSTRUCTION.
3. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
4. BUILDING FOOTPRINT DIMENSIONS SHOWN HEREON ARE APPROXIMATE. FINAL BUILDING FOOTPRINT DIMENSIONS FOR EACH DWELLING/BUILDING SHALL BE FURNISHED ON THE INDIVIDUAL PLOT PLANS/ARCHITECTURAL PLANS AT THE TIME OF APPLICATION FOR A BUILDING PERMIT. ALL STRUCTURES SHALL CONFORM TO THE APPROVED BULK ZONING REQUIREMENTS.
5. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND CANNOT BE GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION, WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION, TO PERMIT ADJUSTMENT AS REQUIRED TO AVOID CONFLICTS. ANY EXISTING UTILITY SERVICE CONNECTIONS, LOCATED BY THE CONTRACTOR, CAPABLE OF SERVICING THE PROPOSED USE SHALL BE REUSED AS LONG AS THEY ARE IN GOOD CONDITION AND MEET THE UTILITY AUTHORITY'S STANDARDS AND SPECIFICATIONS. IF THE EXISTING UTILITY SERVICES DO NOT MEET THE ABOVE CRITERIA, THEN NEW SERVICE LINES SHALL BE INSTALLED.
6. FINAL LOCATIONS, NUMBERS AND SIZE OF ALL PROPOSED UTILITIES SERVICING BUILDINGS ARE TO BE VERIFIED WITH THE ARCHITECT, OWNER AND APPROPRIATE UTILITY AUTHORITY BY THE CONTRACTOR.
7. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   - 7.1. NEW YORK STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", 2018; AS SUPPLEMENTED.
   - 7.2. CURRENT, PREVAILING MUNICIPAL, COUNTY, AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS AND REQUIREMENTS.
   - 7.3. CURRENT, PREVAILING UTILITY COMPANY/AUTHORITY AND OWNER SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
   - 7.4. CURRENT MANUFACTURER SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
8. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD OR SOIL CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL APPROPRIATE SAFETY DEVICES AND TRAINING TO ALL WORKERS IN ORDER TO MAINTAIN SAFE CONDITIONS ON THE PROJECT SITE.
10. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED CONSTRUCTION PERMITS NECESSARY FOR THE CONSTRUCTION AND COMPLETION OF THE APPROVED IMPROVEMENTS.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF ANY AND ALL EXISTING OBJECTS, STRUCTURES, ETC. THAT ARE IN THE WAY OF PROPOSED CONSTRUCTION, OR INDICATED AS "TO BE REMOVED".
12. ALL PROPOSED SPOT ELEVATIONS ARE GRADE OR BOTTOM FACE OF CURB UNLESS OTHERWISE NOTED.
13. WALKWAYS SHOULD SLOPE AWAY FROM BUILDINGS AT A MAXIMUM PITCH OF ¼ INCH PER FOOT (2%). HANDICAP RAMPS ARE TO HAVE A MAXIMUM SLOPE OF 1" PER FOOT (8%).
14. SIDEWALKS AND CURBING TO BE REMOVED SHALL BE SAW CUT OR REMOVED TO THE NEAREST EXPANSION JOINT.
15. THE CONTRACTOR SHALL TAKE ADDITIONAL PRECAUTIONS TO WATERPROOF AREAS WHERE THE EXTERIOR FINISHED GRADE IS HIGHER THAN THE FINISHED FLOOR ELEVATION. ALTERNATELY, FOUNDATION WALLS IN EXCESS OF 6" BELOW FINISHED FLOOR SHALL BE FINISHED SUITABLY.
16. THE APPLICANT TO PROVIDE PRIVATE TRASH CARTING FOR THE PROPOSED FACILITIES AND WILL COMPLY WITH ALL RECYCLING REQUIREMENTS OF THE MUNICIPALITY, COUNTY AND STATE.
17. ALL DIMENSIONS LABELED ARE IN UNITED STATES STANDARD.
18. ELEVATIONS SHOWN HEREON ARE REFERENCED TO NAVD88, BENCHMARK BM#1 ELEVATION 11.30.
19. ALL SIGNING AND STRIPING SHALL CONFORM TO MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
20. BY GRAPHIC PLOTTING ONLY, THE ACQUISITION AREA IS IN ZONE X (NOT IN A SPECIAL FLOOD HAZARD AREA) OF THE FLOOD INSURANCE RATE MAPS, MAP NUMBER 36001C0178D & 36001C 0186D WHICH BEAR AN EFFECTIVE DATE OF 3/16/2015. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE. A FLOOD ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
21. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM AN "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY MASER CONSULTING, P.A. FOR COSTCO WHOLESALE CORPORATION, SURVEY DATED FEBRUARY 9, 2018 AND LAST REVISED OCTOBER 2, 2018. BASIS OF BEARING AND HORIZONTAL COORDINATES SHOWN HEREON ARE IN US SURVEY FEET AND REFER TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, ZONE EAST, NAD 83 (1986 ADJUSTMENT). CONTROL WAS ESTABLISHED USING KEYNET VRS SYSTEM. VERTICAL DATUM IS NAVD 88 AND WAS ESTABLISHED USING KEYNET VRS SYSTEM
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL WASTE MATERIALS IN ACCORDANCE WITH GOVERNING REGULATIONS AND AGENCIES.
23. THERE SHALL BE NO ON-SITE BURIAL OF CONSTRUCTION MATERIALS, TREE BRANCHES, STUMPS, OR OTHER DELETERIOUS MATERIALS.
24. ROADWAY/RIGHT-OF-WAY IMPROVEMENTS SHOWN ARE FROM "SITE 2 - SPECIAL USE PERMIT SUBMISSION," PREPARED BY JMT.

THE NOTES ABOVE APPLY TO ALL OF THE SHEETS IN THIS SET.

ALL ON SITE UNDERGROUND UTILITIES MUST BE LOCATED PRIOR TO DEMOLITION AND CONSTRUCTION. ALL DEMOLITION AND CONSTRUCTION OPERATIONS MUST BE COORDINATED WITH THE UTILITY COMPANIES SERVICING THE SITE. UTILITY SERVICES TO ADJOINING PROPERTIES MUST BE PROTECTED AND MAINTAINED AT ALL TIMES.

SITE PLAN LEGEND

GREEN AREA





SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION
1	8/27/20	BB	MINOR REVISIONS
2	09/30/20	KVO	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/20/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	02/26/21	CVG	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/15/21	BB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
6	04/16/21	BB	REVISED PER TOWN OF GUILDERLAND COMMENTS DATED 04/05/21

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

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ALBANY COUNTY
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AS SHOWN	10/28/19	DII	RTM
13001204A	C-LAYT		

DIMENSION PLAN

GRADING AND DRAINAGE NOTES

1. REFER TO THE SITE PLAN FOR SPECIFIC DETAILS AND DIMENSIONS OF SITE PARKING LAYOUT AND RELATED IMPROVEMENTS.
2. PROPOSED SPOT ELEVATIONS PROVIDED REPRESENT BOTTOM FACE OF CURB ELEVATIONS. TOP OF CURB ELEVATIONS ARE 0.5' ABOVE EDGE OF CURB ELEVATION UNLESS OTHERWISE NOTED.
3. ALL PERIMETER BUILDING SIDEWALKS TO SLOPE AT 1% MINIMUM (1/8"/FT.) AND 2% MAXIMUM (1/4"/FT.) AWAY FROM THE BUILDING TO THE FACE OF CURB OR EDGE OF PAVING.
4. REFER TO THE UTILITY PLAN FOR UTILITY LAYOUT AND RELATED IMPROVEMENTS.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL EXISTING UTILITIES. ONLY THE LOCATION OF VISIBLE UTILITIES ON OR ABOVE THE SURFACE OF THE EARTH THAT CAN BE REASONABLY LOCATED USING STANDARD SURVEY PROCEDURES SHALL BE CERTIFIED. NO CERTIFICATION IS MADE BY MASER CONSULTING AS TO THE ACCURACY OR COMPLETENESS OF THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES. IT IS IMPERATIVE THAT PRIOR TO ANY CONSTRUCTION IN THE AREA, A UTILITY MARK-OUT IS ORDERED.
6. NO TOPSOIL SHALL BE REMOVED FROM THE SITE OR USED AS SPOIL. TOPSOIL MOVED DURING THE COURSE OF CONSTRUCTION SHALL BE REDISTRIBUTED SO AS TO PROVIDE AT LEAST SIX (6) INCHES OF COVER TO ALL LANDSCAPE AREAS OF THE SITE AND SHALL BE STABILIZED BY SEEDING OR PLANTING.
7. THE EROSION AND SEDIMENTATION CONTROL PLANS SHALL BE REFERENCED AND USED IN CONJUNCTION WITH THIS DRAWING TO COMPLETE CONSTRUCTION PHASING.
8. LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM EXISTING RECORDS AND/OR ABOVE-GROUND OBSERVATIONS AT THE SITE. COMPLETENESS OR ACCURACY OF LOCATIONS AND DEPTH CANNOT BE GUARANTEED. ALL CONTRACTORS AND OTHER PERSONS UTILIZING THIS PLAN AND THE INFORMATION CONTAINED THEREON ARE CAUTIONED THAT EACH INDIVIDUAL USING THIS PLAN MUST VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE STARTING WORK.
9. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITIES ENTERING THE BUILDING INCLUDING SANITARY SEWER LATERALS, DOMESTIC WATER AND FIRE PROTECTION SERVICE, ELECTRIC, TELEPHONE AND GAS SERVICE. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO THEIR FACILITIES.
10. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
11. IN AREAS OF PROPOSED EARTHWORK, EARTH MAY BE EXCAVATED USING CONVENTIONAL EQUIPMENT, INCLUDING EXCAVATORS, LOADERS AND DOZERS. LARGE ROCKS MAY BE BROKEN UP OR DISLODGED BY HOE RAMS AND DOZERS WITH RIPPERS. BLASTING IS NOT ANTICIPATED ON THIS SITE.
12. THE SITE IS TO BE GRADED SMOOTHLY AND EVENLY IN ACCORDANCE WITH THE PROPOSED CONTOURS AND SPOT ELEVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING A POSITIVE DRAINAGE FLOW TO STORM WATER FACILITIES AND STRUCTURES WITHOUT CREATING FLAT SPOTS THAT WILL RESULT IN STANDING WATER (PUDDLING OR PONDING).
13. NY ONE-CALL SYSTEM: CALL BEFORE YOU DIG: 811
14. CONTRACTOR TO PROVIDE PROTECTION FOR ANY EXISTING STORM PIPING AND APPURTENANCES ON THE PROPOSED SITE INDICATED ON THE DRAWINGS.
15. STORM STRUCTURE TYPES PER STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION DRAINAGE STRUCTURE DETAILS.
16. PRIOR TO CONSTRUCTION, THESE PLANS MUST BE REVIEWED AND APPROVED BY THE NYSDEC FOR COVERAGE UNDER SPDES GENERAL PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITY (GP-0-20-001).
17. GRADING AND DRAINAGE DESIGN TO BE COORDINATED WITH THE PROPOSED ROADWAY IMPROVEMENTS BY JMT.

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REV	DATE	DRAWN BY	DESCRIPTION
5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
4	08/30/22	KMA	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
3	05/20/22	KMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
2	04/27/22	DIB	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
1	03/25/22	DIB	MINOR SITE REVISIONS
-	10/28/19	DIB	ISSUED FOR SUBMISSION

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
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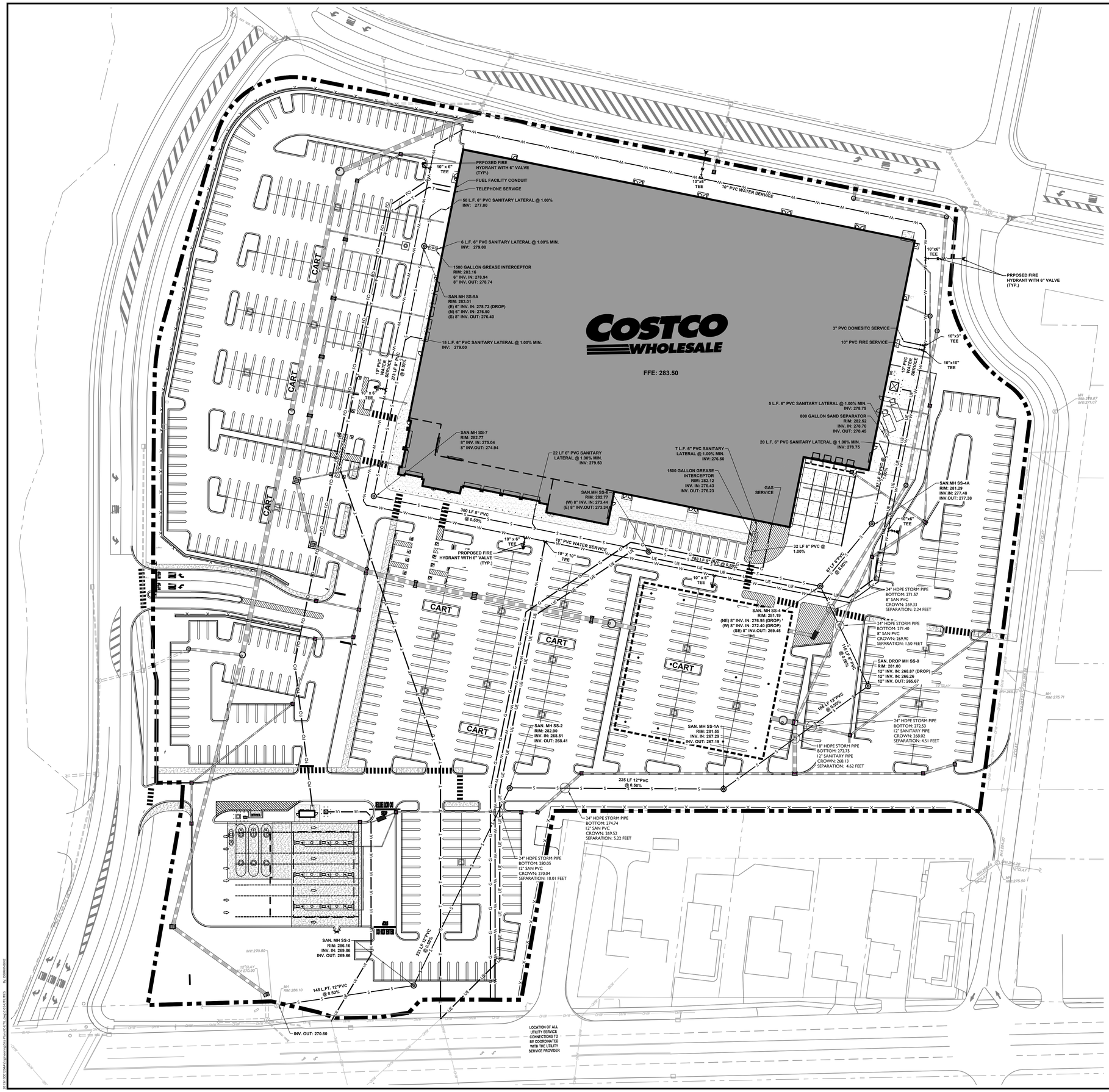
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIB	RTM

PROJECT NUMBER: 13001204A
DRAWING NAME: C-GRAD

SHEET TITLE: GRADING AND DRAINAGE PLAN

SHEET NUMBER: 4 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



UTILITY NOTES

1. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION HAS BEEN PROVIDED TO THE BEST ABILITY OF THE ENGINEER. HOWEVER, THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTORS CONCERNING THE LOCATION OF ALL UTILITIES PRIOR TO BIDDING AND CONSTRUCTION. LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR.
2. THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OR APPROVALS HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION". THE CLIENT OR OWNER AND CONTRACTOR ARE RESPONSIBLE TO ASSURE THAT THE APPROVED PLANS ONLY, ARE USED FOR BIDDING AND CONSTRUCTION.
3. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
4. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND CANNOT BE GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION, TO ASCERTAIN EXISTING INVERTS, MATERIALS AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENT AS REQUIRED TO AVOID CONFLICTS. ANY EXISTING UTILITY SERVICE CONNECTIONS, LOCATED BY THE CONTRACTOR, CAPABLE OF SERVICING THE PROPOSED USE SHALL BE REUSED AS LONG AS THEY ARE IN GOOD CONDITION AND MEET THE UTILITY AUTHORITY'S STANDARDS AND SPECIFICATIONS. IF THE EXISTING UTILITY SERVICES DO NOT MEET THE ABOVE CRITERIA, THEN NEW SERVICE LINES SHALL BE INSTALLED.
5. FINAL LOCATIONS, NUMBERS AND SIZE OF ALL PROPOSED UTILITIES SERVICING BUILDINGS ARE TO BE VERIFIED WITH THE ARCHITECT, OWNER AND APPROPRIATE UTILITY AUTHORITY BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD OR SOIL CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL APPROPRIATE SAFETY DEVICES AND TRAINING TO ALL WORKERS IN ORDER TO MAINTAIN SAFE CONDITIONS ON THE PROJECT SITE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED CONSTRUCTION PERMITS NECESSARY FOR THE CONSTRUCTION AND COMPLETION OF THE APPROVED IMPROVEMENTS.
9. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS AND SIZES OF ALL UTILITIES ENTERING THE BUILDING, INCLUDING SANITARY SEWER, WATER, GAS, ELECTRIC AND TELEPHONE SERVICE CONNECTIONS. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED.
10. CONTRACTOR IS TO COORDINATE WITH THE UTILITY COMPANIES AS TO THE LOCATION AND SCHEDULING OF SERVICE CONNECTIONS TO THE UTILITY SUPPLY FACILITIES.
11. **UTILITY COMPANIES MUST BE NOTIFIED PRIOR TO ANY DEMOLITION, EXCAVATION AND/OR CONSTRUCTION. CALL 811 TO ORDER UTILITY MARK-OUTS AT THE SITE.**
12. THE ROUTING OF ALL UTILITIES IS SUBJECT TO ADJUSTMENT TO MEET UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS. WHEN BUILDING PLUMBING AND MECHANICAL DRAWINGS ARE COMPLETE AND UTILITY REQUIREMENTS ARE FINALIZED ADJUSTMENTS MAY BE NECESSARY TO THE UTILITY SERVICE LOCATIONS AND SIZES.
13. THE CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY FRAMES, COVERS, MANHOLES, VALVE BOXES AND OTHER UTILITY FACILITY STRUCTURES TO BE FLUSH WITH FINISH SURFACE GRADE ELEVATIONS.
14. ALL CONCRETE IS TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
15. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
    - A) NEW YORK DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS CURRENTLY AMENDED.
    - B) CURRENT, PREVAILING TOWN OF GUILDERLAND, STANDARDS AND REQUIREMENTS.
    - C) CURRENT, PREVAILING UTILITY COMPANY/AUTHORITY AND OWNER SPECIFICATIONS, STANDARDS AND REQUIREMENTS.

UTILITY INSTALLATION AND TRENCH EXCAVATION GUIDELINES

1. CONSTRUCTION REQUIREMENTS

A. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.

B. WATER THAT ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING, AS REQUIRED, TO A FACILITY FOR REMOVAL OF SEDIMENT IN ACCORDANCE WITH NJ-DEP GUIDELINES.

C. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO BE FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.

2. BACKFILLING-AFTER THE PIPE AND ITS APPURTENANCES HAVE BEEN SATISFACTORILY INSTALLED AND COVERED, THE TRENCH SHALL BE BACKFILLED IN SIX (6) INCH LAYERS AND IN SUCH A MANNER AS NOT TO DISTURB THE PIPE. HOWEVER, 8-INCH LAYERS WILL BE PERMITTED WHEN USING VIBRATORY COMPACTION EQUIPMENT PROVIDED BACKFILL MATERIAL IS SUITABLE FOR COMPACTION TESTING. EACH LAYER OF BACKFILL SHALL BE THOROUGHLY COMPACTED WITH MECHANICAL TAMPERS OR BY OTHER ACCEPTABLE METHODS, FOR THE FULL TRENCH WIDTH. THE BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE DETERMINED DRY WEIGHT DENSITY OF THE BACKFILL MATERIAL

3. EXCEPTIONS: IN CERTAIN CASES TRENCHES CAN NOT BE BACKFILLED UNTIL THE PIPE IS HYDROSTATICALLY TESTED, OR ANCHORS AND OTHER PERMANENT FEATURES ARE INSTALLED. IN THESE CASES, ALL OF THE REQUIREMENTS LISTED UNDER ITEM 1. (CONSTRUCTION REQUIREMENTS) WILL REMAIN IN EFFECT WITH THE FOLLOWING EXCEPTIONS:

A. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR SIX DAYS. ALL PRESSURE TESTING AND THE COMPLETE BACKFILLING OF THE OPEN TRENCH MUST BE COMPLETED BY THE SEVENTH WORKING DAY.

B. IF DAILY BACKFILLING IS DELAYED, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS, APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES OR FACILITIES WILL BE INSTALLED, AND THE AREAS SEEDED AND MULCHED WITHIN THE NEXT TWO CALENDAR DAYS.

C. SIDES OF TRENCHES SHALL BE KEPT AS NEARLY VERTICAL AS POSSIBLE, AND THE TRENCHES SHALL BE EXCAVATED TRUE TO THE LINE SO THAT A CLEAR SPACE EIGHT (8") INCHES IN WIDTH IS PROVIDED ON EACH SIDE OF THE BARREL OF THE PIPE TO A HEIGHT OF LESS THAN ONE (1) FOOT ABOVE THE TOP OF THE PIPE. IF SHEETING IS REQUIRED AT THE LEVEL OF THE PIPE, THE DIMENSIONS IN THE FOREGOING SENTENCE SHALL BE APPLICABLE TO THE INSIDE FACES OF THE SHEETING.

D. THE MUNICIPALITY SHALL HAVE THE RIGHT TO LIMIT THE AMOUNT OF TRENCH OPENED IN ADVANCE OF PIPE LAYING AND THE AMOUNT OF PIPE LAID IN ADVANCE OF BACKFILLING, BUT IN NO CASE SHALL MORE THAN FOUR HUNDRED (400) FEET OF TRENCH BE OPENED AT ANY ONE PLACE IN ADVANCE OF THE COMPLETED PIPE. THE TRENCH SHALL NOT BE OPENED FOR A DISTANCE OF MORE THAN FIVE HUNDRED (500) FEET AT ANY ONE TIME.

E. NO TRENCH WITHIN A PUBLIC STREET SHALL BE LEFT UNCOVERED AT THE CLOSE OF THE WORK DAY. NO OTHER TRENCH SHALL BE LEFT UNCOVERED FOR MORE THAN FIVE CONSECUTIVE WORKING DAYS. STEEL PLATES OF ADEQUATE STRENGTH MAY BE USED TO COVER OPENINGS WITH THE PRIOR APPROVAL OF THE MUNICIPAL ENGINEER.

F. PRIOR TO PERFORMING ANY BLASTING, THE CONTRACTOR MUST OBTAIN ALL NECESSARY LICENSES AND PERMITS. PROTECTIVE MEASURES MUST BE USED TO INSURE SAFETY TO ADJACENT PROPERTY.

G. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INJURY TO PERSONS OR PROPERTY THAT MAY RESULT FROM THE USE OF EXPLOSIVES. ALL BLASTING SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED BLASTER, AND SHALL BE SUBJECT TO STATE, COUNTY AND LOCAL REGULATIONS.

H. WHEN PIPE IS TO BE INSTALLED IN FILL, THE EMBANKMENT SHALL BE CONSTRUCTED TO AT LEAST ONE (1) FOOT ABOVE THE PROPOSED TOP OF THE PIPE. THE EMBANKMENT SHALL THEN BE EXCAVATED TO THE PROPER FORM AND GRADE, AND THE PIPE INSTALLED. THE EMBANKMENT SHALL THEN BE CONSTRUCTED TO NOT LESS THAN THREE AND ONE HALF (3 1/2) FEET ABOVE THE TOP OF THE PIPE.

WATER MAIN NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR PRESSURE TESTING, DISINFECTION, AND BACTERIOLOGICAL ANALYSIS OF THE NEW WATER MAIN.
2. CONTRACTOR TO PROVIDE PROTECTION FOR ANY EXISTING WATER MAINS AND APPURTENANCES ON THE PROPOSED SITE DEVELOPMENT PROPERTY.

SANITARY SEWER NOTES

1. CONTRACTOR TO PROVIDE PROTECTION FOR ANY EXISTING SEWER PIPING AND APPURTENANCES ON THE PROPOSED SITE DEVELOPMENT PROPERTY.

N E S W

40 0 40 80

SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION
1	4/27/20	DB	MINOR REVISIONS
2	6/30/20	EVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	8/25/20	KMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/21	SYD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/15/23	EB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

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NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

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PROJECT NUMBER:	DRAWING NAME:
13001204A	C-UTIL

SHEET TITLE: UTILITIES PLAN

SHEET NUMBER: 5 of 22

2019.300.13004\Engineering\Site Plans\C-UTIL.dwg|C-UTILITIES By: DBRUNNING

CROSSGATES MALL ROAD

CROSSGATES MALL ROAD

GABRIEL TERRACE

RIELTON COURT

LAWTON TERRACE

WESTERN AVE (SR 20)

COSTCO WHOLESALE

CART

COSTCO MONUMENT SIGN

LEGEND

WB-67 TRUCK (73.5 FEET LONG)

HEAVY DUTY PAVEMENT SECTION

FOR HEAVY DUTY AND STANDARD DUTY PAVEMENT DETAILS REFER TO SHEET X

N

S

E

W

40 0 40 80

SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/07/20	DB	MINOR NOTE REVISIONS
2	09/02/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	11/05/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

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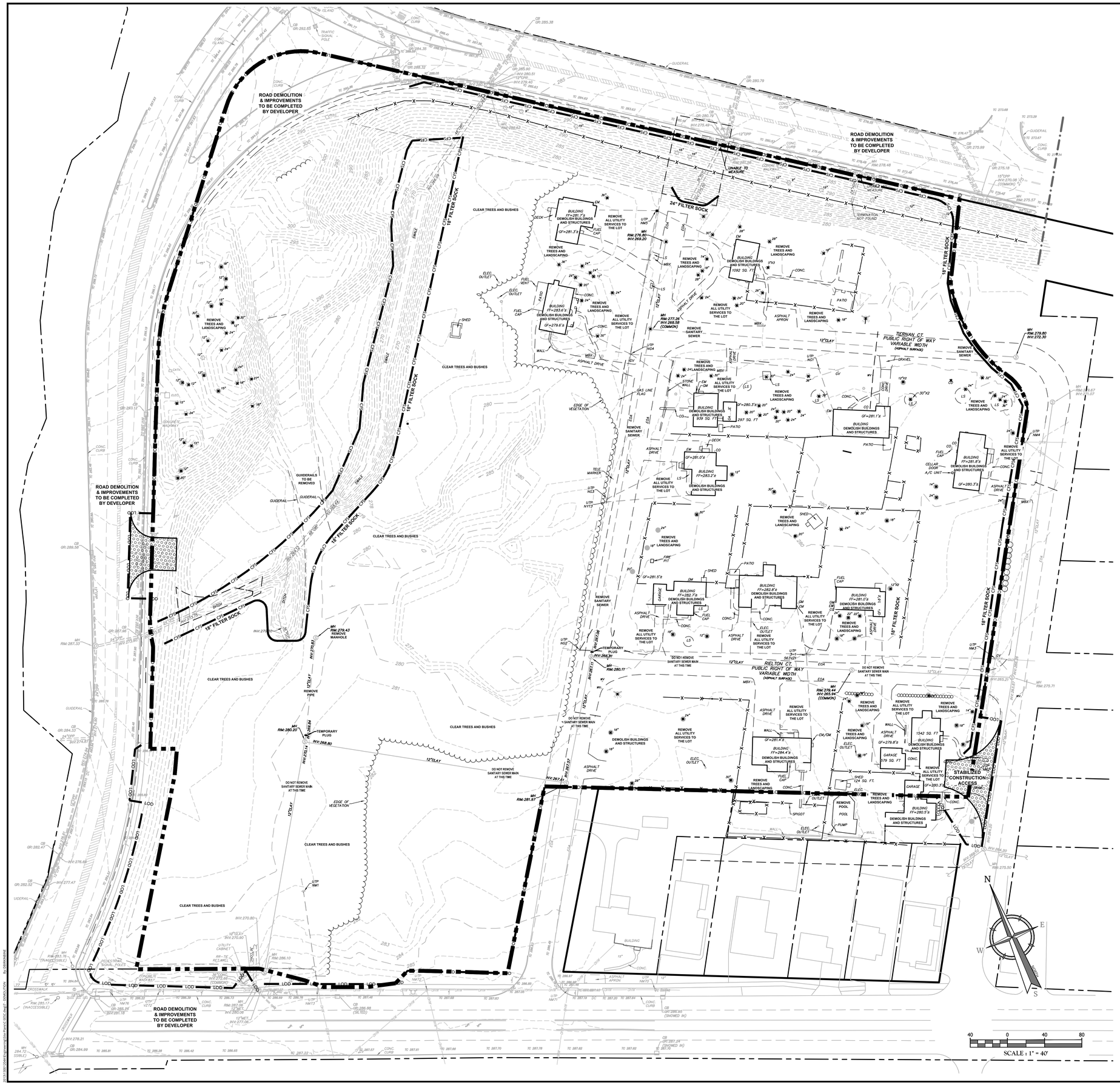
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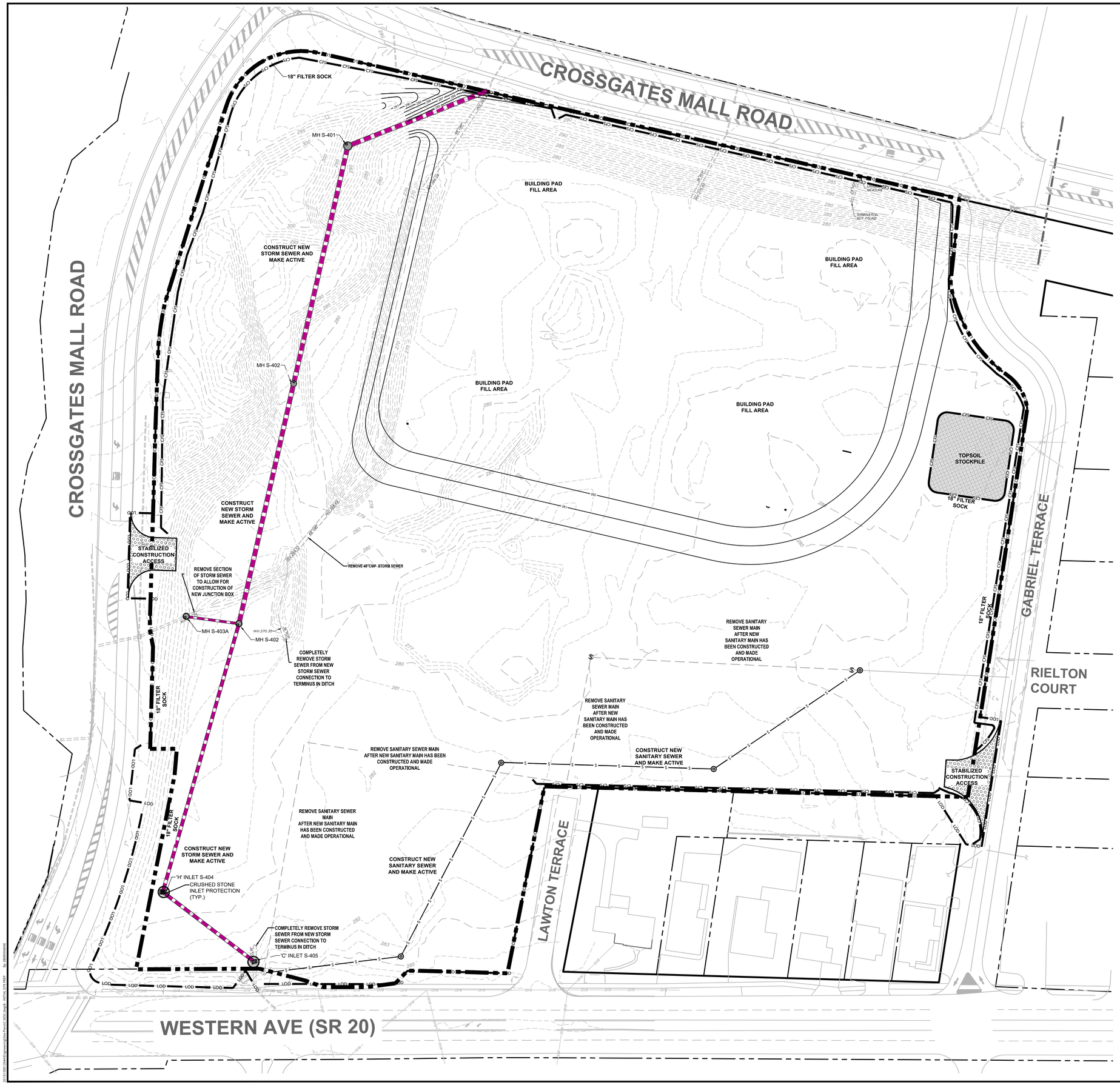
TRUCK MOVEMENTS AND PAVEMENT PLAN

SHEET NUMBER:

6 of 22

3/6/2023 8:04:56 AM Expires:6/30/2023 Plotted by: cliff.reed@colliersengineering.com


ROAD DEMOLITION & IMPROVEMENTS TO BE COMPLETED BY DEVELOPER
ROAD DEMOLITION & IMPROVEMENTS TO BE COMPLETED BY DEVELOPER
ROAD DEMOLITION & IMPROVEMENTS TO BE COMPLETED BY DEVELOPER
18" FILTER SOCK
24" FILTER SOCK
CLEAR TREES AND BUSHES
REMOVE TREES AND LANDSCAPING
REMOVE ALL UTILITY SERVICES TO THE LOT
DEMOLISH BUILDINGS AND STRUCTURES
BUILDING FF=281.7'± DEMOLISH BUILDINGS AND STRUCTURES GF=281.3'±
BUILDING DEMOLISH BUILDINGS AND STRUCTURES 1092 SQ. FT
BUILDING FF=283.6'± DEMOLISH BUILDINGS AND STRUCTURES GF=279.6'±
BUILDING DEMOLISH BUILDINGS AND STRUCTURES 959 SQ. FT
BUILDING DEMOLISH BUILDINGS AND STRUCTURES 397 SQ. FT
BUILDING DEMOLISH BUILDINGS AND STRUCTURES
BUILDING FF=281.8'± DEMOLISH BUILDINGS AND STRUCTURES GF=280.3'±
BUILDING FF=283.2'± DEMOLISH BUILDINGS AND STRUCTURES
BUILDING FF=282.3'± DEMOLISH BUILDINGS AND STRUCTURES
BUILDING FF=284.4'± DEMOLISH BUILDINGS AND STRUCTURES GF=281.4'±
1542 SQ. FT BUILDING DEMOLISH BUILDINGS AND STRUCTURES
GARAGE 579 SQ. FT
SHED 124 SQ. FT.
BUILDING FF=280.5'± DEMOLISH BUILDINGS AND STRUCTURES
REMOVE POOL
TIERNAN CT. PUBLIC RIGHT OF WAY VARIABLE WIDTH (ASPHALT SURFACE)
RIELTON CT. PUBLIC RIGHT OF WAY VARIABLE WIDTH (ASPHALT SURFACE)
12"CLAY
REMOVE SANITARY SEWER
DO NOT REMOVE SANITARY SEWER MAIN AT THIS TIME
TEMPORARY PLUG
REMOVE PIPE
GUIDERAIL
GUIDERAILS TO BE REMOVED
STABILIZED CONSTRUCTION ACCESS
MH RIM: 279.80 INV: 272.30
MH RIM: 279.80 INV: 269.20
MH RIM: 277.26 INV: 268.58 (COMMON)
MH RIM: 279.43 REMOVE MANHOLE
MH RIM: 280.20 INV: 268.80
MH RIM: 281.97 INV: 267.61
MH RIM: 279.44 INV: 265.94 (COMMON)
MH RIM: 280.17 INV: 266.91
MH RIM: 280.17 INV: 266.77
MH RIM: 286.10
MH RIM: 283.75 (TRANSMISSIBLE)
MH RIM: 285.17 (INACCESSIBLE)
MH RIM: 284.72 (SSIBLE)
MH RIM: 287.33
MH RIM: 287.30
MH RIM: 275.71
MH RIM: 275.67 INV: 272.07
MH RIM: 275.50
MH RIM: 284.20
MH RIM: 284.20
MH RIM: 284.20



EROSION CONTROL LEGEND

- PROPERTY LINE
- LOD — LIMIT OF DISTURBANCE
- CFS — SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- TOPSOIL STOCKPILE
- 270 — PROPOSED CONTOURS
- 270 — EXISTING CONTOURS
- STORM PIPE
- S — S — SANITARY SEWER PIPE

INITIAL SITE PREPARATION SEQUENCE OF ACTIVITIES:

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PREPARER, AND THE SOIL CONSERVATION DISTRICT TO AN ON-SITE MEETING.

AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED ON THOSE ACTIVITIES SHALL NOTIFY THE NEW YORK UTILITY ONE-CALL SYSTEM AT '811' TO ORDER A UTILITY MARK-OUT.

ALL STRUCTURES ASSOCIATED WITH THE CONSTRUCTION OF SEDIMENT REMOVAL FACILITIES MUST BE ON-SITE PRIOR TO EARTH DISTURBANCE.

CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO INSTITUTE ADDITIONAL MEASURES IF ANY EROSION AND SEDIMENTATION CONTROL PROBLEMS ARISE PRIOR TO THE STABILIZATION OF EROSION AND SEDIMENTATION CONTROL MEASURES ON-SITE.

1. THE TOWN OF GUILDERLAND AND THE SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
2. INSPECT SEDIMENT CONTROL BARRIERS INSTALLED AS PART OF THE DEMOLITION PROCEDURES. RE-ESTABLISH SEDIMENT CONTROL BARRIERS AS NECESSARY. REFER TO DETAILS
3. VERIFY ALL ON SITE UTILITIES HAVE BEEN LOCATED, DECOMMISSIONED AND REMOVED. UTILITY REMOVAL SHALL BE COORDINATED WITH EACH RESPECTIVE UTILITY SERVICE PROVIDER.
4. CLEAR AND GRUB AREAS OF CONSTRUCTION
5. STRIP AND STOCKPILE TOPSOIL FROM CONSTRUCTION AREAS. STABILIZE TOPSOIL STOCKPILE WITH TEMPORARY SEEDING REQUIREMENTS.
6. CONSTRUCT SANITARY SEWER MAIN AND STORM SEWERS TO THE EXTENTS SHOWN ON THIS PLAN. START PLACING FILL FOR THE BUILDING PAD.
7. DEMOLISH AND REMOVE THE EXISTING SANITARY SEWER MAIN. DEMOLISH AND REMOVE SECTIONS OF STORM SEWER NOTED ON THIS PLAN
8. BACKFILL ALL VOIDS CREATED FROM CONSTRUCTION PROCEDURES WITH STRUCTURAL FILL MATERIAL PLACED AND COMPACTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION.
9. INSPECT AND RECONDITION EROSION CONTROL MEASURES IN PREPARATION FOR THE NEXT PHASE OF SITE DEVELOPMENT.

TOTAL PROJECT DISTURBANCE: 735,400 SF

FOR EXISTING WETLANDS REFER TO AQUATIC RESOURCE DELINEATION, LANDS NOW OR FORMERLY OF CROSSGATES RELEASECO LLC. PREPARED BY THE CHAZEN COMPANIES, DATED 8/23/19.

N E S W

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2	09/08/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	11/20/20	AMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
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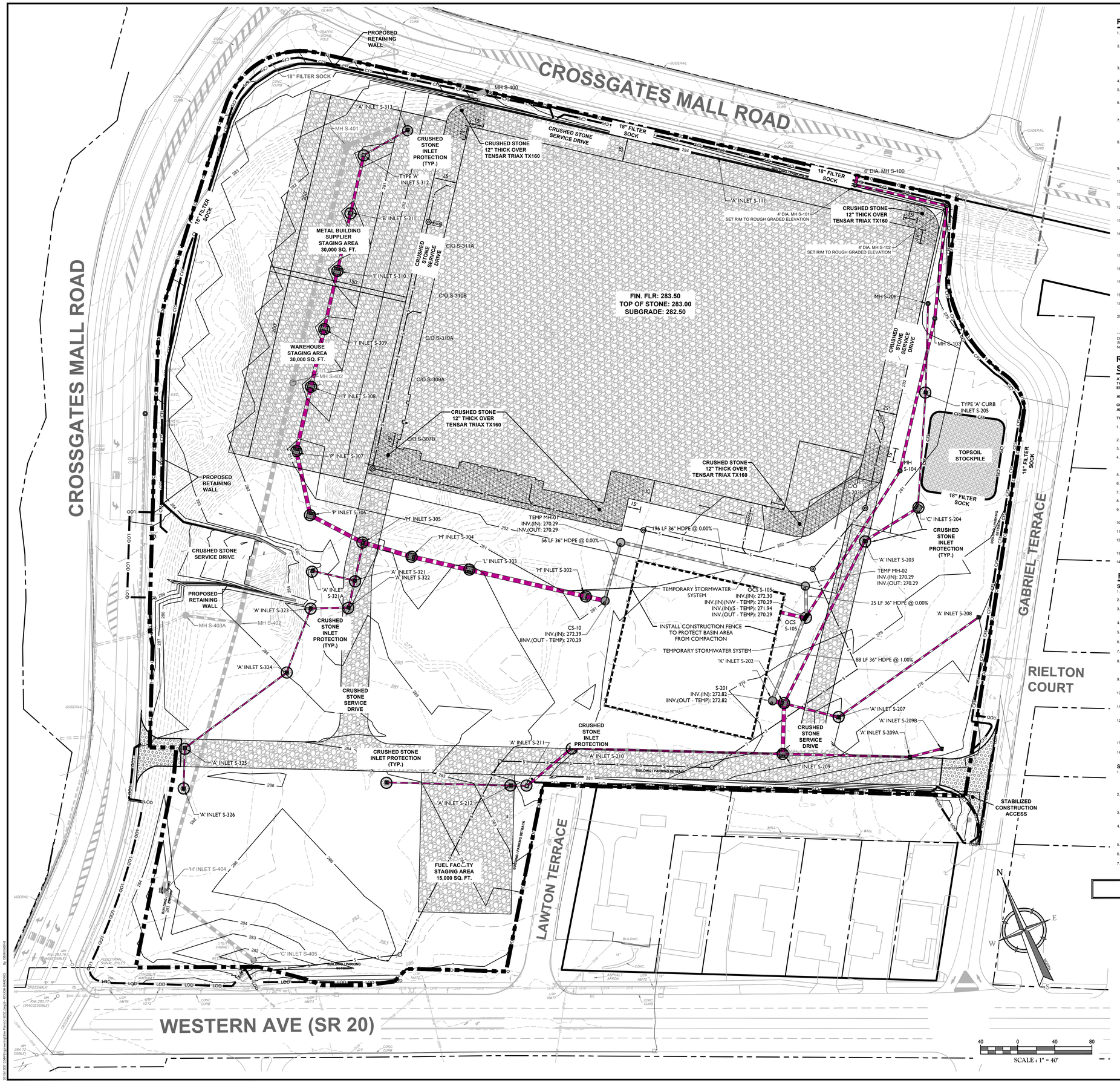
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PROJECT NUMBER:	DRAWING NAME:
13001204A	C-SESC

SHEET TITLE:
EROSION CONTROL INITIAL SITE PREPARATION

SHEET NUMBER:
8 of 22

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ROUGH GRADING SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS FOR DISTURBANCES LESS THAN FIVE (5) ACRES AND SEVEN (7) DAYS FOR DISTURBANCES GREATER THAN FIVE (5) ACRES, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCHING IS REQUIRED ON ALL SEEDING. WHEN HYDROSEEDING, MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
5. A SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
7. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL. HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
8. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
9. CONDUIT OUTLET PROTECTION MUST BE REVIEWED AND SUPPLEMENTED AT ALL OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
10. UNFILTERED DEWATERING IS NOT PERMITTED. TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH STATE STANDARDS.
11. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
12. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION AND SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
13. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD, SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN.
14. CONCRETE WASHOUT, DUMPSTER, AND STAGING AREA LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED AT THE PRE-CONSTRUCTION MEETING. THEY SHALL BE PLACED IN THE PROXIMITY OF THE CONSTRUCTION ENTRANCE AND STAGING AREAS AND SHALL BE USED PRIOR TO EXITING THE PROJECT SITE. THE LOCATION SHALL BE IN A PRACTICAL, CLEARLY DELINEATED, AREA AND BE MAINTAINED THROUGHOUT CONSTRUCTION.
15. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
16. IF SOIL ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED, ie. WINTER SHUTDOWN, ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED AND ONCE A MONTH INSPECTIONS CAN OCCUR.
17. ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE PROPERTY OWNER, AND SHALL BECOME THEIR RESPONSIBILITY.
18. PAVEMENT AREAS ARE TO BE KEPT CLEAN AT ALL TIMES.
19. DURING CONSTRUCTION, ANY ADDITIONAL CONTROL MEASURES DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEYOND THESE MEASURES SHOWN ON THE APPROVED PLAN SHALL BE INSTALLED OR EMPLOYED AT THE DIRECTION OF THE PROJECT ENGINEER.
20. ALL TEMPORARY, STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED, WHEN ALL CONSTRUCTION ACTIVITY IDENTIFIED IN THE SWPPP HAS BEEN COMPLETED, ALL AREAS OF DISTURBANCE HAVE ACHIEVED FINAL STABILIZATION** AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP AND ARE OPERATIONAL.

**FINAL STABILIZATION - MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

ROUGH GRADING SEQUENCE OF ACTIVITIES:

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PREPARER, AND THE HUDSON ESSEX PASSAIC SOIL CONSERVATION DISTRICT TO AN ON-SITE MEETING.

ALL STRUCTURES ASSOCIATED WITH THE CONSTRUCTION OF SEDIMENT REMOVAL FACILITIES MUST BE ON-SITE PRIOR TO EARTH DISTURBANCE.

CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO INSTITUTE ADDITIONAL MEASURES IF ANY EROSION AND SEDIMENTATION CONTROL PROBLEMS ARISE PRIOR TO THE STABILIZATION OF EROSION AND SEDIMENTATION CONTROL MEASURES ON-SITE.

THIS PLAN IS A CONTINUATION OF PROCEDURES INITIATED ON THE INITIAL SITE PREPARATION PLAN.

1. INSPECT ALL SOIL EROSION / SEDIMENT CONTROL MEASURES CONSTRUCTED AS PART OF THE INITIAL SITE PREPARATION ACTIVITIES INCLUDING BUT NOT LIMITED TO SEDIMENT CONTROL BARRIERS, INLET PROTECTION AND CONSTRUCTION ACCESS. REPAIR OR REPLACE AS NECESSARY.
2. BEGIN ROUGH GRADING, FILLING AND COMPACTING SITE.
3. CONSTRUCT STORM SEWERS AS ROUGH GRADING OPERATIONS PERMIT.
4. ALL STORM INLETS CONSTRUCTED DURING ROUGH GRADING OPERATIONS ARE TO HAVE HOODS RAISED ON BRICKS TO FACILITATE RUNOFF ENTERING THE INLET DURING ROUGH GRADING. ALL INLET BOXES TO HAVE CRUSHED STONE SEDIMENT PROTECTION INSTALLED AS SOON AS INLET TOPS ARE SET.
5. CONSTRUCTION OF SANITARY SEWERS, WATER MAINS AND GAS SERVICE CAN BE CONSTRUCTED AS ROUGH GRADING OPERATIONS PERMIT.
6. CURBING CAN BE CONSTRUCTED AS ROUGH GRADING PROGRESSES AND CONDITIONS ALLOW.
7. PAVING STONE BASE CAN BE PLACED AS ROUGH GRADING PROGRESSES AND CONDITIONS ALLOW.
8. COMPLETE ROUGH GRADING OF SITE.
9. AS SOON AS SUBGRADE ELEVATION HAS BEEN ESTABLISHED WITHIN THE LIMITS OF THE BUILDING, PLACE AND COMPACT CRUSHED STONE BUILDING PAD. ESTABLISH FINISH PAD ELEVATION.
10. CONSTRUCT CRUSHED STONE LAYDOWN AREAS AND 25 FT. WIDE CRUSHED STONE ACCESS DRIVE AS INDICATED ON THIS PLAN.
11. CONSTRUCTION OF BUILDING CAN BEGIN AS SOON AS THE BUILDING PAD AND LAYDOWN AREAS ARE IN PLACE AND HAVE BEEN APPROVED.
12. CONSTRUCTION OF GASOLINE FUELING FACILITIES CAN BEGIN AS SOON AS THE BUILDING PAD AND LAYDOWN AREAS ARE IN PLACE AND HAVE BEEN APPROVED.
13. CONSTRUCT BUILDING UTILITY SERVICE CONNECTIONS TO WITHIN 5 FEET OF THE BUILDING LIMITS.
14. INSPECT AND RECONDITION EROSION CONTROL MEASURES IN PREPARATION FOR THE NEXT PHASE OF CONSTRUCTION.

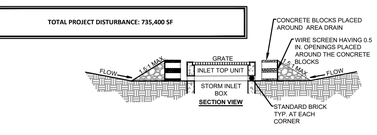
FILL MATERIALS, PLACEMENT AND COMPACTION

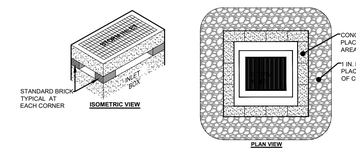
SITE PREPARATION

1. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION/SEDIMENT CONTROL PLANS.
2. DECOMMISSION AND REMOVE ALL UNDERGROUND AND ABOVE-GROUND UTILITIES IN BUILDING AREAS.
3. COMPLETELY REMOVE FROM BUILDING AREAS ALL EXISTING STRUCTURES INCLUDING BELOW-GRADE COMPONENTS (FOUNDATIONS, STORAGE TANKS, ETC.) AND OTHER SITE IMPROVEMENTS (FENCING, LIGHT POLES, ETC.) NOT TO REMAIN.
4. ALL DEMOLISHED COMPONENTS SHOULD BE DISPOSED OFF-SITE.
5. REMOVE AND DISPOSE OFF-SITE ALL TREES AND SURFACE VEGETATION NOT TO REMAIN.
6. STRIP ALL TOPSOIL FROM CONSTRUCTION AREA INCLUDING 5 FEET PERIMETER ZONE AND STOCKPILE ON-SITE.
7. EARTHWORK MAY BE PERFORMED USING CONVENTIONAL CONSTRUCTION EQUIPMENT (EXCAVATORS, LOADERS, DOZERS, ETC.).
8. PRIOR TO FILL PLACEMENT, COMPACT EXPOSED SUBGRADE WITH MIN. 10-TON ROLLER AND PROOF-ROLL WITH LOADED TANDEM-AXLE DUMP TRUCK. SELECTIVELY EXCAVATE ANY UNSTABLE AREAS DETECTED AND REPLACE WITH COMPACTED STRUCTURAL FILL. THE EXCAVATED MATERIALS MAY BE REUSED PROVIDED THEY MEET THE CRITERIA FOR STRUCTURAL FILL/BACKFILL.
9. PLACE AND COMPACT STRUCTURAL FILL AS NECESSARY TO ACHIEVE THE FINAL SUBGRADE ELEVATIONS. STRUCTURAL FILL MUST BE BENCHED INTO EXISTING SLOPES WITH MIN. HORIZONTAL AND VERTICAL SLOPE DIMENSIONS OF 5 FEET AND OSHA-COMPLIANT TEMPORARY SLOPE ANGLES.
10. THE CONTRACTOR MUST BE PREPARED TO REMOVE STANDING WATER OR FROZEN PRECIPITATION FROM THE COMPLETED BUILDING PAD SUBGRADE WITHIN 24 HOURS OF EACH PRECIPITATION EVENT THROUGHOUT THE CONSTRUCTION PERIOD.
11. SURFACE RUNOFF SHOULD BE DIRECTED AWAY FROM SOIL SLOPES AND OPEN EXCAVATIONS. SLOPES SHOULD BE PROTECTED FROM PRECIPITATION UNTIL PERMANENT EROSION PROTECTION MEASURES ARE IN-PLACE, WHICH SHOULD BE ESTABLISHED AS SOON AS PRACTICAL.
12. ALL EXCAVATIONS SHOULD BE SLOPED, BENCHED, OR SHORED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), WHICH CAN BE FOUND IN THE CODE OF FEDERAL REGULATIONS, TITLE 29, PART 1926 (29 CFR PART 1926), SUBPARTS M AND P. THE CONTRACTOR SHOULD DESIGNATE AND PROVIDE A "COMPETENT PERSON" WHOSE RESPONSIBILITIES INCLUDE SELECTION OF TEMPORARY SLOPE ANGLES OR SUPPORT SYSTEMS FOR EXCAVATION SIDEWALLS.
13. TEMPORARY SLOPES SHOULD BE MONITORED FOR MOVEMENT DURING THE ENTIRE CONSTRUCTION PERIOD.
14. PERMANENT SOIL SLOPES SHOULD BE DESIGNED AND CONSTRUCTED WITH A SLOPE FACE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3H:1V).

STRUCTURAL FILL AND BACKFILL

1. ALL FILL PROPOSED FOR SUPPORT OF LOAD-BEARING COMPONENTS (BUILDINGS, PAVEMENTS, ETC.) IS CONSIDERED STRUCTURAL FILL. STRUCTURAL FILL SHOULD CONSIST OF INORGANIC MATERIAL AT MOISTURE CONTENTS SUITABLE FOR COMPACTION AND BE FREE OF DELETERIOUS MATTER, DEBRIS, CLAY CLODS, AND FROZEN MATERIAL. ON-SITE SOILS EXCAVATED DURING EARTHWORK OPERATIONS THAT MEET THESE CRITERIA MAY BE REUSED AS STRUCTURAL FILL.
2. THE MAXIMUM PARTICLE SIZE FOR STRUCTURAL FILL UP TO 6 FEET BELOW THE BUILDING SUBGRADE LEVELS SHOULD BE 18 INCHES. THE MAXIMUM PARTICLE SIZE WITHIN 6 FEET BELOW THE BUILDING SUBGRADE LEVELS SHOULD BE 6 INCHES AND WITHIN 3 FEET BELOW THE BUILDING SUBGRADE LEVELS SHOULD BE 2 INCHES.
3. IMPORTED STRUCTURAL FILL MATERIALS SHOULD MEET THE ABOVE CRITERIA AND CONTAIN NO MORE THAN 20% MATERIAL PASSING THE #200 SIEVE WITH A LIQUID LIMIT (LL) NOT EXCEEDING 25 AND PLASTIC INDEX (PI) NOT EXCEEDING 10.
4. STRUCTURAL FILL SHOULD BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS. THINNER LIFTS MAY BE REQUIRED DEPENDING ON MATERIAL TYPE, PREVAILING WEATHER CONDITIONS, AND PERFORMANCE OF THE COMPACTED SOIL. ALL FILL MATERIAL SHOULD BE PLACED ON APPROVED SUBGRADES, PROPERLY STRIPPED AND SCARIFIED AS NEEDED.
5. FILL SHOULD NOT BE PLACED ON FROZEN OR SATURATED SUBGRADES.
6. FILL SHOULD BE PLACED AND COMPACTED TO COSTCO'S MINIMUM COMPACTION REQUIREMENTS INCLUDED IN THE GEOTECHNICAL REPORT.
7. IN-SITU DENSITY TESTS SHOULD BE PERFORMED FOR EACH LIFT OF FILL AT A MINIMUM FREQUENCY SPECIFIED BY COSTCO AND INCLUDED IN THE GEOTECHNICAL REPORT.





ROUGH GRADING
ROCK BARRIER FOR AREA DRAINS
N.T.S.

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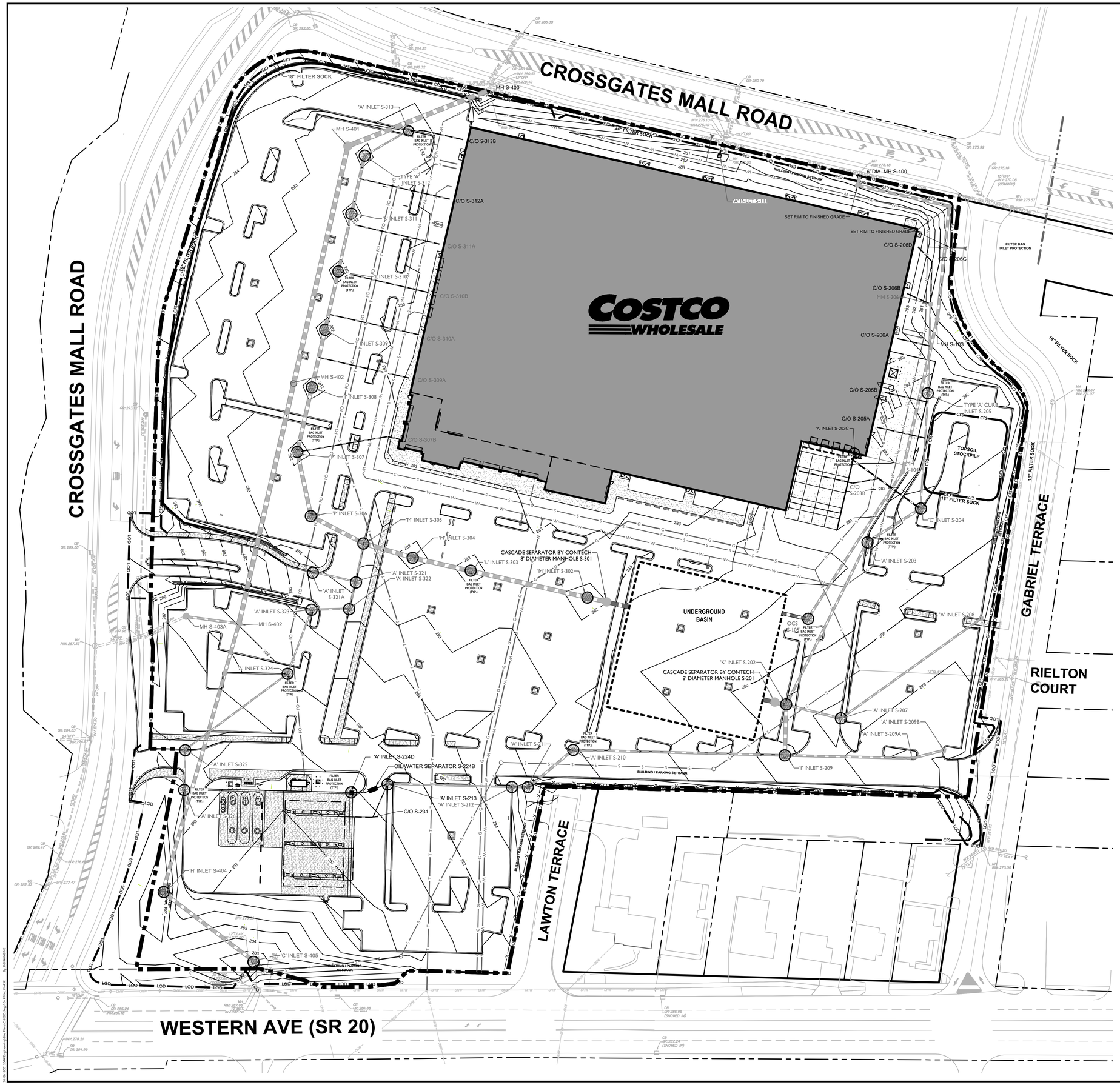
PROJECT NUMBER: 13001204A
DRAWING NAME: C-SESC

SHEET TITLE:
EROSION CONTROL
ROUGH GRADING PLAN

SHEET NUMBER:
9 of 22

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FINAL SEQUENCE OF ACTIVITIES:

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PREPARER, AND THE SOIL CONSERVATION DISTRICT TO AN ON-SITE MEETING.

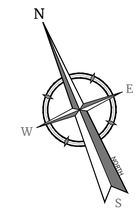
AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED ON THOSE ACTIVITIES SHALL NOTIFY THE NEW YORK UTILITY ONE-CALL SYSTEM AT 811 TO ORDER A UTILITY MARK-OUT AT THE SITE.

ALL STRUCTURES ASSOCIATED WITH THE CONSTRUCTION OF SEDIMENT REMOVAL FACILITIES MUST BE ON-SITE PRIOR TO EARTH DISTURBANCE.

CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO INSTITUTE ADDITIONAL MEASURES IF ANY EROSION AND SEDIMENTATION CONTROL PROBLEMS ARISE PRIOR TO THE STABILIZATION OF EROSION AND SEDIMENTATION CONTROL MEASURES ON-SITE.

THIS PLAN IS A CONTINUATION OF PROCEDURES INITIATED ON THE DEMOLITION, INITIAL SITE PREPARATION AND ROUGH GRADING PLANS

1. INSPECT ALL SOIL EROSION / SEDIMENT CONTROL MEASURES INCLUDING BUT NOT LIMITED TO SEDIMENT CONTROL BARRIERS AND STONE CONSTRUCTION ACCESS. REPAIR OR REPLACE AS NECESSARY.
2. CONSTRUCT UNDERGROUND STORMWATER MANAGEMENT SYSTEM COMPLETE WITH DISCHARGE CONTROL STRUCTURE.
3. FINISH CONSTRUCTION OF ALL REMAINING STORM SEWERS.
4. FINISH CONSTRUCTION OF ALL ON SITE UNDERGROUND UTILITIES AND BUILDING SERVICE CONNECTIONS. CONSTRUCT FOUNDATIONS FOR AREA LIGHT STANDARDS AND RUN ELECTRIC SERVICE TO FOUNDATIONS AND ALL LOCATIONS FOR ILLUMINATED SIGNS (DIRECTIONAL, MONUMENT, AND PYLON).
5. FINISH CONSTRUCTION OF ALL CURBING AROUND PERIMETER OF NEW PARKING AND DRIVEWAY AREAS. CONSTRUCT CURBING AROUND BUILDING. CONSTRUCT CURBING AROUND LANDSCAPE ISLANDS.
6. FINISH PLACEMENT OF PAVING STONE BASE COURSE ON AREAS TO BE PAVED AND COMPACTED.
7. ALL INLETS SET DURING ROUGH GRADING OPERATIONS WITH TEMPORARY GRATE ELEVATIONS ARE TO BE SET TO PERMANENT GRATE ELEVATIONS AS SOON AS PAVING STONE BASE HAS BEEN PLACED AROUND THE INLET. REPLACE CRUSHED STONE INLET PROTECTION WITH FILTER BAG INLET PROTECTION.
8. CONSTRUCT ALL CONCRETE PADS AND CONCRETE PAVEMENT.
9. INSTALL ASPHALT PAVING BINDER COURSE.
10. INSTALL ALL SIGNAGE ON THE SITE INCLUDING TRAFFIC CONTROL AND DIRECTIONAL SIGNS.
11. SPREAD TOPSOIL IN ALL AREAS TO BE LANDSCAPED OR SEEDED AND ESTABLISH PERMANENT GROUND COVER AND LANDSCAPING AS SPECIFIED BY LANDSCAPING PLAN. MULCH ALL EXPOSED AREAS AS SPECIFIED BY THESE PLANS.
12. INSTALL FINAL PAVING WEARING SURFACE. APPLY PARKING AREA AND TRAFFIC CONTROL PAVEMENT PAINT.
13. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS. ESTABLISH PERMANENT VEGETATION ON ALL AREA DISTURBED BY THE REMOVAL OF THE TEMPORARY CONTROLS. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 85 PERCENT PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.



TOTAL PROJECT DISTURBANCE: 735,400 SF

40 0 40 80

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SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design

EXTON
410 Eagleview Boulevard, Suite 104
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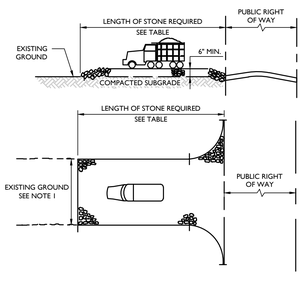
PROJECT NUMBER: 13001204A

DRAWING NAME: C-SESC

SHEET TITLE:
EROSION CONTROL
FINAL PHASE

SHEET NUMBER:
10 of 22

20231005135456 Engineering\Data Files\ACAD\C-ESC.dwg Plot: Feb 03, 2023 - 10:45am By: DIBERARDINIS



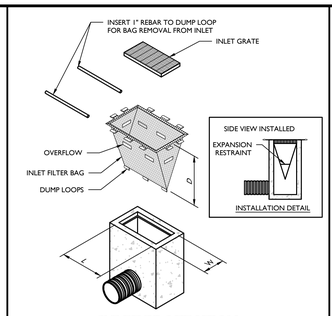
NOTES:

1. THE WIDTH OF CONSTRUCTION ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS OR EGRESS, OR AS SHOWN ON THE PLAN.
2. THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS.
4. THE ENTRANCE SHALL BE PERIODICALLY TOP DRESSED WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS ON-SITE CONDITIONS REQUIRE.
5. SPILLED, DROPPED, WASHED, OR TRACKED SEDIMENT ONTO ROADWAYS OR OTHER IMPERVIOUS SURFACES SHALL BE REMOVED IMMEDIATELY.
6. WHERE ACCUMULATION OF DUST AND SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER SHALL BE USED TO CLEAN PAVED AREAS.
7. ALL OTHER ACCESS POINTS TO THE SITE WHICH DO NOT CONTAIN A CONSTRUCTION ACCESS PAD SHALL BE BLOCKED OFF.
8. STONE SIZE PER ASTM C-33, SIZE #2 (2 $\frac{1}{2}$" TO 1 $\frac{1}{2}$") OR #3 (2" TO 1") STONE.
9. INDIVIDUAL INTERIOR LOT INGRESS/EGRESS CONSTRUCTION ACCESS SHALL HAVE # 3 (1" TO 2") STONE, MINIMUM 10' (L) X 10' (W) AND 6" THICK.

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0% TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200 FT
> 5%	ENTIRE SURFACE STABILIZED WITH HMA BASE COURSE, MIX I-2	

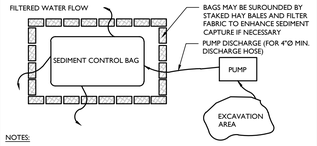
STABILIZED CONSTRUCTION ACCESS DETAIL

NOT TO SCALE 05/01/17



INLET PROTECTION (FILTER BAG) DETAIL

NOT TO SCALE 05/01/17

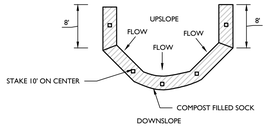


NOTES:

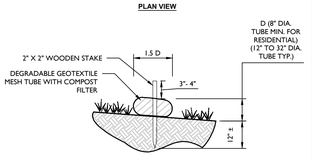
1. THE GEOTEXTILE SEDIMENT CONTROL BAG SHALL BE LOCATED TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND PEDESTRIAN TRAFFIC, AND PROVIDES FOR EASE OF ACCESS BY HEAVY EQUIPMENT, CLEANOUT, DISPOSAL OF TRAPPED SEDIMENT, AND PROPER RELEASE OF FILTER WATER.
2. THE FILTER BAG SHALL BE LOCATED MINIMUM 50 FEET AWAY FROM ALL WETLANDS, STREAM AND SURFACE WATERS.
3. THE BAG SHALL BE PLACED IN A LOCATION THAT IS VEGETATED THAT IS RELATIVELY LEVEL, OR ON A 2" THICK GRAVEL PAD, OR ON A 4" THICK STRAW MAT, TO ALLOW WATER TO FLOW OUT OF BAG IN ALL DIRECTIONS. AND PROPER RELEASE OF FILTER WATER.
4. BAG SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BASED ON THE PUMP DISCHARGE RATE. WHEN THE REMAINING BAG FLOW AREA HAS BEEN REDUCED BY 75%, REPLACE WITH A NEW BAG.
5. DISPOSE THE SEDIMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SPREAD THE SEDIMENT IN THE APPROPRIATE UPLAND AREA.

SEDIMENT CONTROL BAG FOR DEWATERING DETAIL

NOT TO SCALE 05/01/17



PLAN VIEW



SECTION

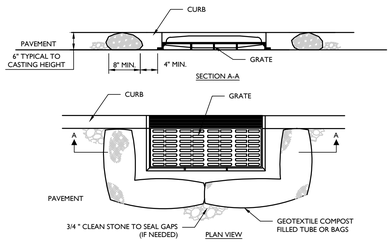
DIA. (in.)	SLOPE%						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	-	-
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
*Length in feet							

NOTES:

1. ALL MATERIAL TO MEET **FILTREXX SILTSOX** SPECIFICATIONS OR APPROVED EQUAL.
2. COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK DETAIL

NOT TO SCALE 05/01/17



NOTES:

1. GEOTEXTILE TO BE WOVEN POLYPROPYLENE PRODUCT, OR APPROVED EQUAL.
2. FILLER CORE MAY BE SAND, COMPOST, OR PEA GRAVEL COMPLETELY CONTAINED WITHIN GEOTEXTILE SEAMS, CLOSED BY SUITABLE MECHANICAL MEANS TO PREVENT LEAKAGE OF FILLER.
3. WHERE NO CURB IS PRESENT, BARRIER SHALL COMPLETELY ENCIRCLE THE DRAIN INLET.
4. INLET GRATE OPENING IS TO BE KEPT CLEAR OF OBSTRUCTIONS AT ALL TIMES.
5. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR/ 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.
6. OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
7. INSPECTIONS SHALL BE FREQUENT, MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARDS THE INLET HAS BEEN STABILIZED.

INLET PROTECTION (FILTER BARRIER) DETAIL

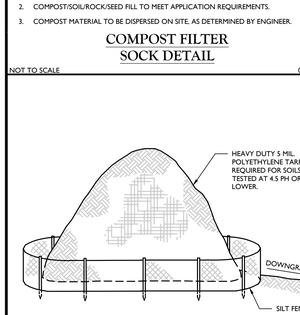
NOT TO SCALE 05/01/17

NOTES:

1. CONCRETE WASHOUTS ARE REQUIRED ON ALL CONSTRUCTION SITES INVOLVING CONCRETE AND STUCCO USE:
2. THE CONTRACTOR SHALL REQUIRE ALL CONCRETE DRIVERS TO UTILIZE THE CONCRETE WASHOUTS ONSITE.
3. WASHOUT FACILITIES SHALL BE LOCATED AT LEAST 50 YARDS AWAY FROM STORM SEWER DRAIN INLETS, GUTTERS, OPEN DITCHES, AND WATER COURSES.
4. APPROPRIATE STONE SHOULD COVER PATHS TO CONCRETE WASHOUT.
5. THE NUMBER OF CONCRETE WASHOUTS DEPENDS ON THE EXPECTED DEMAND FOR STORAGE CAPACITY. LARGE SITES WITH EXTENSIVE CONCRETE WORK SHALL BE PLACED AT MULTIPLE LOCATIONS FOR USE BY CONCRETE TRUCK DRIVERS.
6. CONCRETE WASHOUT AREAS SHALL BE IDENTIFIED BY POSTING SIGNS ONSITE.
7. CONCRETE WASHOUTS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR FOR LEAKS OR TEARS IN PLASTIC LINER.
8. REMOVE AND DISPOSE OF ALL MATERIAL WHEN THE WASHOUT HAS BEEN FILLED TO 75% CAPACITY.
9. PRIOR TO ANY RAINFALL, ALL CONCRETE WASHOUTS ARE TO BE CLEANED OUT OR COVERED.
10. ONCE THE MATERIAL HAS BEEN CLEANED OUT OF THE CONCRETE WASHOUT FACILITY, THE FACILITY MUST BE INSPECTED FOR REPAIR, RECONSTRUCTION OR REPLACEMENT. ALL PLASTIC LINING SHALL BE REMOVED AND REPLACED.
11. PRE-FABRICATED OR ONSITE FABRICATED CONCRETE WASHOUTS MAY BE USED.
12. OPTIONS FOR ONSITE CONCRETE WASHOUTS:
    - A. DIG A PIT AND LINE WITH 10 MIL PLASTIC SHEETING.
    - B. CREATE AN ABOVE-GROUND STRUCTURE FROM STRAW BALES OR SANDBAGS, WITH 10 MIL PLASTIC LINING.

CONCRETE WASHOUT NOTES

05/01/17

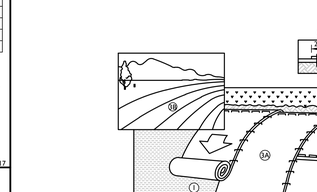


NOTES:

1. ALL STOCKPILES SHALL NOT TO BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY.

TOPSOIL STOCKPILE DETAIL

NOT TO SCALE 05/01/17



NOTES:

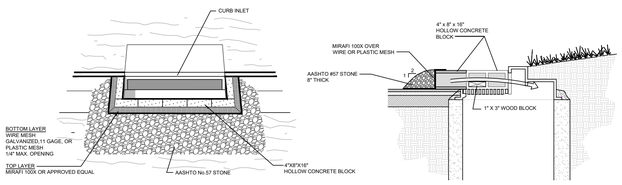
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
   - * WHEN USING MATTING WITH SEED, DO NOT SEED THE AREA. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP x 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECPS BACK OVER SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL THE RECPS (A.) DOWN OR (B.) HORIZONTALLY STEP BY STEP ACROSS THE SLOPE TAMPERING IT DOWN ALONG THE WAY. RECPS SHALL UNROLL WITH APPROPRIATE SIDE TIGHTLY AGAINST THE SOIL SURFACE. RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKESSHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECPS MUST BE STAKED WITH APPROXIMATELY 2" TO 5" OVERLAP DEPENDING ON RECPS TYPE.
5. CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.
   - * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECPS.

EROSION MATTING (CURLEX ENFORCER I) DETAIL

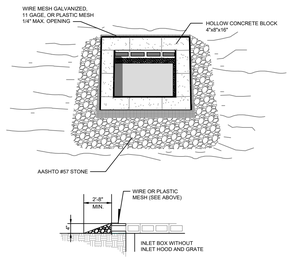
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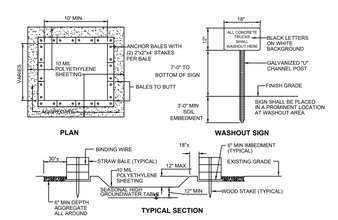
TRACKING DETAIL



STONE AND CONCRETE BLOCK INLET PROTECTION DETAIL CURBED DRIVE



STONE AND CONCRETE BLOCK INLET PROTECTION DETAIL



NOTES:

1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA DETAIL

EARTH DISTURBANCE REQUIREMENTS

ACCORDING TO THE NYSDEC SPDES GENERAL PERMIT GP-0-20-001 PART II.D.3, THE OWNER OR OPERATOR OF A CONSTRUCTION ACTIVITY SHALL NOT DISTURB GREATER THAN FIVE (5) ACRES OF SOIL AT ANY ONE TIME WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE DEPARTMENT OR, IN AREAS UNDER THE JURISDICTION OF A REGULATED, TRADITIONAL LAND USE CONTROL MS4, THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 (PROVIDED THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 IS NOT THE OWNER OR OPERATOR OF THE CONSTRUCTION ACTIVITY). AT A MINIMUM, THE OWNER OR OPERATOR MUST COMPLY WITH THE FOLLOWING REQUIREMENTS IN ORDER TO BE AUTHORIZED TO DISTURB GREATER THAN FIVE (5) ACRES OF SOIL AT ANY ONE TIME:

1. THE OWNER OR OPERATOR SHALL HAVE A QUALIFIED INSPECTOR CONDUCT AT LEAST TWO SITE INSPECTIONS IN ACCORDANCE WITH PART IV.C. OF THIS PERMIT EVERY SEVEN CALENDAR DAYS, FOR AS LONG AS GREATER THAN FIVE (5) ACRES OF SOIL REMAIN DISTURBED. THE TWO (2) INSPECTIONS SHALL BE SEPARATED BY A MINIMUM OF TWO FULL CALENDAR DAYS.
2. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN SEVEN (7) DAYS FROM THE DATE THE CURRENT SOIL DISTURBANCE ACTIVITY CEASED. THE SOIL STABILIZATION MEASURES SELECTED SHALL BE IN CONFORMANCE WITH THE TECHNICAL STANDARD, NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, DATED NOVEMBER 2016.
3. THE OWNER OR OPERATOR SHALL PREPARE A PHASING PLAN THAT DEFINES MAXIMUM DISTURBED AREA PER PHASE AND SHOWS REQUIRED CUTS AND FILLS.
4. THE OWNER OR OPERATOR SHALL INSTALL ANY ADDITIONAL SITE-SPECIFIC PRACTICES NEEDED TO PROTECT WATER QUALITY.
5. THE OWNER OR OPERATOR SHALL INCLUDE THE REQUIREMENTS ABOVE IN THEIR SWPPP.

GENERAL SEEDING NOTES

1. TEMPORARY SEEDING SHALL CONSIST OF PERENNIAL RYEGRASS APPLIED AT A RATE OF 1.0 LBS. PER 1000 SF OR SPRING OATS APPLIED AT A RATE OF 2.0 LBS. PER 1000 SF. TEMPORARY SEEDING SHALL BE MULCHED AND MAINTAINED UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH PERMANENT SEEDING.
2. PERMANENT SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - OPTIMUM SEEDING DATES ARE BETWEEN APRIL 1 AND MAY 31: AND AUGUST 16 AND OCTOBER 15.

MIXTURE -	HARD FESCUE	120 LBS/ACRE
	PERENNIAL RYE GRASS	30 LBS/ACRE
	KENTUCKY BLUE GRASS (BLEND)	40 LBS/ACRE

3. PERMANENT SEEDING TO BE APPLIED BY RAKING OR DRILLING INTO THE SOILS AT A RATE OF 150# PER ACRE, SLOPED AREA TO BE COVERED WITH MULCH AS INDICATED IN NOTE 5.
4. FERTILIZER FOR THE ESTABLISHMENT OF TEMPORARY AND PERMANENT VEGETATIVE COVER SHALL BE IN COMPLIANCE WITH THE LATEST NYSDEC REGULATIONS. A SOIL TEST PRIOR TO FERTILIZER APPLICATION IS RECOMMENDED.
5. IF SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY OR PERMANENT SEEDING, EXPOSED AREA TO BE STABILIZED WITH MULCH AS INDICATED IN NOTE 6.
6. MULCH TO CONSIST OF SMALL GRAIN STRAW OR SALT HAY ANCHORED WITH A WOOD AND FIBER MULCH BINDER OR AN APPROVED EQUAL. MULCH WILL BE SPREAD AT RATES OF 90 TO 115 LBS. PER 1000 SF AND ANCHORED WITH A MULCH ANCHORING TOOL OR LIQUID MULCH BINDER, AND SHALL BE PROVIDED ON ALL SEEDINGS. HYDROMULCH SHALL ONLY BE USED DURING OPTIMUM GROWING SEASONS.
7. WORK LIME AND FERTILIZER INTO SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
8. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
9. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

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REV	DATE	DRAWN BY	DESCRIPTION
1	06/21/00	BB	MINOR MDP REVISIONS
2	09/06/00	EVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	12/20/00	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/02	SVD	REVISED SITE LAYOUT AND ENGINEERING

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

PRELIMINARY/FINAL LAND DEVELOPMENT

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10 & 52.14

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
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COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

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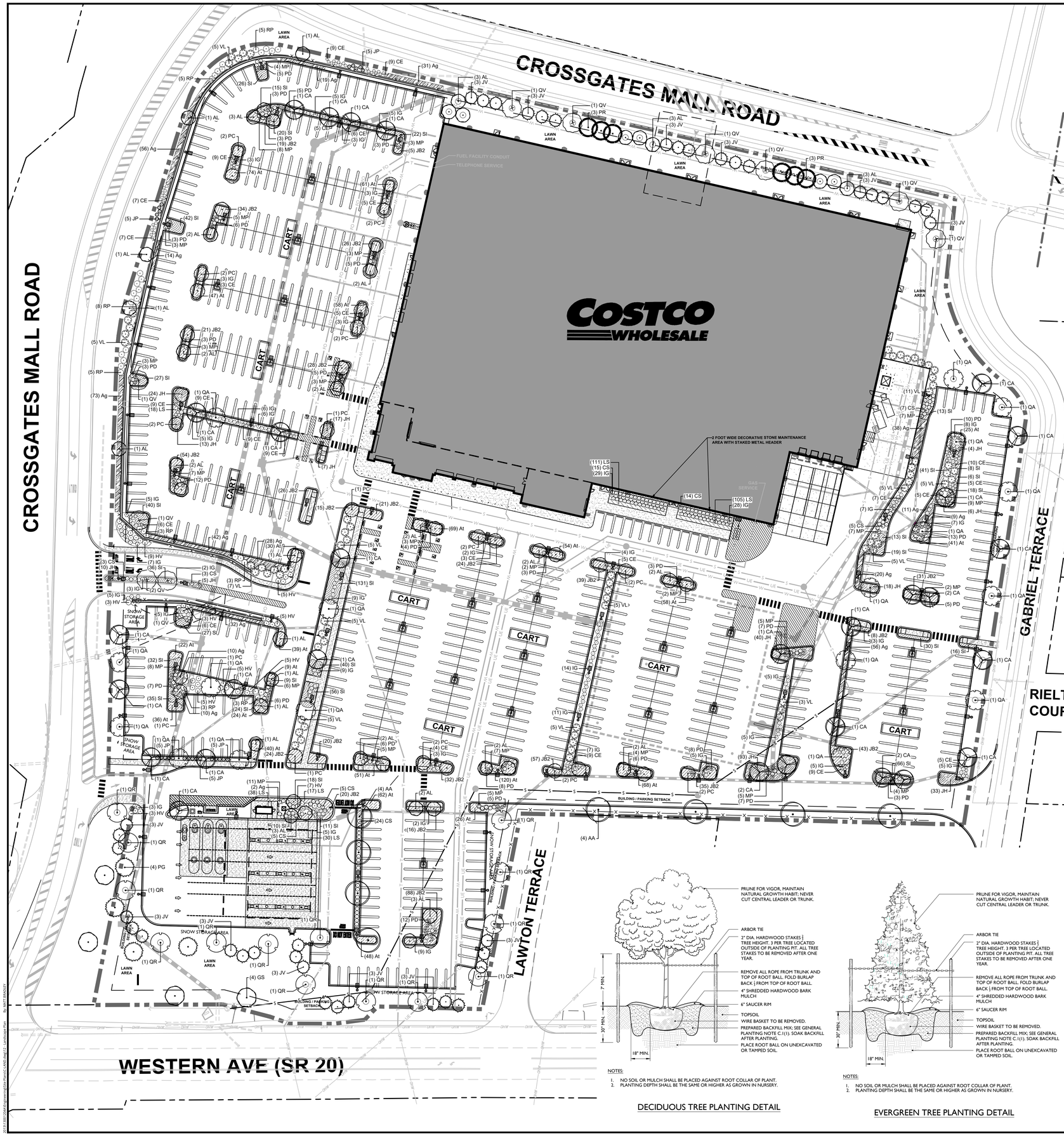
PROJECT NUMBER:	DRAWING NAME:
13001204A	C-SESC

SHEET TITLE:
EROSION CONTROL NOTES AND DETAILS

SHEET NUMBER:
11 of 21

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2013\13001204A\Engineering\Site Plan\ref SESC.dwg11, NOTES AND DETAILS, By: DIRKHORNE



GENERAL PLANTING NOTES

MOD: 05/05/22
LAND-GENL-PLNT-NOTE 10/14/2021

A. GENERAL

1. THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES AND STRUCTURES. NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES MARKOUTS AND COMPLIANCE WITH ALL FEDERAL, STATE, OR LOCAL CODES, LAWFUL ORDERS OR REGULATIONS GOVERNING UPON THIS WORK.
3. OWNER OR HIS/HER REPRESENTATIVE SHALL BE NOTIFIED PRIOR TO BEGINNING PLANTING OPERATIONS.

B. PLANT MATERIAL

1. PLANT MATERIAL
   1.1. PLANT MATERIAL SHALL CONFORM WITH THE ANSI Z60.1-2014 "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY AMERICAN HORT IN REGARD TO QUALITY, SIZE OF PLANTING, SPREAD OF ROOTS, SIZE OF ROOTBALL, AND BRANCHING PATTERN.
   1.2. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED BRANCHES, AND DENSE FOLIAGE. THEY SHALL HAVE VIGOROUS ROOT SYSTEMS, AND FREE FROM DISEASE, INJURY, DISEASE, AND/OR INFESTATION. WITH NO KNOTS OR SCARS.
   1.3. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AT THE NURSERY, THE PLANT MATERIAL SHALL BE PLANTED AT THE SAME LEVEL WHEN PLANTED.
   1.4. PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY TO THE SITE IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO PROTECT THE PLANT MATERIAL FROM DAMAGE PRIOR TO INSTALLATION.
   1.5. THE LANDSCAPE ARCHITECT OR OWNER SHALL HAVE THE RIGHT, AT ANY STAGE OF THE OPERATION, TO REJECT ANY AND ALL PLANT MATERIAL WHICH IN THEIR OPINION DOES NOT MEET THE REQUIREMENTS OF THESE PLANS.
2. PLANT QUANTITIES: THE LANDSCAPE PLAN SHOULD TAKE PRECEDENCE OVER THE PLANT SCHEDULE IF ANY PLANT DISCREPANCIES OCCUR.
3. PLANT SIZE: THE CONTRACTOR SHALL FURNISH PLANT MATERIAL IN THE CALIPER, HEIGHT, SIZE OR SPREAD INDICATED IN THE PLANT SCHEDULE.
4. SUBSTITUTIONS: NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES, OR VARIETY WITHOUT CONSENT/APPROVAL OF THE PLANNING/PLC LANDSCAPE ARCHITECT, OR OWNER. WRITTEN PROOF OF THE PLANT MATERIAL UNAVAILABILITY MUST BE DOCUMENTED BY THE CONTRACTOR.
5. GUARANTEE: ALL PLANT MATERIAL SHALL BE GUARANTEED FOR **ONE** (1) **YEAR** AFTER THE DATE OF FINAL ACCEPTANCE. ANY PLANT MATERIAL THAT IS DEAD WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING STUMP, AND REPLACED WITH A SIMILAR SIZE AND SPECIES AT THE EXPENSE OF THE CONTRACTOR WITHIN **ONE YEAR OR ONE** GROWING SEASON. TREE STAKES AND ARBOR TIES SHALL BE REMOVED AT THE END OF THE GUARANTEE PERIOD.

C. TOPSOIL REQUIREMENTS

1. TOPSOIL REQUIREMENTS: SEE NDOT SECTION 917 FOR REFERENCE AND SOIL ADDITIVES.
   1.1. UNACCEPTABLE TOPSOIL SOURCES: DO NOT OBTAIN TOPSOIL FROM THE FOLLOWING SOURCES: AREAS CONTAINING CHEMICALLY CONTAMINATED SOILS; AREAS FROM WHICH THE ORIGINAL SURFACE HAS BEEN STRIPPED OR COVERED OVER, SUCH AS BORROW PITS, OPEN PANS, DEPOSITION SITES, DUMPS, LANDFILLS. NO TOPSOIL FROM WET EXCAVATION OR ACID PRODUCING SOILS.
   1.2. TOPSOIL SHALL BE UNIFORM QUALITY, FREE FROM HARD CLODS, STIFF CLAY, HARD PAN, SODS, LARGE STONE, CEMENT, ASH, CINDERS, TRASH, WEEDS, LITTER, BRUSH, ROOTS, TOXIC MATERIALS, OR ANY OTHER UNDESIRABLE MATERIALS. NO TOPSOIL SHALL BE DELIVERED IN A FROZEN OR MUDDY CONDITION.
   1.3. TOPSOIL PH REQUIREMENTS ARE AS FOLLOWS: PH < 4.1 TOPSOIL IS UNACCEPTABLE. 4.1 < PH < 6.8 ADD PULVERIZED LIME TO INCREASE THE PH TO 6.5 BEFORE USE. 6.8 < PH < 7.9 TOPSOIL IS ACCEPTABLE. NO REMEDIATION NEEDED. 7.9 < PH < 7.2 DECREASE PH TO AT LEAST 6.8 BEFORE USE. PH > 7.2 TOPSOIL IS UNACCEPTABLE.
   1.4. ORGANIC CONTENT: ENSURE THAT TOPSOIL HAS A MINIMUM ORGANIC CONTENT OF 2.75% BY WEIGHT. IF THE ORGANIC CONTENT IS LESS THAN 2.75%, ADD ORGANIC MATERIAL SUCH AS COMPOST, PEAT MOSS, OR MANURE IN ORDER TO ATTAIN THE MINIMUM ORGANIC CONTENT. THE ORGANIC CONTENT SHALL NOT EXCEED 8% BY WEIGHT AND SHALL BE SAMPLED IN ACCORDANCE WITH THE ASSOCIATION OF AGRICULTURAL CHEMISTS.
   1.5. GRADATION/PARTICLE SIZE: PROVIDE TOPSOIL CONFORMING TO THE PARTICLE SIZE REQUIREMENTS IN TABLE N17.01-2 AND THAT HAS NO MORE THAN 20 PERCENT RETAINED ON A NO. 10 SIEVE WHEN MECHANICALLY GRADED. THE DEPARTMENT WILL DETERMINE THE PARTICLE SIZE DISTRIBUTION FOR THE PORTION OF THE TOPSOIL PASSING THE NO. 10 SIEVE USING HYDROMETER ANALYSIS ACCORDING TO AASHTO T 88. SAND: (2.0 MM TO 0.05 MM) 40 - 80% COMPOSITION. SILT: (0.05 MM TO 0.005 MM) 5 - 30% COMPOSITION. CLAY: (0.005 MM AND SMALLER) 10 - 35% COMPOSITION.

2. PREPARATION OF SUBGRADE:
   2.1. HOLLOWS, DEPRESSIONS, AND GULLIES SHALL BE FILLED WITH ACCEPTABLE SANDY LOAM AS OUTLINED ABOVE OR SOIL AS DESCRIBED HEREON. SOIL TO BE ONE PART EACH OF TOPSOIL, MOISTENED PEAT MOSS, AND PARENT MATERIAL.
   2.2. LOOSEN SUBSOIL BY SCARIFYING, RIPPING OR TILLING USING DISCS, HARROWS OR OTHER SUITABLE EQUIPMENT TO A DEPTH OF 4-6" IMMEDIATELY BEFORE PLACING ANY TOPSOIL. REPEAT IN AREAS WHERE SEED OR PLANTINGS ARE PROPOSED AND THERE HAS BEEN COMPACTED SOIL.
3. TESTING AND APPROVAL OF SOILS
   3.1. THE CONTRACTOR SHALL SUBMIT A CERTIFIED REPORT SHOWING THE ANALYSIS OF REPRESENTATIVE SAMPLES OF TOPSOIL. TESTING SHALL BE PERFORMED BY PLTCSRS (COOPERATIVE RESEARCH & EXTENSION TESTING LABORATORIES OR EQUIVALENT AS APPROVED BY STATE AND LOCAL REGULATIONS). PHLCC BIO SHALL INCLUDE ALL INSPECTION AND LABORATORY FEES.

D. PLANTING PROCEDURES

1. PLANTING BEDS
   1.1. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH SOILS AS OUTLINED IN SECTION B ABOVE. BACKFILL SOIL TO BE AT MINIMUM ONE PART EACH OF TOPSOIL, MOISTENED PEAT MOSS, AND PARENT MATERIAL.
   1.2. PLANTING BEDS SHALL RECEIVE FOUR (4) INCHES OF DOUBLE SHREDDED HARDWOOD MULCH AND TREATED WITH A PREEMERGENT HERBICIDE. NO MULCH SHALL COME IN DIRECT CONTACT WITH ROOT FLARE/COLLAR. UNDER NO CIRCUMSTANCES SHALL THE ROOT CROWN BE BURIED.
   1.3. SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS PREPARED BEDS.
2. PLANT LOCATIONS: THE LOCATION OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BEDLINES SHALL BE DETERMINED IN THE FIELD AT THE TIME OF PLANTING. PLANTING SHALL BE WITHIN THE BASIC INTENT OF THE APPROVED PLANS, UNLESS THERE IS A SPECIFIC DIMINSION OR LOCATION SHOWN.
3. PLANTING DATES: PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICES. PLANTING SEASONS ARE DEFINED AS MARCH 15 THROUGH MAY 15 AND SEPT 15 THROUGH NOV 15. PLANTING IS ACCEPTABLE DURING THE WINTER MONTHS IF WEATHER PERMITS AND THE GROUND IS NOT FROZEN, AND IN THE SUMMER IF SUPPLEMENTAL WATERING IS PROVIDED. SOIL MUST BE FROST FREE, FRIABLE AND NOT MUDDY AT TIME OF PLANTING.
4. PLANTING METHODS
   4.1. TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING. PLANT MATERIAL SHALL BE PROPERLY GUYED, STAKED, AND PLANTED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS.
      4.1.1. STAKES SHALL BE EIGHT TO TEN FEET LONG, OF SOUND, DURABLE UNFINISHED LUMBER CAPABLE OF WITHSTANDING ABOVEGROUND AND UNDERGROUND CONDITIONS DURING THE PERIOD OF GUARANTEE WITH TOP AND BOTTOM DIMENSIONS OF TWO INCHES BY TWO INCHES IN DIAMETER.
      4.1.2. THREE STAKES SHALL BE EQUALLY SPACED ABOUT THE TREE IN A TRIANGULAR FASHION AND SHALL BE DRIVEN VERTICALLY INTO THE GROUND 2 1/2 TO 3 FEET IN A MANNER THAT DOES NOT INJURE THE ROOT BALL.
      4.1.3. TREES SHALL BE FASTENED TO EACH STAKE AT A HEIGHT OF FIVE FEET BY MEANS OF ARBOR TIE TREE TIE 36" WIDE RECOMMENDED FOR TREES UP TO 3 INCHES IN CALIPER.
   4.2. SET PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT AFTER SETTLEMENT A NORMAL OR NATURAL RELATIONSHIP OF THE CROWN OF THE PLANT WITH THE GROUND SURFACE SHALL BE ESTABLISHED. LOCATE PLANTS IN CENTER OF PIT.
   4.3. AT TIME OF INSTALLATION, THE CONTRACTOR SHALL WATER NEWLY INSTALLED PLANT MATERIAL. THE CONTRACTOR SHALL PROVIDE REGULAR WATERING TO ENSURE THE ESTABLISHMENT, GROWTH, AND SURVIVAL OF ALL PLANTS.
   4.4. B&B PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOTBALL ONLY. PLANTS WITH BROKEN, SPLIT, OR DAMAGED ROOTBALLS SHALL BE REJECTED.
   4.5. CORD BINDING OF ALL B&B PLANTS SHALL BE CUT AND REMOVED, ALONG WITH THE BURLAP OF THE UPPER 1/3 OF THE ROOT BALL. ALL WIRE BASKETS ARE TO BE REMOVED PRIOR TO BACKFILLING PLANTING PIT.

E. MAINTENANCE

1. PRUNING
   1.1. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL DEAD WOOD OR SUCKERS AND ALL BROKEN OR BADLY BRUISED BRANCHES SHALL BE REMOVED. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
   1.2. SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. PLANT MATERIAL LOCATED WITHIN SIGHT TRIANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT CURB. STREET TREES PLANTED IN SIGHT TRIANGLE EASEMENTS SHALL BE PRUNED TO NOT TO HAVE BRANCHES BELOW 7'-0".
   1.3. THE CENTRAL LEADER SHALL NOT BE CUT OR DAMAGED.
2. LAWN AREAS
   2.1. THE LANDSCAPE CONTRACTOR SHALL TEST THE SOIL TO CONFIRM SUITABILITY FOR THE PROPOSED SEED MIX AND SUPPLEMENT AS REQUIRED TO MEET THE REQUIRED PH & NUTRIENT LEVELS.
   2.2. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED UNLESS OTHERWISE INDICATED ON THE LANDSCAPE PLANS. SEED SHALL BE IN ACCORDANCE WITH THE LAWN SEED MIX NOTED AND THE SOIL EROSION AND SEDIMENT CONTROL DISTRICT'S SEED SPECIFICATIONS AS NOTED ON THE SOIL EROSION AND SEDIMENT CONTROL DETAILS SHEET.
   2.3. SOD, IF SPECIFIED, SHALL CONSIST OF A STATE CERTIFIED MIXTURE. ALL DISTURBED AREAS INDICATED AS LAWN OR SOD SHALL BE TOPSOILED, LIMED, AND FERTILIZED & PINE GRADED PRIOR TO LAWN INSTALLATION.
3. EXISTING VEGETATION: EXISTING TREES AND SHRUB TO BE PRESERVED ON SITE SHALL BE PROTECTED AGAINST CONSTRUCTION DAMAGE BY SNOW FENCING. FENCING SHALL BE PLACED OUTSIDE THE INDIVIDUAL TREE CANOPY. TREES TO REMAIN SHALL BE IDENTIFIED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION, GRADING, OR CLEARING. EXISTING VEGETATION BEING REMOVED ALONG THE EDGE OF THE NEW TREELINE SHALL BE PRUNED AND TRIMMED TO REMOVE ALL DEAD, DAMAGED, OR DISEASED BRANCHES.
4. SITE CLEANUP: PLANTING DEBRIS (WIRE, TWINE, RUBBERHOSE, BACKFILL, ETC.) SHALL BE REMOVED FROM THE SITE AFTER PLANTING IS COMPLETE. THE PROPERTY IS TO BE LEFT IN A NEAT, ORDERLY CONDITION IN ACCORDANCE WITH ACCEPTED PLANTING PRACTICES.

PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE
AA	4	Acer rubrum 'Autumn Blaze'	Autumn Blaze Red Maple	B & B	2.5"Cal
AL	52	Amelanchier laevis	Allegheny Serviceberry	B & B	1.5"Cal
CA	29	Carpinus caroliniana	American Hornbeam	B & B	2.5"Cal
GS	4	Gleditsia triacanthos 'Skyline'	Skyline Honey Locust	B & B	2.5"Cal
PC	25	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	B & B	2"Cal
QA	14	Quercus alba	White Oak	B & B	2.5"Cal
QR	14	Quercus rubra	Red Oak	B & B	2.5"Cal
QV	11	Quercus velutina	Black Oak	B & B	2.5"Cal

EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE
JV	59	Juniperus virginiana	Eastern Redcedar	B & B	6' - 7' Ht.
PG	4	Picea glauca	White Spruce	B & B	6' - 7' Ht.
PR	6	Picea rigida	Pitch Pine	B & B	6-7' Ht.

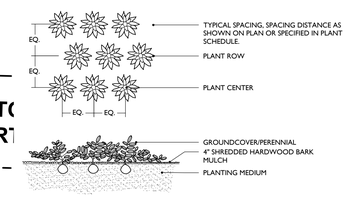
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING
JH	25	Juniperus x pfitzeriana 'Sea Green'	Sea Green Juniper	5 gal	24" - 30" Ht.	48" o.c.
RP	35	Rosa carolina	Carolina Rose	5 gal	24" - 30" Ht.	72" o.c.
VL	71	Viburnum lentago	Nannyberry	B & B	30" - 36" Ht.	96" o.c.

DECIDUOUS SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING
CE	178	Clalendfrus americatus	New Jersey Tea	5 gal	24" - 30" Ht.	36" o.c.
CS	81	Cornus sericea 'Isanti'	Isanti Red Twig Dogwood	5 gal	24" - 30" Ht.	48" o.c.
HV	51	Hamamelis virginiana	Common Witch Hazel	5 gal	24" - 30" Ht.	60" o.c.
PD	169	Potentilla fruticosa 'Starucica'	Prairie Snow™ Bush Cinquefoil	5 gal	24" - 30" Ht.	36" o.c.

EVERGREEN SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING
IG	204	Ilex glabra 'Shamrock'	Inkberry	7 gal	24" - 30" Ht.	48" o.c.
MP	134	Myrica pensylvanica	Northern Bayberry	7 gal	24" - 30" Ht.	48" o.c.

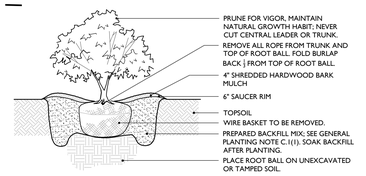
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	CONT
	1,062	Asclepias tuberosa	Butterfly Milkweed	1 gal
	686	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	2 gal
	270	Juniperus horizontalis 'Emerald Spreader'	Emerald Spreader Juniper	2 gal
	319	Liriope spicata	Creeping Lily Turf	1 gal

ORNAMENTAL GRASSES	QTY	BOTANICAL NAME	COMMON NAME	CONT
	451	Andropogon gerardii	Big Bluestem	3 gal
	851	Schizachyrium scoparium	Little Bluestem	3 gal



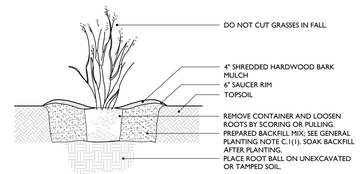
NOTES:
1. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

GROUNDCOVER/PERENNIAL PLANTING DETAIL



NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

SHRUB PLANTING DETAIL



NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

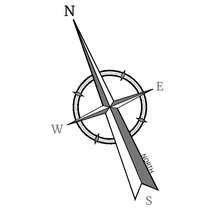
ORNAMENTAL GRASS PLANTING DETAIL

NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

DECIDUOUS TREE PLANTING DETAIL

NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

EVERGREEN TREE PLANTING DETAIL



SCALE : 1" = 40'

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2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-

REV	DATE	DRAWN BY	DESCRIPTION
1	10/27/20	DB	MINOR ROOT RESPONS
2	12/08/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	12/23/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	02/18/21	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/10/21	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
6	04/19/21	DB	REVISED PER TOWN OF GUILDERLAND COMMENTS DATED 04/05/21

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
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PROJECT NUMBER:	DRAWING NAME:
13001204A	C-LAND

SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
12 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2019.13001204A\Engineering\Exton Plan\C-LAND.dwg\C-LandscapePlan By:MATT BRADLEY

16'-0" STATISTICS

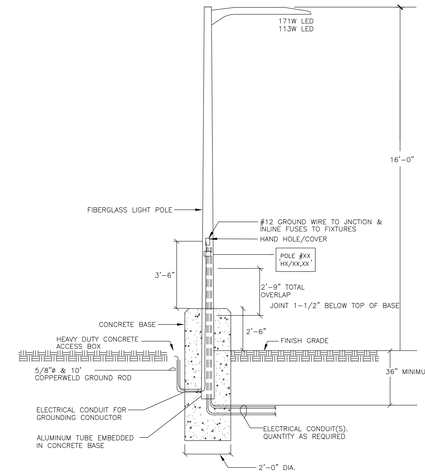
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132 POLES
132 FIXTURES

0.8 LLF

FIXTURE DESCRIPTION

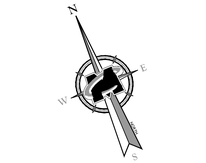
P	COOPER GALLEON GLEON-SA-4A-740-U-5WQ-BZ, 129W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 16'-0" ABOVE GRADE, WITH 2'-6" BASE.
P1	COOPER GALLEON GLEON-SA-4A-740-U-5NQ-BZ, 129W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 16'-0" ABOVE GRADE, WITH 2'-6" BASE.
P2	COOPER GALLEON GLEON-SA-2B-740-U-5NQ-BZ, 85W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 16'-0" ABOVE GRADE, WITH 2'-6" BASE.
P3	COOPER GALLEON GLEON-SA-2B-740-U-SL3-HSS-BZ, 85W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 16'-0" ABOVE GRADE, WITH 2'-6" BASE.
P4	COOPER GALLEON GLEON-SA-4A-740-U-SL4-HSS-BZ, 85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 16'-0" ABOVE GRADE, WITH 2'-6" BASE.
W	LITHONIA DSXW2 LED 30K 30C 1000 T2M, 109W LED, 18' MOUNTING HEIGHT
W1	LITHONIA DSXW2 LED 30K 30C 1000 T4M, 109W LED, 18' MOUNTING HEIGHT
W2	LITHONIA DSXW2 LED 30K 30C 530 TFTM, 54W LED, 18' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



NOTE: PROVIDE CONCRETE J-BOX AS REQUIRED.
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SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL

SCALE: NTS



40 0 40 80

SCALE : 1" = 40'

LIGHTING PLAN PREPARED BY T.E., INC FOR BIDDING AND ADDITIONAL INFORMATION PLEASE CONTACT:

T.E., INC.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE# (425) 970-3753
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LOCATION OF ALL UTILITY SERVICE CONNECTIONS TO BE COORDINATED WITH THE UTILITY SERVICE PROVIDER

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/07/20	DB	MINOR NOTE REVISIONS
2	09/02/20	JWD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	12/02/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED PER TOWN OF GUILDERLAND
5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER - LICENSE NUMBER: PE60408

SPECIAL USE PERMIT SITE PLANS

FOR

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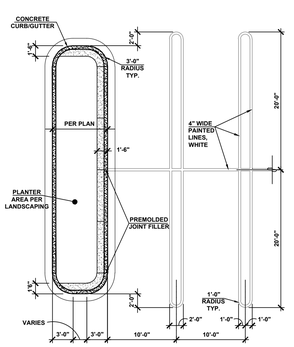
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AS SHOWN	10/28/19	DB	RTH

PROJECT NUMBER: 13001204A
DRAWING NAME: C-LGHT

SHEET TITLE: LIGHTING PLAN

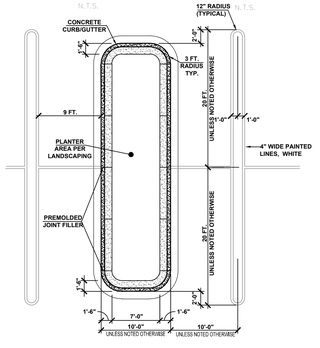
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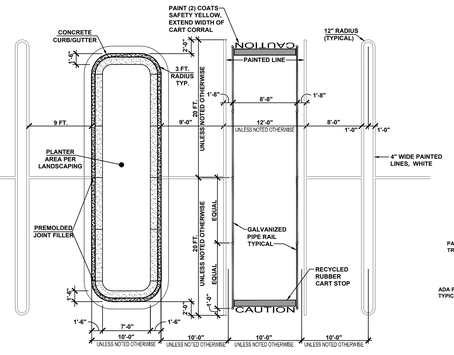
END ISLAND CURBS

N.T.S.



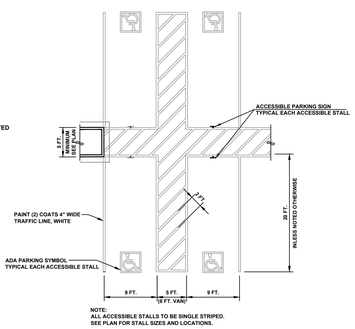
MIDDLE ISLAND

N.T.S.



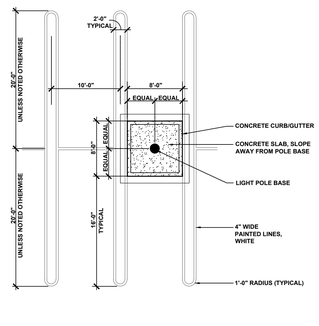
MIDDLE ISLAND AT CART CORRAL

N.T.S.



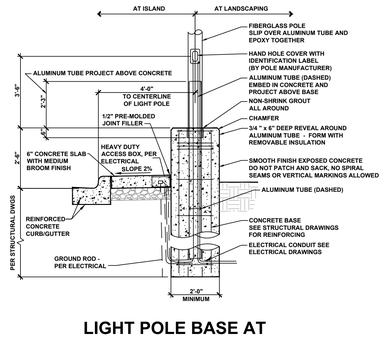
ACCESSIBLE PARKING STALLS

N.T.S.



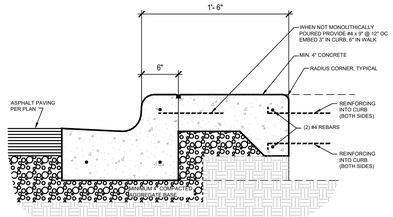
ISLAND AT LIGHT POLE BASE

N.T.S.



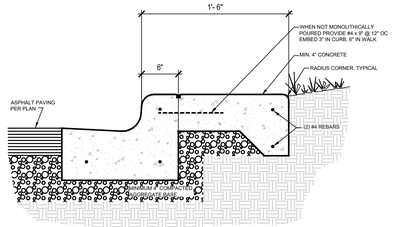
LIGHT POLE BASE AT CONCRETE ISLAND/LANDSCAPING

N.T.S.



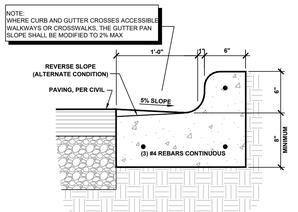
CONCRETE CURB AND GUTTER AT ISLAND END

N.T.S.



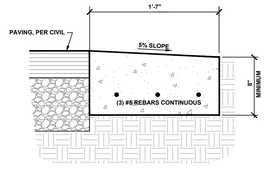
CONCRETE CURB AND GUTTER AT ISLAND WALK

N.T.S.



CONCRETE CURB AND GUTTER

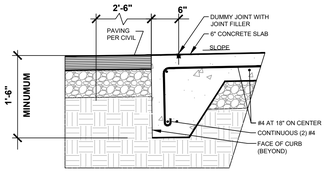
N.T.S.



FLUSH CURB DETAIL

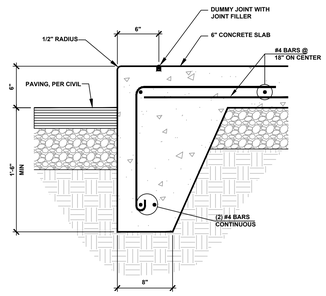
N.T.S.

NOTE:
1/2 " PRE-MOLDED JOINT FILLER AT 25 FT. ON CENTER (MAXIMUM) AND AT START AND FINISH OF ALL CURVED SECTIONS



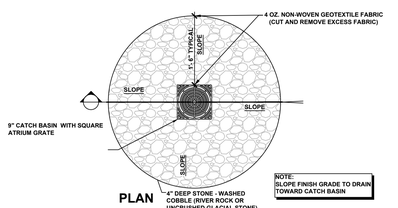
FLUSH CURB AT PAVEMENT

N.T.S.

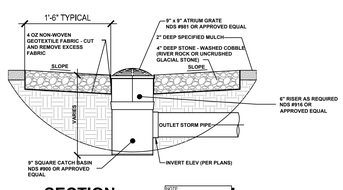


EDGE OF SIDEWALK AT PAVEMENT

N.T.S.



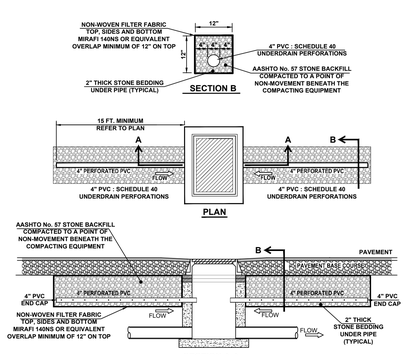
PLAN



SECTION

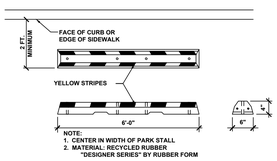
LANDSCAPE STORM DRAIN

N.T.S.



INLET UNDERDRAIN DETAIL

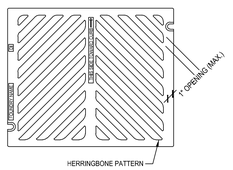
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WHEEL STOP

COSTCO DETAIL 13.5

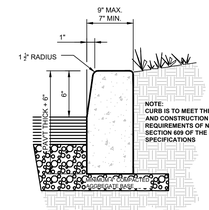
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STORM DRAIN GRATE

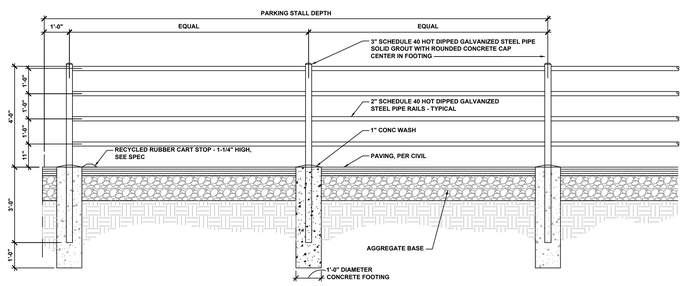
N.T.S.

FOR STORM STRUCTURE DETAILS, REFER TO NYSDOT STANDARD DETAILS



NYDOT TYPE VF150 CAST-IN-PLACE CONCRETE CURB

N.T.S.



CART STORAGE

N.T.S.

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/27/23	DB	MINOR NOTE REVISIONS
2	07/03/23	SXD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/25/23	KMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	06/20/22	SXD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	01/15/24	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
-	-	-	-
-	-	-	-
-	-	-	-

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
Exton, PA 19341
Phone: 610.254.9140
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIII	RTM

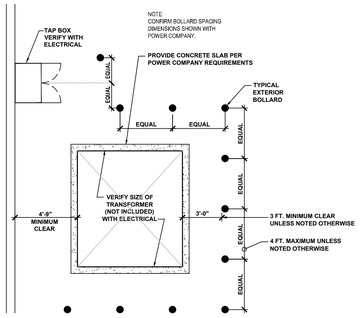
PROJECT NUMBER: 13001204A
DRAWING NAME: C-DTLS

SHEET TITLE: COSTCO DETAILS

SHEET NUMBER: 14 of 22

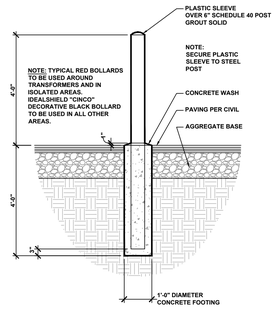
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2023\13001204A\Engineering\Dwg Files\C-DTLS.dwg(C-DTLS) By: KDNAUFER



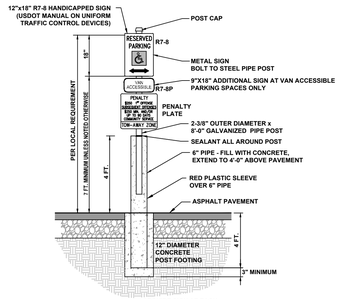
BOLLARDS AT TRANSFORMER

N.T.S.



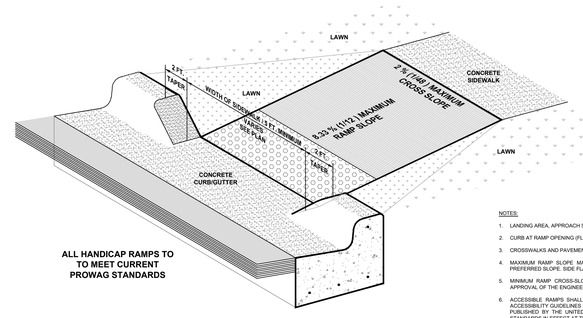
TYPICAL EXTERIOR BOLLARD

N.T.S.



ADA ACCESSIBLE PARKING SIGN

N.T.S.

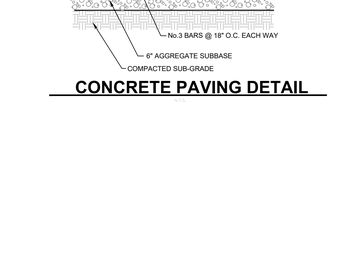


HANDICAP RAMP DETAIL AT CONCRETE CURB/GUTTER

NOT TO SCALE

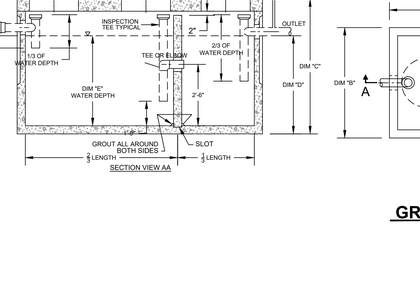
NOTES:

1. LANDING AREA, APPROACH SIDEWALK TRANSITIONS AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
2. CURB AT RAMP OPENING (FLUSH CURB) TO BE FLUSH WITH ROADWAY PAVEMENT.
3. CROSSWALKS AND PAVEMENT MARKINGS TO BE INSTALLED AS DENOTED ON SITE PLAN.
4. MAXIMUM RAMP SLOPE MAY BE 12H:1V UPON APPROVAL OF ENGINEER. RAMP SLOPES SHOWN ARE THE PREFERRED SLOPE. SIDE FLARE SLOPES MAY BE 10H:1V UPON APPROVAL OF THE ENGINEER.
5. MINIMUM RAMP CROSS-SLOPE SHALL BE 0.50%. THE MAXIMUM RAMP CROSS-SLOPE MAY BE 2.00% UPON APPROVAL OF THE ENGINEER.
6. ACCESSIBLE RAMPS SHALL BE INSTALLED PURSUANT WITH THE CURRENT UNITED STATES ACCESS BOARD ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES AND THE ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE AND OTHER APPLICABLE LOCAL AND STATE STANDARDS IN EFFECT AT THE DATE OF CONSTRUCTION.
7. THE RAMP SURFACE SHALL HAVE A NON-SLIP, HAND BROOMED FINISH.
8. CONCRETE EXPANSION JOINTS SHALL HAVE A FIRM SURFACE WITH 1/4" BEVELED CONCRETE EDGES. THE JOINT SURFACE SHALL NOT BE MORE THAN 1/4" BELOW THE ADJOINING CONCRETE SURFACE.
9. THE CLEAR SPACE SHALL BE INCREASED TO 5 FEET WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF THE SIDEWALK.
10. THE MAXIMUM SEPARATION BETWEEN THE BACK OF CURB AND DETECTABLE WARNING SURFACE SHALL NOT EXCEED 5 FEET. THE MAXIMUM SEPARATION AREA MAY BE WITHIN THE 4' X 4' CLEAR ZONE.
11. SEE SEPARATE DETAILS FOR "DETECTABLE WARNING SURFACE" AND "CURB RAMP SECTIONS".
12. WHERE SIDE FLARES ARE NOT REQUIRED, PROVIDE AN 24" CURB TAPER TO THE FLUSH CURB.



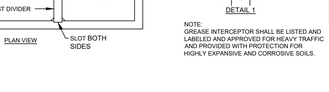
TEMPORARY EDGE OF PAVEMENT

N.T.S.

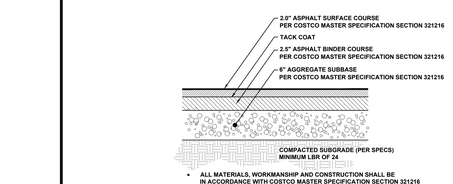


ON-SITE WALKS (EXCEPT AT ENTRY CANOPY)

N.T.S.



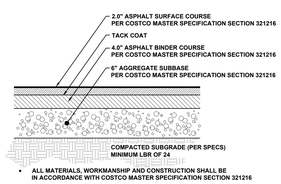
CONCRETE SIDEWALK DETAIL



- ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH COSTCO MASTER SPECIFICATION SECTION 321216
- ASPHALT MIXES SHOULD USE PERFORMANCE GRADE BINDER OIL:
  - 0 TO 20% RAP : PG 64-22
  - 20% TO 30% RAP : PG 58-28
- REFER TO GEOTECHNICAL REPORT PREPARED BY MASER CONSULTING P.A.

ASPHALT PAVEMENT SECTION STANDARD DUTY

N.T.S.

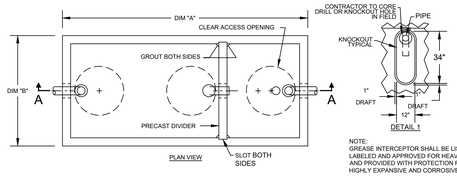


- ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH COSTCO MASTER SPECIFICATION SECTION 321216
- ASPHALT MIXES SHOULD USE PERFORMANCE GRADE BINDER OIL:
  - 0 TO 20% RAP : PG 64-22
  - 20% TO 30% RAP : PG 58-28
- REFER TO GEOTECHNICAL REPORT PREPARED BY MASER CONSULTING P.A.

ASPHALT PAVEMENT SECTION HEAVY DUTY

N.T.S.

CONCRETE PAVING DETAIL



NOTES:
1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH F'C = 4500 PSI
2. REBAR: ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI-318-02 BUILDING CODE
   ASTM C-857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES"
5. LOADS: H-20 TRUCK WHEEL W/ 30% IMPACT PER AASHTO
6. FILL W/ CLEAN WATER PRIOR TO START-UP OF SYSTEM
7. CONTRACTOR TO SUPPLY & INSTALL ALL PIPING & SAMPLING TEES
8. GREY WATER ONLY. BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER
9. INTERCEPTOR SHALL BE APPROVED BY ALL AUTHORITIES HAVING JURISDICTION AND SHALL BE PDI APPROVED.

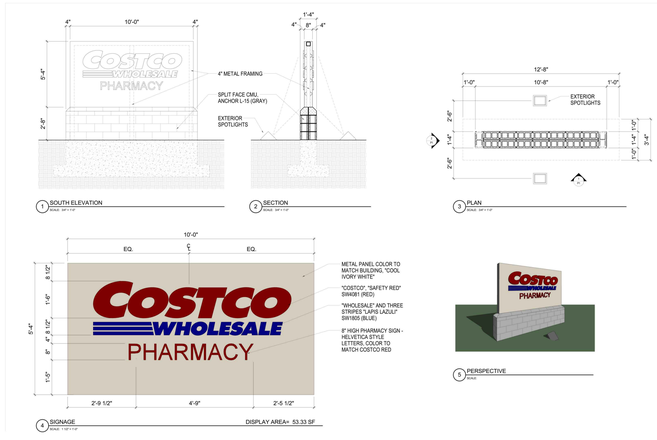
GALLON CAPACITY	1500
UV CO. MODEL NO.	5106-GA
DIM "A"	11'-2"
DIM "B"	5'-8"
DIM "C"	7'-2"
DIM "D"	4'-3"
WATER DEPTH DIM "E"	2'-11"

NOTE:
GREASE INTERCEPTOR SHALL BE LISTED AND LABELED AND APPROVED FOR HEAVY TRAFFIC AND PROVIDED WITH PROTECTION FOR HIGHLY EXPANSIVE AND CORROSIVE SOILS.

SEWER

MANHOLE COVERS SHALL BE LABELED "SEWER"

GREASE INTERCEPTOR DETAIL



MONUMENT SIGN DETAIL

N.T.S.

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/27/23	DB	MINOR REVIR RESPONS
2	07/03/23	SWD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/25/23	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/23	SWD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	01/15/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
-	-	-	-

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
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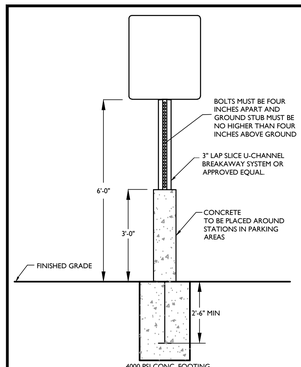
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIII	RTM

PROJECT NUMBER: 13001204A
DRAWING NAME: C-DTLS

SHEET TITLE:
ADDITIONAL COSTCO DETAILS

SHEET NUMBER:
15 of 22

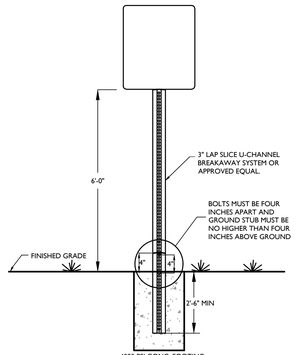
20231003 20240 Engineering\Dwg\Revised CITY\Layout\L - COSTCO DETAILS.dwg By: RACHAEL WE



ALL SIGNS SHALL CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST, REVISION AND CURRENT MUNICIPAL SPECIFICATIONS FOR COLOR, DESIGN AND EXACT WORDING.

CONCRETE ENCASED POST DETAIL

N.T.S.



ALL SIGNS SHALL CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST, REVISION AND CURRENT MUNICIPAL SPECIFICATIONS FOR COLOR, DESIGN AND EXACT WORDING.

BREAKAWAY SIGN POST DETAIL (SIGNS IN GRASS AREA)

N.T.S.



NOTES:
1. SIGN COLORS TO BE IN ACCORDANCE WITH CURRENT ADA STANDARDS.
2. ONE VAN ACCESSIBLE SIGN TO BE INCLUDED AT EACH ADA PARKING AREA.

SIGN FOR ACCESSIBLE PARKING SPACE

N.T.S.



STOP SIGN (R1-1, 30"X30")

N.T.S.



30"x 30"

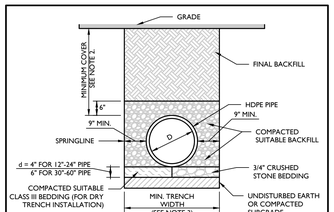
DO NOT ENTER SIGN (R5-1)

N.T.S.

NOTES:
1. A PREFORMED, BITUMINOUS EXPANSION JOINT 1/2" THICK, 4" WIDE, AND EXTENDING THE FULL WIDTH OF THE WALK, UNBROKEN, SHALL BE INSTALLED EVERY 20 FEET. CONTRACTION JOINTS SHALL BE INSTALLED EVERY 5 FEET (MAX.) THE FULL WALK WIDTH.
2. THERE SHALL BE A BROOM FINISH WITH THE EDGES FINISHED WITH A SUITABLE TOOL.
3. DIMENSIONS SHOWN AS VARIABLE SHALL BE CONFIRMED BY THE ENGINEER.
4. ALL CONCRETE WALKWAYS TO BE CONSTRUCTED PER LATEST ADA REQUIREMENTS.

OFF-SITE CONCRETE SIDEWALK

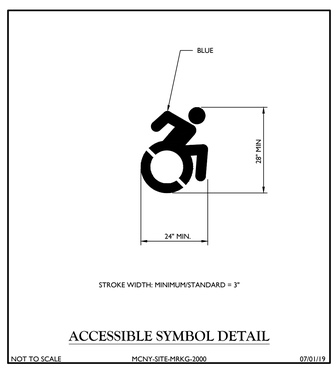
N.T.S.



NOTES:
1. ALL PIPE SYSTEMS AND BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
2. MINIMUM COVER FOR HDPE PIPES IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR UP TO 60" DIAMETER PIPE. PIPE COVER IS MEASURED FROM TOP OF PIPE TO THE BOTTOM OF FLEXIBLE PAVEMENT, OR TO THE TOP OF RIGID PAVEMENT, OR TO THE GROUND SURFACE.
3. MINIMUM TRENCH WIDTH PER MANUFACTURER'S RECOMMENDATIONS.

HDPE STORM PIPE BEDDING DETAIL

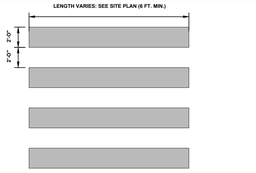
NOT TO SCALE MCNJ-UTIL-STRM-2302 05/01/17



STROKE WIDTH: MINIMUM/STANDARD = 3"

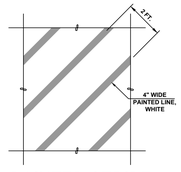
ACCESSIBLE SYMBOL DETAIL

NOT TO SCALE MCNY-SITE-MRKG-2000 07/01/19



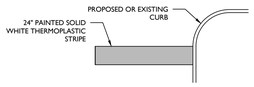
CROSS WALK STRIPING DETIAL

N.T.S.



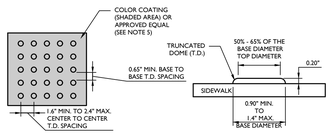
PAINTED STRIPE

N.T.S.



TYPICAL STOP BAR DETAIL

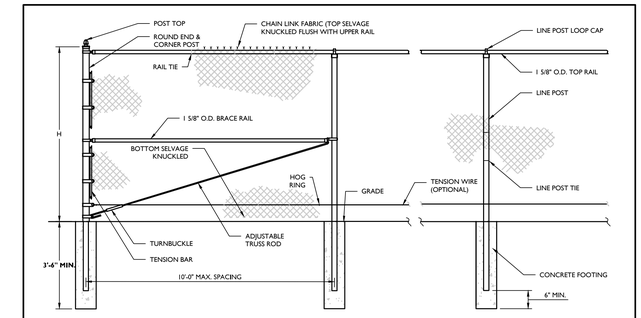
N.T.S.



NOTES:
1. THE DETECTABLE WARNING SURFACE SHALL BE MANUFACTURED MATS THAT ARE EMBEDDED AND CAST-IN-PLACE IN THE CONCRETE.
2. IN LIEU OF A CAST IN PLACE DETECTABLE WARNING SURFACE, THE CONTRACTOR MAY UTILIZE A SURFACE APPLIED DETECTABLE WARNING SURFACE WITH PRIOR APPROVAL OF THE UNDERSIGNED ENGINEER AND PRIOR TO POURING OF THE CONCRETE RAMP.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SHOP DRAWING OF THE DETECTABLE WARNING SURFACE PRIOR TO CONSTRUCTION FOR APPROVAL.
4. THE CONTRACTOR SHALL PROVIDE A MANUFACTURER CERTIFICATION THAT THE DETECTABLE WARNING SURFACE COMPLIES WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE AND THE ADA STANDARDS AS SUPPORTED BY THE UNITED STATES ACCESS BOARD, AND THE STATE AND/OR LOCAL ADA STANDARDS.
5. **SAFETY RED** SHALL BE APPROVED BY THE LOCAL JURISDICTION PRIOR TO INSTALLATION. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. ALTERNATIVE COLOR MAY BE USED PROVIDED SUCH COLOR COMPLIES WITH CURRENT ADA STANDARDS.
6. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES.
7. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A BASE DIAMETER OF 0.9 INCH (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM, A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM, AND A HEIGHT OF 0.2 INCH (5.1 mm).
8. TRUNCATED DOMES IN DETECTABLE WARNING SURFACE SHALL HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 mm) MINIMUM AND 2.4 INCHES (61 mm) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCH (17 mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
9. SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. WHERE REQUIRED BY THE MANUFACTURER, THE CONCRETE BORDER SHALL NOT EXCEED 2 INCHES (51 mm).
10. DETECTABLE WARNING SURFACES SHOULD NOT BE PLACED ON PAVING OR EXPANSION JOINTS AT CURB RAMPS. THE ROWS OF TRUNCATED DOMES IN DETECTABLE WARNING SURFACES SHOULD BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET SO PEDESTRIANS WHO USE WHEELCHAIRS CAN "TRACK" BETWEEN THE DOMES.
11. ON PERPENDICULAR CURB RAMPS, DETECTABLE WARNING SURFACES SHALL BE PLACED AS FOLLOWS:
    a. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE IN FRONT OF THE BACK OF CURB, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB.
    b. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS 5.0 FT OR LESS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK.
    c. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS MORE THAN 5.0 FT, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE LOWER LANDING AT THE BACK OF CURB.
12. ON PARALLEL CURB RAMPS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE TURNING SPACE AT THE FLUSH TRANSITION BETWEEN THE STREET AND SIDEWALKS.
13. ON BLENDED TRANSITIONS, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB.

DETECTABLE WARNING SURFACE DETAIL

NOT TO SCALE MCNY-SITE-HADA-2100 07/01/19

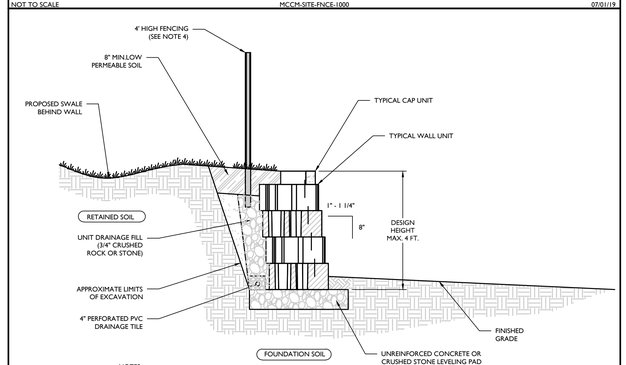


FENCE POST AND MESH SCHEDULE			
USES	HEIGHT (H)	TERMINAL POST	LINE AND TOP POST
		ASTM F1043 GROUP 1A SCH. 40 PIPE	
RESIDENTIAL/LIGHT COMMERCIAL	5'	2 3/8"	1 7/8"
RESIDENTIAL/COMMERCIAL	6'	2 7/8"	2 3/8"
COMMERCIAL/INDUSTRIAL	6'	4"	3 1/2"
HEAVY COMMERCIAL/INDUSTRIAL	8'	4 1/2"	4"

NOTES:
1. WIRE MESH SHALL BE 2" MESH 9 GAUGE GALVANIZED (ZINC) COATED STEEL CHAIN LINK FABRIC, WITH KNUCKLED SELVAGE (KK) ON BOTH TOP AND BOTTOM.
2. FENCE FRAMEWORK RAIL AND POSTS SHALL BE HOT DIP GALVANIZED STEEL PIPE, 16 GAUGE, CLASS 1 ZINC COATED PER ASTM 1043 GORUP 1A FOR SCHEDULE 40 ROUND PIPE, WITH REGULAR STEEL YIELD STRENGTH OF 30,000 PSI PER ASTM F1083.
3. BAR LENGTH AND POST HEIGHT ABOVE GRADE PER FENCE HEIGHT AND MANUFACTURER'S SPECIFICATIONS. FENCE HEIGHT AS SPECIFIED ON THE PLAN.
4. COLOR OF WIRE MESH AS SPECIFIED ON THE PLANS.
5. END AND CORNER POST TOP SHALL BE DOME SHAPE.
6. FOOTING WIDTH TO BE (4) X POST WIDTH, MINIMUM DEPTH **3'-6"**, **3,000 PSI** (MIN.) CONCRETE.

GALVANIZED STEEL CHAIN LINK FENCE DETAIL

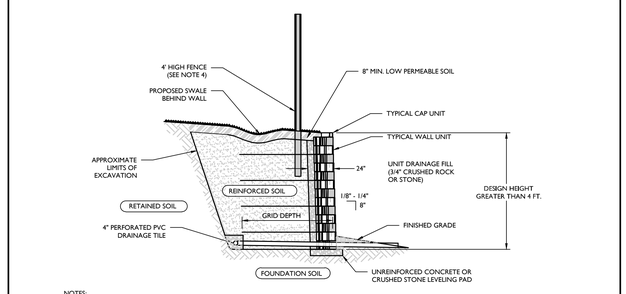
NOT TO SCALE MCCM-SITE-FNCE-1000 07/01/19



NOTES:
1. THIS DETAIL IS A SCHEMATIC REPRESENTATION FOR MUNICIPAL AND/OR AGENCY APPROVALS AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION.
2. CONTRACTOR TO PROVIDE SITE-SPECIFIC SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS FOR EACH RETAINING WALL PREPARED BY A STATE LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. MODULAR CONCRETE BLOCK WALL TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. A SAFETY BARRIER (FENCING) IS REQUIRED ON ALL WALLS WHERE THE WALL HEIGHT EXCEEDS 30". PLACEMENT AND INSTALLATION METHOD OF THE PROPOSED FENCING TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

TYPICAL GRAVITY WALL SECTION (MAXIMUM 4FT. DESIGN HEIGHT) DETAIL

NOT TO SCALE MCCM-SITE-WALL-1000 10/01/19



NOTES:
1. THIS DETAIL IS A SCHEMATIC REPRESENTATION FOR MUNICIPAL AND/OR AGENCY APPROVALS AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION.
2. CONTRACTOR TO PROVIDE SITE-SPECIFIC SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS FOR EACH RETAINING WALL PREPARED BY A STATE LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. MODULAR CONCRETE BLOCK WALL TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. A SAFETY BARRIER (FENCING) IS REQUIRED ON ALL WALLS WHERE THE WALL HEIGHT EXCEEDS 30". PLACEMENT AND INSTALLATION METHOD OF THE PROPOSED FENCING TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

TYPICAL REINFORCED WALL SECTION (NEAR VERTICAL SETBACK) DETAIL

NOT TO SCALE MCCM-SITE-WALL-1103 10/01/19

C. T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture, Geology, D.P.C.

DESCRIPTION
SUPPLEMENTAL GREENSPACE PLAN
FOR COSTCO DEVELOPMENT
LANDS NOW OR FORMERLY OF
CROSSGATES RELEASECO, LLC
TOWN OF GUILDERLAND, COUNTY OF ALBANY, STATE OF NEW YORK
AREA = 1.50± ACRES OF LAND

All that certain tract, piece, or parcel of land situate in the Town of Guilderland, County of Albany, State of New York lying generally Northeast of U.S. Route 20 – Western Avenue (Albany – Guilderland S.H. No. 5155) formerly the Great Western Turnpike and generally Southwest of Crossgates Mall Road (Town Road Corridor B), and being more particularly bounded and described as follows:

COMMENCING at a point on the Northeasterly 1988 highway boundary of U.S. Route 20 – Western Avenue (Albany – Guilderland S.H. No. 5155) at its point of intersection with the division line between the lands now or formerly of Crossgates Releaseco, LLC as described in Instrument No. R2017-15415 on the Southeast and the lands now or formerly of Crossgates Mall General Company Newco, LLC as described in Book 3031 at Page 1000 on the Northwest; thence from said point of commencement along said division line North 32 deg. 30 min. 13 sec. East 440.88 feet to its point of intersection with the division line between the said lands now or formerly of Crossgates Releaseco, LLC on the Southwest and the said lands now or formerly of Crossgates Mall General Company Newco, LLC on the Northeast; thence South 54 deg. 26 min. 52 sec. East along the last mentioned division line and along the "Old Betty Line" 49.00 feet to the point or place of beginning and runs thence from said point of beginning continuing along the last mentioned division line and along the "Old Betty Line" South 54 deg. 26 min. 52 sec. East 403.53 feet to a point; thence through the said lands now or formerly of

C. T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

DESCRIPTION
AREA = 1.50± ACRES OF LAND
PAGE - 2

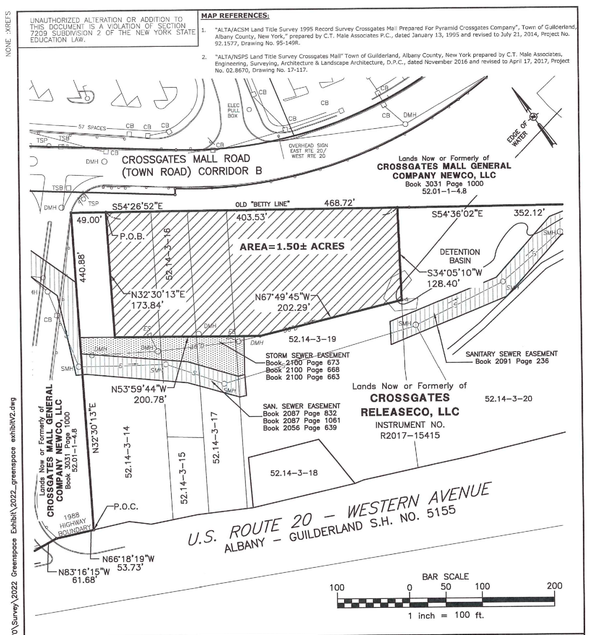
Crossgates Releaseco, LLC as described in Instrument No. R2017-15415 the following four (4) courses: 1) South 34 deg. 05 min. 10 sec. West 128.40 feet to a point; 2) North 67 deg. 49 min. 45 sec. West 202.29 feet to a point; 3) North 53 deg. 59 min. 44 sec. West 200.78 feet to a point; and 4) North 32 deg. 30 min. 13 sec. East 173.84 feet to the point or place of beginning and containing 1.50 acres of land, more or less.

CARL D. ROMEO, P.L.S.

August 30, 2022
Revised March 2, 2023
WJS,/amb/wjs/amb
C.T. Male Project No. 13.3030

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

MAP REFERENCES:
1. "ALTA/ACSM Land Title Survey 1995 Record Survey Crossgates Mall Prepared For Pyramid-Crossgates Company", Town of Guilderland, Albany County, New York," prepared by C.T. Hale Associates P.C., dated January 13, 1995 and revised to July 21, 2014, Project No. 92.1577, Drawing No. 95-1498.
2. "ALTA/NSPS Land Title Survey Crossgates Mall" Town of Guilderland, Albany County, New York prepared by C.T. Hale Associates, Engineering, Surveying, Architecture & Landscape Architecture, D.P.C., dated November 2016 and revised to April 17, 2017, Project No. 02.8870, Drawing No. 17-117.



Date	RECORD OF WORK	Appr.
3/2/23	REVISE GREENSPACE PLAN AREA	CMR

SUPPLEMENTAL GREENSPACE PLAN
FOR COSTCO DEVELOPMENT
LANDS NOW OR FORMERLY OF
CROSSGATES RELEASECO, LLC

TOWN OF GUILDERLAND | ALBANY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH 518.786.7400
COBLESKILL, NY • GLENS FALLS, NY • POUGHKEEPSIE, NY
JOHNSTOWN, NY • RED HOOK, NY • SYRACUSE, NY
www.ctmale.com

Drafter: MDD | Checker: CMR
Appr. by: | Proj. No. 15.5000
SCALE: 1"=100' | DATE: AUGUST 30, 2022

DO. DWG. FILE NAME: K:\Projects\13030\Survey\2022_Greenspace Exhibit\13030_2022_greenspace exhibit.dwg

Colliers Engineering & Design
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REV	DATE	DRAWN BY	DESCRIPTION
1	06/27/05	DB	MINOR NOTE REVISIONS
2	09/02/20	SYD	REVISED PER TOWN OF GUILDERLAND COMMENTS
3	10/20/20	RMA	REVISED PER TOWN OF GUILDERLAND COMMENTS
4	08/30/22	SYD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
Exton, PA 19341
Phone: 610.254.9140
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIII	RTM
PROJECT NUMBER:	DRAWING NAME:		
13001204A	C-DTL5		

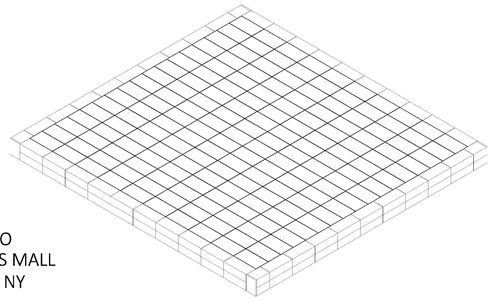
SHEET TITLE:
SITE DETAILS

SHEET NUMBER:
16 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

StormTrap
MODULAR CONCRETE STORMWATER MANAGEMENT

THE STORMTRAP DRAWINGS SHALL NOT BE ALTERED OR MANIPULATED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF STORMTRAP. USE OF THESE DRAWINGS IS STRICTLY GRANTED TO YOU, OUR CLIENT, FOR THE SPECIFIED AND NAMED PROJECT ONLY. THESE DRAWINGS ARE FOR YOUR REFERENCE ONLY AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.



COSTCO
CROSSGATES MALL
ALBANY, NY

SHEET INDEX

PAGE	DESCRIPTION
0.0	COVER SHEET
1.0	DOUBLETRAP DESIGN CRITERIA
2.0	DOUBLETRAP SYSTEM LAYOUT
3.0	DOUBLETRAP INSTALLATION SPECIFICATIONS
3.1	DOUBLETRAP INSTALLATION SPECIFICATIONS
4.0	DOUBLETRAP BACKFILL SPECIFICATIONS
5.0	RECOMMENDED PIPE / ACCESS OPENING SPECIFICATIONS
6.0	DOUBLETRAP MODULE TYPES

STORMTRAP CONTACT INFORMATION

STORMTRAP SUPPLIER:	STORMTRAP
CONTACT NAME:	TONY MESSINA
CELL PHONE:	201-264-2063
SALES EMAIL:	TMESSINA@STORMTRAP.COM

StormTrap
NOW KNOWN AS: [CITY]STORMWATER[PHRASE]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4548 / F:331-318-5347

ENGINEER INFORMATION:
COLLIERS ENGINEERING
410 EAGLE VIEW BLVD
EXTON, PA
610-254-9140

PROJECT INFORMATION:
COSTCO
CROSSGATES MALL
ALBANY, NY

CURRENT ISSUE DATE:
3/7/2023

ISSUED FOR:
PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
1	3/7/2023	PRELIMINARY	LR

SCALE:
NTS

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
0.0

STRUCTURAL DESIGN LOADING CRITERIA

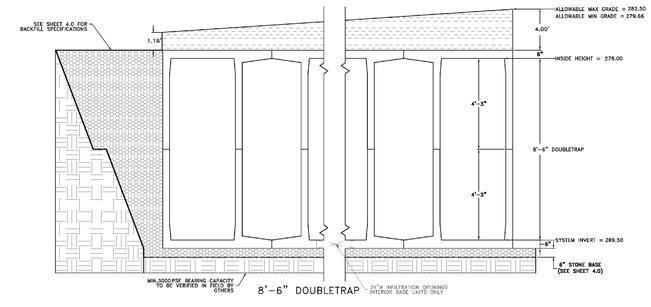
LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 3000PSF
SOIL DENSITY: 120 PCF
EQUIVALENT UNSATURATED
LATERAL ACTIVE EARTH PRESSURE: 35 PSF / FT.
EQUIVALENT SATURATED
LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES: ASTM C857
ACI-318
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

WATER STORAGE PROV. (IN 6" STONE BASE):	205,617.84 CUBIC FEET 9,330.62 CUBIC FEET
TOTAL WATER STORAGE PROV:	211,148.46 CUBIC FEET
UNIT HEADROOM:	8'-6" DOUBLETRAP

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. 1.16' 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.



StormTrap
NOW KNOWN AS: [CITY]STORMWATER[PHRASE]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4548 / F:331-318-5347

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REV.	DATE:	ISSUED FOR:	DWN BY:
1	3/7/2023	PRELIMINARY	LR

SCALE:
NTS

SHEET TITLE:
DOUBLETRAP DESIGN CRITERIA

SHEET NUMBER:
1.0

BILL OF MATERIALS

QTY.	UNIT TYPE	DESCRIPTION	TOP WEIGHT	BASE WEIGHT
170	I/INF	8'-6" DOUBLETRAP	15035	14833
0	II	8'-6" DOUBLETRAP	–	–
38	III	8'-6" DOUBLETRAP	14465	14362
0	IV	8'-6" DOUBLETRAP	–	–
0	VII	8'-6" DOUBLETRAP	–	–
4	SPIV	8'-6" DOUBLETRAP	VARIES	VARIES
0	T2 PANEL	8" THICK PANEL		–
4	T4 PANEL	8" THICK PANEL		6294
0	T7 PANEL	8" THICK PANEL		–
38	JOINT WRAP 150' PER ROLL			
72	JOINT TAPE 14.5' PER ROLL			
	TOTAL PIECES = 424			
	TOTAL PANELS = 4			
	HEAVIEST PICK WEIGHT = 15,035			

LOADING DISCLAIMER:

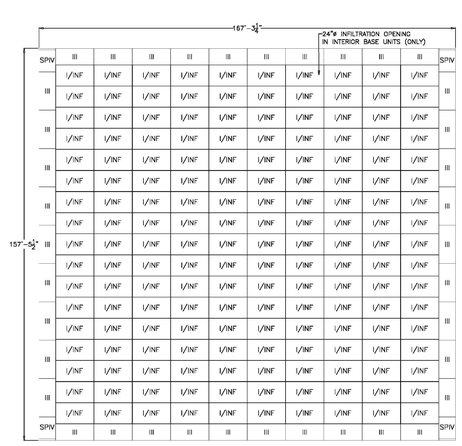
STORMTRAP IS NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADINGS FROM ADJACENT CONSTRUCTIONS. IF ANY LOADS OVER THE TOP OF STORMTRAP, IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY.

TREE LOADING DISCLAIMER:

THE STORMTRAP SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF TREES. WHERE PLANTERWORKS, THE BOXES 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.

DESIGN CRITERIA
ALLOWABLE MAX GRADE = 282.50
ALLOWABLE MIN GRADE =278.68
INSIDE HEIGHT ELEVATION =278.00
SYSTEM INVERT = 269.50

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.



StormTrap
NOW KNOWN AS: [CITY]STORMWATER[PHRASE]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4548 / F:331-318-5347

ENGINEER INFORMATION:
COLLIERS ENGINEERING
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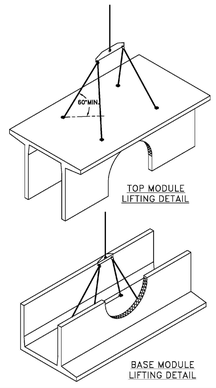
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SHEET TITLE:
DOUBLETRAP SYSTEM LAYOUT

SHEET NUMBER:
2.0

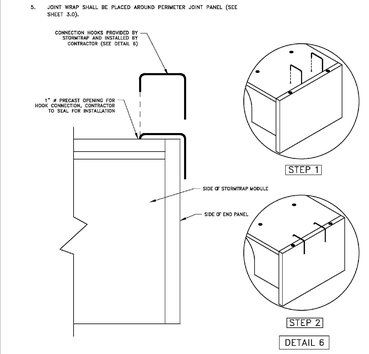
STORMTRAP MODULE LIFTING INSTALLATION NOTES

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.



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).



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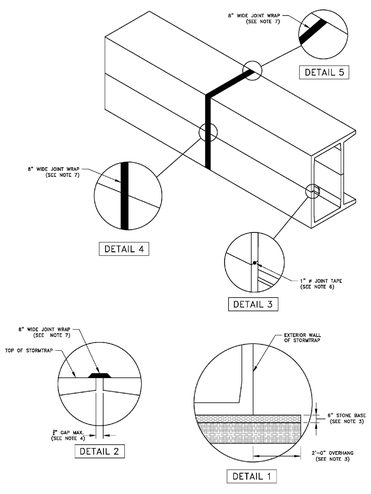
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SHEET TITLE:
DOUBLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER:
3.1

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 3'-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.



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SHEET TITLE:
DOUBLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER:
3.0

ZONE CHART

ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1	FOUNDATION AGGREGATE	#3 (3") 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 130 PCF

FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (TOPS)	MAX GROUND PRESSURE
12"	12"	51.8	1590 psf
	18"	34.5	1215 psf
	24"	68.1	1111 psf
	30"	76.7	1000 psf
	36"	85.0	924 psf

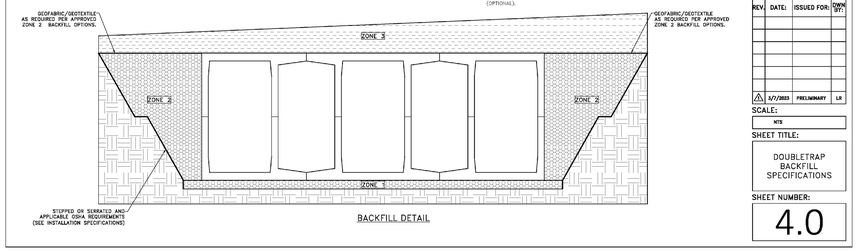
NOTE:
TRACK LENGTH NOT TO EXCEED 16'-4".
ONLY TWO TRACKS PER VEHICLE.

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 ON TO 5% PASSING THE ¾" 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 MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING #200 SIEVE AND LESS THAN OR PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE 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 ON TO 5% PASSING THE #4 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 10% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES

1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST EXPOSITED 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/FILTERING MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY MISSING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT MISSING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILLING PROCESS. REFER TO THE BACKFILL OPTIONS 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, WHICH PLACEMENT IS DEFINED AS ONE LIFT. MATERIAL OVERTOP THE SYSTEM SHALL BE PLACED IN LIFTS AND SPREAD EVENLY AND 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 REQUIRED TO PLACE THE FILL IN LIFTS GREATER THAN 6" AND COMPACT EACH LIFT AS NEEDED 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:
   - 4.1. 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 90% AGGREGATE RETAINED ON SPECIFIED MAJORITY OF AGGREGATE SIZE BETWEEN ¾"AND 1", AND ONLY 5% OF MATERIAL PASSING #3/8" SIEVE.
   - 4.2. LEVELING – STORMTRAP RECOMMENDS STONE SUBBASE FOR LEVELING PURPOSES ONLY (OPTIONAL).



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DOUBLETRAP BACKFILL SPECIFICATIONS

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1	04/27/20	DB	MINOR NOTE REVISIONS
2	09/30/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	11/20/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED PER TOWN OF GUILDERLAND ENGINEERING FEE
5	03/17/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

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PROJECT NUMBER: 13001204A
DRAWING NAME: C-DTLS

SHEET TITLE:
STORMWATER MANAGEMENT DETAILS

SHEET NUMBER:
17 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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RECOMMENDED ACCESS OPENING SPECIFICATION

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 CONIC SECTIONS. (PROVIDED BY OTHERS)

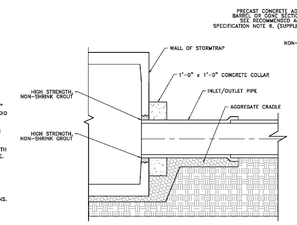
RECOMMENDED PIPE OPENING SPECIFICATION

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-10".
2. MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE # 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.

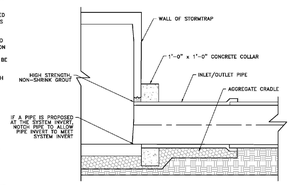
RECOMMENDED PIPE INSTALLATION INSTRUCTIONS

1. CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
2. 6" PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

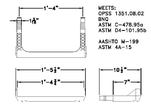
NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL, MUNICIPAL CODE/REQUIREMENTS.



RISER / STAIR DETAIL



PIPE CONNECTION DETAIL



STEP DETAIL

*** NOTICE ***
03-25-2022

DUE TO CURRENT INCONSISTENCIES IN THE 16" STEP SUPPLY, STORMTRAP MAY SUBSTITUTE THE 16" STEP WITH THE CLOSEST ALTERNATIVE LENGTH STEP UNTIL THE SUPPLY CHAIN ISSUE IS RESOLVED.

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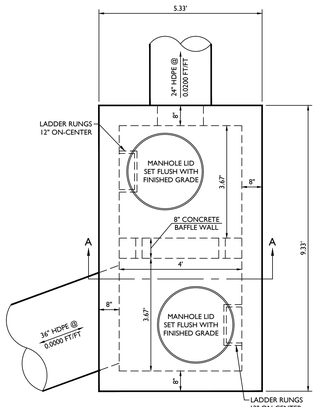
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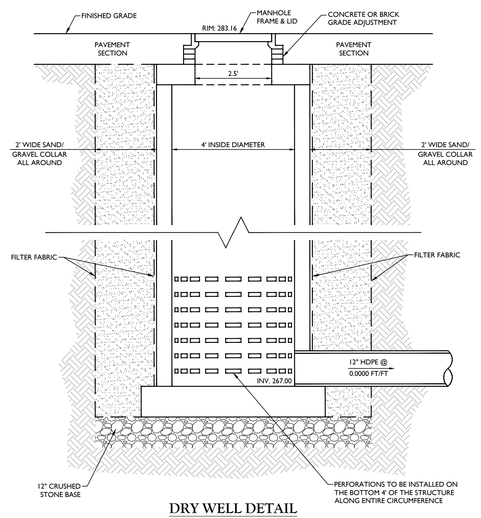
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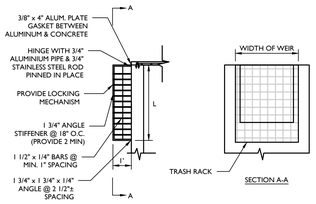
PLAN VIEW

NOTES:

1. CONTRACTOR MUST SUBMIT SHOP DRAWINGS PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL
2. A MAXIMUM OF 6 INCHES OF BRICK AND MORTAR OR A MAXIMUM OF 2 INCHES OF MORTAR ALONE SHALL BE USED FOR FRAME AND GRATE ADJUSTMENT. FOR ADJUSTMENTS OVER 6 INCHES, CAST-IN-PLACE CONCRETE CHIMNEY ELEMENT SHALL BE USED.
3. CONCRETE SHALL BE CLASS A.
4. ALL ELEMENTS SHALL CONFORM TO NYDOT STANDARDS.



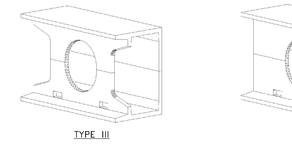
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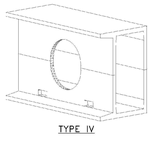


TRASH RACK NOTES:

1. MINIMUM BAR SPACING: 1 INCH.
2. MAXIMUM BAR SPACING: 1/3 THE DIAMETER OF THE ORIFICE OR 1/3 THE WIDTH OF WEIR, WITH A MAXIMUM SPACING OF 6 INCHES, FOR ELEVATIONS IN EXCESS OF WATER QUALITY DESIGN STORM.
3. MAXIMUM AVERAGE VELOCITY OF FLOW THROUGH CLEAN RACK: 2.5 FEET/SECOND.
4. CONSTRUCTED OF RIGID, DURABLE AND CORROSION RESISTANT MATERIAL, AND
5. DESIGNED TO WITHSTAND A PERPENDICULAR LIVE LOADING OF 300 LBS./SF.
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS.

FLAT TRASH RACK DETAIL
NOT TO SCALE







NOTES:
1. OPENING LOCATIONS AND SHAPES MAY VARY.
2. SP = INDICATES A MODULE WITH MODIFICATIONS.
3. P = INDICATES A MODULE WITH A PANEL ATTACHMENT.
4. POCKET WINDOW OPENINGS ARE OPTIONAL.

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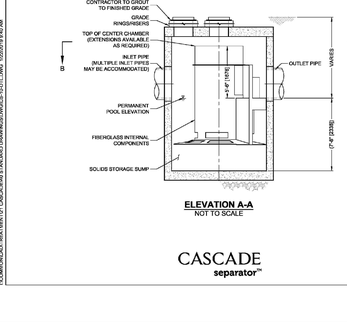
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REV.	DATE:	ISSUED FOR:	DRWN BY:
1	3/7/2023	PRELIMINARY	LR

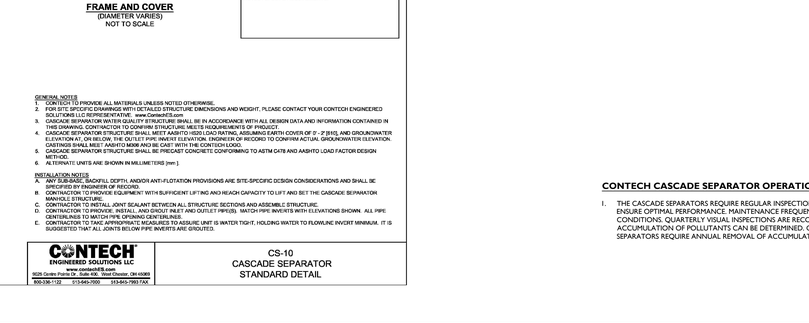
SCALE: NTS

SHEET TITLE: DOUBLETRAP MODULE TYPES

SHEET NUMBER: 6.0



SECTION A-A

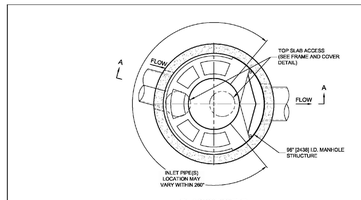


NOTES:

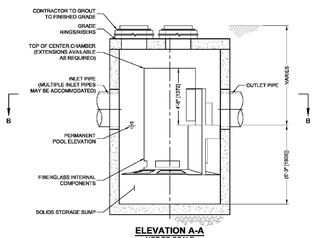
1. CONTRACTOR MUST SUBMIT SHOP DRAWINGS PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL.
2. TRASH RACKS HAVE BEEN OMITTED FROM THE PLAN VIEW, SECTION A-A, AND SECTION B-B FOR CLARITY.
3. CONCRETE SHALL BE CLASS A.

SECTION B-B

OUTLET CONTROL STRUCTURE I DETAIL
N.T.S.



PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-8 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES/ SPECIAL REQUIREMENTS:			



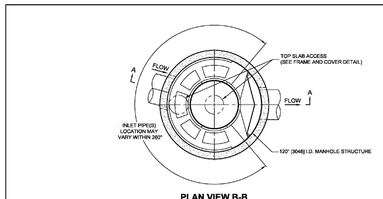
FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm.]

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-8
CASCADE SEPARATOR
STANDARD DETAIL



PLAN VIEW B-B
NOT TO SCALE

ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-10 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

INTERNAL COMPONENTS WILL BE FIELD INSTALLED. CONTACT YOUR CONTECH REPRESENTATIVE FOR ADDITIONAL INFORMATION.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES/ SPECIAL REQUIREMENTS:			



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

GENERAL NOTES
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E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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800-338-1122 513-645-7000 513-645-7993 FAX

CS-10
CASCADE SEPARATOR
STANDARD DETAIL

CONTECH CASCADE SEPARATOR OPERATION AND MAINTENANCE:

1. THE CASCADE SEPARATORS REQUIRE REGULAR INSPECTION AND MAINTENANCE TO ENSURE OPTIMAL PERFORMANCE. MAINTENANCE FREQUENCY WILL BE DRIVEN BY SITE CONDITIONS. QUARTERLY VISUAL INSPECTIONS ARE RECOMMENDED, AT WHICH TIME THE ACCUMULATION OF POLLUTANTS CAN BE DETERMINED. ON AVERAGE, THE CASCADE SEPARATORS REQUIRE ANNUAL REMOVAL OF ACCUMULATED POLLUTANTS.

Colliers Engineering & Design

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/07/20	DB	MINOR NOTE REVISIONS
2	09/30/20	SVD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	11/20/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
Exton, PA 19341
Phone: 610.254.9140
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIII	RTM

PROJECT NUMBER:	DRAWING NAME:
13001204A	C-DTLS

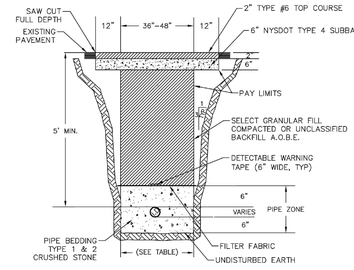
SHEET TITLE: STORMWATER MANAGEMENT DETAILS

SHEET NUMBER: 18 of 22

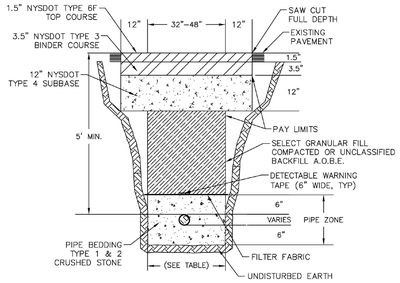
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

3013139\DWG\ACAD\TRUNK\TWENTY-1\CASCADE\STANDARD DRAWINGS\CS-8 (SEP).dwg 10/20/2019 8:49 AM by CHRISTOPHER

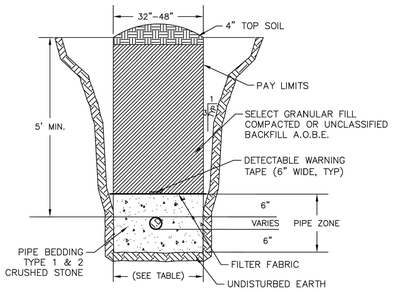
H:\COMMON\ACAD\TRUNK\TWENTY-1\CASCADE\STANDARD DRAWINGS\CS-10 (SEP).DWG 10/20/2019 8:49 AM



TRENCH IN DRIVEWAYS DETAIL
N.T.S.



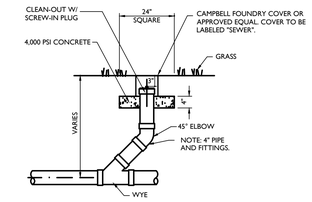
TRENCH IN ROADWAY DETAIL
N.T.S.



TRENCH IN EARTH DETAIL
N.T.S.

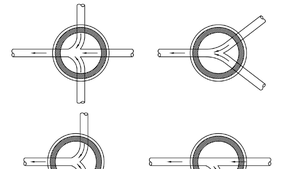
PIPE SIZE I.D. INCHES	MIN. SUGGESTED TRENCH WIDTH FOR AMPLE WORKING SPACE I.D. PLUS 24 INCHES
I.D.	W MIN.
4	28
6	30
8	32
10	34
12	36

TRENCH REQUIREMNETS



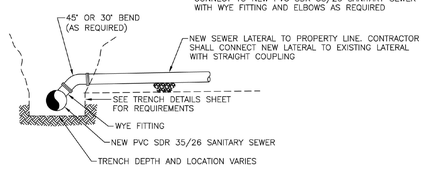
SANITARY SEWER CLEANOUT

NOTE: N.T.S.
1. PIPE AND FITTINGS AS MANUFACTURED BY ADS OR APPROVED EQUAL.

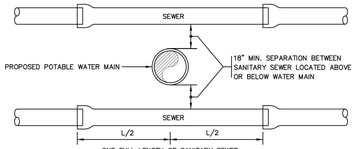


TYPICAL SEWER LATERAL CONNNECTION DETAIL
N.T.S.

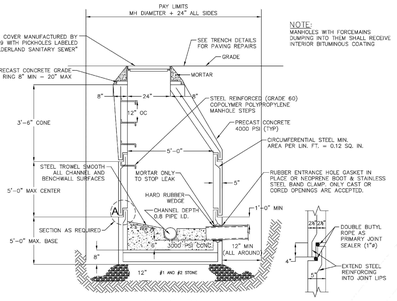
NOTE:
CONTRACTOR SHALL VERIFY LATERAL SIZE AND CONNECT TO NEW PVC SDR 35/26 SANITARY SEWER WITH WYE FITTING AND ELBOWS AS REQUIRED



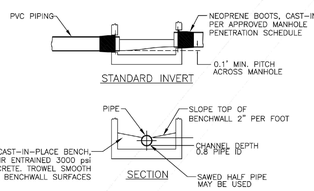
NOTE:
MAINTAIN A 10 FT. MIN. HORIZONTAL SEPARATION WHERE POTABLE WATER MAIN RUNS PARALLEL TO SANITARY SEWER



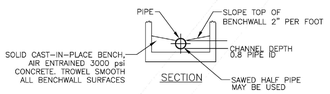
TYPICAL SANITARY SEWER & POTABLE WATER MAIN CROSSING
N.T.S.



TYPICAL MANHOLE DETAIL
N.T.S.



STANDARD INVERT



TYPICAL MANHOLE BENCHING DETAIL
N.T.S.

TOWN OF GUILDERLAND CONSTRUCTION OF SEWER COLLECTION SYSTEM NOTES

1. INTENTION: THE DECLARED AND ACKNOWLEDGED INTENTION TO SECURE A NEW SEWER COLLECTION SYSTEM, COMPLETE, IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. ALL NEW WORK SHALL BE IN ACCORDANCE WITH THE LASTEST EDITION OF "RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES."
2. GENERAL: ALL MATERIALS SHALL BE NEW AND UNUSED. MATERIALS SHALL BE WARRANTED BY THE CONTRACTOR AS TO MATERIALS, WORKMANSHIP, AND ACCURACY OF AS-BUILT DRAWINGS FOR A PERIOD OF ONE YEAR FROM THE DATE OF BENEFICIAL USE OF THE FACILITIES. WORKMANSHIP SHALL BE OF GOOD QUALITY; I.E., SEWERS SHALL BE LAID TRUE TO LINE AND GRADE, FITTINGS SHALL BE PROPERLY INSTALLED AND RESTRAINED, TRENCHES SHALL BE PROPERLY EXCAVATED AND BACKFILLED, MANHOLES SHALL BE INSTALLED AT LOCATIONS AND TO ELEVATIONS SHOWN ON THE PLANS.
3. SURVEYS: THE UTILITY CONTRACTOR SHALL PROVIDE ALL SURVEYS NECESSARY FOR THE LAYOUT AND CONSTRUCTION OF THE WORK OF HIS CONTRACT.
4. EARTHWORK: EARTHWORK SHALL INCLUDE ALL EXCAVATION, FILL AND BACKFILL (MACHINE), COMPACTION AND ROUGH GRADING OF MATERIALS ENCOUNTERED. NO UNSUITABLE MATERIAL INCLUDING, BUT NOT LIMITED TO, CLAY, MUCK, OR PEAT, REMOVED FROM PIPE TRENCHES ARE TO BE USED FOR BACKFILL. ALL FILL OR BACKFILL SHALL BE EITHER SAND OR SANDY CLAY, FREE FROM ROOTS, TRASH, OR OTHER DEBRIS. ALL OTHER BACKFILL SHALL BE COMPACTED BY MACHINE OPERATION CAREFULLY TO 95% (OUTSIDE OF PAVING), (UNDER PAVING) OF ITS OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698, LATEST.
5. JOINT RESTRAINT: ALL FORCEMAIN FITTINGS SHALL BE PROPERLY AND ADEQUATELY RESTRAINED AGAINST LATERAL MOVEMENT AT ALL TEES, CROSSES, VALVES, AND BENDS. RESTRAINERS SHALL BE MEGA-LUG TYPE FOR MECHANICAL JOINTS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. HIGH DENSITY POLYETHYLENE PIPE: POLYETHYLENE PIPES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS. STANDARD FOR POLYETHYLENE PIPES (ASTM F714) LATEST, STANDARD SPECIFICATION FOR POLYETHYLENE PLASTIC PIPES AND FITTING MATERIALS (ASTM D3350) LATEST, DIP MNJ ADAPTERS AND FLANGED ASTMD3350-02. HIGH DENSITY POLYETHYLENE PIPING COMPONENTS SHALL BE MADE FROM PRESSURE-RATED PE 3408, EXTRA-HIGH MOLECULAR WEIGHT, HIGH-DENSITY POLYETHYLENE. PIPE OUTER DIAMETER (OD) SHALL BE COMPATIBLE WITH STANDARD DUCTILE IRON PIPE SIZES. HDPE PIPES FOR FORCEMAINS SHALL BE DR 11 AND MANUFACTURED WITH A GREEN LONGITUDINAL COLOR STRIPE PATTERN OF THREE EQUALLY SPACED PAIRS OF COLOR STRIPES EXTRUDED INTO THE PIPE WITH TRACER WIRE.
7. STEEL CASING PIPE: STEEL CASING PIPE, WHEN REQUIRED, SHALL BE OF SIZE INDICATED ON THE DRAWINGS AND SHALL CONFORM TO ASTM A139, WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI.
8. GATE VALVES AND BOXES: GATE VALVES SHALL BE NON-RISING STEM TYPE RESILIENT WEDGE AND SHALL BE SUITABLE FOR 175 PSI (3"-12") AND 150 PSI (14"-48") WORKING PRESSURE GATE VALVE; WHICH, SHALL BE MECHANICAL JOINT. GATE VALVES SHALL HAVE A 2" OPERATING NUT AND OPEN COUNTER-CLOCKWISE. GATES VALVES SHALL HAVE JOINTS SUITABLE FOR THE TYPE OF MAIN ON WHICH INSTALLED. GATE VALVES 4" AND LARGER SHALL BE IRON BODY, BRONZE FITTED WITH RESILIENT SEAT. VALVES SHALL BE OF DOMESTIC (AMERICAN) MANUFACTURE AND SHALL BE CLOW, KENNEDY VALVE, MUELLER, OR APPROVED EQUAL. VALVE BOXES SHALL BE 5 1/4" DIAMETER, CAST IRON, SLIDING TYPE WITH CENTERING DEVICE, ADJUSTABLE WITH THE WORD "SEWER" CAST IN THE COVER. ALL SECTIONS OF THE VALVE BOX SHALL BE INTERCHANGEABLE WITH OLD BUFFALO FOUNDRY BOXES: STYLE #5001. VALVE BOXES SHALL BE BINGHAM AND TAYLOR OR APPROVED EQUAL.
9. MANHOLES: MANHOLE BASES, SECTIONS AND CONES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478, SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. CEMENT SHALL MEET THE REQUIREMENTS OF ASTM C150, SPECIFICATIONS FOR PORTLAND CEMENT, TYPE II. CONCRETE SHALL MEET THE MINIMUM REQUIREMENTS FOR CLASS "A" CONCRETE WORK. MINIMUM WALL THICKNESS SHALL BE 1/12 THE INSIDE DIAMETER IN INCHES PLUS ONE (1) INCH. BASES FOR MANHOLES SHALL BE CAST INTEGRALLY WITH THE BOTTOM MANHOLE SECTION. JOINT CONTACT SURFACES SHALL BE FORMED WITH MACHINED CASTINGS; THEY SHALL BE EXACTLY PARALLEL WITH A 2 DEGREE SLOPE AND NOMINAL 1/16 INCH CLEARANCE WITH THE TONGUE EQUIPPED WITH A PROPER RECESS FOR THE INSTALLATION OF AN O-RING RUBBER GASKET, CONFORMING TO ASTM C443. GRADE RINGS SHALL BE USED TO ADJUST FRAME HEIGHT. GRADE RINGS SHALL BE PRECAST CONCRETE DONUTS, BRICKS ARE NOT ACCEPTABLE GRADE RINGS. PRECAST CONCRETE MANHOLES SHALL BE MANUFACTURED BY FORT MILLER OR APPROVED EQUAL.
10. MANHOLE FRAMES AND COVERS: CAST IRON MANHOLE FRAMES AND COVERS. CAST IRON MANHOLE FRAMES AND COVERS SHALL BE AS DETAILED ON DRAWINGS. CASTINGS SHALL MEET THE REQUIREMENTS OF ASTM A48, SPECIFICATIONS FOR GRAY IRON CASTINGS, CLASS NO. 30, OR GRADE 65-45-12, DUCTILE IRON MEETING THE REQUIREMENTS OF ASTM A536, STANDARD SPECIFICATION FOR DUCTILE IRON CASTINGS, IN EITHER CASE, MANHOLE FRAME AND COVER SHALL BE DESIGNED TO WITHSTAND AN HS20-44 LOADING DEFINED IN THE ASSHTO SPECIFICATIONS. FRAMES AND COVERS SHALL BE MACHINED OR GROUND AT TOUCHING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING. FRAMES AND COVER SHALL BE CAMPBELL 1009 WITH PICKHOLES.
11. FLEXIBLE MANHOLE CONNECTOR: ALL CONNECTIONS BETWEEN SEWER PIPE AND PRE-CAST CONCRETE MANHOLES SHALL BE ACCOMPLISHED BY A FLEXIBLE CONNECTOR, "KOR-N-SEAL", AS MANUFACTURED BY NATIONAL POLLUTION CONTROL SYSTEMS, INC. OR APPROVED EQUAL.
12. POLYVINYL CHLORIDE PIPE: POLYVINYL CHLORIDE SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SDR 35. PIPE SHALL BE CLEARLY MARKED IN 5 FT. INTERVALS OR LESS, INDICATING MANUFACTURERS NAME, NOMINAL SIZE, CELL CLASSIFICATION AND LEGEND. JOINTS SHALL BE PUSH-ON RUBBER GASKETED, CONFORMING TO ASTM D-3034. PIPE INSTALLED DEEPER THAN 11'-0" FROM GRADE TO INVERT OR ADBE SHALL BE HEAVY WALL SDR-26. MAXIMUM DEPTH OF GRAVITY SEWER WITHOUT PRIOR APPROVAL SHALL BE 15 FEET.
13. INSTALLATION: ALL SEWER LINES, MANHOLES, AND APPUR- TENANCIES SHALL BE CONSTRUCTED TO THE DIMENSIONS AND ELEVATIONS INDICATED ON THE DRAWINGS. TRENCHES SHALL BE EXCAVATED TO A WIDTH APPROXIMATELY TWELVE INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE. EACH SECTION OF PIPE SHALL BE INSPECTED FOR DEFECTS PRIOR TO BEING LOWERED INTO THE TRENCH. THE INSIDE OF EACH BELL AND THE OUTSIDE OF EACH SPIGOT SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER, PRIOR TO MAKING THE JOINT. ALL SEWER LINES SHALL BE CONSTRUCTED WITH THE SPIGOT ENDS POINTING IN THE DIRECTION OF THE FLOW. BOTH THE BELL AND THE SPIGOT OF EACH JOINT SHALL BE LUBRICATED WITH THE LUBRICANT RECOMENDED BY THE PIPE MANUFACTURER. ALL SEWER LINES SHALL BE CLEANED OF FOREIGN MATTER AS CONSTRUCTION PROGRESSES, AND SHALL BE IN A CLEAN CONDITION UPON COMPLETION OF CONSTRUCTION OPERATIONS. PIPE MATERIALS SHALL REMAIN THE SAME ON RUNS BETWEEN MANHOLES AND / OR OTHER STRUCTURES. CONTRACTOR SHALL INSTALL STONE BEDDING PER DETAIL AS SHOWN ON THE PLANS. WHERE EXCESSIVE WATER IS PRESENT IN PIPE TRENCHES ADDITIONAL CRUSHED STONE #1 AND #2 SHALL BE PLACED AS REQUIRED BY THE ENGINEER.
14. INSPECTION: EACH SECTION OF THE COMPLETED SEWER SYSTEM SHALL BE INSPECTED FOR PROPER ALIGNMENT. INSPECTION SHALL CONSIST OF "LAMPING" FROM MANHOLE TO MANHOLE. ANY SECTION OF THE SEWER SYSTEM WHICH DOES NOT DISPLAY TRUE, CONCENTRIC ALIGNMENT SHALL BE REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER. DEFLECTION TESTING WITH DE MANDREL IS ALSO REQUIRED. ANY SECTION NOT PASSING THE MANDREL TEST SHALL BE CORRECTED. A WRITTEN LOG OF INSPECTIONS SHALL BE KEPT INDICATING LOCATION OF TEST, POTENTIAL PROBLEMS IN SEWER, DIPS AND DEPTH OF WATER, SERVICE LOCATIONS, AND OTHER IRREGULARITIES IN THE PIPE LINES. TELEVISION INSPECTION (CCTV) WILL BE REQUIRED ON ALL NEW GRAVITY SEWERS CONSTRUCTED. THIS SERVICE SHALL BE PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. THE NEWLY CONSTRUCTED SEWERS SHALL BE TELEVISED IN THE PRESENCE OF THE ENGINEER. A FULL REPORT AS TO THE CONDITION OF PIPE, TYPE, DEPTH, LOCATION OF SERVICES, LENGTH, TYPE, JOINT AND DISTANCE BETWEEN MANHOLES, ETC. SHALL BE FURNISHED TO THE ENGINEER AND OWNER PRIOR TO THE FINAL ACCEPTANCE OF THE SYSTEM. ANY PIPE FOUND TO BE CRACKED, LEAKING OR OTHERWISE DEFECTIVE SHALL BE REMOVED AND REPLACED WITH NEW PIPE AT NO ADDITIONAL COSTS TO THE OWNER. A DVD SHALL BE MADE OF THE TELEVISION INSPECTION AND SUBMITTED TO THE ENGINEER AND THE OWNER.
15. TESTING: AFTER COMPLETION OF CONSTRUCTION, THE SEWER SYSTEM SHALL BE TESTED BY LOW PRESSURE AIR TEST METHOD IN ACCORDANCE WITH "UNI-BELLS" RECOMENDED PRACTICE FOR LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE (UNI-B-6). THIS METHOD OF TESTING SHALL APPLY TO ALL PIPE MATERIALS AND DIAMETERS. IN ADDITION, IF THE AIR TEST ON A SECTION OF SEWER IS MARGINAL (AS TO PASSING), THE ENGINEER CAN ORDER A CORROBORATIVE HYDROSTATIC TEST ON THE SECTION IN QUESTION, AT NO ADDITIONAL COST TO THE OWNER.
16. ABANDONMENT OF EXISTING SEWERS AND APPURTENANCES: EXISTING SEWERS TO BE ABANDONED IN PLACE SHALL BE PHYSICALLY SEPARATED FROM THE MANHOLES AND THE CONTRACTOR SHALL PLUG PIPES CONCRETE PLUG WITH BRICKS AND HYDRAULIC CEMENT. ALL STRUCTURES TO BE ABANDONED SHALL HAVE THEIR TOP SECTIONS REMOVED, CUT HOLES IN THE BOTTOM OF STRUCTURE, BACKFILLED STRUCTURE WITH STONE, SELECT FILL, OR FLOWABLE FILL AGRE.

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/27/20	DB	MINOR NOTE REVISIONS
2	09/04/20	SYD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	10/20/20	KMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SYD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	09/19/22	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
-	-	-	-
-	-	-	-
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-	-	-	-
-	-	-	-

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS

FOR

COSTCO WHOLESALE

CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01

TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
410 Eagleview Boulevard, Suite 104
Exton, PA 19341
Phone: 610.254.9140
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DW	RTM

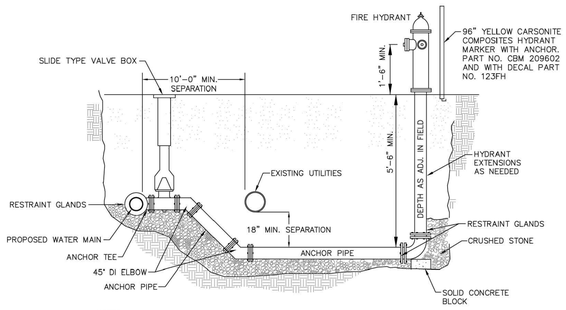
PROJECT NUMBER: 13001204A
DRAWING NAME: C-DTLS

SHEET TITLE:
SANITARY SEWER DETAILS

SHEET NUMBER:
19 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2019.13001204A\Engineering\Site Plans\C-DTLS.dwg 10, 24/2019 7:44:09 AM EDT By: JOSHUA BYRD



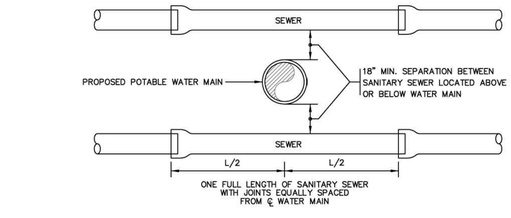
NOTES:
1. DUCTILE IRON WATERMAIN PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C-151 CLASS 2 (52) THICKNESS DESIGNATION, CASTINGS, MARKINGS, TESTING AND INSTALLATION STANDARDS.
2. HYDRANT EXTENSIONS SHALL BE PROVIDED AS NECESSARY AT NO ADDITIONAL COST.
3. AT LOCATIONS OF HIGH GROUNDWATER, HYDRANT DRIP RODS SHALL BE PLUGGED.

TYPICAL HYDRANT LEAD CROSSING UTILITIES DETAIL
N.T.S.

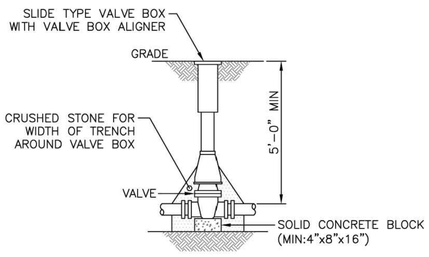
WATER NOTES:

1. THE CONTRACTOR SHALL REFER TO THE LATEST EDITION OF "A GUIDE FOR THE INSTALLATION OF DUCTILE IRON PIPE" PUBLISHED BY THE CAST IRON PIPE RESEARCH ASSOCIATION FOR DESIGN AND INSTALLATION OF RESTRAINT SYSTEM.
2. THRUST BLOCKS SHALL BE USED AT DEAD ENDS AND TEES ONLY.
3. ALL JOINTS SHALL BE MECHANICALLY RESTRAINED PER RESTRAINT SCHEDULE.
4. ALL DUCTILE IRON PIPE SHALL BE ENCASED WITH POLYWRAP.

NOTE:
MAINTAIN A 10 FT. MIN. HORIZONTAL SEPARATION WHERE POTABLE WATER MAIN RUNS PARALLEL TO SANITARY SEWER

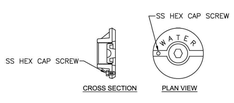


TYPICAL SANITARY SEWER & POTABLE WATER MAIN CROSSING WITH 18" MIN VERTICAL SEPERATION
N.T.S.

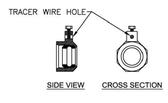


NOTES:
1. VALVE BOX SHALL BE CENTERED ON VALVE AND SET ON COMPACTED BACKFILL.
2. USE VALVE BOX ALIGNER.
3. ALL BOLTS AND NUTS SHALL BE 304 SS WITH ANTI-SIEZE PER SPECS

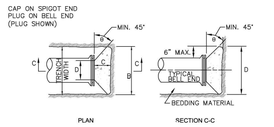
TYPICAL VALVE DETAIL
N.T.S.



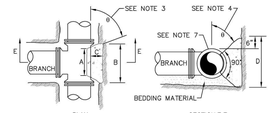
CURB BOX LID DETAIL
N.T.S.



COMPRESSION NUT DETAIL
N.T.S.



THRUST BLOCK DETAILS - DEAD END
N.T.S.

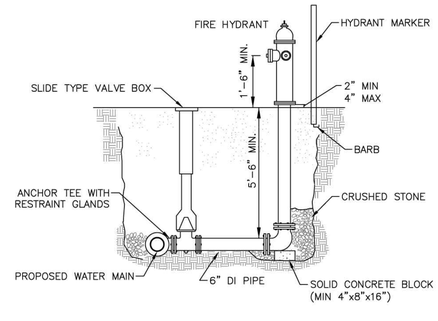


THRUST BLOCK DETAILS - TEES
N.T.S.

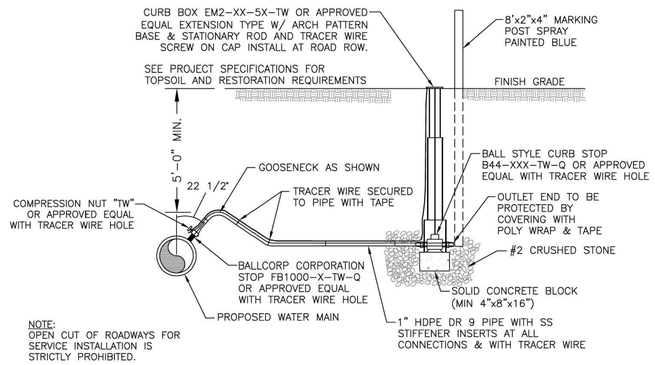
1. "A", "B" AND "D" DIMENSIONS SHALL BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH THE MECHANICAL JOINTS OR THE BOLTS.
2. "C" DIMENSIONS SHALL BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°

TABLE NO. 1 THRUST BLOCK AREA REQUIRED		
100-150 PSI TEST PRESSURE THRUST AREA REQ'D FT²		
NOMINAL PIPE DIAMETER	DEAD END AND TEES	
4	2.0	
6	3.0	
8	5.0	
10	8.0	
12	12.0	

NOTES:
1. DUCTILE IRON WATERMAIN PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C-151 CLASS 2 (52) THICKNESS DESIGNATION, CASTINGS, MARKINGS, TESTING AND INSTALLATION STANDARDS.
2. HYDRANT EXTENSIONS SHALL BE PROVIDED AS NECESSARY AT NO ADDITIONAL COST.
3. AT LOCATIONS OF HIGH GROUNDWATER, HYDRANT DRIP RODS SHALL BE PLUGGED.
4. FIBERGLASS MARKERS SHALL BE 4' WITH HEAVY COIL SPRING AND WITH "L" MOUNTING BRACKET

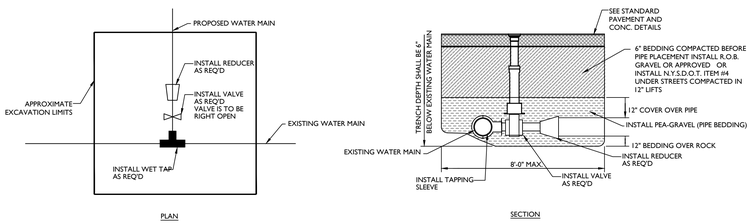


TYPICAL HYDRANT DETAIL
N.T.S.



NOTE:
OPEN CUT OF ROADWAYS FOR SERVICE INSTALLATION IS STRICTLY PROHIBITED.

TYPICAL SERVICE CONNECTION DETAIL
N.T.S.

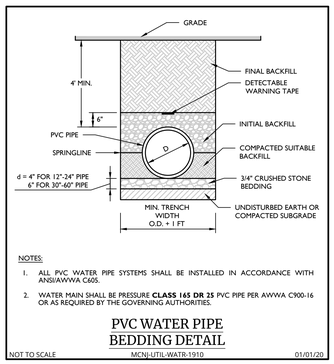


NOTE: ALL BACKFILL TO BE PLACED IN 1' LIFTS AND COMPACTED TO 95% OF MODIFIED PROCTOR (ASTM 1557)

TAPPING SLEEVE & VALVE
N.T.S.

TOWN OF GUILDERLAND CONSTRUCTION OF WATER DISTRIBUTION SYSTEM NOTES

1. INTENTION: THE DECLARED AND ACKNOWLEDGED INTENTION TO SECURE A NEW WATER DISTRIBUTION SYSTEM, COMPLETE, IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. ALL NEW WORK SHALL BE IN ACCORDANCE WITH THE LASTEST EDITION OF "RECOMMENDED STANDARDS FOR WATER WORKS."
2. GENERAL: ALL MATERIALS SHALL BE NEW AND UNUSED. MATERIALS SHALL BE WARRANTED BY THE CONTRACTOR AS TO MATERIALS, WORKMANSHIP, AND ACCURACY OF AS-BUILT DRAWINGS FOR A PERIOD OF ONE YEAR FROM THE DATE OF BENEFICIAL USE OF THE FACILITIES. WORKMANSHIP SHALL BE OF GOOD QUALITY; I.E., MAINS SHALL BE LAID IN A UNIFORM ALIGNMENT, FITTINGS SHALL BE PROPERLY RESTRAINED, TRENCHES SHALL BE PROPERLY EXCAVATED AND BACKFILLED, FIRE HYDRANTS AND VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE.
3. SURVEYS: THE UTILITY CONTRACTOR SHALL PROVIDE ALL SURVEYS NECESSARY FOR THE LAYOUT AND CONSTRUCTION OF THE WORK OF HIS CONTRACT.
4. EARTHWORK: EARTHWORK SHALL INCLUDE ALL EXCAVATION, FILL AND BACKFILL (MACHINE), COMPACTION AND ROUGH GRADING OF MATERIALS ENCOUNTERED. NO UNSUITABLE MATERIAL INCLUDING, BUT NOT LIMITED TO, CLAY, MUCK, OR PEAT, REMOVED FROM PIPE TRENCHES ARE TO BE USED FOR BACKFILL. ALL FILL OR BACKFILL SHALL BE EITHER SAND OR SANDY CLAY, FREE FROM ROOTS, TRASH, OR OTHER DEBRIS. ALL OTHER BACKFILL SHALL BE COMPACTED BY MACHINE OPERATION CAREFULLY TO 95% (OUTSIDE OF PAVING), 98% (UNDER PAVING) OF ITS OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698, LATEST.
5. JOINT RESTRAINT: ALL DIP FITTINGS SHALL BE PROPERLY AND ADEQUATELY RESTRAINED AGAINST LATERAL MOVEMENT AT ALL WATER MAIN TEES, CROSSES, VALVES, BENDS, AND FIRE HYDRANTS. RESTRAINERS SHALL BE MEGA-LUG TYPE FOR MECHANICAL JOINTS AND FIELD LOK GASKETS FOR PUSH JOINTS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. DUCTILE IRON PIPE: DUCTILE IRON PIPES SHALL COMFORM TO ANSI SPECIFICATION A21.50 (AWWA C150) LATEST, CLASS 52 MINIMUM AND SHALL BE ANSI A21.51 (AWWA C151), LATEST CENTRIFUGALLY CAST PIPE. WHEN PIPING RATING IS REDUCED BY THREADING, INCREASE PIPE WEIGHT TO CLASS 53. LAYING LENGTHS SHALL BE 20 FEET, EACH LENGTH CLEARLY MARKED WITH PRESSURE RATING, THICKNESS CLASS, HEIGHT OF PIPE WITHOUT LINING, LENGTH, AND MANUFACTURER. THE PIPE SHALL HAVE DESIGN VALUES OF 60,000 PSI MINIMUM TENSILE STRENGTH, AND 42,000 PSI MINIMUM YIELD STRENGTH. ALL PIPE SHALL BE POLYETHYLENE ENCASED.
7. DUCTILE IRON FITTINGS: DUCTILE IRON FITTINGS SHALL BE C153 CEMENT LINED AND SUITABLE FOR THE TYPE AND CLASS OF PIPE TO WHICH CONNECTED. GASKETS SHALL BE SUITABLE FOR POTABLE AND DOMESTIC WATER SERVICE.
8. HIGH DENSITY POLYETHYLENE PIPE: POLYETHYLENE PIPES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS. STANDARD FOR POLYETHYLENE WATER MAINS (ASTM F714) LATEST, STANDARD SPECIFICATION FOR POLYETHYLENE PLASTIC PIPES AND FITTING MATERIALS (ASTM D3350) LATEST, DIP MMJ ADAPTERS (AWWA C906-99) LATEST, AND (AWWA C906) AND (NSF 61). HIGH DENSITY POLYETHYLENE PIPING COMPONENTS SHALL BE MADE FROM PRESSURE-RATED PE 3408, EXTRA-HIGH MOLECULAR WEIGHT, HIGH-DENSITY POLYETHYLENE. PIPE OUTER DIAMETER (OD) SHALL BE COMPATIBLE WITH STANDARD DUCTILE IRON PIPE SIZES. HDPE PIPES FOR WATER SHALL BE DR 11 AND MANUFACTURED WITH A BLUE LONGITUDINAL COLOR STRIPE PATTERN OF THREE EQUALLY SPACED PAIRS OF COLOR STRIPES EXTRUDED INTO THE PIPE WITH TRACER WIRE. ALL HDPE WATER SERVICES SHALL BE DR 9 WITH SS STIFFENER INSERTS AND TRACER WIRE, CURB STOP, CORP STOP, AND CURB BOX COMPATIBLE WITH HDPE WATER SERVICES.
9. STEEL CASING PIPE: STEEL CASING PIPE, WHEN REQUIRED, SHALL BE OF SIZE INDICATED ON THE DRAWINGS AND SHALL CONFORM TO ASTM A139, WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI.
10. GATE VALVES AND BOXES: GATE VALVES SHALL BE NON-RISING STEM TYPE AND SHALL BE SUITABLE FOR 175 PSI (3"-12") AND 150 PSI (14"-48") WORKING PRESSURE GATE VALVE, WHICH, SHALL BE MECHANICAL JOINT. GATE VALVES SHALL HAVE A 2" OPERATING NUT AND OPEN COUNTER-CLOCKWISE. GATES VALVES SHALL HAVE JOINTS SUITABLE FOR THE TYPE OF MAIN ON WHICH INSTALLED. GATE VALVES 4" AND LARGER SHALL BE IRON BODY, BRONZE FITTED WITH RESILIENT SEAT. VALVES SHALL BE OF DOMESTIC (AMERICAN) MANUFACTURE AND SHALL BE CLOW, KENNEDY VALVE, MUELLER, OR APPROVED EQUAL VALVE BOXES SHALL BE 5 1/4" DIAMETER, CAST IRON, SLIDING TYPE WITH CENTERING DEVICE, ADJUSTABLE WITH THE WORD "WATER" CAST IN THE COVER. ALL SECTIONS OF THE VALVE BOX SHALL BE INTERCHANGEABLE WITH OLD BUFFALO FOUNDRY BOXES: STYLE #5001. VALVE BOXES SHALL BE BINGHAM AND TAYLOR OR APPROVED EQUAL.
11. CURB STOPS: CURB VALVES SHALL HAVE A COMPRESSION NUT CONNECTION AT THE INLET AND OUTLET AND SHALL BE BALL STYLE CURB STOP FOR HDPE WATER SERVICES. MODEL B44-XXX-TW-Q AS MANUFACTURED BY FORD BALLCORP CORPORATION OR APPROVED EQUAL.
12. CORP STOPS: CORPORATION STOPS SHALL HAVE A COMPRESSION CONNECTION AT THE OUTLET AND SHALL BE COMPLETE WITH A TRACER WIRE HOLE AS MANUFACTURED BY FORD BALLCORP CORPORATION MODEL FB1000-X-TW-Q OR APPROVED EQUAL.
13. CURB BOXES: CURB BOXES SHALL BE TELESCOPIC WITH OPERATING ROD AND SHALL BE MANUFACTURED BY FORD COMPANY MODEL EM2-XX-5X-TW WITH PL LID OR APPROVED EQUAL. FOOT PIECE SHALL BE PROVIDED FOR ALL SERVICES 1.5" AND LARGER. COVERS SHALL HAVE "WATER" CAST IN.
14. FIRE HYDRANTS: FIRE HYDRANTS SHALL BE MANUFACTURED BY CLOW EDDY MODEL F-2640, HYDRANTS SHALL HAVE HOSE NOZZLE WITH NST THREADS WITH 2 1/2" DIAMETER NOZZLES, 4 1/2" PUMPER NOZZLE WITH NST THREADS AND 5 1/4" MAIN VALVE OPENING. LEAD PIPE FROM HYDRANT SHALL BE CONNECTED TO A GUARD VALVE WHICH IS CONNECTED TO AN ANCHOR TEE. FIRE HYDRANTS SHALL BE PAINTED RED WITH 1 1/2" PENTAGON NUT, OPENING COUNTER-CLOCKWISE. ALL HYDRANTS SHALL BE EQUIPPED WITH HYDRANT MARKER MANUFACTURED BY CARSONITE COMPOSITES MODEL #CBM209602. 96" YELLOW WITH ANCHOR ATTACHED WITH DECAL (MODEL #123FH).
15. INSTALLATION: THE MINIMUM COVER OVER TOP OF A POTABLE WATER MAIN SHALL BE 60" MINIMUM. ALL WATER LINES AND APPURTENANCES SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER BEFORE BEING LOWERED INTO THE TRENCH AND SHALL BE KEPT CLEAN DURING LAYING OPERATIONS BY MEANS OF PLUGS OR OTHER APPROVED METHODS. ALL PIPES SHALL BE CHECK FOR DEFECTS BEFORE BEING LOWERED INTO THE TRENCH. DEFECTIVE PIPES SHALL NOT BE USED. PIPES FOUND TO BE DEFECTIVE AFTER INSTALLATION, SHALL BE REMOVED AND REPLACED WITH A SOUND PIPE AT NO ADDITIONAL EXPENSE TO THE OWNER. THE FULL LENGTH OF EACH SECTION OF PIPE SHALL REST SOLIDLY ON THE PIPE BED, WITH RECESSES EXCAVATED TO ACCOMMODATE THE BELLS AND JOINTS. ALL PIPES THAT HAVE THEIR GRADES OR JOINTS DISTURBED AFTER INSTALLATION, SHALL BE TAKEN UP AND REINSTALLED. THE PIPE SHALL NOT BE LAID IN WATER, OR WHEN TRENCH OR WEATHER CONDITIONS ARE UNSUITABLE FOR THE WORK. ALL JOINTS SHALL BE CLEANED OF ALL FOREIGN MATTER BEFORE MAKING THE JOINT. FITTINGS AT BENDS IN THE PIPE SHALL BE PROPERLY RESTRAINED WITH JOINT RESTRAINERS ADEQUATELY SIZED TO PREVENT MOVEMENT AND DISLOCATING OR BLOWING OFF WHEN THE LINE IS UNDER PRESSURE. SERVICE LATERALS SHALL TERMINATE AT THE POINT WHERE NOTED IN THE DETAILS. CONTRACTOR MUST FIELD VERIFY EXISTING UTILITIES AND INSTALL NEW WATER MAINS OVER OR UNDER THEM MAINTAINING PROPER SEPARATION DISTANCES AND 60" MINIMUM COVER. THERE WILL BE NO ADDITIONAL COMPENSATION TO AVOID EXISTING UTILITIES.
16. PRESSURE TESTING: AFTER ALL PRESSURE PIPE (WATER MAINS, SERVICES, AND FORCE MAINS) ARE LAID, THE JOINTS COMPLETED, AND THE TRENCHES BACKFILLED, THE NEWLY LAID PIPES AND APPURTENANCES SHALL BE SUBJECTED TO A PRESSURE TEST OF 150 PSI OR 1.5 TIMES WORKING PRESSURE (WHICH EVER IS GREATER) FOR A PERIOD OF AT LEAST 2 HOURS. THE ENGINEER MUST BE NOTIFIED AT LEAST 24 HOURS BEFORE A TEST IS TO BE PERFORMED. ANY LEAKS DETECTED SHALL BE CORRECTED AND THE SECTIONS OF THE PIPELINE RETESTED. THE 2 HOUR TEST PERIOD SHALL BEGIN WHEN ALL JOINTS HAVE BEEN DETERMINED TO BE WATER TIGHT. LEAKAGE SHALL BE LIMITED TO THAT ALLOWANCE SET FORTH IN SECTION 4 OF AWWA STANDARD C600. HYDROSTATIC TEST, LEAKAGE TEST, AND BLOW-DOWN (ZEROING OF GAUGE) MUST OCCUR BEFORE SAMPLING FOR BACTERIOLOGICAL TEST. THE MAXIMUM ALLOWABLE PRESSURE LOSS IS 5 PSI REGARDLESS OF THE LENGTH OF PIPE. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE PROJECT ENGINEER.
17. DISINFECTION: AFTER COMPLETION OF CONSTRUCTION AND TESTING, THE WATER SYSTEM SHALL BE DISINFECTED WITH CHLORINE IN ACCORDANCE WITH AWWA STANDARD C651. THE AMOUNT OF CHLORINE APPLIED SHALL BE SUFFICIENT TO PROVIDE A DOSAGE OF 25 mg/l OR MORE. THE CHLORINE SOLUTION SHALL REMAIN IN THE SYSTEM FOR A PERIOD OF AT LEAST 24 HOURS, DURING WHICH TIME EVERY VALVE IN THE SYSTEM SHALL BE OPENED AND CLOSED SEVERAL TIMES TO ASSURE CONTACT WITH EVERY SURFACE OF THE SYSTEM. AFTER A 24 HOUR RETENTION PERIOD, FLUSH THE MAIN UNTIL THE MAXIMUM CHLORINE CONCENTRAION IS 1 mg/l. THE CONTRACTOR SHALL OBTAIN ALL BACTERIOLOGICAL CLEARANCES AS REQUIRED BY THE NEW YORK STATE DEPARTMENT OF HEALTH. AFTER BACTERIOLOGICAL CLEARANCES, THE PRESSURE IN THE MAIN SHALL NOT DROP BELOW 20 PSI. A CLEARANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER. IN ANY PROJECT WHERE THE BACTERIOLOGICAL CLEARANCES ARE GREATER THAN 30 DAYS OLD PRIOR TO PLACING A WATER MAIN INTO SERVICE, THE CONTRACTOR MAY BE REQUIRED TO PULL MORE SAMPLES AND OBTAIN MORE BACTERIOLOGICAL CLEARANCES. PRIOR TO INTRODUCING THE CHLORINE SOLUTION, THE LINES SHALL BE THOROUGHLY FLUSHED WITH CLEAN WATER UTILIZING FULL PIPE DIAMETER FLUSHING FOR PIPE UP TO AND INCLUDING 8" DIAMETER. CONTRACTOR SHALL BE REPONSIBLE FOR DECHLORINATION OF THE DISINFECTANT WATER PRIOR TO ANY DISCHARGE TO ANY DITCH OR SURFACE WATERS.
18. BACTERIOLOGICAL SAMPLING: CONTRACTOR SHALL ASSURE THE PROJECT CONSTRUCTION IS COMPLETELY FINISHED PRIOR TO ANY BACTERIOLOGICAL SAMPLING AND TESTING.
19. ABANDONMENT OF EXISTING MAINS AND APPURTENANCES: EXISTING WATER MAINS TO BE ABANDONED IN PLACE SHALL BE PHYSICALLY SEPARATED BY A MINIMUM OF 12" AND A 24" LONG 2500 PSI CONCRETE PLUG INSTALLED. ALL VALVES TO BE ABANDONED SHALL BE CLOSED AND THE ENTIRE VALVE BOX REMOVED.



NOTES:
1. ALL PVC WATER PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C605.
2. WATER MAIN SHALL BE PRESSURE **CLASS 165 DR 25** PVC PIPE PER AWWA C900-16 OR AS REQUIRED BY THE GOVERNING AUTHORITIES.

PVC WATER PIPE BEDDING DETAIL
NOT TO SCALE MCNJ-UTIL-WATR-1910 01/01/20

JOINT RESTRAINED SCHEDULE							
PIPE SIZE	90°	45°	22 ½°	11 ¼°	TEES (ALONG BRANCH)	REDUCER (LARGER O.D.)	DEAD ENDS
6"	15'	10'	5'	5'	20'	–	60'
8"	20'	10'	5'	5'	55'	–	70'
10"	25'	10'	5'	5'	65'	–	85'
12"	30'	15'	10'	5'	80'	–	95'
8"x6"	–	–	–	–	35'	30'	–
10"x8"	–	–	–	–	50'	30'	–
12"x8"	–	–	–	–	45'	55'	–
12"x10"	–	–	–	–	65	30'	–

JOINT RESTRAINT SCHEDULE
N.T.S.

1. MINIMUM LENGTH IN FEET TO BE RESTRAINED IN EACH DIRECTION.
2. ACTUAL LENGTH SHALL BE BASED ON SOIL CONDITIONS.
3. RESTRAINT BASED ON TYPICAL SOIL CONDITIONS, 150 PSI TEST PRESSURE AND BEDDING PER PROJECT TRENCH DETAIL. FOR VALVES USE LENGTHS AS INDICATED FOR 90° BEND.
4. RESTRAINT BASED ON DUCTILE IRON PIPE WITH POLYETHYLENE ENCASEMENT
5. APPROVED RESTRAINERS: APPROVED MECA-LUG TYPE FOR MECHANICAL JOINTS AND FIELD LOC GASKETS FOR PUSH JOINTS
6. ALL RESTRAINT BOLTS AND NUTS SHALL BE STEEL, ASTM A307, GRADE B, AND SHALL BE CADMIUM PLATED PER SPECS.
7. THRUST BLOCKS SHALL ONLY BE USED ON DEAD ENDS PER CONTRACT PLANS.
8. MIN 5' GROUND COVER REQUIRED.
9. IF RESTRAINT LENGTH IS LESS THAN THE LENGTH OF PIPE, CONTRACTOR SHALL RESTRAIN THE NEXT JOINT.
10. ALL RESTRAINTS FOR ELBOWS ARE FOR HORIZONTAL INSTALLATION. CONTRACTOR SHALL CONSULT ENGINEER FOR VERTICAL RESTRAINT SCHEDULE.

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REV	DATE	DRAWN BY	DESCRIPTION
1	04/27/20	DB	MINOR NOTE REVISIONS
2	09/30/20	WD	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
3	11/20/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
4	08/30/22	SVD	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
5	03/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

SPECIAL USE PERMIT SITE PLANS
FOR
COSTCO WHOLESALE
CROSSGATES MALL
TAX MAP 52.10, 52.14 & 52.01
TOWN OF GUILDERLAND
ALBANY COUNTY
STATE OF NEW YORK

Colliers Engineering & Design
EXTON
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Exton, PA 19341
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/28/19	DIII	RTM

PROJECT NUMBER: 13001204A
DRAWING NAME: C-DTL5

SHEET TITLE: WATER SERVICE DETAILS

SHEET NUMBER: 20 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2023-10-20 13:44:05 p:\projects\gld\costco\civil\dtl\C-DTL5.dwg DB WATER SERVICE DETAILS

CROSSGATES MALL ROAD

CROSSGATES MALL ROAD

COSTCO WHOLESALE

BUILDING / PARKING SETBACK

CART

GABRIEL TERRACE

RIELTON COURT

LAWTON TERRACE

BUILDING / PARKING SETBACK

BUILDING / PARKING SETBACK

BUILDING / PARKING SETBACK

BUILDING / PARKING SETBACK

RESERVED FOR EV

ONLY

DO NOT ENTER

COSTCO MONUMENT SIGN

WESTERN AVE (SR 20)

LEGEND

Fire - Hannaford Aerial 100 Albany NY Fire CO1

WESTMERE LADDER TRUCK (49.7 FEET LONG)

SAR ALBANY NY FIRE CO

E-98 PUMP TRUCK (37.3 FEET LONG)

N

W E

S

40 0 40 80

SCALE : 1" = 40'

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1	04/07/20	DB	MINOR NOTE REVISIONS
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3	11/20/20	RMA	REVISED PER TOWN OF GUILDERLAND REVIEW COMMENTS
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5	01/10/23	DB	REVISED SITE LAYOUT AND ENGINEERING PER TOWN OF GUILDERLAND

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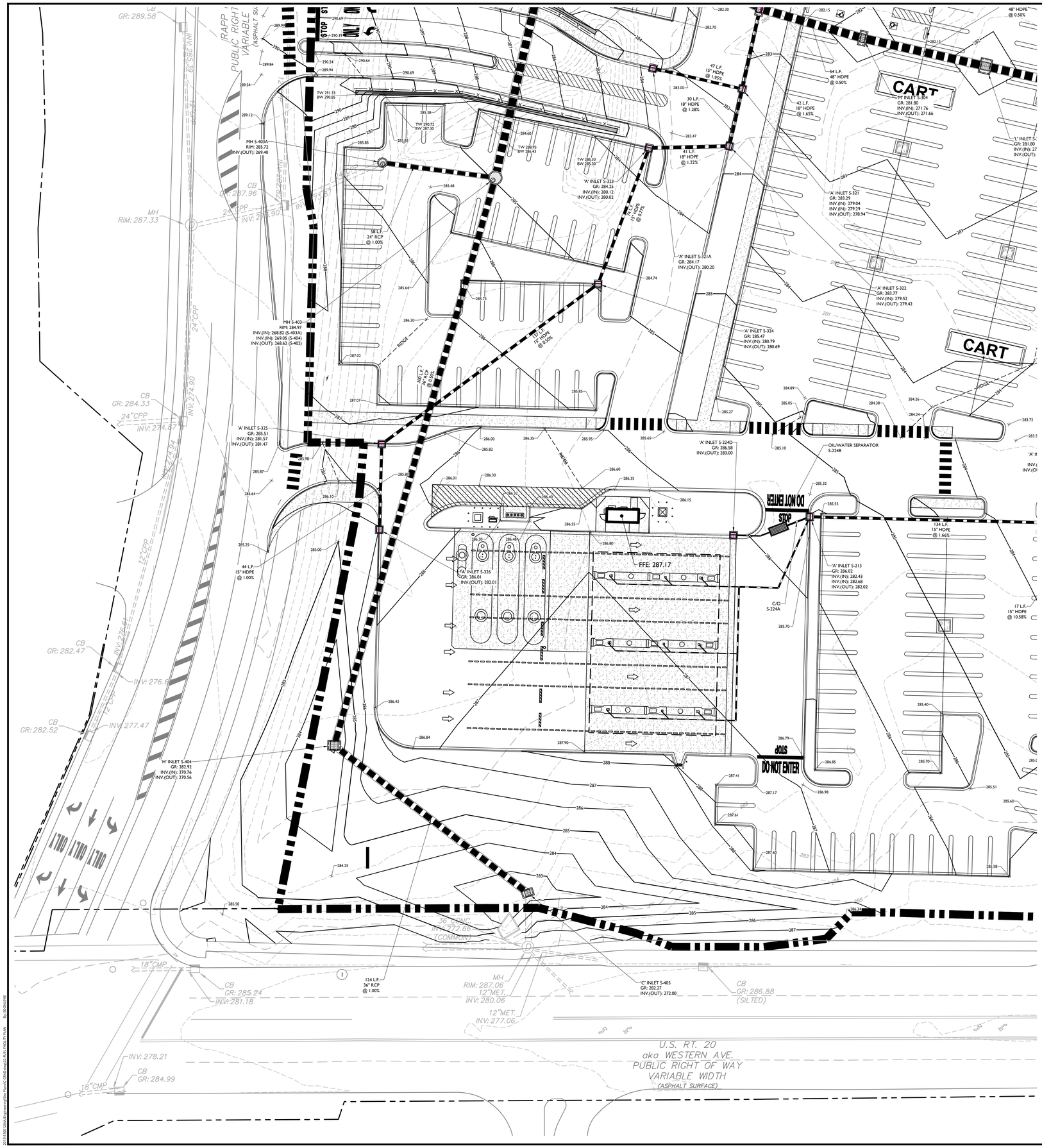
PROJECT NUMBER:	DRAWING NAME:
13001204A	C-LAYT

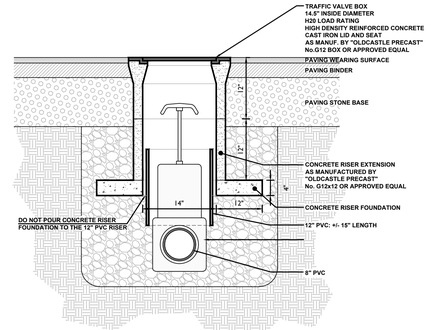
SHEET TITLE:
EMERGENCY VEHICLE MOVEMENT PLAN

SHEET NUMBER:
21 of 22

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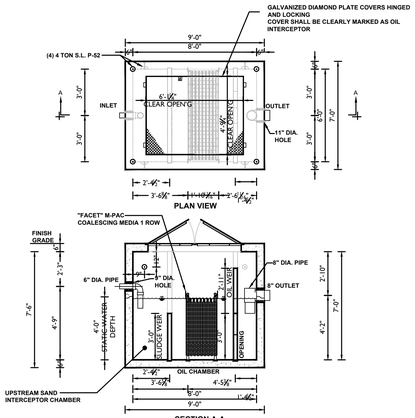
2023-01-10 10:20:54 M:\Engineering\Active Projects\13001204A\Civil\Design\13001204A-Emergency Vehicle Movement.dwg by: DBERNHARDT





OIL/WATER SEPARATOR EMERGENCY SHUTOFF VALVE DETAIL

NOT TO SCALE



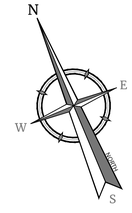
GENERAL NOTES:
1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH = 5,000 PSI
2. STEEL REINFORCEMENT: ASTM A-615,GRADE 60
3. COVER TO STEEL: 1" MINIMUM
4. VAULTS ARE TO BE DESIGNED TO MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20 LOADING
5. CONSTRUCTION JOINTS TO BE SEALED WITH 1" DIAMETER BUTYL RUBBER OR EQUIVALENT
6. OIL/WATER SEPARATOR TO BE AS MANUFACTURED BY "OLDCASTLE PRECAST" OR APPROVED EQUAL
7. OIL/WATER SEPARATOR SHALL MEET 2009 N.S.P.C. SECTION 6.3.2.

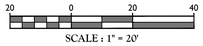
OIL/WATER SEPARATOR 1,400 GALLON CAPACITY

NOT TO SCALE

GENERAL NOTES:

1. ELEVATIONS SHOWN ARE IN REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. EXISTING INFORMATION SHOWN HAS BEEN COMPILED FROM MULTIPLE SOURCES AND DOES NOT REPRESENT A SURVEY.
3. ROADWAY IMPROVEMENTS SHOWN ARE FROM "SITE 2 - SPECIAL USE PERMIT SUBMISSION," PREPARED BY JMT. DRIVEWAY CONNECTIONS, GRADING TIE-INS, AND STORM DRAINAGE TO BE COORDINATED WITH THE PROPOSED ROADWAY IMPROVEMENTS BEING DESIGNED BY JMT.





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PROJECT NUMBER:	DRAWING NAME:
13001204A	C-GRAD

SHEET TITLE:
FUEL FACILITY PLAN

SHEET NUMBER:
22 of 22

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2013\13001204\Engineering\Site Plans\C-GRAD.dwg,10/28/2019 8:08:45 AM,RTM