MINIT MANAGEMENT

SW QTR, SECTION 04
TOWNSHIP 04N, RANGE 01E W.M.

APPLICANT / OWNER:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
CONTACT:DON RHOADS
EMAIL: drhoads@tcgstores.com

ENGINEER & SURVEYOR:
OLSON ENGINEERING, INC.
222 E. EVERGREEN
VANCOUVER, WA. 98660
PH: (360) 695-1385
FX: (360) 695-8117
CONTACT: CHAD McMURRY
EMAIL: chad@olsonengr.com

CALL
2 BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
"It's the Law"

UTILITY CONTACTS

NORTHWEST NATURAL	(503) 706-015
CENTURYLINK	(360) 699-3992
COMCAST	(360) 828-3546
CLARK PUBLIC UTILITIES (POWER)..	(360) 992-8552

BASIS OF BEARINGS:

BEARINGS BASED ON RECORD OF SURVEY BY OLSON ENGINEERING INC RECORED IN BK. 67, PG. 113

VERTICAL DATUM:

ELEVATIONS SHOWN HEREON ARE NGVD29(47)
AKA CLARK
COUNTY VERTICAL DATUM BASED ON TIES TO
CLARK COUNTY
BENCHMARKS 13 AND 14.

BENCHMARK:

SITE BENCHMARK 1:
SET 1/2" REBAR WITH RED PLASTIC CAP AT EAST SIDE OF ROAD, S59°W 15' TO CATCH BASIN.
ELEVATION = 262.69'

SITE BENCHMARK 2:
SET 1/2" REBAR WITH RED PLASTIC CAP, LOCATED 67' WEST OF THE NW BUILDING CORNER AND N8°E 17' TO POWER POLE #2822.
ELEVATION = 264.41'

LEGEND

	PERIMETER OF SITE
	RIGHT-OF-WAY LINE
	CENTERLINE OF ROAD
	FACE OF CURB
	LOT LINE
	EASEMENT LINE
STM	STORM SEWER LINE
STM	EXIST STORM SEWER
SAN	SANITARY SEWER LINE
SAN	EXIST SANITARY SEWER
W	WATER SERVICE LINE
W	EXIST WATER LINE
123	GRADED CONTOUR LINE
123	EXIST CONTOUR LINE

MANHOLE	WATER SERVICE METER
WATER VALVE AND BOX	TELEPHONE RISER
FIRE HYDRANT ASSEMBLY	GAS RISER
SANITARY CLEAN OUT	ELECTRIC RISER
CATCH BASIN	UTILITY POLE
THRUST BLOCK	UTILITY POLE W/ LIGHT
	SIGN POST

VICINITY MAP
N.T.S.

CITY OF LA CENTER

APPROVED FOR CONSTRUCTION: _____ CITY ENGINEER DATE

APPROVED FOR CONSTRUCTION: _____ PUBLIC WORKS DIRECTOR DATE

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER

RIO #_____

SIGNATURE_____DATE_____

CLARK COUNTY FIRE & RESCUE

APPROVED FOR CONSTRUCTION: _____ DATE

SHEET LIST TABLE

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

COVER SHEET FOR:
MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC.222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

CHARLES E. MCMURRY
STATE OF WASHINGTON
37908
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

7/30/2020

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM/JS
DRAWN: TAS
CHECKED: CEM
DATE: AUGUST 2020
SCALE: H: N/A
V: N/A

MINIT MANAGEMENT
JOB NO.: 9825.01.01

SHEET
C1.0

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TEST	SPECIFICATIONS	FREQUENCY	TESTING AGENCY	COMMENTS
SUBGRADE CUT COMPACTION	WSDOT 2-06.3	ONCE EVERY 500 FEET	CERTIFIED LAB	(95%) PRIOR TO BASE ROCK
SUBGRADE FILL COMPACTION	WSDOT 2-06.3	ONCE EVERY 500 FEET	CERTIFIED LAB	(95%) PRIOR TO BASE ROCK
UTILITY BACKFILL COMPACT.	WSDOT 2-06.3	EVERY 500 FEET OF TRENCH	CERTIFIED LAB	PRIOR TO BASE ROCK 95%
EASEMENT UTIL. BACKFILL	WSDOT 2-06.3	EVERY 500 FEET OF TRENCH	CERTIFIED LAB	PRIOR TO FINAL ACCEPTANCE 95%
LOT AREA COMPACTION	AASHTO T-99	MIN 1/ LOT FILL OVER 1'	CERTIFIED LAB	PRIOR TO FINAL ACCEPTANCE
BACTERIA WATER SAMPLE	WSDOH	AS REQ'D. BY CPU	CERTIFIED LAB	PRIOR TO PRESSURE TEST & BASE ROCK
WATER PRESSURE TEST	WSDOT 7-09.3	MAIN, SERVICE, F.H., BY CPU	CONTRACTOR	PRIOR TO BASE ROCK
PRESS. SEWER PRESSURE TEST	WSDOT 7-17.3	MAIN, SERVICE, AIR/VAC	CONTRACTOR	PRIOR TO BASE ROCK
PRESS. SEWER DEFLECTION TEST	WSDOT 7-17.3	MAIN, SERVICE	CONTRACTOR	PRIOR TO BASE ROCK
GRAV. SEWER AIR TEST	WSDOT 7-17.3	MAIN AND LATERALS	LAB/CONTRACTOR	PRIOR TO BASE ROCK
GRAV. SEWER VAC. TEST MH	WSDOT 7-17.3	AFTER INSTALLATION	LAB/CONTRACTOR	AFTER PAVEMENT INSTALLED
GRAV. SEWER DEFLECTION TEST	WSDOT 7-17.3	AFTER INSTALLATION	CONTRACTOR	PRIOR TO BASE ROCK
GRAV. SEWER TV TEST	WSDOT 7-17.3	AFTER INSTALLATION	CONTRACTOR	PRIOR TO PAVING
PRESSURE WASH SAN. SEWER	–	AS DIRECTED PER CITY	CONTRACTOR	AS DIRECTED PER CITY
BASE ROCK GRADING	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT
BASE ROCK COMPACTION	WSDOT 4-04.3	1/ EVERY 1,000 LINEAL FEET	CERTIFIED LAB	PRIOR TO TOP ROCK (95% DENSITY)
TOP ROCK GRADING	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT
TOP ROCK COMPACTION	WSDOT 4-04.3	1/ EVERY 1,000 LINEAL FEET	CERTIFIED LAB	PRIOR TO PAVEMENT (95% DENSITY)
HMA GRADE & OIL CONTENT	WSDOT 9-03.8	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT
HMA COMPACTION	WSDOT 2-06.3	5 TESTS PER DENSITY LOT	CERTIFIED LAB	91% OF MAXIMUM RICE DENSITY
SUBGRADE GRADE CK ELEV	WSDOT	PER STATION (0+25)	CONTRACTOR	PRIOR TO ROCK
BASE ROCK GRADE CK ELEV	WSDOT	PER STATION (0+50)	CONTRACTOR	PRIOR TO TOP ROCK
TOP ROCK GRADE CK ELEV	WSDOT	PER STATION (0+50)	CONTRACTOR	PRIOR TO PAVEMENT
CONCRETE TESTING	WSDOT 5-05.3	PER STANDARD SPECS	CERTIFIED LAB	
STORM SEWER EXFILTRATION TEST	WSDOT 7-04.3	MAIN, MH	CONTRACTOR	PRIOR TO BASE ROCK
STORM SEWER INFILTRATION TEST	WSDOT 7-04.3	MAIN, MH	CONTRACTOR	PRIOR TO BASE ROCK
STORM SEWER AIR TEST	WSDOT 7-04.3	MAIN	CONTRACTOR	PRIOR TO BASE ROCK

UTILITY AND ROAD TESTING REQUIREMENTS

PLAN # C-1

CITY OF LA CENTER APPROVED

Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

1. ALL MATERIALS, WORKMANSHIP AND INSTALLATION OF STORM SEWERS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE "CITY OF LA CENTER ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION" AND THE LATEST EDITION OF THE "WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS", PREPARED BY THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, EXCEPT AS NOTED HEREIN OR ON THE STANDARD PLANS.
2. THE CONTRACTOR IS TO VERIFY ALL INVERT AND TOP ELEVATIONS OF EXISTING STORM SEWERS, CENTERLINE AND TOP OF CURB ELEVATIONS, AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
3. ALL STORM SEWER CONSTRUCTION IS SUBJECT TO INSPECTION, AND APPROVAL, PRIOR TO COVER BY THE CITY OF LA CENTER. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR BEGINNING OF THE CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 1-800-424-5555, (NORTHWEST UTILITY NOTIFICATION CENTER), FOR MARK-UP OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
5. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROCURE ALL APPLICABLE PERMITS, LICENSES AND CERTIFICATES RELATIVE TO THE TRADES TO COMPLETE THE PROJECT AND FOR THE USE OF SUCH WORK WHEN COMPLETED. COMPLIANCE SHALL BE AT ALL LEVELS, FEDERAL, STATE AND CITY, RELATING TO THE PERFORMANCE OF THIS WORK.
6. THE CONTRACTOR SHALL OBTAIN ALL OFFSITE CONSTRUCTION EASEMENTS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THAT ALL OFFSITE UTILITIES EASEMENTS HAVE BEEN OBTAINED BY THE OWNER PRIOR TO THE COMMENCEMENT OF ANY OFFSITE CONSTRUCTION.
7. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT THAT MUST BE APPROVED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO CONSTRUCTION.
8. ALL CATCH BASINS AND CURB INLETS SHALL BE STENCILED AS FOLLOWS: "DUMP NO WASTE-DRAINS TO STREAM".
9. SIGNS THAT READ: "WATER QUALITY FILTER-PLEASE LEAVE VEGETATED" SHALL BE INSTALLED EVERY 50 FEET ON FENCE OR POSTS ALONG WATER QUALITY BIOFILTRATION SYSTEMS.
10. VEGETATION IN BIOFILTRATION SYSTEMS SHALL BECOME FULLY ESTABLISHED PRIOR TO COMMENCING WITH INSTALLATION OF A.C. PAVEMENT FOR ALL AREAS DRAINING INTO THE WATER QUALITY SYSTEM. VEGETATION IN BIOFILTRATION SYSTEMS TO BE THE FOLLOWING GRASS SEED MIX (PROPORTIONS GIVEN BY WEIGHT):

    40% REDTOP BENTGRASS, 30% RED FESCUE, 20% TALL FESCUE, 5% PERENNIAL RYE, 5% RUSSIAN WILDRYE.
11. PIPES OVER 12" DIA. SHALL HAVE A CHILD PROTECTION DEVICE AT INFLUENT END.
12. ALL STORM MANHOLES INSTALLED WITHIN AN EASEMENT OR OUTSIDE THE CITY RIGHT-OF-WAY SHALL HAVE LOCKING LID COVERS.
13. MATERIAL CERTIFICATION FOR ALL STORM MANHOLES, CATCHBASINS, AND CURB INLETS SHALL BE PROVIDED TO THE CITY INSPECTOR.
14. ALL ROOF AND LOWPOINT DRAINS TO BE DIRECTED TO APPROVED DRAINAGE PER PLANS.
15. ALL TRENCH BACKFILLING WILL CONFORM TO STANDARD DETAIL SS-4. PIPE BEDDING WILL CONFORM TO STANDARD DETAIL SS-5.
16. ALL STORM SEWER CLEANOUTS WILL MEET THE REQUIREMENTS OF STANDARD DETAIL SS-14.

GENERAL STORMWATER NOTES

PLAN # SM-1

CITY OF LA CENTER APPROVED

Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

1. *ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY CAUSED BY CLEARING OR GRADING. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE CITY PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL CALL FOR AN ON-SITE INSPECTION WHEN EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND PRIOR TO COMMENCEMENT OF WORK.*
2. *THE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SITED, DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE CITY OF LA CENTER ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION.*
3. *THE DEVELOPER IS RESPONSIBLE FOR MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL MEASURES DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH UTILITY TRENCHES.*
4. *PRIOR TO ANY SITE EXCAVATION, ALL STORM DRAINAGE INLETS SHALL BE PROTECTED DOWN SLOPE FROM ANY DISTURBED OR CONSTRUCTION AREAS PER THE STANDARD DETAILS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS. CLEAN THE FILTER FABRIC AS NECESSARY TO MAINTAIN DRAINAGE. REMOVE FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITEWORK.*
5. *THE CONTRACTOR SHALL NOT ALLOW SEDIMENT OR DEBRIS TO ENTER NEW OR EXISTING PIPES, CATCH BASINS OR INFILTRATION SYSTEMS.*
6. *NEWLY CONSTRUCTED OR MODIFIED INLETS AND CATCH BASINS ARE TO BE PROTECTED IMMEDIATELY UPON INSTALLATION.*
7. *TEMPORARY SEEDING AND MULCHING OF FILL SLOPES AND DIVERSION DIKES SHALL BE COMPLETED WITHIN ONE WEEK AFTER ROUGH GRADING.*
8. *ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs). DURING THE PERIOD FROM OCTOBER 1 TO APRIL 30 NO SOIL SHALL BE EXPOSED FOR MORE THAN TWO (2) DAYS. FROM MAY 1 TO SEPTEMBER 30 NO SOIL SHALL BE EXPOSED FOR MORE THAN SEVEN (7) DAYS.*
9. *MATERIAL STOCKPILES ARE TO BE PROTECTED BY THE FOLLOWING MEANS:*
    –TEMPORARY: COVER PILES WITH TARPS OR PLASTIC SHEETING WEIGHTED WITH CONCRETE BLOCKS, LUMBER OR TIRES.
    –PERMANENT: COVER PILES WITH TARPS OR PLASTIC, OR RESEED. PERIMETER AREAS AROUND PILES ARE TO BE SURROUNDED WITH EROSION CONTROL FILTER FABRIC FENCES UNTIL SOIL SURFACE IS STABILIZED WITH RESEEDING.
10. *THE CONTRACTOR SHALL MAINTAIN ON SITE A WRITTEN DAILY LOG OF EROSION CONTROL BMP MAINTENANCE.*
11. *IF THE CITY INSPECTOR OR ENGINEER HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR IMPROPER EROSION PREVENTION BMPs, CITATIONS AND/OR A STOP WORK ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY OF LA CENTER. IF THE BMPs APPLIED TO A SITE ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHT-OF-WAY, THEN THE CITY SHALL REQUIRE ADDITIONAL BMPs.*
12. *ALTERNATIVE BMP'S NOT SHOWN IN THESE DETAILS ARE ACCEPTABLE PROVIDED THEY ARE PART OF ECOLOGY'S WESTERN WASHINGTON STORMWATER MANAGEMENT MANUAL AND THE CITY ENGINEER REVIEWS AND APPROVES THE ALTERNATIVE BMP'S AS PART OF THE EROSION CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION.*

EROSION CONTROL GENERAL NOTES I

PLAN # ER-1A

CITY OF LA CENTER APPROVED

Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

1. ALL EXISTING SANITARY SEWER MANHOLES SHALL BE LOCATED AND ADJUSTED TO FINISH GRADE.
2. ALL MATERIALS, WORKMANSHIP AND INSTALLATION OF SANITARY SEWERS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE "CITY OF LA CENTER STANDARDS" AND THE LATEST EDITION OF THE "WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS", PREPARED BY THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, EXCEPT AS NOTED HEREIN OR ON THE STANDARD PLANS.
3. ALL SANITARY SEWER CONSTRUCTION IS SUBJECT TO INSPECTION, AND APPROVAL, PRIOR TO COVER BY THE CITY OF LA CENTER. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR BEGINNING OF THE CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 1-800-424-5555, (NORTHWEST UTILITY NOTIFICATION CENTER), FOR MARK-UP OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
5. ALL PIPE AND FITTINGS SHALL CONFORM TO LCMC 13.10.150 AND THE FOLLOWING:
    A. POLYVINYLCHLORIDE (PVC) SEWER PIPE 15" DIAMETER OR LESS SHALL CONFORM TO ASTM D3034, SDR 35. PVC PIPE 18" DIAMETER AND LARGER SHALL CONFORM TO ASTM F 679. ALL PVC PIPE SHALL HAVE AN INTEGRAL BELL GASKETED JOINT WITH ELASTOMERIC GASKET AND SHALL BE FURNISHED IN 12-1/2 FOOT LAYING LENGTHS.
    B. DUCTILE IRON (DI) PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C-151, WITH PUSH-ON JOINTS, UNLESS OTHERWISE NOTED.
6. MANHOLES, CLEANOUTS, SERVICE LATERAL CONNECTIONS, TRENCH EXCAVATION, PIPE BEDDING AND STREET RESTORATION, AND APPURTENANCES SHALL CONFORM TO THE DETAILS SHOWN ON THE STANDARD PLANS. ALL OTHER CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARD DETAILS CONTAINED IN THE WSDOT "STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION".
7. ALL SANITARY MANHOLES INSTALLED WITHIN AN EASEMENT OR OUTSIDE THE CITY RIGHT-OF-WAY SHALL HAVE LOCKING LID COVERS AND EXTEND ONE FOOT (1') ABOVE GRADE.
8. THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FOR WORK WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT AN APPROVED TRAFFIC CONTROL PLAN. INSIDE THE CITY THIS PLAN SHALL BE APPROVED BY THE CITY OF LA CENTER PUBLIC WORKS DIRECTOR OR DESIGNEE AND OUTSIDE THE CITY IT SHALL BE APPROVED BY THE CLARK COUNTY TRAFFIC ENGINEER (360-397-2446). APPROVAL SHALL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
9. ALL PIPES SHALL BE PLUGGED AT THE END OF EACH WORKING DAY.
10. ALL TRENCHES SHALL BE FILLED AND COMPACTED UP TIGHT AT THE END OF EACH WORKING DAY.
11. A CLEANOUT OR MANHOLE IS REQUIRED AT THE END OF ALL LINES.
12. PRE-PAVEMENT AS-BUILTS ARE REQUIRED.

SANITARY SEWER GENERAL NOTES:

PLAN # SS-1

CITY OF LA CENTER APPROVED

Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

1. *THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.*
2. *THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 1-800-424-5555, (NORTHWEST UTILITY NOTIFICATION CENTER), FOR MARK-UP OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.*
3. *ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE "CITY OFLA CENTER STANDARDS" AND THE LATEST EDITION OF THE "WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE & MUNICIPAL CONSTRUCTION" AS PREPARED BY WSDOT AND THE WASHINGTON STATE CHAPTER OF THE APWA.*
4. *THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 1-800-424-5555, (NORTHWEST UTILITY NOTIFICATION CENTER), FOR MARK-UP OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.*
5. *THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, AND APPROVAL OF THE CONSTRUCTION WILL BE BY THE CITY PUBLIC WORKS DEPARTMENT.*
6. *AN APPROVED TRAFFIC CONTROL PLAN WILL BE REQUIRED PRIOR TO THE START OF CONSTRUCTION WITHIN A CITY OR COUNTY RIGHT-OF-WAY.*
7. *COMPACTION SHALL BE AS FOLLOWS:*
    -SUBGRADE SHALL BE COMPACTED TO A DEPTH OF 6" AT 95% OF THE RELATIVE DRY DENSITY.
    -ASPHALT CONCRETE SHALL BE COMPACTED TO 95% OF THE MAXIMUM RELATIVE DENSITY.
    -CRUSHED ROCK SHALL BE COMPACTED TO 95% STANDARD DENSITY.
8. *STREET SIGNS SHALL BE INSTALLED BY THE DEVELOPER. THE CITY WILL PROVIDE STREET SIGNS TO THE DEVELOPER.*
9. *THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ALL CROSSWALK SIGNS, CENTERLINE STRIPING, AND CURB RETURN PAINTING. ALL PERMANENT STRIPING TO BE THERMOPLASTIC.*
10. *THE DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OR PROPORTIONAL SHARE OF THE STREET LIGHT INSTALLATION.*
11. *MAIL BOXES SHALL HAVE 12" MINIMUM CLEARANCE FROM THE BACK OF THE SIDEWALK.*
12. *A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE CITY PRIOR TO BEGINNING OF CONSTRUCTION.*
13. *TRENCH BACKFILL REQUIREMENTS WILL BE PER STANDARD DETAIL SS-4 AND ST17 - ST19. PIPE BEDDING REQUIREMENTS WILL BE PER STANDARD DETAIL SS-5.*
14. *ALL WATER SYSTEM IMPROVEMENTS WILL BE APPROVED BY CLARK PUBLIC UTILITIES PRIOR TO THE START OF CONSTRUCTION.*
15. *ALL SIGNING AND STRIPING WILL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD), AS AMENDED BY WSDOT.*

STREETS & SIDEWALKS GENERAL NOTES

PLAN # ST-1

CITY OF LA CENTER APPROVED

Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

13. *PROVIDE A 12-INCH DEEP PAD OF CRUSHED ROCK FOR A DISTANCE OF 100 FEET INTO THE SITE FOR ALL ACCESS POINTS UTILIZED BY CONSTRUCTION EQUIPMENT AND TRUCKS. WIDTH OF THE PAD SHALL BE A MINIMUM OF 20 FEET. ALL TRUCKS LEAVING THE SITE SHALL EGRESS ACROSS THE PAD. ACCUMULATED SOIL SHALL BE PERIODICALLY REMOVED, OR ADDITIONAL ROCK SHALL BE PLACED UPON THE PAD SURFACE. ROCK SHALL BE CLEAN 4 INCH TO 8 INCH QUARRY SPALLS. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.*
14. *PAVEMENT SWEEPING AND SHOVELING IS REQUIRED. WASHING THE PAVEMENT INTO THE STORM SYSTEM IS NOT PERMITTED.*
15. *AT SITES WITH LESS THAN 1 ACRE OF EXPOSED SOIL, PAD LENGTH MAY BE REDUCED TO 50 FEET. SINGLE FAMILY LOT ENTRANCES MAY HAVE THE PAD LENGTH REDUCED TO 20 FEET.*
16. *INSTALL SEDIMENT FENCE IN ACCORDANCE WITH DETAIL ER-3 PRIOR TO BUILDING CONSTRUCTION AND/OR EXCAVATION TO PREVENT SILT INTRUSION UPON ADJACENT LOTS. IF CONSTRUCTION OCCURS SIMULTANEOUSLY ON ADJACENT LOTS AND THE LOTS HAVE THE SAME OWNER DURING CONSTRUCTION, THE SILT FENCE ALONG THE COMMON LOT LINE MAY BE ELIMINATED.*
17. *CONSTRUCTION ROADS AND PARKING AREAS SHALL BE STABILIZED WHEREVER THEY ARE CONSTRUCTED, WHETHER PERMANENT OR TEMPORARY, FOR THE USE OF CONSTRUCTION TRAFFIC.*
18. *MAINTAIN AND REMOVE ALL SEDIMENT CONTROLS AS SPECIFIED IN THE STANDARD DETAILS. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, DRYWELLS, UTILITY TRENCHES AND STORM PIPES PRIOR TO ACCEPTANCE BY THE CITY.*
19. *SEDIMENT CONTROL BMPs SHALL BE INSPECTED WEEKLY AND AFTER ANY STORM EVENT PRODUCING RUNOFF. THE INSPECTION FREQUENCY FOR STABILIZED, INACTIVE SITES SHALL BE ONCE EVERY TWO WEEKS OR MORE FREQUENTLY AS DETERMINED BY THE LOCAL PERMITTING AUTHORITY BASED ON THE LEVEL OF SOIL STABILITY AND POTENTIAL FOR ADVERSE ENVIRONMENTAL IMPACTS.*
20. *ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.*
21. *IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST ONE OR MORE OF THE FOLLOWING PREVENTATIVE MEASURES SHALL BE TAKEN FOR DUST CONTROL:*
    –MINIMIZE THE PERIOD OF SOIL EXPOSURE THROUGH THE USE OF TEMPORARY GROUND COVER AND OTHER TEMPORARY STABILIZATION PRACTICES.
    –SPRINKLE THE SITE WITH WATER UNTIL THE SURFACE IS WET.
    –SPRAY EXPOSED SOIL AREAS WITH A DUST PALLIATIVE. NOTE: USE OF PETROLEUM PRODUCTS OR POTENTIALLY HAZARDOUS MATERIALS ARE PROHIBITED
22. *EXPOSED SURFACES THAT WILL NOT BE BROUGHT TO FINAL GRADING OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE SEED MIX AND MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION SEDIMENTATION. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ASSURE A GOOD STAND OF GRASS IS BEING MAINTAINED. AREAS THAT FAIL TO ESTABLISH VEGETATION COVER ADEQUATE TO PREVENT EROSION WILL BE RESEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.*
23. *APPLY AN APPROVED TEMPORARY SEEDING MIXTURE TO THE PREPARED SEED BED AT A RATE OF 120 LBS/ACRE. NOTE: "HYDROSEEDING" APPLICATIONS WITH APPROVED SEED–MULCH–FERTILIZER MIXTURES MAY ALSO BE USED.*

EROSION CONTROL GENERAL NOTES II

PLAN # ER-1B

CITY OF LA CENTER APPROVED

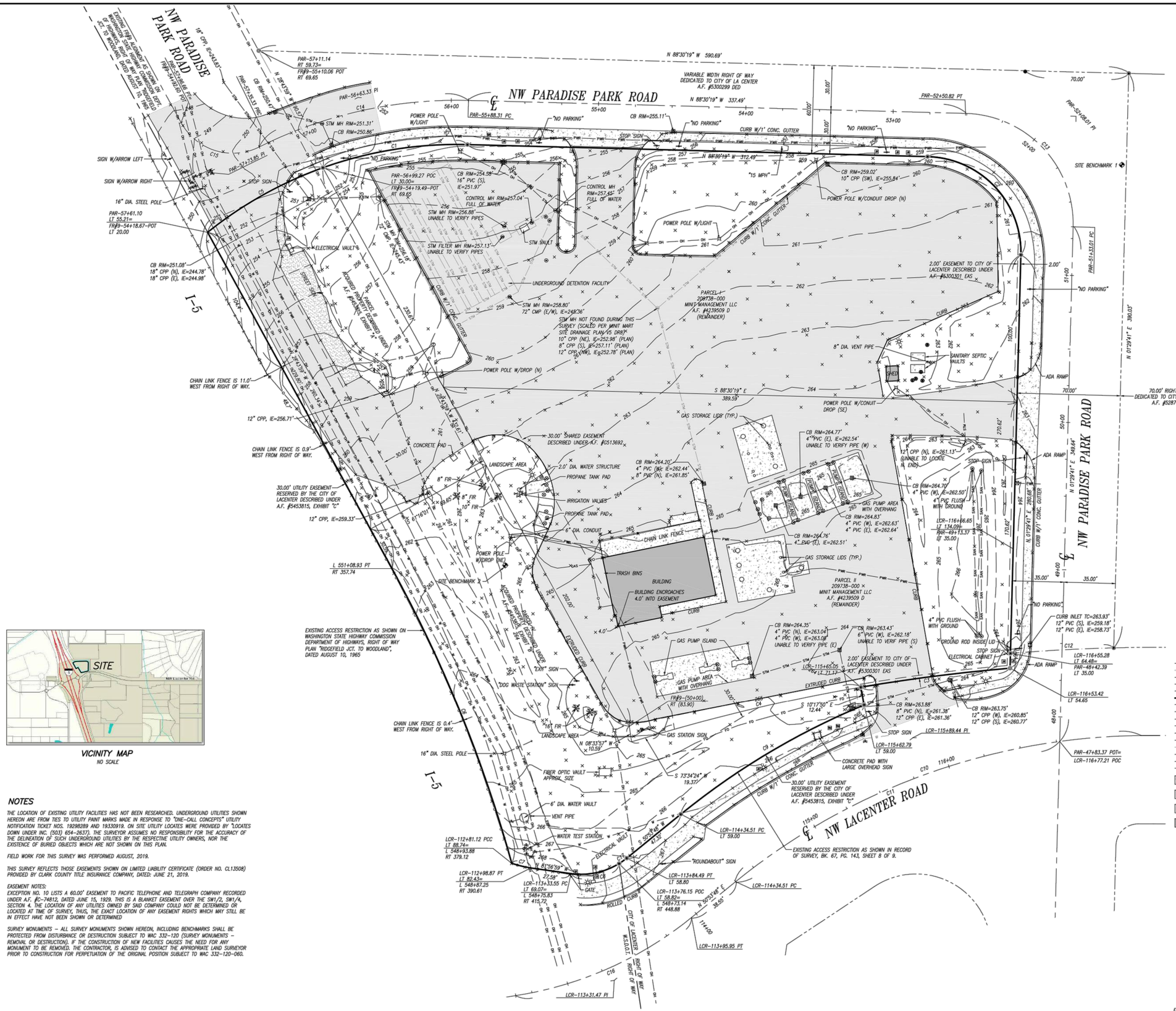
Barb Shpp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

GRADING AND STRUCTURAL FILL NOTES:

1) *ALL CUT AND FILL AREAS SHOWN SHALL BE STRIPPED OF SOD AND OTHER UNSUITABLE MATERIAL PRIOR TO COMPACTION OR PLACEMENT OF SUBGRADE AND TOP COURSE. STRIPPINGS SHALL BE STOCKPILED FOR LATER DISTRIBUTION ON THE GRADED AREAS.*
2) *AREAS TO BE GRADED SHALL BE CLEARED AND GRUBBED. MATERIAL FROM THE CLEARING AND GRUBBING OPERATION SHALL BE DISPOSED OF PROPERLY.*
3) *AT THE END OF THE GRADING OPERATION, STRIPPINGS SHALL BE SPREAD EVENLY OVER NON-PAVEMENT DISTURBED AREAS. THE STRIPPING REDISTRIBUTION SHALL NOT EXCEED ONE FOOT IN DEPTH.*
4) *ALL SURFACES SHALL BE GRADED SMOOTH AND FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.*
5) *ALL STRUCTURAL FILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY. NON-STRUCTURAL FILL SHALL BE COMPACTED TO 90% MAXIMUM DENSITY. MEASUREMENTS FOR COMPACTION SHALL BE TAKEN USING THE MODIFIED PROCTOR TEST AS DETAILED IN AASHTO T-180. STRUCTURAL FILL AREAS ARE DEFINED AS THOSE AREAS WITHIN THE ROAD RIGHT-OF-WAY AND INSIDE ANY POTENTIAL BUILDING AREAS. NON-STRUCTURAL FILL AREAS ARE DEFINED AS THOSE OUTSIDE ANY POTENTIAL BUILDING OR PAVING AREAS. RESULTS OF THE TESTS SHALL BE MADE AVAILABLE TO THE ENGINEER AND CLARK COUNTY UPON REQUEST.*
6) *ALL GRADING OPERATIONS, EXCAVATIONS, FILL, COMPACTION TESTING, AND BACKFILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED SOILS ENGINEER. THE SOILS ENGINEER SHALL BE DESIGNATED BY AND PAID FOR BY THE OWNER.*
7) *NO FILL SHALL BE PLACED PRIOR TO APPROVAL OF THE SUBGRADE BY THE SOILS ENGINEER. COMPACTION TESTS SHALL BE DONE FOR EACH TWO FEET OF FILL, BUT NOT LESS THAN ONE TEST EVERY 500 CUBIC YARDS, OR MORE FREQUENTLY IF REQUIRED BY THE SOILS ENGINEER. COMPACTION SHALL BE DONE IN ACCORDANCE TO THE RECOMMENDATIONS OF THE SOILS REPORT.*
8) *THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS INCURRED FOR INSPECTION AND TESTING OF SOILS DUE TO FAILURE TO COMPLY WITH THE MINIMUM REQUIREMENTS OF THE SOILS REPORT.*
9) *ALL GRADING OPERATIONS SHALL BE STAKED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR APPROVED BY THE OWNER.*
10) *UPON COMPLETION OF GRADING, THE SOILS ENGINEER SHALL PROVIDE OWNER WITH A LETTER INDICATING THAT THE SITE AND BUILDING PAD WERE PREPARED IN DIRECT CONFORMANCE WITH THE RECOMMENDATIONS AND CONCLUSIONS OF THE SOILS REPORT.*
11) *ALL EXPOSED AND UNDISTURBED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF AN APPROPRIATE BEST MANAGEMENT PRACTICE (BMP).*
12) *NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN 2 DAYS DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED FROM MORE THAN 7 DAYS WHEN A CONTRACTOR IS NOT ON-SITE.*
13) *THE APPLICANT SHALL ONLY IMPACT AREAS INDICATED ON THE PROVIDED PLANS DURING CONSTRUCTION OF THIS PROJECT. ANY CLEARING OR DISTURBANCE BEYOND THAT INDICATED ON THE PLANS AND NARRATIVE PROVIDED WOULD REQUIRE ADDITIONAL HABITAT AND SHORELINE REVIEW BY THE COUNTY STAFF AND MAY INCLUDE ADDITIONAL PERMIT AND MITIGATION REQUIREMENTS.*
14) *THE APPLICANT SHALL UTILIZE BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND PREVENT SEDIMENT FROM ENTERING ADJACENT STREAMS AND RIPARIAN HABITAT, NON-RIPRARIAN HABITAT (WATERFOWL CONCENTRATIONS, OAK WOODLAND), WETLANDS, AND WETLAND BUFFERS.*
15) *THE APPLICANT SHALL GRADE ALL TEMPORARY IMPACTS TO PRE-DISTURBANCE GRADES. THESE AREAS SHALL BE REPLANTED WITH NATIVE GRASS AND HERBACEOUS VEGETATION TO MAINTAIN AND ENHANCE SHORELINE HABITAT ECOLOGICAL FUNCTIONS AS CURRENTLY EXIST ON SITE AT A 1:1 RATIO FOR AREAS CURRENTLY IN GRASS, WEEDS, OR BLACKBERRIES; WHEN SHRUBS AND TREES ARE IMPACTED THERE IS A TEMPORAL LOSS WHICH MUST BE ACCOUNTED FOR AT A HIGHER RATE DEPENDING ON THE MATURITY OF THE VEGETATION IMPACTED. IF TREES AND SHRUBS ARE PROPOSED TO BE IMPACTED AS A RESULT OF THESE LINES, THEIR IMPACTS (REPORTED AS CANOPY LOSS SQUARE FOOTAGE) SHOULD BE ACCOUNTED FOR IN THE REVISED MITIGATION PLAN.*
16) *THE APPLICANT SHALL RE-SEED ALL TEMPORARILY IMPACTED DISTURBED AREAS WHICH WERE PREVIOUSLY GRASS WITH A NATIVE GRASS/ VEGETATION SEED MIXTURE. THESE AREAS SHALL BE MAINTAINED AND MONITORED FOR 1 YEAR TO ENSURE GRASS COVER HAS BEEN ESTABLISHED AND COVERS 95% OF THE TEMPORARILY DISTURBED AREA. ANY AREAS WH



VICINITY MAP
NO SCALE

NOTES

THE LOCATION OF EXISTING UTILITY FACILITIES HAS NOT BEEN RESEARCHED. UNDERGROUND UTILITIES SHOWN HEREON ARE FROM TIES TO UTILITY PAINT MARKS MADE IN RESPONSE TO "ONE-CALL CONCEPTS" UTILITY NOTIFICATION TICKET NOS. 19298389 AND 19330919. ON SITE UTILITY LOCATES WERE PROVIDED BY "LOCATES DOWN UNDER INC. (503) 654-2637). THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THIS PLAN.

FIELD WORK FOR THIS SURVEY WAS PERFORMED AUGUST, 2019.

THIS SURVEY REFLECTS THOSE EASEMENTS SHOWN ON LIMITED LIABILITY CERTIFICATE (ORDER NO. CL13508) PROVIDED BY CLARK COUNTY TITLE INSURANCE COMPANY, DATED: JUNE 21, 2019.

EASEMENT NOTES:
EXCEPTION NO. 10 LISTS A 60.00' EASEMENT TO PACIFIC TELEPHONE AND TELEGRAPH COMPANY RECORDED UNDER A.F. #C-74812, DATED JUNE 15, 1929. THIS IS A BLANKET EASEMENT OVER THE SW1/2, SW1/4, SECTION 4. THE LOCATION OF ANY UTILITIES OWNED BY SAID COMPANY COULD NOT BE DETERMINED OR LOCATED AT TIME OF SURVEY, THUS, THE EXACT LOCATION OF ANY EASEMENT RIGHTS WHICH MAY STILL BE IN EFFECT HAVE NOT BEEN SHOWN OR DETERMINED

SURVEY MONUMENTS - ALL SURVEY MONUMENTS SHOWN HEREON, INCLUDING BENCHMARKS SHALL BE PROTECTED FROM DISTURBANCE OR DESTRUCTION SUBJECT TO WAC 332-120 (SURVEY MONUMENTS - REMOVAL OR DESTRUCTION). IF THE CONSTRUCTION OF NEW FACILITIES CAUSES THE NEED FOR ANY MONUMENT TO BE REMOVED, THE CONTRACTOR, IS ADVISED TO CONTACT THE APPROPRIATE LAND SURVEYOR PRIOR TO CONSTRUCTION FOR PERPETUATION OF THE ORIGINAL POSITION SUBJECT TO WAC 332-120-060.

FILE: J:\DATA\9000\9800\9820\9825\SURVEY\9825.S.EXCOND.DWG

CLIENT:
MINIT MANAGEMENT, LLC
P.O. BOX 5889
VANCOUVER, WA. 98668

EXISTING CONDITIONS SURVEY FOR:
MINIT MANAGEMENT LACENTER
IN THE SW 1/4, SECTION 4, T.4N., R.1E., W.M. CITY OF LACENTER, CLARK COUNTY, WA.

OLSON ENGINEERING INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA. 98660
360-695-1385
WWW.OLSONENG.COM

JOHN M. BLAYLE
STATE OF WASHINGTON
42667
REGISTERED
PROFESSIONAL LAND SURVEYOR

CHANGES / REVISIONS

DESCRIPTION	DATE
ADDED NEW POWER POLES, OVERHEAD WIRE AND GUY ANCHORS ALONG THE WEST PROPERTY LINE	01/08/2020

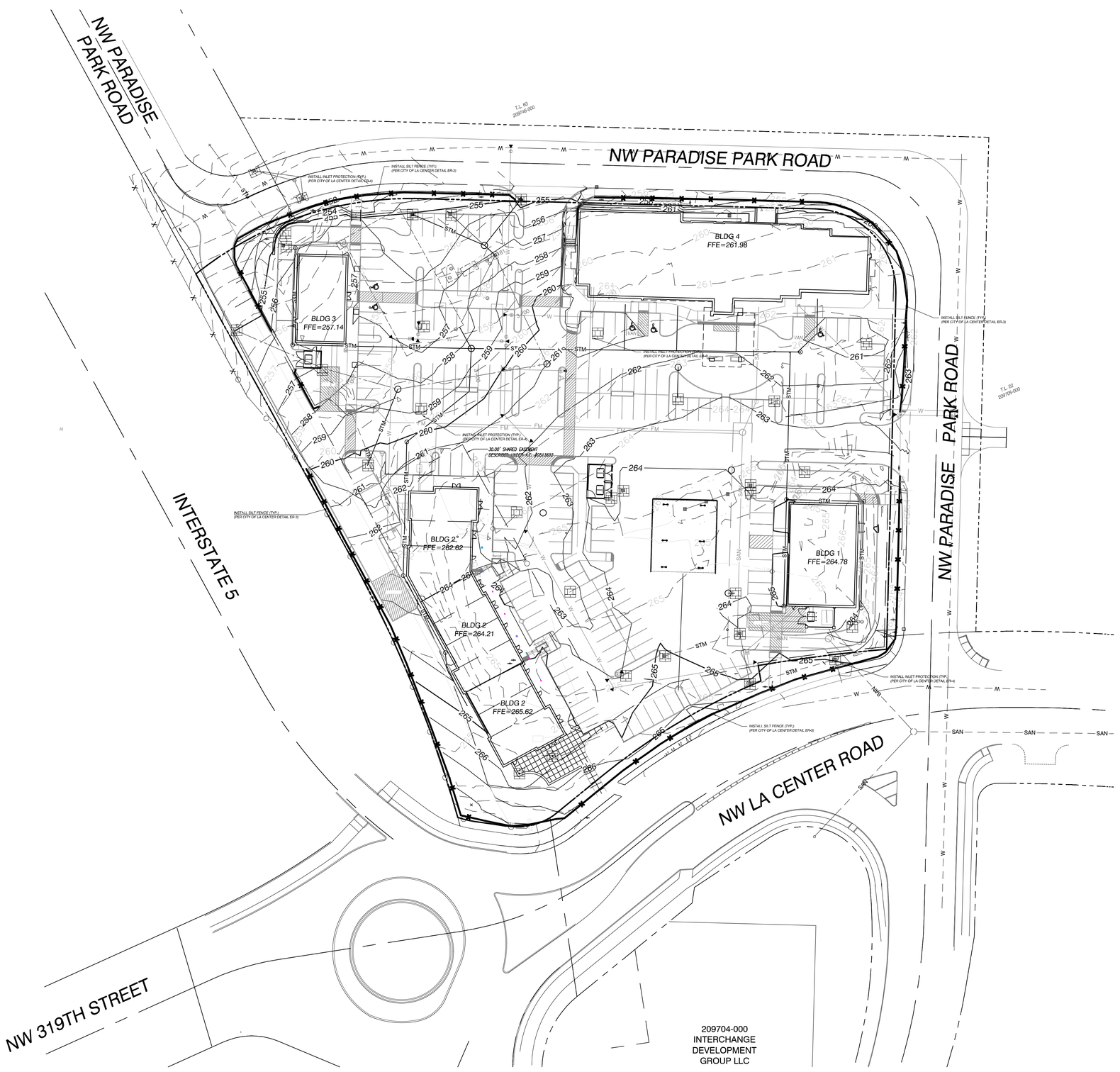
DESIGNED:
DRAWN: J.K.T.
CHECKED: J.M.B.
DATE: SEPTEMBER, 2019
SCALE: 1" = 30'

SHEET SIZE: 24x36
JOB NO. 9825.01.01

SHEET
C2.0

CHECKED

DATE



NOTES:

1) REFER TO STANDARD GRADING AND EROSION CONTROL NOTES ON SHEET C1.1, AND CITY OF LA CENTER EROSION CONTROL GENERAL NOTES I & II (ER-1A & ER-1B
2) CONTRACTOR TO FOLLOW RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT BY COLUMBIA WEST GEOTECHNICAL, INC. DATED SEPTEMBER 4, 2019.
3) CONTRACTOR TO DESIGNATE EQUIPMENT AND PARKING AREA AT A SUITABLE LOCATION PRIOR TO BEGINNING GRADING ACTIVITIES. LOCATION TO BE DETERMINED PRIOR TO THE PRECONSTRUCTION CONFERENCE.
4) STOCKPILE AREAS PLACED ONSITE SHALL BE COORDINATED BY THE CONTRACTOR AND SURROUNDED WITH EROSION FENCE AND COVERED WITH PLASTIC AS NECESSARY DURING CONSTRUCTION. MATERIAL NOT STOCKPILED ONSITE SHALL BE REMOVED TO AN APPROPRIATE IMPORT SITE.
6) CONTRACTOR TO INSTALL INLET PROTECTION ON ALL INLETS ADJACENT TO THE SITE THAT MAY BE IMPACTED BY SEDIMENT FROM THE PROPOSED DEVELOPMENT.
7) IF ANY CULTURAL OR HISTORICAL RESOURCES ARE DISCOVERED DURING CONSTRUCTION ACTIVITY, CONSTRUCTION SHALL CEASE UNTIL A QUALIFIED ARCHAEOLOGIST ASSESSES THE FIND. THE APPLICANT WILL CONTACT ALL APPLICABLE AUTHORITIES IN THE CITY AND IN OLYMPIA.
8) ALL CARE TO BE TAKEN DURING GRADING TO PROTECT ALL DESIGNATED STORMWATER INLETS IMMEDIATELY UPON CONSTRUCTION AND THE EXISTING STORMWATER FACILITY TO REMAIN. SEE STORM PLAN (C5.0).
9) EROSION CONTROL TO BE MANAGED IN PHASES/STAGES, PLACING ROCK WORKING PADS AND EARLY APPLICATION OF ROCK ON AREAS TO BE PAVED.
10) POST-CONSTRUCTION SOIL QUALITY AND DEPTH PER BMP T5.13 IS REQUIRED FOR LANDSCAPED AREAS AFTER GRADING IS COMPLETE.
11) A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED FOR THIS PROJECT.
12) A SWPPP AND NPDES CONSTRUCTION GENERAL PERMIT ARE REQUIRED FOR THIS PROJECT.

EROSION CONTROL LEGEND

- 160 — GRADED CONTOUR
- 160 — EXISTING CONTOUR
- SILT FENCE
- INLET PROTECTION

SCALE: 1"=40'

-40 0 40 80

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GRADEROSION.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

EROSION AND SEDIMENT CONTROL PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC. LAND SURVEYORS ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCKER
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

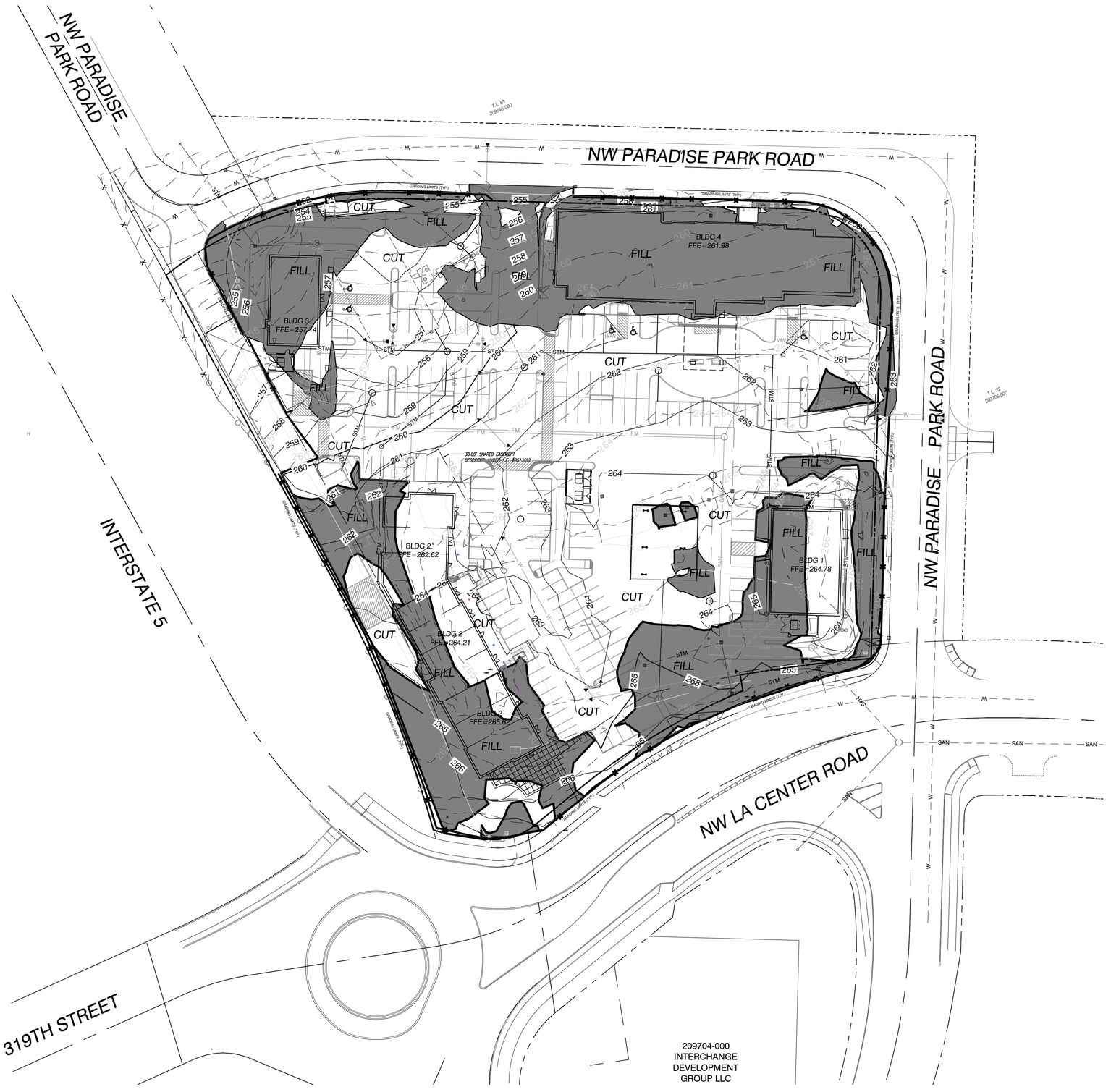
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C3.0



NOTES:

1) *REFER TO STANDARD GRADING AND EROSION CONTROL NOTES ON SHEET C1.1, AND CITY OF LA CENTER EROSION CONTROL GENERAL NOTES I & II (ER-1A & ER-1B*

2) *CONTRACTOR TO FOLLOW RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT BY COLUMBIA WEST GEOTECHNICAL, INC. DATED SEPTEMBER 4, 2019.*

3) *CONTRACTOR TO DESIGNATE EQUIPMENT AND PARKING AREA AT A SUITABLE LOCATION PRIOR TO BEGINNING GRADING ACTIVITIES. LOCATION TO BE DETERMINED PRIOR TO THE PRECONSTRUCTION CONFERENCE.*

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11) *A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED FOR THIS PROJECT.*

12) *A SWPPP AND NPDES CONSTRUCTION GENERAL PERMIT ARE REQUIRED FOR THIS PROJECT.*

GRADING AND EROSION CONTROL LEGEND

- 160 — GRADED CONTOUR
- 160 — EXISTING CONTOUR
- CUT / FILL LINE
- AREA OF CUT
- AREA OF FILL
- SILT FENCE
- INLET PROTECTION

APPROXIMATE EARTHWORK VOLUMES

CUT	3,657 C.Y.
FILL	2,289 C.Y.

NOTE:
THE FIGURES ABOVE REPRESENT APPROXIMATE QUANTITIES CALCULATED FROM THE EXISTING SURFACE TO FINISHED GRADE AND DO NOT INCLUDE STRIPPINGS, ROAD EXCAVATION, TRENCH SPOILS, OVER EXCAVATION, SHRINKAGE, AND SWELL ETC. CONTRACTORS ARE SOLELY RESPONSIBLE FOR QUANTITY ESTIMATES FOR BIDDING PURPOSES.

SCALE: 1"=40'

-40 0 40 80

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GRADEROSION.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

GRADING PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

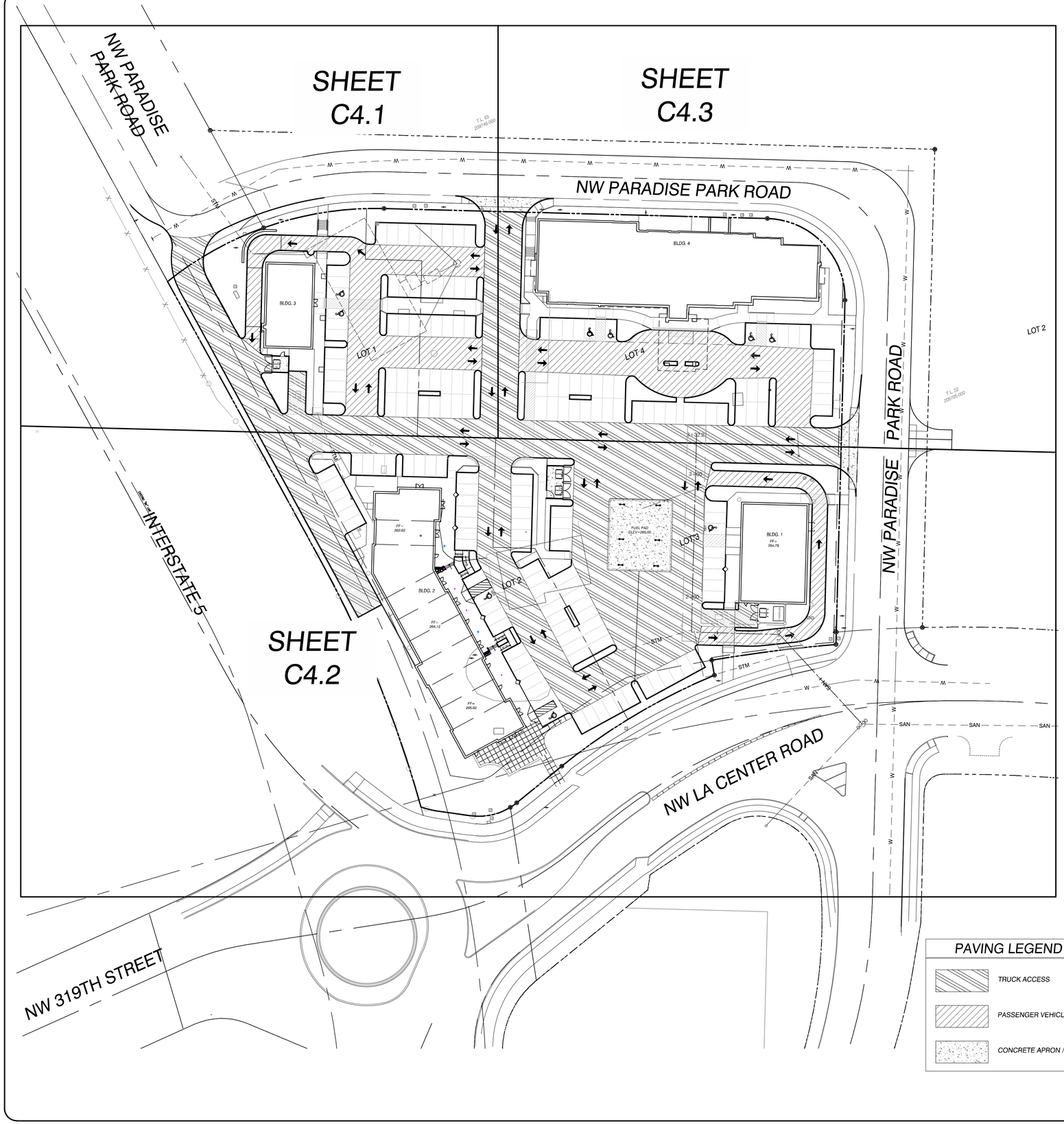
CHANGES / REVISIONS

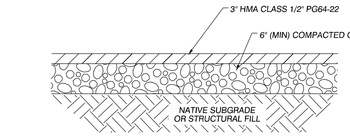
DESCRIPTION:	DATE:

DESIGNED: CEM
DRAWN: TAS
CHECKED: CEM
DATE: APRIL 2020
SCALE: H: 1"= XX'
V: N/A

MINIT MANAGEMENT
JOB NO.: 9825.01.01

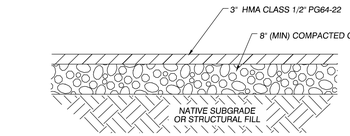
SHEET
C3.1





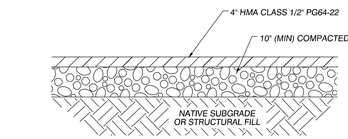
CAR PARKING: 3" HMA CLASS 1/2" PG64-22 ON 6" 1-1/4"-0 CRUSHED AGGREGATE OVER 12" SCARIFIED AND COMPACTED SUBGRADE (95% MAX. MODIFIED PROCTOR DENSITY PER ASTM D1557)

CAR PARKING SECTION



PASSENGER ACCESS : 3" HMA CLASS 1/2" PG64-22 ON 8" 1-1/4"-0 CRUSHED AGGREGATE OVER 12" SCARIFIED AND COMPACTED SUBGRADE (95% MAX. MODIFIED PROCTOR DENSITY PER ASTM D1557)

PASSENGER VEHICLE AISLE SECTION



TRUCK ACCESS AISLES: 4" HMA CLASS 1/2" PG64-22 ON 10" 1-1/4"-0 CRUSHED AGGREGATE OVER 12" SCARIFIED AND COMPACTED SUBGRADE (95% MAX. MODIFIED PROCTOR DENSITY PER ASTM D1557)

TRUCK ACCESS AISLE SECTION

PAVING LEGEND

- TRUCK ACCESS
- PASSENGER VEHICLE AISLE
- CONCRETE APRON / PAD

SCALE: 1"=40'

-40 0 40 80

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STREET.STB

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

PAVING SHEET INDEX FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

CHANGES / REVISIONS	
DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

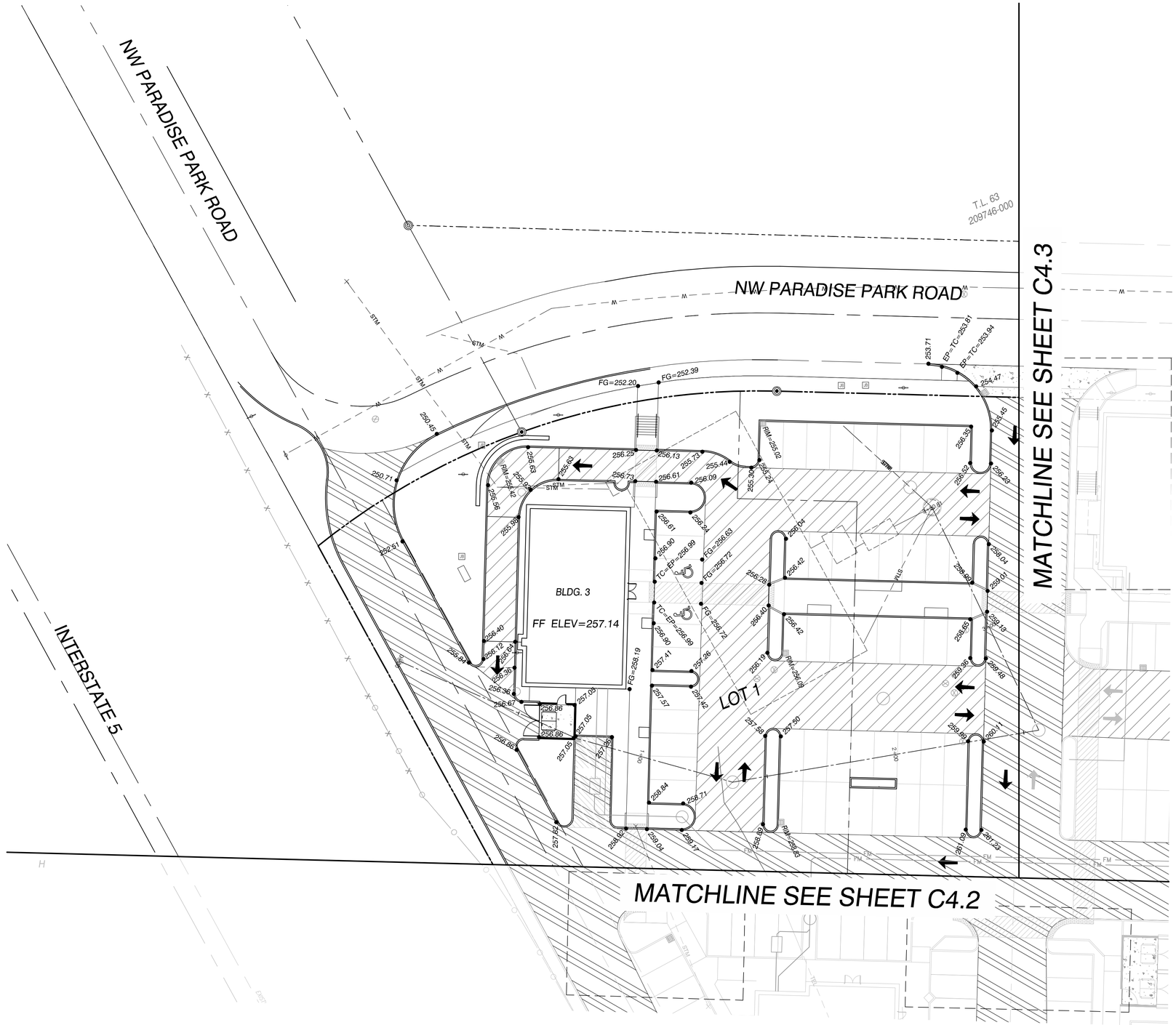
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C4.0



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STREET.STB

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

PAVING ELEVATIONS PLAN (1 OF 3) FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC. LAND SURVEYORS ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

CHARLES E. MCMURRY
STATE OF WASHINGTON
37908
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS	
DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= 20'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C4.1

MATCHLINE SEE SHEET C4.1

MATCHLINE SEE SHEET C4.3

SEE DETAIL 1 SHEET C4.4

SEE DETAIL 2 SHEET C4.4

SEE DETAIL 3 SHEET C4.4

SEE DETAIL 4 SHEET C4.4

SEE DETAIL 6 SHEET C4.4

BLDG. 1
FF= 264.78

BLDG. 2
FF= 264.12

FF= 262.62

FF= 265.62

FUEL PAD
ELEV=265.00

LOT 2

LOT 3

RIDGE

EXISTING SIDEWALK

SCALE: 1"=20

-20 0 20 40

J:\data\9000\9800\9820\9825\Engineering\Final\Sheets\9825.e.C4.0-c4x.pave.elevations.dwg
STREET.STB

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

PAVING ELEVATIONS PLAN (2 OF 3) FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

CHARLES E. MCMURRY
STATE OF WASHINGTON
37908
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

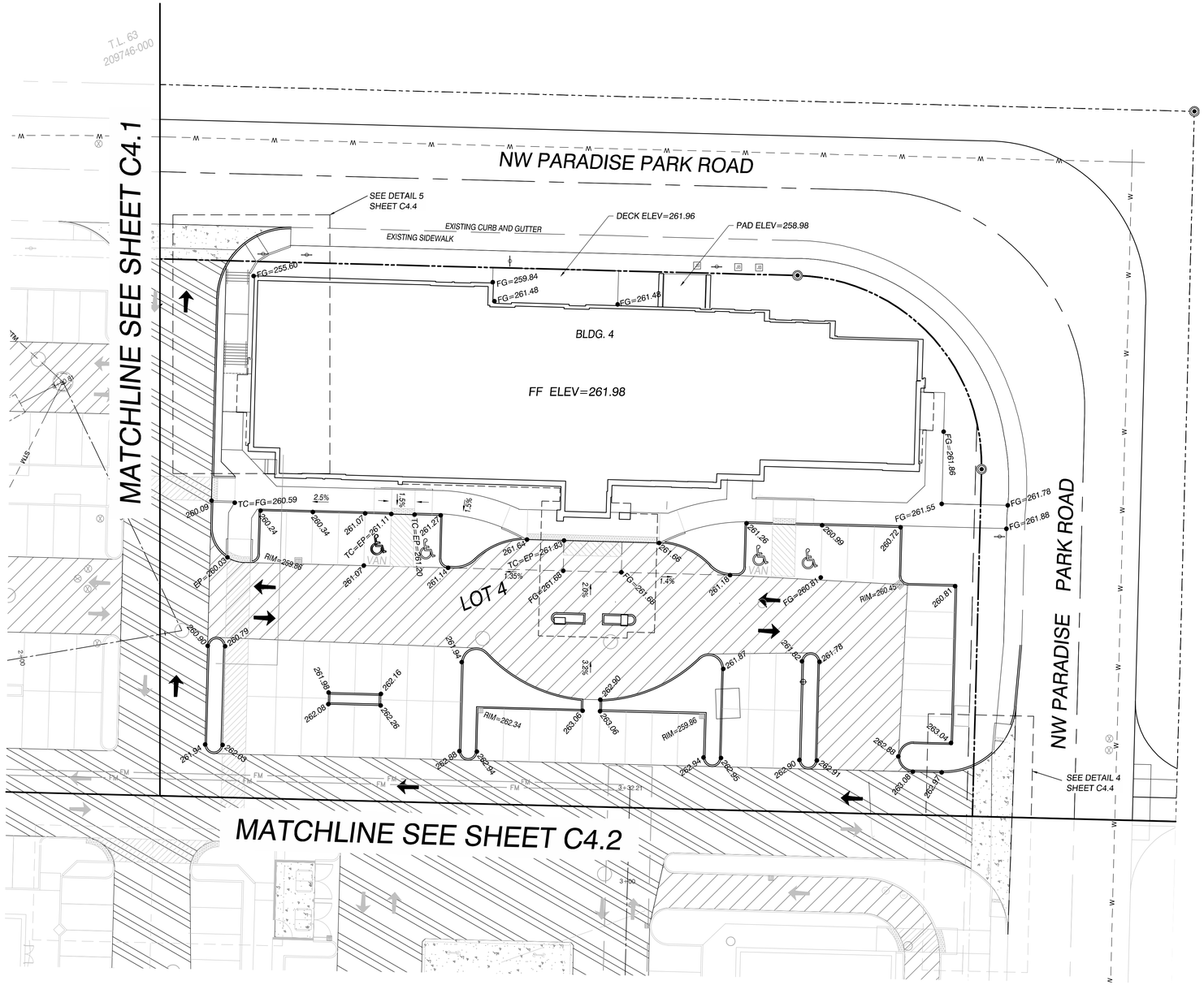
SCALE: H: 1"= 20'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C4.2



CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

PAVING ELEVATIONS PLAN (3 OF 3) FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

CHARLES E. MCMURRY
STATE OF WASHINGTON
37908
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

4/29/2020

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= 20'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C4.3

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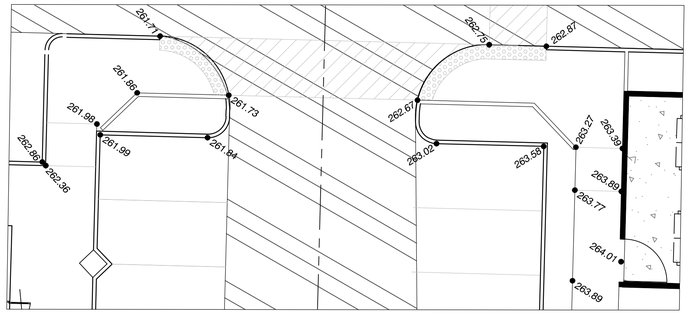
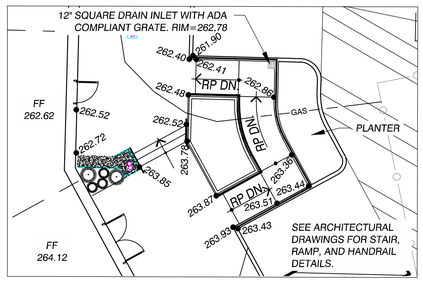
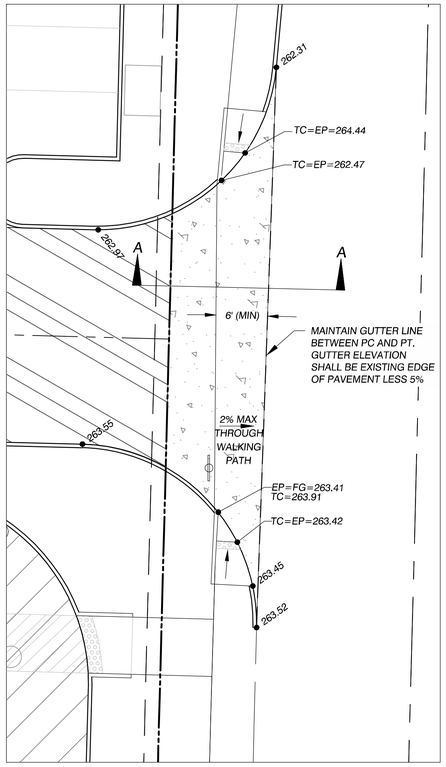
STREET.STB



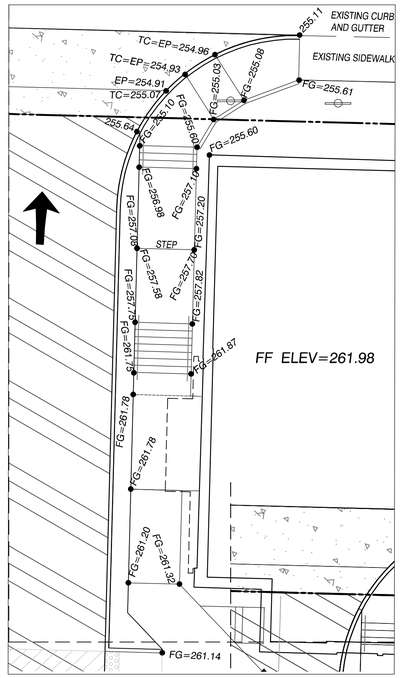
DETAIL 1



DETAIL 2



DETAIL 4



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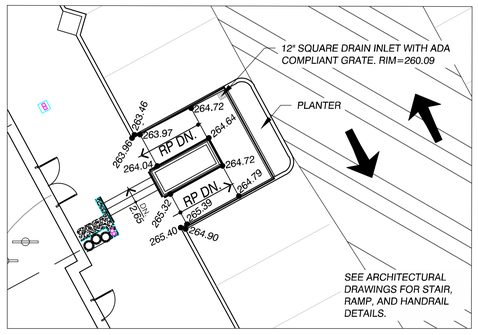
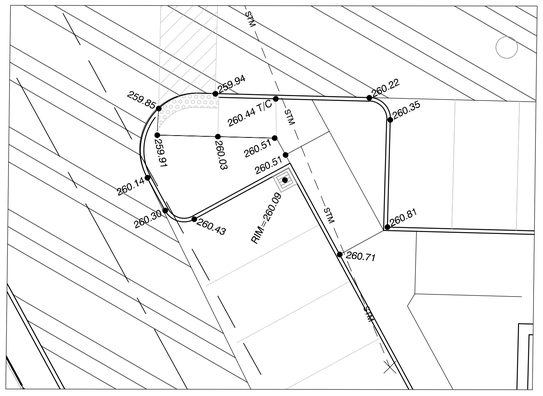


DETAIL 3



DETAIL 6

SCALE: 1"=10'

-10 0 10 20

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STREET.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

PAVING ELEVATION DETAILS FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

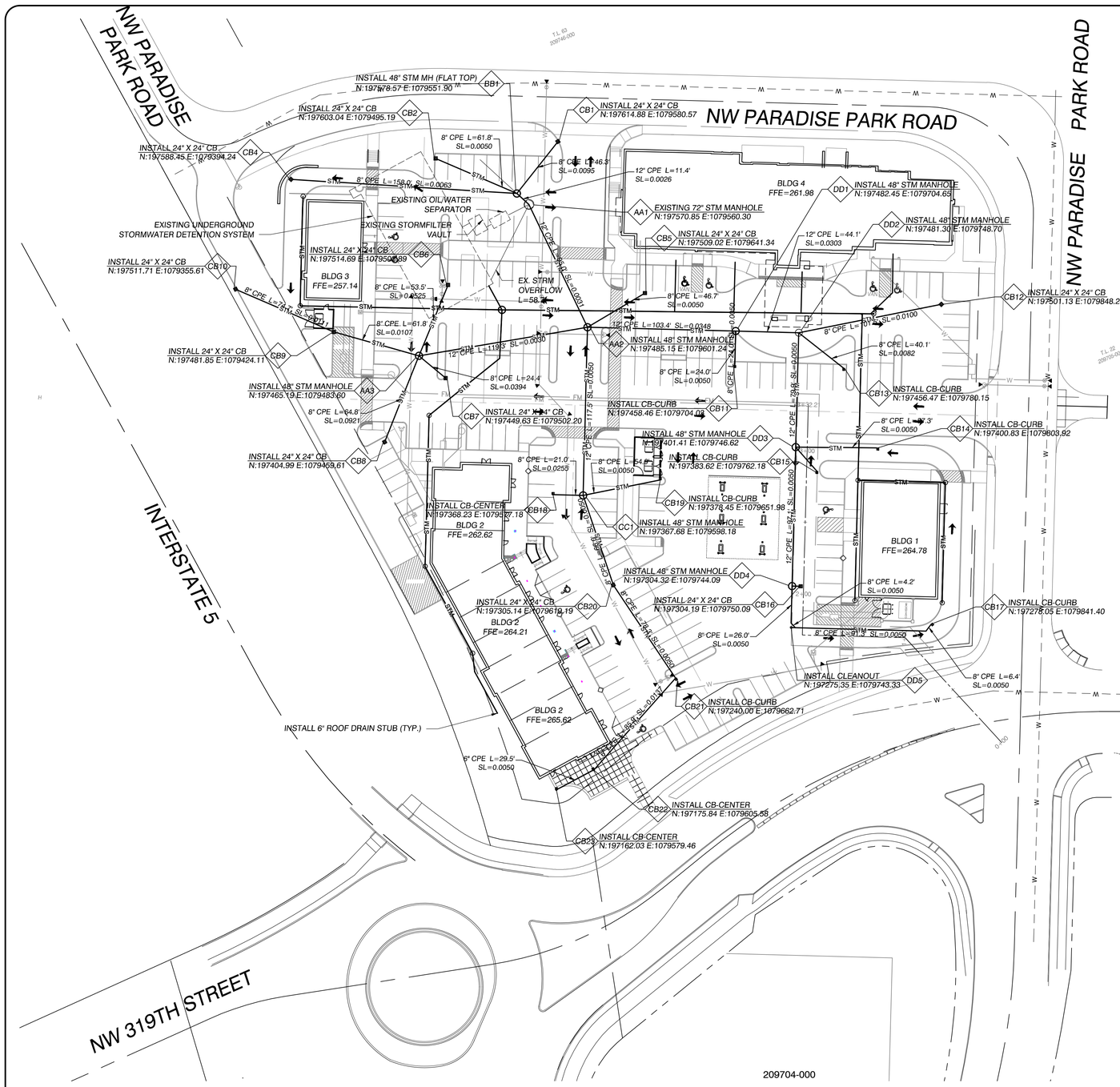
CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM
DRAWN: TAS
CHECKED: CEM
DATE: APRIL 2020
SCALE: H: 1"= XX'
V: N/A

MINIT MANAGEMENT
JOB NO.: 9825.01.01

SHEET
C4.4



CITY OF LA CENTER STORM SEWER DETAIL SHEETS

SM-1	GENERAL STORMWATER NOTES
SM-2	STANDARD STORM MANHOLE
SM-3	STANDARD MANHOLE FRAMES & COVERS
SM-4	CURB INLET
SM-5	CATCH BASIN
SM-6	COMBINATION CURB INLET
SM-7	HERRINGBONE GRATE DETAIL
SM-8	G-2 CATCH BASIN
SM-9	SLOPED FIELD INLET
SM-10	STANDARD AREA INLET
SM-11	SEDIMENTATION MANHOLE
SM-12	PRECAST DRYWELL
SM-13	RIPRAP ENERGY DISSIPATER
SM-16	LOW POINT FOOTING DRAIN
SM-18	PIPE ANCHOR DETAIL
SM-19	DOUTSPOUT DETENTION PIPE

STORM NOTES

AA1 *EXISTING 72" STM MANHOLE*
N: 197570.85 E: 1079560.30
RIM=257.17
12" IE IN (NW) = 252.20
12" IE IN (SE) = 250.11

AA2 *INSTALL 48" STM MANHOLE*
N: 197485.15 E: 1079601.24
RIM=260.99
12" IE IN (W) = 250.96
12" IE IN (E) = 250.60
12" IE IN (S) = 245.09
8" IE IN (NE) = 254.51
12" IE OUT (NW) = 250.40

AA3 *INSTALL 48" STM MANHOLE*
N: 197465.19 E: 1079483.60
RIM=258.34
8" IE IN (W) = 251.52
8" IE IN (N) = 251.52
8" IE IN (SE) = 252.16
8" IE IN (S) = 252.17
12" IE OUT (E) = 251.32

BB1 *INSTALL 48" STM MH (FLAT TOP)*
N: 197578.57 E: 1079551.90
RIM=256.46
8" IE IN (NW) = 253.04
8" IE IN (W) = 252.83
8" IE IN (NE) = 252.43
12" IE OUT (SE) = 252.23

CC1 *INSTALL 48" STM MANHOLE*
N: 197367.68 E: 1079598.18
RIM=262.34
8" IE IN (S) = 246.09
8" IE IN (E) = 245.62
8" IE IN (W) = 255.25
12" IE OUT (N) = 245.67

DD1 *INSTALL 48" STM MANHOLE*
N: 197482.45 E: 1079704.65
RIM=262.32
12" IE IN (E) = 254.20
12" IE OUT (W) = 254.20
8" IE OUT (S) = 255.89

DD2 *INSTALL 48" STM MANHOLE*
N: 197481.30 E: 1079748.70
RIM=262.34
8" IE IN (E) = 257.75
12" IE IN (S) = 255.96
8" IE IN (SE) = 256.32
12" IE OUT (W) = 255.54

DD3 *INSTALL 48" STM MANHOLE*
N: 197401.41 E: 1079746.62
RIM=263.87
12" IE IN (S) = 256.56
8" IE IN (E) = 257.01
8" IE IN (SE) = 258.12
12" IE OUT (N) = 256.36

DD4 *INSTALL 48" STM MANHOLE*
N: 197304.32 E: 1079744.09
RIM=264.30
8" IE IN (S) = 257.25
10" IE IN (E) = 258.30
12" IE OUT (N) = 257.05

CATCH BASIN NOTES

CB1 *INSTALL 24" X 24" CB*
N: 197614.88 E: 1079580.57
RIM=254.67
8" IE OUT (SW) = 252.87

CB2 *INSTALL 24" X 24" CB*
N: 197603.04 E: 1079495.19
RIM=255.05
8" IE OUT (SE) = 253.35

CB4 *INSTALL 24" X 24" CB*
N: 197588.45 E: 1079394.24
RIM=255.44
8" IE OUT (E) = 253.82

CB5 *INSTALL 24" X 24" CB*
N: 197509.02 E: 1079641.34
RIM=260.45
8" IE OUT (SW) = 254.74

CB6 *INSTALL 24" X 24" CB*
N: 197514.69 E: 1079503.89
RIM=256.13
8" IE OUT (S) = 254.33

CB7 *INSTALL 24" X 24" CB*
N: 197449.63 E: 1079502.20
RIM=258.84
8" IE OUT (NW) = 255.84

CB8 *INSTALL 24" X 24" CB*
N: 197404.99 E: 1079459.61
RIM=260.17
8" IE OUT (N) = 258.14

CB9 *INSTALL 24" X 24" CB*
N: 197481.85 E: 1079424.11
RIM=257.09
8" IE IN (NW) = 252.38
8" IE OUT (E) = 252.18

CB10 *INSTALL 24" X 24" CB*
N: 197511.71 E: 1079355.61
RIM=???
8" IE OUT (SE) = 253.21

CB11 *INSTALL CB-CURB*
N: 197458.46 E: 1079704.03
RIM=262.36
8" IE IN (N) = 255.77

CB12 *INSTALL 24" X 24" CB*
N: 197501.13 E: 1079848.23
RIM=260.48
8" IE OUT (W) = 258.76

CB13 *INSTALL CB-CURB*
N: 197456.47 E: 1079780.15
RIM=262.36
8" IE OUT (NW) = 256.65

CB14 *INSTALL CB-CURB*
N: 197400.83 E: 1079803.92
RIM=263.01
8" IE OUT (W) = 257.30

CB15 *INSTALL CB-CURB*
N: 197383.62 E: 1079762.18
RIM=263.95
8" IE OUT (NW) = 258.24

CB16 *INSTALL 24" X 24" CB*
N: 197304.19 E: 1079750.09
RIM=264.21
10" IE OUT (W) = 258.33

CB17 *INSTALL CB-CURB*
N: 197278.05 E: 1079841.40
RIM=263.60
8" IE OUT (SW) = 257.89

CB18 *INSTALL CB-CENTER*
N: 197368.23 E: 1079577.18
RIM=261.50
8" IE OUT (E) = 255.79

CB19 *INSTALL CB-CURB*
N: 197378.45 E: 1079651.98
RIM=263.76
8" IE OUT (W) = 245.89

CB20 *INSTALL 24" X 24" CB*
N: 197305.14 E: 1079619.19
RIM=262.66
8" IE OUT (N) = 246.42
8" IE OUT (SE) = 256.95

CB21 *INSTALL CB-CURB*
N: 197240.00 E: 1079662.71
RIM=264.12
8" IE IN (NW) = 256.56
6" IE IN (SW) = 258.42

CB22 *INSTALL CB-CENTER*
N: 197175.84 E: 1079605.58
RIM=265.50
6" IE IN (SW) = 259.59
6" IE OUT (NE) = 259.59

CB23 *INSTALL CB-CENTER*
N: 197162.03 E: 1079579.46
RIM=265.28
6" IE OUT (NE) = 259.74

SCALE: 1"=40'

-40 0 40 80

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STORM.STB

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

STORM SEWER PLAN FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

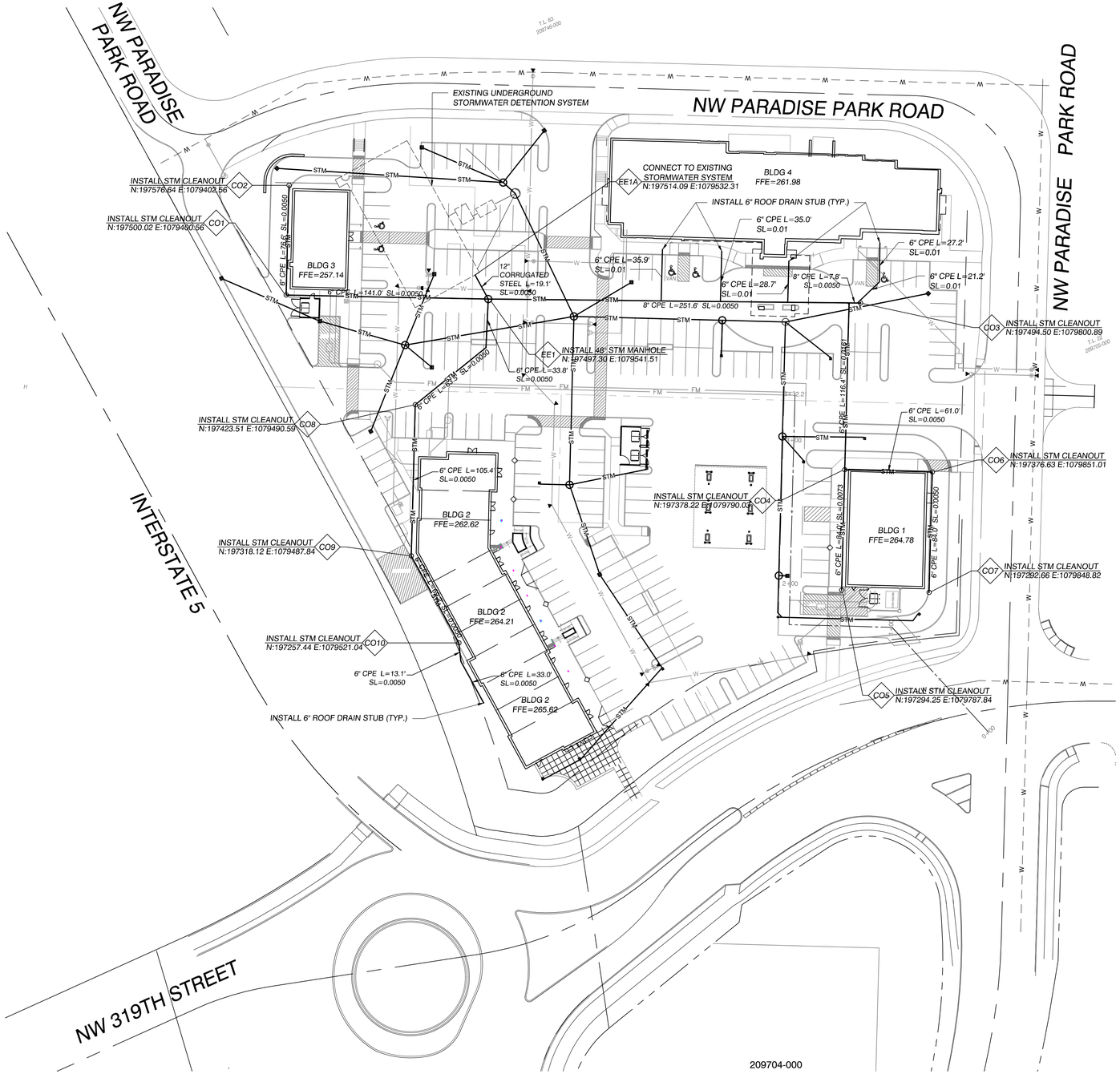
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C5.0



209704-000

STORM NOTES

EE1 — *INSTALL 48" STM MANHOLE*
N: 197497.30 E: 1079541.51
RIM=258.35
6" IE IN (W) = 249.11
8" IE IN (E) = 236.33
6" IE IN (S) = 235.96
12" IE OUT (NW) = 250.83

EE1A — *CONNECT TO EXISTING STORMWATER SYSTEM*
N: 197514.09 E: 1079532.31
RIM=257.45
12" IE IN (SE) = 250.73

ROOF DRAIN CLEANOUTS

CO1 — *INSTALL STM CLEANOUT*
N: 197500.02 E: 1079400.56
RIM=256.53
6" IE IN (N) = 249.82
6" IE OUT (E) = 249.82

CO2 — *INSTALL STM CLEANOUT*
N: 197576.64 E: 1079402.56
RIM=255.74
6" IE OUT (S) = 250.20

CO3 — *INSTALL STM CLEANOUT*
N: 197494.50 E: 1079800.89
RIM=261.33
8" IE OUT (W) = 246.54

CO4 — *INSTALL STM CLEANOUT*
N: 197378.22 E: 1079790.03
RIM=264.99
6" IE IN (E) = 257.67
6" IE IN (S) = 258.93
6" IE OUT (N) = 257.67

CO5 — *INSTALL STM CLEANOUT*
N: 197294.25 E: 1079787.84
RIM=265.08
6" IE OUT (N) = 259.54

CO6 — *INSTALL STM CLEANOUT*
N: 197376.63 E: 1079851.01
RIM=264.45
6" IE IN (S) = 257.98
6" IE OUT (W) = 257.98

CO7 — *INSTALL STM CLEANOUT*
N: 197292.66 E: 1079848.82
RIM=263.93
6" IE OUT (N) = 258.40

CO8 — *INSTALL STM CLEANOUT*
N: 197423.51 E: 1079490.59
RIM=260.24
6" IE IN (S) = 252.07
6" IE OUT (NE) = 252.61

CO9 — *INSTALL STM CLEANOUT*
N: 197318.12 E: 1079487.84
RIM=262.59
6" IE IN (SE) = 255.32
6" IE OUT (N) = 252.60

CO10 — *INSTALL STM CLEANOUT*
N: 197257.44 E: 1079521.04
RIM=263.76
6" IE IN (S) = 257.90
6" IE OUT (NW) = 255.67

CITY OF LA CENTER STORM SEWER DETAIL SHEETS

SM-1	GENERAL STORMWATER NOTES
SM-2	STANDARD STORM MANHOLE
SM-3	STANDARD MANHOLE FRAMES & COVERS
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SM-13	RIPRAP ENERGY DISSIPATER
SM-16	LOW POINT FOOTING DRAIN
SM-18	PIPE ANCHOR DETAIL
SM-19	DOUTSPOUT DETENTION PIPE

SCALE: 1"=40'

-40 0 40 80

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STORM.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

ROOF DRAIN STORM PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC. LAND SURVEYORS ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

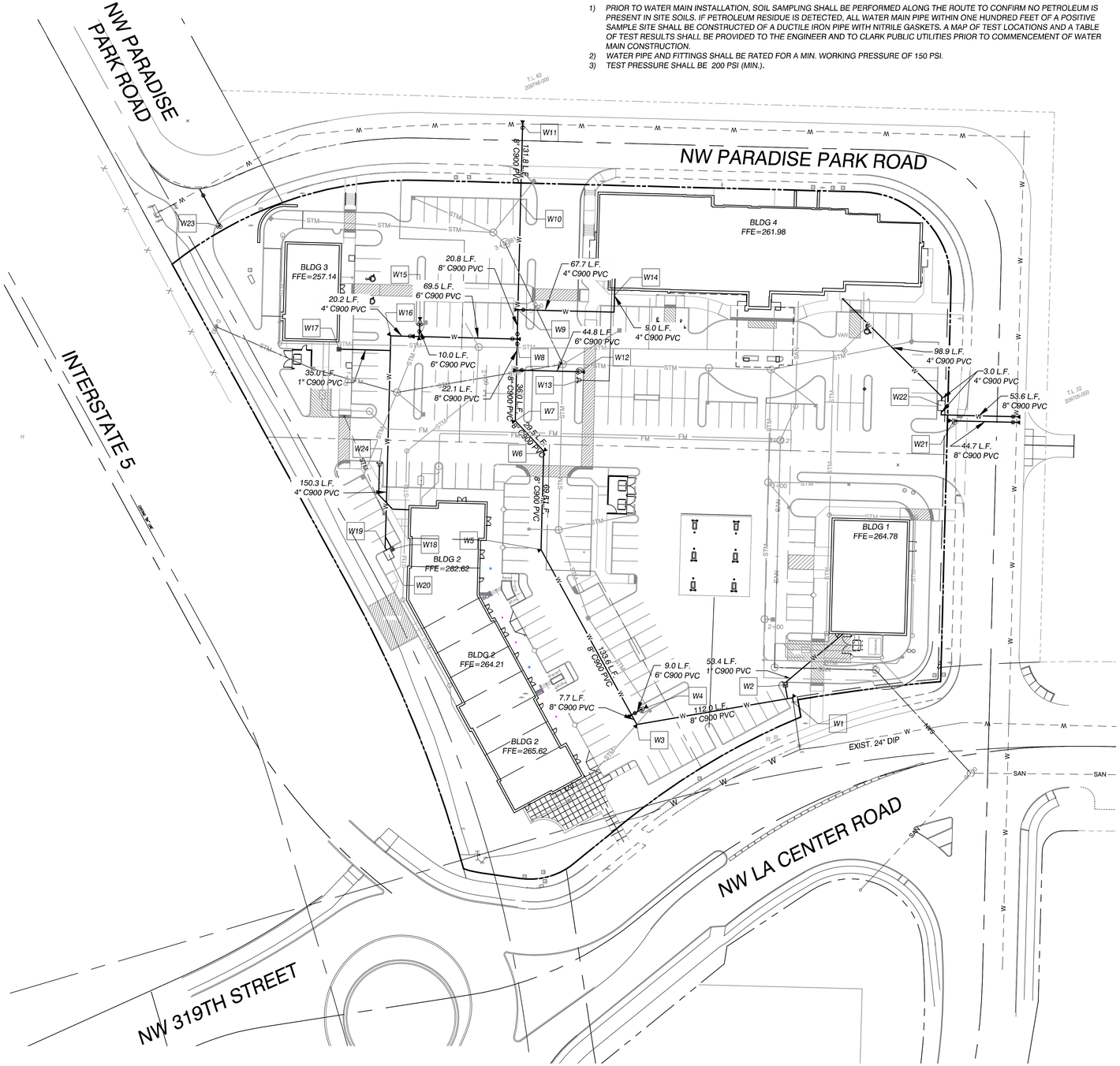
JOB NO.: 9825.01.01

SHEET

C5.1

WATER MAIN CONSTRUCTION NOTES:

1) *PRIOR TO WATER MAIN INSTALLATION, SOIL SAMPLING SHALL BE PERFORMED ALONG THE ROUTE TO CONFIRM NO PETROLEUM IS PRESENT IN SITE SOILS. IF PETROLEUM RESIDUE IS DETECTED, ALL WATER MAIN PIPE WITHIN ONE HUNDRED FEET OF A POSITIVE SAMPLE SITE SHALL BE CONSTRUCTED OF A DUCTILE IRON PIPE WITH NITRILE GASKETS, A MAP OF TEST LOCATIONS AND A TABLE OF TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER AND TO CLARK PUBLIC UTILITIES PRIOR TO COMMENCEMENT OF WATER MAIN CONSTRUCTION.*
2) *WATER PIPE AND FITTINGS SHALL BE RATED FOR A MIN. WORKING PRESSURE OF 150 PSI.*
3) *TEST PRESSURE SHALL BE 200 PSI (MIN.).*



WATER NOTES

W1 *N: 197248.6625 E: 1079764.0342*
EXISTING 8" C-900 STUB. CLOSE VALVE AT EXISTING MAIN
REMOVE BLOWOFF AND INSTALL:
(1) 8" MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) 90° BEND MJ W/ MEGALUG RESTRAINTS
(1) VALVE BLOCK
(1) THRUST BLOCK
VALVES AT W1 AND AT EXISTING MAIN SHALL REMAIN CLOSED UNTIL NEW MAIN IS TESTED AND SANITIZED BY THE CLARK PUBLIC UTILITIES INSPECTOR

W2 *N: 197257.8377 E: 1079758.9569*
INSTALL:
STANDARD 2" WATER SERVICE METER PER CLARK PUBLIC UTILITIES STD. NOTES & DETAILS ON C12.1.

W3 *N: 197229.6828 E: 1079653.6348*
INSTALL:
(1) 8" 22.5 ° BEND MJ W/ MEGALUG RESTRAINTS
(1) 8" 45° BEND
(1) THRUST BLOCK

W4 *N : 197240.7825 E: 1079657.8209*
INSTALL:
(1) 8" MJ X 6" FLG TEE W/ MEGALUG RESTRAINTS
(1) 6" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) STD VALVE BOX ASSEMBLY
(1) STD FIRE HYDRANT ASSEMBLY (AS PER C12.0)
(9.0 L.F.) 6" CL 52 DIP
MECH. RESTRAIN ALL JOINTS (MAIN TO HYDRANT)
4'x4'x4" CONCRETE PAD
(2) THRUST BLOCKS

W5 *N: 197353.6556 E: 1079585.8062*
INSTALL:
(1) 8" MJ 22.5° MJ BEND W/MEGALUG RESTRAINTS
(1) 8" 11.25° MJ BEND W/ MEGALUG RESTRAINTS
(1) THRUST BLOCK

W6 *N: 197423.4801 E: 1079587.6277*
INSTALL:
(1) 8" MJ 45° MJ BEND W/MEGALUG RESTRAINTS
(1) THRUST BLOCK

W7 *N: 197423.4801 E: 1079587.6277*
INSTALL:
(1) 8" MJ 45° MJ BEND W/MEGALUG RESTRAINTS
(1) THRUST BLOCK

W8 *N: 197502.9957 E: 1079479.2385*
INSTALL:
(1) 8" x 6" MJ TEE W/MEGALUG RESTRAINTS
(2) 8" MJ GATE VALVES W/ MEGALUG RESTRAINTS
(1) 6" MJ GATE VALVE W/ MEGALUG RESTRAINTS
(3) STD. VALVE BOXES
(1) THRUST BLOCK

W10 *N: 197599.7243 E: 1079571.2921*
DEFLECT 8" MAIN DOWN TO PROVIDE 12" MINIMUM CLEARANCE FROM STORM SEWER AND 30" MINIMUM COVER AT PARADISE PARK ROAD CURB.

W11 *N: 197655.5876 E: 1079572.6757*
INSTALL:
(1) 8" x 8" TAPPING SLEEVE
(1) 8" MJ x FLG GATE VALVE W/ MEGALUG RESTRAINTS
(1) VALVE BLOCK
(1) THRUST BLOCK

W12 *N : 197479.8338 E: 1079613.1060*
INSTALL:
(1) 8" MJ X 6" FLG TEE W/ MEGALUG RESTRAINTS
(1) 6" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) STD VALVE BOX ASSEMBLY
(1) STD FIRE HYDRANT ASSEMBLY (AS PER C12.0)
(44.8 L.F.) 6" CL 52 DIP
MECH. RESTRAIN ALL JOINTS (MAIN TO HYDRANT)
4'x4'x4" CONCRETE PAD
(2) THRUST BLOCKS

W13 *N: 197473.8359 E: 1079612.9495*
INSTALL:
REMOTE FIRE DEPT. CONNECTION FOR BLDG. 4
(DESIGN BY FIRE SPRINKLER SYSTEM DESIGNER)

W14 *EXTEND 4" DIP WITH RESTRAINED JOINTS TO FIRST SPRINKLER RISER ROOM.*

W15 *N : 197514.7969 E: 1079499.9793*
INSTALL:
(1) 6" MJ X 6" FLG TEE W/ MEGALUG RESTRAINTS
(1) 6" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(10.0 L.F.) 6" CL 52 DIP
(1) STD FIRE HYDRANT ASSEMBLY (AS PER C12.0)
MECH. RESTRAIN ALL JOINTS (MAIN TO HYDRANT)
4'x4'x4" CONCRETE PAD
(2) THRUST BLOCKS

W16 *N: 197505.3346 E: 1079479.2385*
INSTALL:
(1) 4" 90° MJ BEND W/ MEGALUG RESTRAINTS
(1) THRUST BLOCK

W17 *N: 197495.8254 E: 1079442.5582*
INSTALL:
(1) 1" WATER SERVICE METER BOX

W18 *N: 197353.9651 E: 1079480.3309*
INSTALL:
(1) 2" WATER SERVICE METER BOX
(1) 2" DOUBLE CHECK VAULT ASSEMBLY

W19 *N: 197355.0634 E: 1079475.3183*
INSTALL:
(1) 4" 22.5° MJ BEND W/ MEGALUG RESTRAINTS
(1) 4" 11.25° MJ BEND W/ MEGALUG RESTRAINTS
(1) THRUST BLOCK

W20 *INSTALL 4" DOUBLE CHECK VALVE ASSEMBLY*

W21 *N : 197445.0482 E: 1079878.0904*
INSTALL:
(1) 8" X 6" TAPPING SLEEVE
(1) 6" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) STD VALVE BOX ASSEMBLY
(1) STD FIRE HYDRANT ASSEMBLY (AS PER C12.0)
(44.7 L.F.) 6" CL 52 DIP
MECH. RESTRAIN ALL JOINTS (MAIN TO HYDRANT)
4'x4'x4" CONCRETE PAD
(2) THRUST BLOCKS

W22 *N : 197449.2779 E: 1079869.3390*
INSTALL:
(1) 8" X 4" TAPPING SLEEVE
(1) 4" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) STD VALVE BOX ASSEMBLY
(53.6 L.F.) 4" CL 52 DIP
(1) 4" 90° MJ BEND W/ MEGALUG RESTRAINTS
(2.0 L.F.) 4" CL 52 DIP
(1) 3" COMPOUND METER SERVICE
EXTEND 4" C900 PVC WATER LINE TO BLDG. POINT OF CONNECTION.

W23 *N : 197582.69 E: 1079358.44*
INSTALL:
(1) 8" X 6" TAPPING SLEEVE
(1) 6" FLG X MJ GATE VALVE W/ MEGALUG RESTRAINTS
(1) STD VALVE BOX ASSEMBLY
(1) STD FIRE HYDRANT ASSEMBLY (AS PER C12.0)
(29.9 L.F.) 6" CL 52 DIP
MECH. RESTRAIN ALL JOINTS (MAIN TO HYDRANT)
4'x4'x4" CONCRETE PAD
(2) THRUST BLOCKS

W24 *N: 197413.51 E: 1079471.33*
INSTALL:
REMOTE FIRE DEPT. CONNECTION FOR BLDG. 4
(DESIGN BY FIRE SPRINKLER SYSTEM DESIGNER)

SCALE: 1"=40'

-40 0 40 80

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WATER.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

WATER PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC. LAND SURVEYORS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

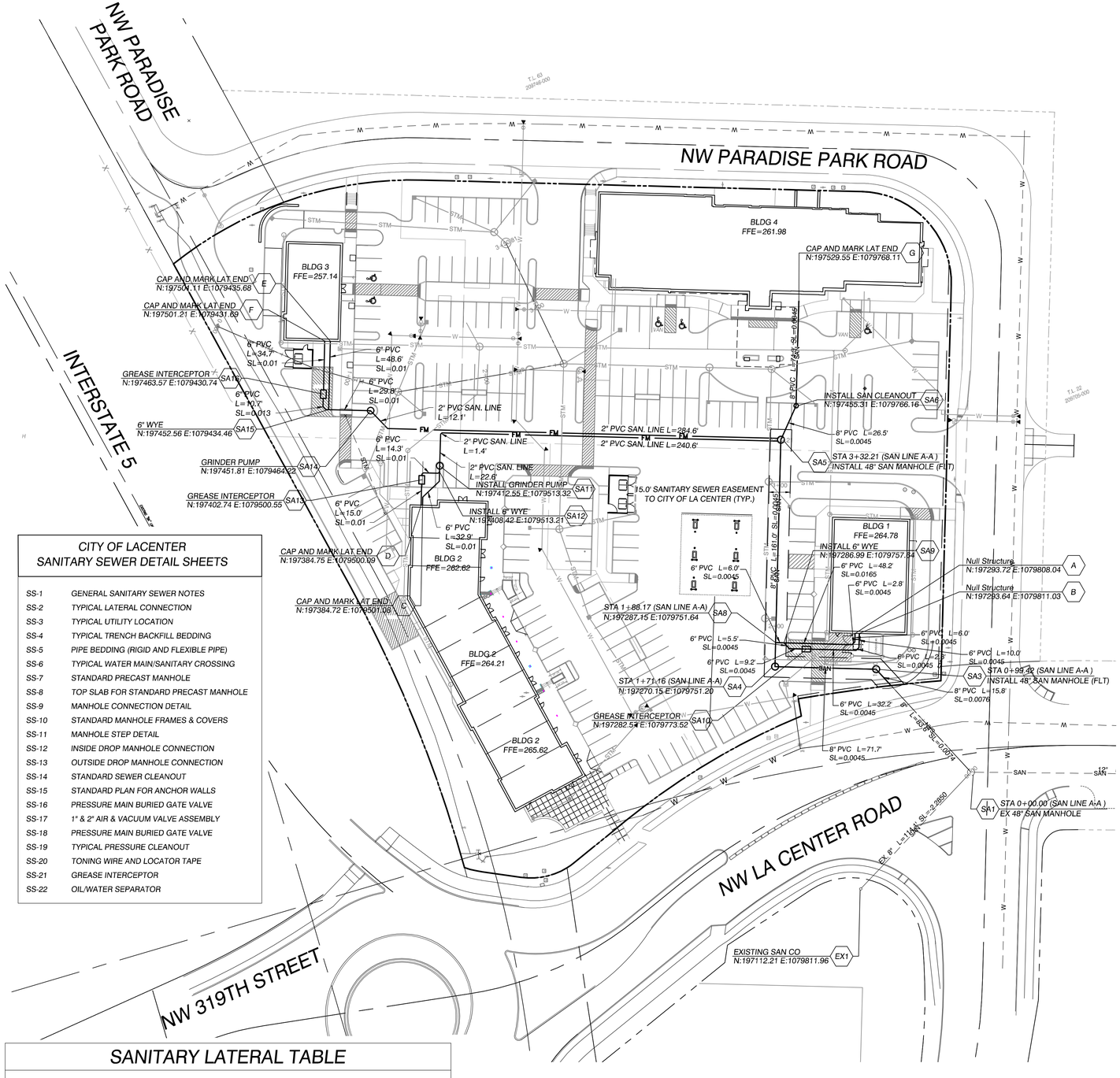
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C6.0



CITY OF LACENTER SANITARY SEWER DETAIL SHEETS

SS-1	GENERAL SANITARY SEWER NOTES
SS-2	TYPICAL LATERAL CONNECTION
SS-3	TYPICAL UTILITY LOCATION
SS-4	TYPICAL TRENCH BACKFILL BEDDING
SS-5	PIPE BEDDING (RIGID AND FLEXIBLE PIPE)
SS-6	TYPICAL WATER MAIN/SANITARY CROSSING
SS-7	STANDARD PRECAST MANHOLE
SS-8	TOP SLAB FOR STANDARD PRECAST MANHOLE
SS-9	MANHOLE CONNECTION DETAIL
SS-10	STANDARD MANHOLE FRAMES & COVERS
SS-11	MANHOLE STEP DETAIL
SS-12	INSIDE DROP MANHOLE CONNECTION
SS-13	OUTSIDE DROP MANHOLE CONNECTION
SS-14	STANDARD SEWER CLEANOUT
SS-15	STANDARD PLAN FOR ANCHOR WALLS
SS-16	PRESSURE MAIN BURIED GATE VALVE
SS-17	1" & 2" AIR & VACUUM VALVE ASSEMBLY
SS-18	PRESSURE MAIN BURIED GATE VALVE
SS-19	TYPICAL PRESSURE CLEANOUT
SS-20	TONING WIRE AND LOCATOR TAPE
SS-21	GREASE INTERCEPTOR
SS-22	OIL/WATER SEPARATOR

SANITARY SEWER NOTES

SA1 EX 48" SAN MANHOLE
N: 197195.17 E: 1079890.29
RIM=264.35
8" IE IN (NW) = 253.08
8" IE IN (SW) = 253.02
12" IE OUT (E) = 252.64

CONNECT TO EXISTING 8" SANITARY STUB
N: 197256.64 E: 1079833.64
RIM (PROPOSED)=264.35'
8" IE = 253.70

SA3 INSTALL 48" SAN MANHOLE (FLT)
N: 197268.28 E: 1079822.92
RIM=264.14
8" IE IN (W) = 254.02
8" IE OUT (SE) = 253.82

SA4 INSTALL 48" SAN MANHOLE (FLT)
N: 197270.15 E: 1079751.20
RIM=264.12
8" IE IN (N) = 254.54
8" IE OUT (E) = 254.34

SA5 INSTALL 48" SAN MANHOLE (FLT)
N: 197431.14 E: 1079755.40
RIM=263.32
8" IE IN (NE) = 255.47
8" IE OUT (S) = 255.27
2" IE IN (W) = 259.32
2" IE IN (W) = 259.32
INSTALL INSIDE DROP PER CITY OF LACENTER DETAIL SS-16

SA10 INSTALL GREASE INTERCEPTOR
N: 197282.57 E: 1079773.52
RIM=264.41
6" IE IN (E) = 256.87
6" IE OUT (W) = 256.80
(SEE SANITARY NOTE 3)

SA11 INSTALL GRINDER PUMP
N: 197412.55 E: 1079513.32
RIM=261.23
6" IE IN (S) = 259.59
(SEE SANITARY NOTE 1 FOR MAKE AND MODEL)

SA13 INSTALL GREASE INTERCEPTOR
N: 197402.74 E: 1079500.55
RIM=261.45
6" IE = 259.77
(SEE SANITARY NOTE 3)

SA14 INSTALL GRINDER PUMP
N: 197451.81 E: 1079464.22
RIM=258.94
6" IE IN (W) = 253.67
(SEE SANITARY NOTE 1 FOR MAKE AND MODEL)

SA16 INSTALL GREASE INTERCEPTOR
N: 197463.57 E: 1079430.74
RIM=257.80
6" IE = 254.11
(SEE SANITARY NOTE 3)

SANITARY LATERAL TABLE

LATERAL	DOWNSTREAM MANHOLE NAME	DOWNSTREAM MANHOLE STA FROM	8" IE OF MAIN	6" IE @ LAT END	FG @ LAT END	DEPTH @ LAT END	LENGTH OF MATERIAL	LATERAL PIPE MATERIAL
A	SA4	0+16	254.62	261.98	264.78	2.80	63.0	PVC
B	SA4	0+16	254.62	261.98	264.78	2.80	71.7	PVC
C	SA5	0+00	255.27	259.92	262.62	2.70	297.4	PVC
D	SA5	0+00	255.27	259.92	262.62	2.70	304.3	PVC
E	SA5	0+00	255.27	254.46	257.14	2.68	375.1	PVC
F	SA5	0+00	255.27	254.46	257.14	2.68	377.9	PVC
G	SA5	0+00	255.47	255.92*	261.98	6.06	100.6	PVC

* LATERAL G TO BLDG 4 IS 8" PVC

SANITARY SEWER NOTES:

1. PREPACKAGED GRINDER PUMP STATIONS SHALL BE ONE OF THE FOLLOWING:
   A. EONE DH502
   B. GOULDS/XYLEM AKD200G43672WF
   C. LIBERTY D3672
2. 15' WIDE SANITARY SEWER EASEMENT TO BE DEDICATED TO CITY OF LACENTER FOR SAN LINE A-A. SEE SHEET C7.0 FOR SANITARY PROFILE.
3. ALL GREASE INTERCEPTORS ARE SIZED AT 1,000 GALLONS.
4. SEE SHEET C7.0 FOR PUBLIC MAIN SANITARY PROFILE

SCALE: 1"=40'

-40 0 40 80

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SANITARY.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

SANITARY SEWER PLAN FOR:
MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

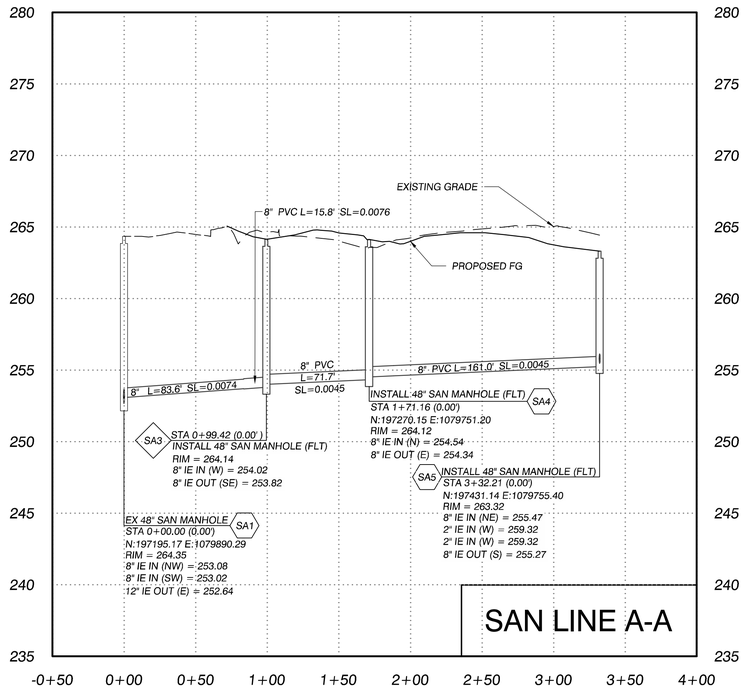
PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM
DRAWN: TAS
CHECKED: CEM
DATE: APRIL 2020
SCALE: H: 1"= 40'
V: N/A
MINIT MANAGEMENT
JOB NO.: 9825.01.01

SHEET
C6.1



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VANCOUVER, WA. 98668

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SANITARY SEWER PROFILE FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC. LAND SURVEYORS
222 E. EVERGREEN, VANCOUVER, WA 98660
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MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C7.0

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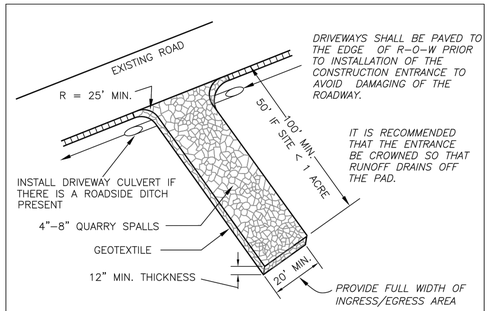


NOTES:

1. IF THE ENTRANCE SITS ON A SLOPE, PLACE A FILTER FABRIC FENCE DOWN GRADIENT.
2. TOP DRESS THE PAD WITH CLEAN 3" MINUS ROCK WHEN THE CONSTRUCTION ENTRANCE BECOMES CLOGGED WITH SEDIMENTS.
3. ANY SEDIMENT CARRIED FROM THE SITE ONTO THE STREET SHALL BE CLEANED UP IMMEDIATELY.
4. IF EQUIPMENT TRAVELS EXTENSIVELY ON UNSTABILIZED ROADS ON THE SITE, A TIRE AND VEHICLE UNDERCARRIAGE WASH NEAR THE ENTRANCE WILL BE NEEDED. PERFORM WASHING ON CRUSHED ROCK. WASH WATER WILL REQUIRE TREATMENT IN A SEDIMENT POND OR TRAP.

STANDARD CONSTRUCTION ENTRANCE

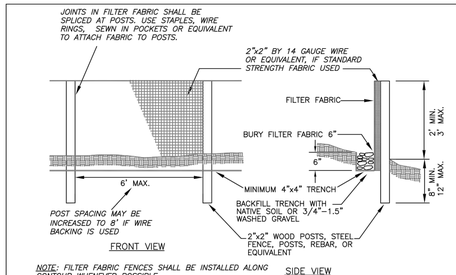
PLAN # ER-2

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

MAINTENANCE STANDARDS:

1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE–THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE SHALL BE INSTALLED.
5. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
6. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

FILTER FABRIC FENCE

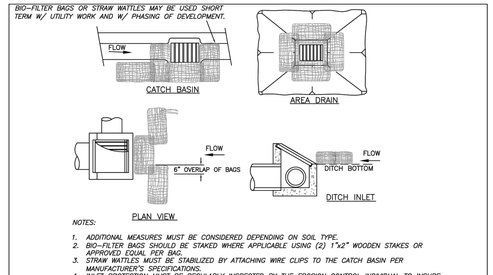
PLAN # ER-3

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
2. BIO–FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. STRAW WATTLES MUST BE STABILIZED BY ATTACHING WIRE CLIPS TO THE CATCH BASIN PER MANUFACTURER'S SPECIFICATIONS.
4. INLET PROTECTION MUST BE REGULARLY INSPECTED BY THE EROSION CONTROL INDIVIDUAL TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.

FILTER BAG

NOTES:

1. SIZE THE BELOW GRATE INLET DEVICE (BGID) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
2. THE REMOVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.
3. THE BGID SHALL HAVE A BUILT–IN HIGH–FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
4. THE CONTRACTOR SHALL INSPECT THE BAG AFTER EACH STORM EVENT AND AT REGULAR INTERVALS.
5. THE FILTER BAG SHALL BE CLEANED OR REPLACED WHEN THE BAG BECOMES HALF FULL.

INLET PROTECTION

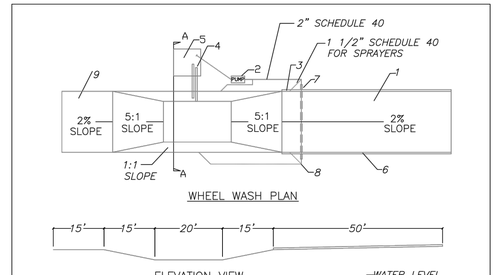
PLAN # ER-4

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



LEGEND:

1. ASPHALT CONSTRUCTION ENTRANCE 6 IN. ASPHALT TREATED BASE (ATB).
2. 3 IN. TRASH PUMP WITH FLOATS ON THE SUCTION HOSE.
3. MIDPOINT SPRAY NOZZLES, IF NEEDED.
4. 6 IN. SEWER PIPE WITH BUTTERFLY VALVES. BOTTOM ONE IS A DRAIN. LOCATE TOP PIPE'S INVERT 1 FT. ABOVE BOTTOM OF WHEEL WASH.
5. 8 FT. X 8 FT. SUMP WITH 5 FT. OF CATCH. BUILD SO CAN BE CLEANED WITH TRACKHOE.
6. 6–IN. ASPHALT CURB ON THE LOW ROAD SIDE TO DIRECT WATER BACK TO POND.
7. 6–IN. SLEEVE UNDER ROAD.
8. BALL VALVES.
9. 15 FT. ATB APRON TO PROTECT GROUND FROM SPLASHING WATER.

WHEEL WASH

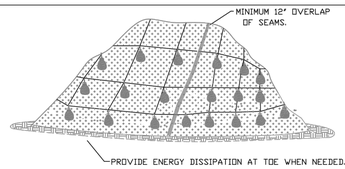
PLAN # ER-5

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



PLASTIC SHEETING

NOTES:

1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES.
2. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
3. WHEN POSSIBLE, INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC.
4. TOE–IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
5. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
6. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
7. OVERLAP SEAMS 1–2', TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
8. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

PLASTIC SHEETING

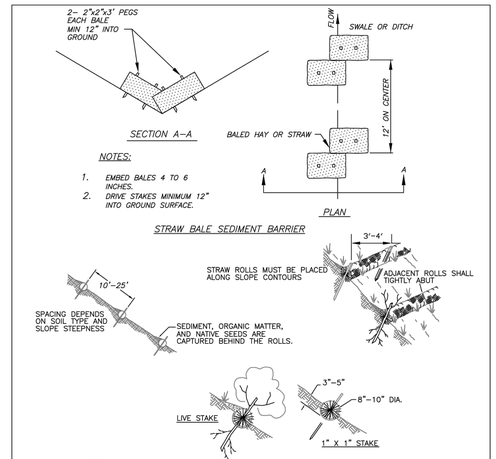
PLAN # ER-6

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. EMBED BALES 4 TO 6 INCHES.
2. DRIVE STAKES MINIMUM 12" INTO GROUND SURFACE.

STRAW WATTLES

NOTES:

STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"–5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

STRAW SEDIMENT BARRIER & STRAW WATTLES

PLAN # ER-7

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

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DETAIL SHEETS.STB

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CITY OF LA CENTER EROSION CONTROL DETAILS (1 OF 2) FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK — STATE OF WASHINGTON — 31817 — REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

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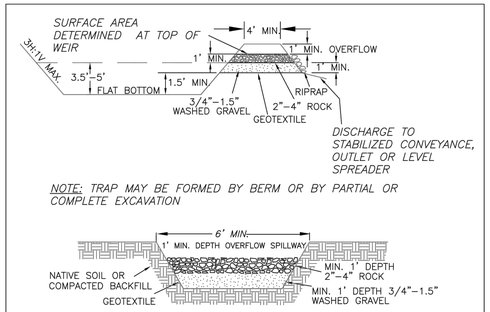


NOTE: TRAP MAY BE FORMED BY BERM OR BY PARTIAL OR COMPLETE EXCAVATION

NOTES:

1. SEDIMENT TRAP MAY BE CONSTRUCTED BY EXCAVATION OR BY BUILDING A BERM.
2. OUTFLOW CHANNEL SHALL BE CONSTRUCTED BY EXCAVATION.
3. SEDIMENT TRAPS SHALL BE LIMITED TO LESS THAN 1 ACRE. OR ANY SITE GREATER THAN 1 ACRE, SEE TEMPORARY SEDIMENT POND DETAIL ER-9.
4. SEDIMENT SHALL BE REMOVED BEFORE 1 FOOT ACCUMULATES.

SEDIMENT TRAP

PLAN #

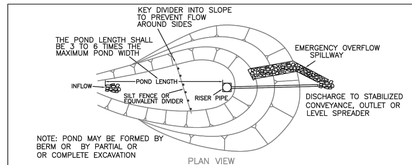
CITY OF LA CENTER APPROVED

Brett Shaw, PE 7/23/09

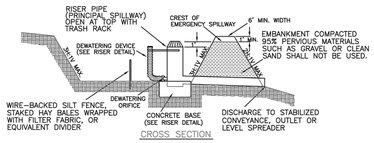
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

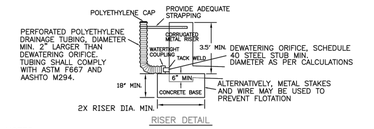
ER-8



PLAN VIEW



CROSS SECTION



RISER DETAIL

NOTES:

1. STRUCTURES HAVING A MAXIMUM STORAGE CAPACITY AT THE TOP OF THE DAM OF 10 ACRE-FT (435,600 FT^3) OR MORE ARE SUBJECT TO THE WASHINGTON DAM SAFETY REGULATIONS (CHAPTER 173-175 WAC).
2. GRADE BOTTOM OF BASIN AS LEVEL AS POSSIBLE.
3. SPILLWAY SHALL BE LINED WITH 2"-4" ROCKS.
4. ALL INLETS AND OUTLETS SHALL BE PROTECTED WITH RIPRAP.
5. IF THE POND POSES A SAFETY HAZARD, IT SHALL BE FENCED.
6. REMOVE SEDIMENT BEFORE 1-FOOT ACCUMULATES.

TEMPORARY SEDIMENT POND

PLAN #

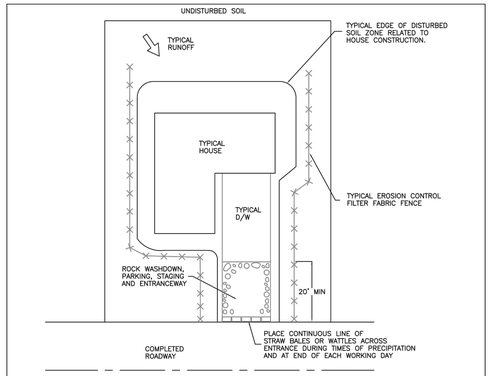
CITY OF LA CENTER APPROVED

Brett Shaw, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

ER-9



NOTES:

1. DEPENDING UPON CONTRACTORS' PRACTICES, THESE MEASURES MAY BE VARIED WITH APPROVAL FROM THE ENGINEER AND WATER QUALITY MANAGER.
2. CONTRACTOR SHALL BE REQUIRED TO CONFORM TO ALL GENERAL EROSION CONTROL NOTES AND DETAILS.
3. DOWNSPOUTS SHALL NOT DRAIN TO THE ROADWAY, RIGHT-OF-WAY, OR INTO ANY DRAINAGE STRUCTURES IN THE RIGHT-OF-WAY.

RESIDENTIAL EROSION CONTROL PLAN

PLAN #

CITY OF LA CENTER APPROVED

Brett Shaw, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

ER-13

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CITY OF LA CENTER EROSION CONTROL DETAILS (2 OF 2) FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
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PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= XX'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

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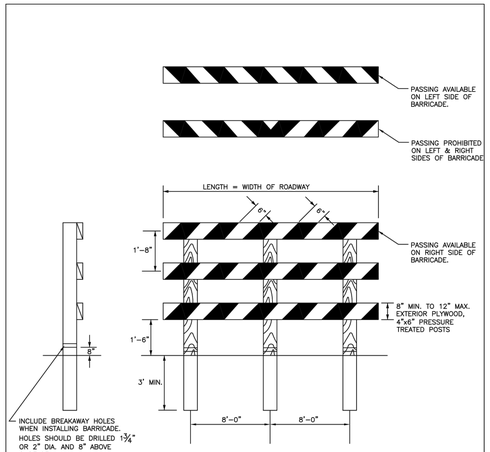


TYPE III BARRICADE

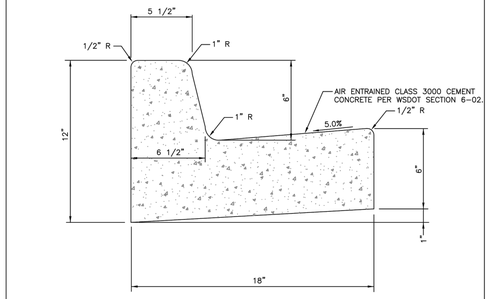
PLAN # ST-2

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. CURB AND GUTTER CUTS FOR DRIVEWAYS SHALL NOT BE DONE UNTIL ISSUANCE OF BUILDING AND OR RIGHT-OF-WAY PERMIT.
2. CURB AND GUTTER REPLACEMENT SECTIONS WILL BE REPLACED AS ONE CONTINUOUS UNIT, MONOLITHIC, AS THE DETAIL DEPICTS.
3. EXPANSION JOINTS SHALL BE PLACED EVERY 45' & FALSE JOINTS EVERY 15'.
4. CONCRETE SHALL BE AIR ENTRAINED CLASS 3000 CEMENT PER WSDOT SPECIFICATION 6-02 EXCEPT AT DRIVEWAYS WHERE CONCRETE WILL BE CLASS 4000.
5. USE CURB & GUTTER ON ALL NEW ROADS.
6. PROVIDE A 15' TRANSITION BETWEEN EXISTING CURBS AND NEW CURB AND GUTTERS WHERE REQUIRED.

CURB & GUTTER DETAIL

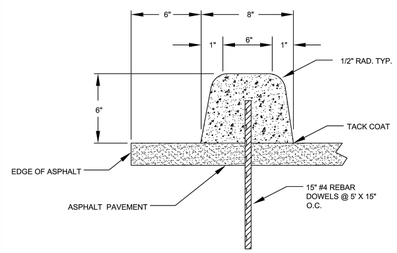
PLAN # ST-5

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTE:

1. ONLY AS SPECIFICALLY APPROVED BY CITY ENGINEER, AND ONLY ALLOWED OUTSIDE OF R/W.
2. TACK COAT BETWEEN ASPHALT AND EXTRUDED CONCRETE CURB. (SEE NOTE FOR PLACEMENT)
3. INSTALL DOWELS AT SPECIFIED LOCATION IF INSTALLING ON CONCRETE. (SEE NOTE FOR DETAILS)

EXTRUDED CURB DETAIL

PLAN # ST-6

CITY OF LA CENTER APPROVED

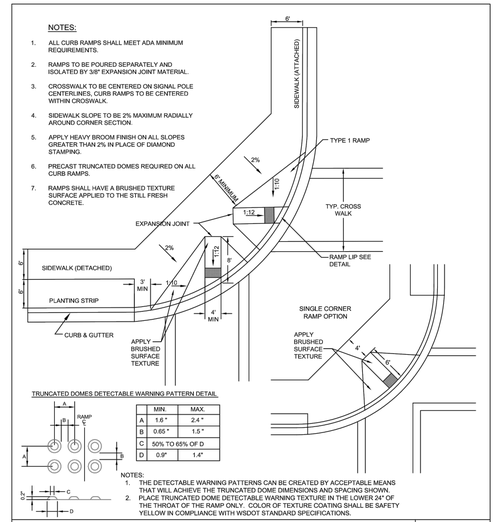
Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

NOTES:

1. ALL CURB RAMPS SHALL MEET ADA MINIMUM REQUIREMENTS.
2. RAMPS TO BE POURED SEPARATELY AND ISOLATED BY 3/8" EXPANSION JOINT MATERIAL.
3. CROSSWALK TO BE CENTERED ON SIGNAL POLE CENTERLINES, CURB RAMPS TO BE CENTERED WITHIN CROSWALK.
4. SIDEWALK SLOPE TO BE 2% MAXIMUM RADIALLY AROUND CORNER SECTION.
5. APPLY HEAVY BROOM FINISH ON ALL SLOPES GREATER THAN 2% IN PLACE OF DIAMOND STAMPING.
6. PRECAST TRUNCATED DOMES REQUIRED ON ALL CURB RAMPS.
7. RAMPS SHALL HAVE A BRUSHED TEXTURE SURFACE APPLIED TO THE STILL FRESH CONCRETE.



TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	50% TO 65% OF D	
D	0.9"	1.4"

NOTES:

1. THE DETECTABLE WARNING PATTERNS CAN BE CREATED BY ACCEPTABLE MEANS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS AND SPACING SHOWN.
2. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 24" OF THE THROAT OF THE RAMP ONLY. COLOR OF TEXTURE COATING SHALL BE SAFETY YELLOW IN COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS.

TYPE 1 CURB RAMP

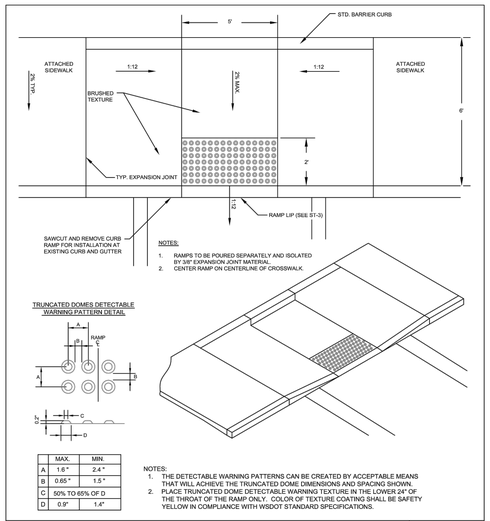
PLAN # ST-7

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. RAMPS TO BE POURED SEPARATELY AND ISOLATED BY 3/8" EXPANSION JOINT MATERIAL.
2. CENTER RAMP ON CENTERLINE OF CROSSWALK.

TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL

	MAX.	MIN
A	1.6"	2.4"
B	0.65"	1.5"
C	50% TO 65% OF D	
D	0.9"	1.4"

NOTES:

1. THE DETECTABLE WARNING PATTERNS CAN BE CREATED BY ACCEPTABLE MEANS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS AND SPACING SHOWN.
2. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 24" OF THE THROAT OF THE RAMP ONLY. COLOR OF TEXTURE COATING SHALL BE SAFETY YELLOW IN COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS.

TYPE 2 CURB RAMP

PLAN # ST-8

CITY OF LA CENTER APPROVED

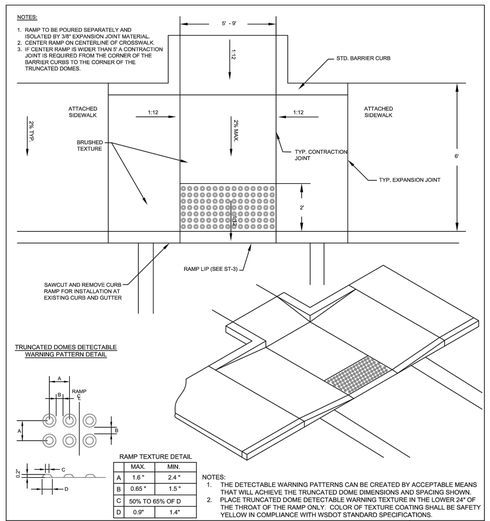
Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

NOTES:

1. RAMP TO BE POURED SEPARATELY AND ISOLATED BY 3/8" EXPANSION JOINT MATERIAL.
2. CENTER RAMP ON CENTERLINE OF CROSSWALK.
3. IF CENTER RAMP IS WIDER THAN 5' A CONTRACTION JOINT IS REQUIRED FROM THE CORNER OF THE BARRIER CURBS TO THE CORNER OF THE TRUNCATED DOMES.



TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL

RAMP TEXTURE DETAIL

	MAX.	MIN.
A	1.6"	2.4"
B	0.65"	1.5"
C	50% TO 65% OF D	
D	0.9"	1.4"

NOTES:

1. THE DETECTABLE WARNING PATTERNS CAN BE CREATED BY ACCEPTABLE MEANS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS AND SPACING SHOWN.
2. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 24" OF THE THROAT OF THE RAMP ONLY. COLOR OF TEXTURE COATING SHALL BE SAFETY YELLOW IN COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS.

TYPE 2B CURB RAMP

PLAN # ST-9

CITY OF LA CENTER APPROVED

Bart Stapp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

J:\data\9000\9800\9820\9825\Engineering\Final\Sheets\9825.e.C9.0-C9.X.street details.dwg
GRADEROSION.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CITY OF LA CENTER STREET DETAILS FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

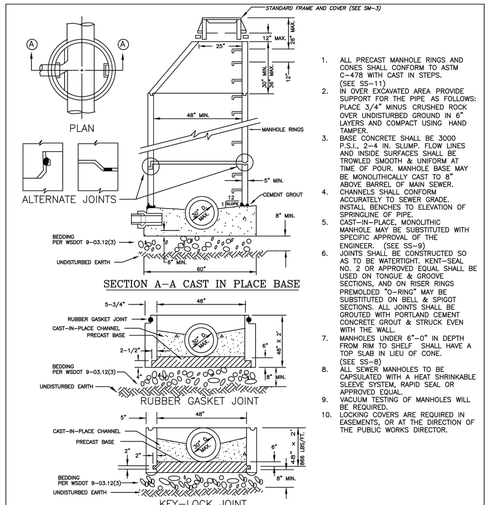
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

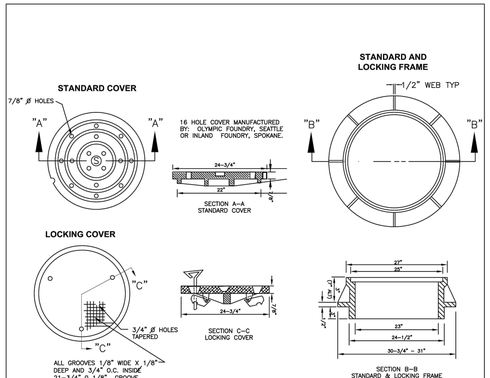
SHEET

C9.0



1. ALL PRECAST MANHOLE RINGS AND CONES SHALL CONFORM TO ASTM C-478 WITH CAST IN STEPS. (SEE SS-11)
2. IN OVER EXCAVATED AREA PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT USING HAND TAMPER.
3. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWLED SMOOTH & UNIFORM AT TIME OF POUR. MANHOLE BASE MAY BE MONOLITHICALLY CAST TO 8" ABOVE BARREL OF MAIN SEWER.
4. CHANNELS SHALL CONFORM ACCURATELY TO SEWER GRADE. INSTALL BENCHES TO ELEVATION OF SPRINGLINE OF PIPE.
5. CAST-IN-PLACE, MONOLITHIC MANHOLE MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER. (SEE SS-9)
6. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT-SEAL NO. 2 OR APPROVED EQUAL SHALL BE USED ON TONGUE & GROOVE SECTIONS, AND ON RISER RINGS PREMOLDED "O-RING" MAY BE SUBSTITUTED ON BELL & SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL.
7. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE. (SEE SS-8)
8. ALL SEWER MANHOLES TO BE CAPSULATED WITH A HEAT SHRINKABLE SLEEVE SYSTEM, RAPID SEAL OR APPROVED EQUAL.
9. VACUUM TESTING OF MANHOLES WILL BE REQUIRED.
10. LOCKING COVERS ARE REQUIRED IN EASEMENTS, OR AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.

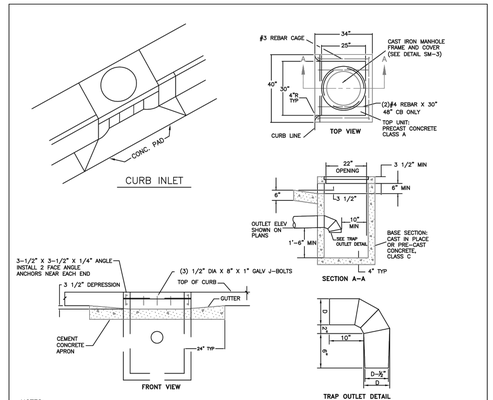
STANDARD STORM MANHOLE	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-2



NOTES:

1. COVER & FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
2. MATERIAL SHALL BE OF GREY CAST IRON, A.S.T.M. A-48, CLASS 30.
3. LOCKING LIDS SHALL BE USED ON ALL MANHOLES INSTALLED WITHIN EASEMENTS, OUTSIDE A PAVED SURFACE, OR OUTSIDE THE CITY RIGHT-OF-WAY.

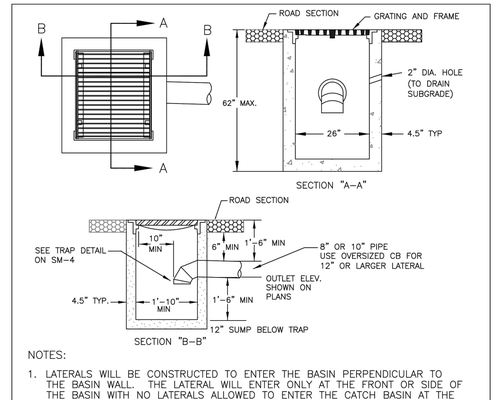
STANDARD MANHOLE FRAMES & COVERS	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-3



NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. THE LATERAL WILL ENTER ONLY AT THE FRONT OR SIDE OF THE BASIN WITH NO LATERALS ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
2. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
3. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
4. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM. SEE DETAIL D-1.7
5. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.
6. CONTRACTOR IS RESPONSIBLE FOR BLOCKING OUT ADEQUATE SPACE IN CURB AND GUTTER TO INSTALL CURB INLETS.
7. STORM INLETS SHALL BE SPACED TO CAPTURE NO MORE THAN 7,000 SQUARE FEET OF AREA.
8. DIAMETER "D" IS NORMAL DIAMETER OF OUTLET PIPE.

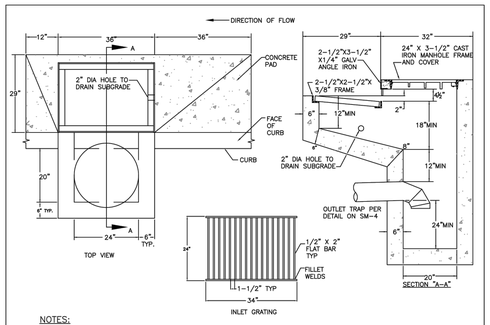
CURB INLET	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-4



NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. THE LATERAL WILL ENTER ONLY AT THE FRONT OR SIDE OF THE BASIN WITH NO LATERALS ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
2. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
3. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
4. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM.
5. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.

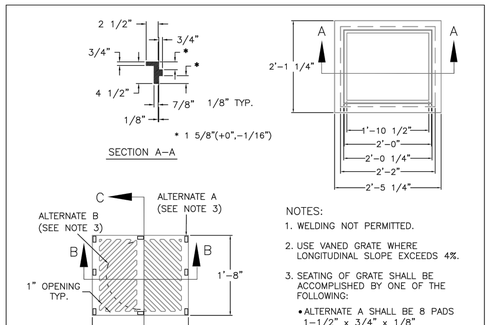
CATCH BASIN	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-5



NOTES:

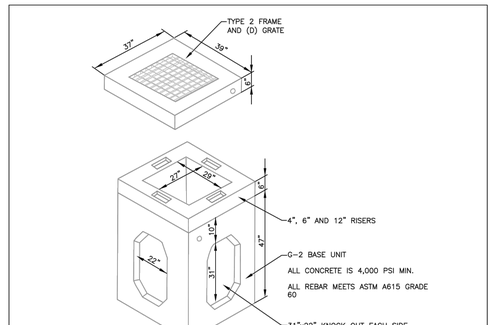
1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. NO LATERALS ARE ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL, THE MAXIMUM BEND IS 45 DEGREES
2. CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING PRECAST OR CAST-IN-PLACE INLET STRUCTURES, UNLESS SPECIFIED.
3. ALL REINFORCED STEEL SHALL HAVE 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A615).
4. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
5. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM.
6. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.
7. SPACING OF STORM INLETS SHALL NOT EXCEED 400 FEET.

COMBINATION CURB INLET	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-6



DIMENSIONS			
W1 & W2	T	R	D
1" MIN 1-3/4" MAX	1-3/4"	26"	1-5/8"
1" MIN 1-3/4" MAX	1-1/2"	21"	2-3/4"

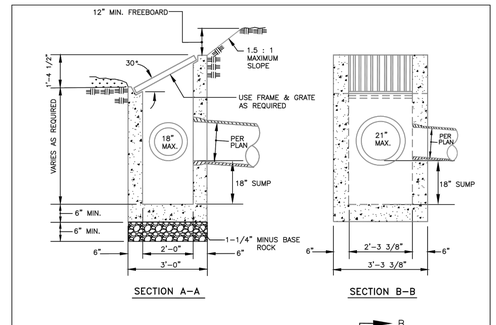
HERRINGBONE GRATE DETAIL	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-7



NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. NO LATERALS ARE ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
2. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
3. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
4. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM.
5. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.

G-2 CATCH BASIN	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-8



NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 P.S.I. AND 2" TO 4" SLUMP.
3. STEEL TO BE NEW STRUCTURAL STEEL, ASTM A-7, A-36, OR A-373.
4. USE SLANTED OR BOX FRAME AND GRATE AS REQUIRED BY CITY.

SLOPED FIELD INLET	PLAN #
CITY OF LA CENTER APPROVED Bart Shaw, PE 7/23/09 CITY ENGINEER DATE	SM-9

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CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CITY OF LA CENTER STORM SEWER DETAILS FOR:
MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

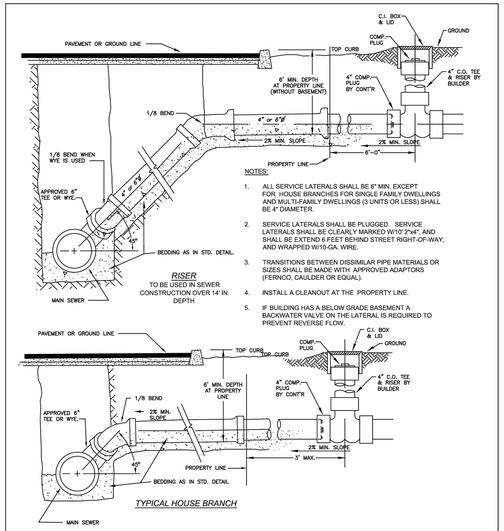
PETER A. TUCK
STATE OF WASHINGTON
31817
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

CHANGES / REVISIONS	
DESCRIPTION:	DATE:

DESIGNED: CEM
DRAWN: TAS
CHECKED: CEM
DATE: APRIL 2020
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT
JOB NO.: 9825.01.01

SHEET
C10.0



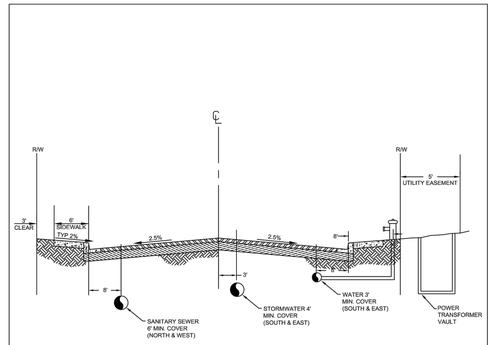
TYPICAL LATERAL CONNECTION

PLAN # SS-2

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTE:

1. THE PUBLIC WORKS DIRECTOR MAY REQUIRE INSTALLATION OF SANITARY SEWER AT A DEPTH GREATER THAN 6 FEET
2. MODIFICATION TO THIS STANDARD IS SUBJECT TO THE CITY ENGINEER REVIEW AND APPROVAL

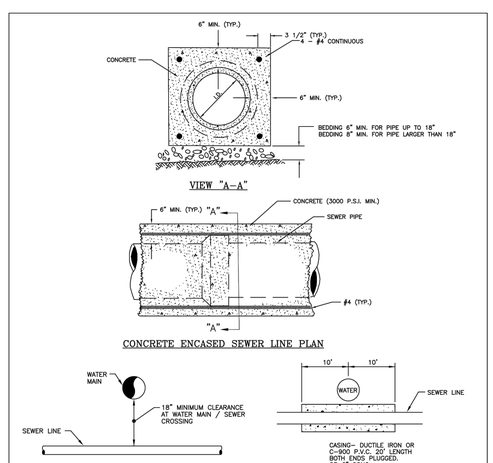
TYPICAL UTILITY LOCATION

PLAN # SS-3

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. WITH 18" MINIMUM CLEARANCE, USE FULL LENGTHS OF PIPE WITH CROSSING AT MIDPOINT OF BOTH WATER AND SEWER LINE.
2. SEWER LINE AT CROSSING WILL BE EITHER DUCTILE IRON OR C-900 PVC.
3. WHERE THERE ISN'T 18" OF CLEARANCE BETWEEN WATERLINE AND SEWER LINE, CONCRETE IS TO EXTEND 10' ON BOTH SIDES OF WATER CROSSING.

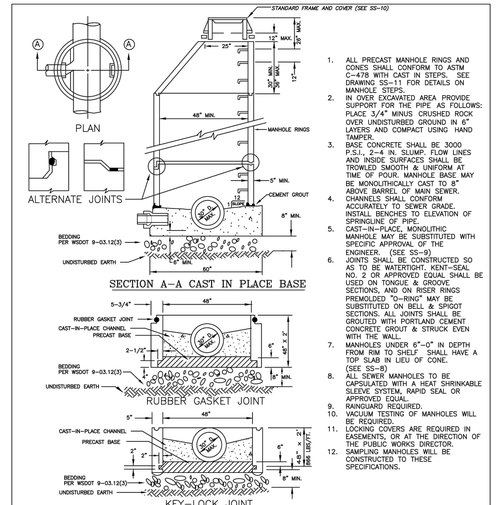
TYPICAL WATER MAIN/SANITARY CROSSING

PLAN # SS-6

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



1. ALL PRECAST MANHOLE RINGS AND CONES SHALL CONFORM TO ASTM C-478 WITH CAST IN STEPS. SEE DRAWING SS-11 FOR DETAILS ON MANHOLE STEPS.
2. IN OVER EXCAVATED AREA PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT USING HAND TAMPER.
3. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWLED SMOOTH & UNIFORM AT TIME OF POUR. MANHOLE BASE MAY BE MONOLITHICALLY CAST TO 8" ABOVE BARREL OF MAIN SEWER.
4. CHANNELS SHALL CONFORM ACCURATELY TO SEWER GRADE. INSTALL BENCHES TO ELEVATION OF SPRINGLINE OF PIPE.
5. CAST-IN-PLACE, MONOLITHIC MANHOLE MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER. (SEE SS-9)
6. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT-SEAL NO. 2 OR APPROVED EDUAL SHALL BE USED ON TONGUE & GROOVE SECTIONS, AND ON RISER RINGS PREMOLDED "O-RING" MAY BE SUBSTITUTED ON BELL & SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STROCK EVEN WITH THE WALL.
7. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE. (SEE SS-8)
8. ALL SEWER MANHOLES TO BE CAPSULATED WITH A HEAT SHRINKABLE SLEEVE SYSTEM, RAPID SEAL OR APPROVED EQUAL.
9. RAINGUARD REQUIRED.
10. VACUUM TESTING OF MANHOLES WILL BE REQUIRED.
11. LOCKING COVERS ARE REQUIRED IN EASEMENTS, OR AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.
12. SAMPLING MANHOLES WILL BE CONSTRUCTED TO THESE SPECIFICATIONS.

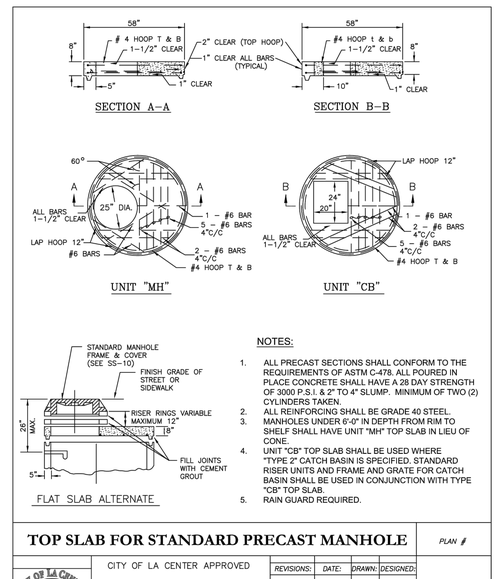
STANDARD PRECAST MANHOLE

PLAN # SS-7

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. & 2" TO 4" SLUMP. MINIMUM OF TWO (2) CYLINDERS TAKEN.
2. ALL REINFORCING SHALL BE GRADE 40 STEEL.
3. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE UNIT "MH" TOP SLAB IN LIEU OF CONE.
4. UNIT "CB" TOP SLAB SHALL BE USED WHERE "TYPE 2" CATCH BASIN IS SPECIFIED. STANDARD RISER UNITS AND FRAME AND GRATE FOR CATCH BASIN SHALL BE USED IN CONJUNCTION WITH TYPE "CB" TOP SLAB.
5. RAIN GUARD REQUIRED.

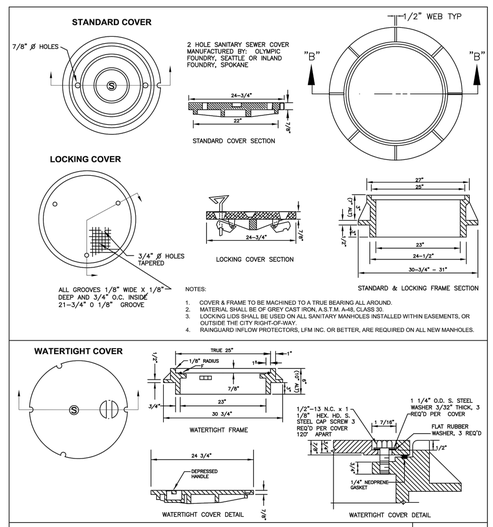
TOP SLAB FOR STANDARD PRECAST MANHOLE

PLAN # SS-8

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. COVER & FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
2. MATERIAL SHALL BE OF GREY CAST IRON, A.S.T.M. A-48, CLASS 30.
3. LOCKING LIDS SHALL BE USED ON ALL SANITARY MANHOLES INSTALLED WITHIN EASEMENTS, OR OUTSIDE THE CITY RIGHT-OF-WAY.
4. RAINGUARD INFLOW PROTECTORS, LFM INC. OR BETTER, ARE REQUIRED ON ALL NEW MANHOLES.

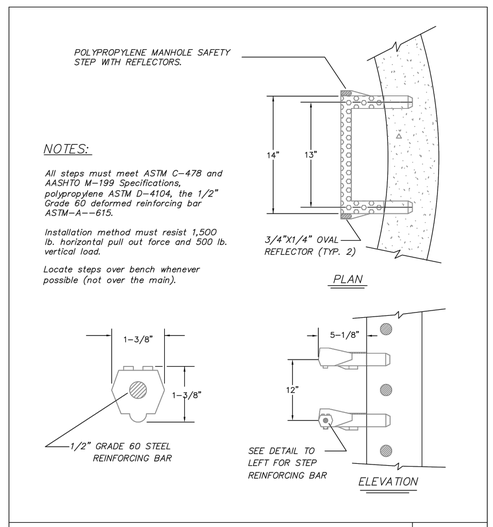
STANDARD MANHOLE FRAMES & COVERS

PLAN # SS-10

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

All steps must meet ASTM C-478 and AASHTO M-199 Specifications, polypropylene ASTM D-4104, the 1/2" Grade 60 deformed reinforcing bar ASTM-A--615.

Installation method must resist 1,500 lb. horizontal pull out force and 500 lb. vertical load.

Locate steps over bench whenever possible (not over the main).

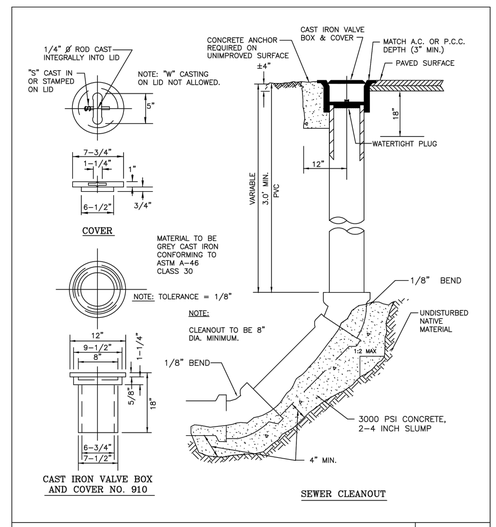
MANHOLE STEP DETAIL

PLAN # SS-11

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



STANDARD SEWER CLEANOUT

PLAN # SS-14

CITY OF LA CENTER APPROVED

Bart Stipp, PE 7/23/09
CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

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GRADEROSION.STB

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CITY OF LA CENTER SANITARY SEWER DETAILS FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

PETER A. TICK
STATE OF WASHINGTON
31817
REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

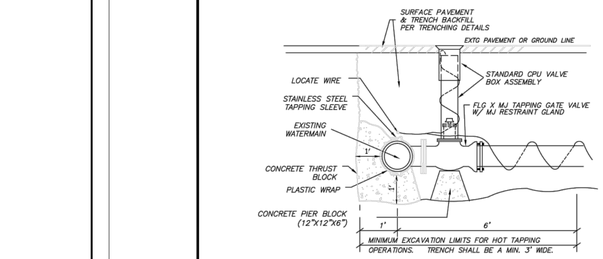
SCALE: H: 1"= 40'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

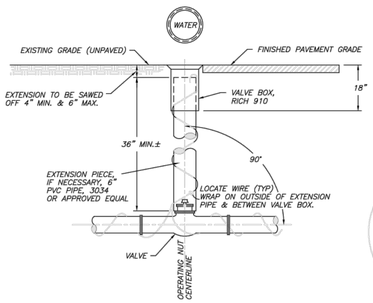
C11.0



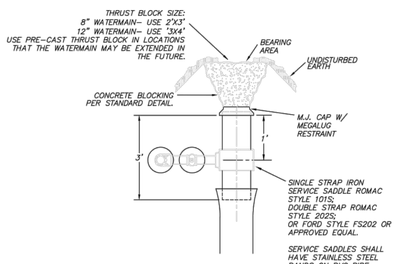
NOTES

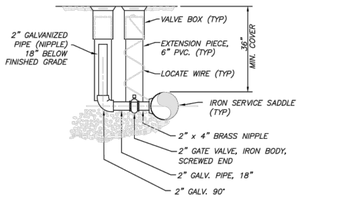
1. LAYOUT AND TAP LOCATION SHALL BE APPROVED BY THE CPU INSPECTOR PRIOR TO EXCAVATING. CONTACT THE CPU INSPECTOR 2 DAYS IN ADVANCE PRIOR TO SCHEDULING THE HOT TAP.
2. HOT TAPS MAY ONLY BE DONE BY A CPU APPROVED TAPPING CONTRACTOR
3. THE CPU INSPECTOR SHALL BE AT THE WORKSITE DURING TAPPING OPERATIONS.
4. THRUST BLOCK SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL. USE PLASTIC OR OTHER PROTECTIVE MATERIAL BETWEEN PIPE/FITTINGS AND THRUST BLOCK.
5. TRENCH EXCAVATIONS OVER 4' WILL REQUIRE SHORING OR OTHER MEASURES CONSISTANT WITH APPLICABLE LOCAL, STATE OR FEDERAL SAFETY CODES.

STANDARD HOT TAP

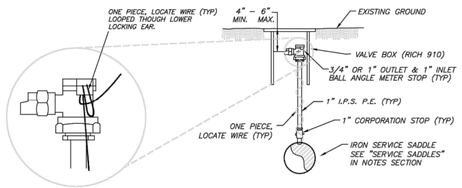


STANDARD VALVE BOX ASSEMBLY



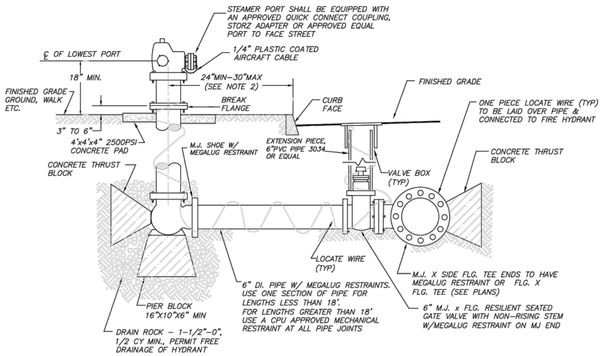


STANDARD BLOW-OFF ASSEMBLY (PERMANENT)



1. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

STANDARD MANUAL AIR RELEASE VALVE



FIRE HYDRANT NOTES:

1. FIRE HYDRANT INSTALLATIONS SHALL BE INSPECTED PRIOR TO BACKFILLING.
2. WHERE HYDRANTS ARE SET BEHIND SIDEWALK, DISTANCE FROM BACK OF SIDEWALK TO HYDRANT C/L SHALL BE 18" MIN., 24" MAX.
3. FIRE HYDRANTS SHALL BE SHOP PAINTED PRIOR TO INSTALLATION W/STANDARD A.W.W.A. GLOSS B, YELLOW

APPROVED HYDRANTS

WATEROUS	—	WB67–90 AND/OR –250
MUELLER	—	CENTURION
CLOW	—	MEDALLION
M&H	—	929
KENNEDY	—	K 81 D
AVK	—	SERIES 29
EJ	—	735270

STANDARD FIRE HYDRANT ASSEMBLY

GENERAL INSTALLATION NOTES:

1. INSTALL WATER MAIN WITH 3.0 FEET OF MINIMUM COVER UNLESS OTHERWISE NOTED. DEPTH MAY INCREASE AT UTILITY AND CULVERT CROSSINGS.
2. LOCATE WIRE SHALL BE COATED (BLUE INSULATED), NO. 14 GA. SOFT DRAWN SOLID COPPER. USE WATERPROOF CONNECTORS AT ALL WIRE SPLICES.
3. DRY CALCIUM HYPO CHLORIDE IN TABLET FORM, FAST DISSOLVING, WITH 65% MIN. AVAILABLE CHLORINE SHALL BE USED TO CHLORINATE ALL NEW MAINS. THE DOSAGE RATE SHALL BE A MINIMUM OF 25mg/L. THE NUMBER OF 5–g TABLETS TO BE APPLIED PER 20 FOOT LENGTH OF PIPE SHALL BE AS FOLLOWS:

PIPE SIZE	NUMBER OF TABLETS
4"	1
6"	1
8"	2
10"	3
12"	4

4. WHENEVER A PIPE IS CUT AND NOT RECONNECTED, THE CUT ENDS SHALL BE CAPPED OR PLUGGED, AS DIRECTED BY THE CPU INSPECTOR.
5. ALL WATER SERVICES, BLOW–OFF ASSEMBLIES, AIR RELEASE VALVES, FIRE HYDRANT ASSEMBLIES, VALVE BOXES AND THRUST BLOCKING SHALL BE INSTALLED PER THE STANDARD SPECIFICATIONS AND DETAILS.
6. WATER MAINS BEING INSTALLED NEAR TELEPHONE/CABLE COMMUNICATIONS SHALL HAVE A MINIMUM 12" HORIZONTAL AND 6" VERTICAL CLEARANCE.
7. WATER MAINS BEING INSTALLED NEAR UNDERGROUND POWERLINES SHALL HAVE A MINIMUM 48" (MAYBE REDUCED TO 24" FOR SHORT DISTANCES) HORIZONTAL AND 6" VERTICAL CLEARANCE.
8. REQUIRED SEPARATION BETWEEN WATER LINES AND SANITARY SEWER LINES SHALL BE AS FOLLOWS:

HORIZONTAL SEPARATIONS (PARALLEL)
A MINIMUM SEPARATION OF TEN (10) FEET (MEASURED EDGE TO EDGE) BETWEEN SANITARY SEWER LINES AND WATER LINES SHALL BE MAINTAINED WHENEVER POSSIBLE. WHEN CONDITIONS PREVENT THE MINIMUM TEN (10) FOOT HORIZONTAL SEPARATION THE ENGINEER SHALL BE NOTIFIED.

VERTICAL SEPARATION (PERPENDICULAR)
WATER LINES CROSSING SANITARY SEWER LINES SHALL BE LAID ABOVE THE SEWER LINES TO PROVIDE A SEPARATION OF AT LEAST 18" BETWEEN THE INVERT OF THE WATER PIPE AND THE CROWN OF THE SANITARY SEWER PIPE. A LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND SHALL BE THE LONGEST STANDARD LENGTH AVAILABLE FROM THE MANUFACTURER.

9. THE CONTRACTOR SHALL USE CONSTRUCTION METHODS THAT PROTECT THE PIPE INTERIORS, FITTINGS AND VALVES AGAINST CONTAMINATION.
10. ANY PIPE, FITTINGS OR VALVES THAT CANNOT BE DISINFECTED WITH THE MAIN LINE BY CHLORINE FOR 24 HOURS SHALL HAVE THE INTERIORS SWABBED WITH A 1% HYPOCHLORITE SOLUTION BEFORE INSTALLATION.
11. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL TEES, BENDS, BLOW–OFFS, DEAD ENDS AND WHERE INDICATED ON THE PLANS.
12. ALL MJ FITTINGS SHALL BE RESTRAINED USING MJ MECHANICAL RESTRAINT FOLLOWER GLANDS.
13. 6" WATER PIPE LEADING TO FIRE HYDRANTS SHALL BE DIP AND SHALL BE ONE CONTINUOUS PIECE OF PIPE. IF THE RUN IS LONGER THAN ONE PIECE OF PIPE, THEN ALL PIPE JOINTS SHALL BE MECHANICALLY RESTRAINED WITH "FIELD–LOK" GASKETS OR OTHER CPU APPROVED RESTRAINTS.

EROSION CONTROL NOTES:

1. CONSTRUCTION EROSION CONTROL SHALL BE AS REQUIRED AND CONFORMING WITH THE CLARK COUNTY DRAINAGE AND EROSION CONTROL ORDINANCE. REFER TO THE CLARK COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD EROSION CONTROL DETAILS.
2. ALL EXPOSED SOILS SHALL BE STABILIZED, IN A TIMELY MANNER, BY THE APPLICATION OF BEST MANAGEMENT PRACTICES, INCLUDING BUT NOT LIMITED TO SOD, SEED, OR OTHER VEGETATION, PLASTIC COVERINGS, MULCHING, OR APPLICATION OF CRUSHED AGGREGATE ON THOSE AREAS TO BE PAVED.
3. WHEN EXCAVATION OCCURS IN ROADSIDE DITCHES, EXCAVATE AND KEY INTO DITCH ONE BIOFILTER BAG CHECK DAM PER 100' OF DITCH, OR WHERE NOTED ON THE PLANS. REMOVE SILT WHEN IT IS EVEN WITH THE TOP OF THE CHECK DAM. REPLACE OR ADD BIOFILTER BAGS AS NECESSARY TO PROPERLY FILTER THE STORM WATER.
4. INSTALL BIOFILTER BAGS (POLYESTER FABRIC PILLOW (ASTM–D191 OR EQUAL)FILLED W/ 15–16 LBS. OF WOOD CHIPS) AT EACH INLET. REMOVE SILT AND ADD BIOFILTER BAGS AS NECESSARY TO PROPERLY FILTER STORM WATER.
5. IF SEDIMENT IS TRANSPORTED ONTO THE ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF THE WORKDAY, OR MORE IF NECESSARY. SIGNIFICANT SOIL DEPOSITS SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING.
6. THE LENGTH OF THE TRENCH OPEN AT ONE TIME SHALL BE MINIMIZED AND WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATION, EXCAVATED MATERIALS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

EXISTING WATER SERVICES:

THE CONTRACTOR SHALL TRANSFER, MOVE AND/OR ABANDON EXISTING WATER SERVICES AS DIRECTED BY THE CLARK PUBLIC UTILITIES INSPECTOR.

1. EXISTING WATER SERVICES TO BE ABANDONED SHALL BE EXCAVATED TO THE CORP. STOP AT THE WATER MAIN AND THE CORP STOP SHALL BE CLOSED. THE METER BOX SHALL BE REMOVED AND THE WATER SERVICE LINE CAN BE ABANDONED IN PLACE. THE EXISTING METER SHALL BE RETURNED TO CLARK PUBLIC UTILITIES WATER DEPT. ROAD REPAIR SHALL BE AS REQUIRED BY THE CLARK COUNTY RIGHT OF WAY PERMIT REQUIREMENTS.
2. WHEN AN EXISTING WATER SERVICE IS TO BE MOVED, THE CONTRACTOR SHALL EXPOSE A PORTION OF THE EXISTING WATER SERVICE SO THAT THE CLARK PUBLIC UTILITIES INSPECTOR CAN EVALUATE THE MATERIAL SIZE AND CONDITION OF THE EXISTING WATER SERVICE LINE.

THE INSPECTOR WILL DETERMINE WHETHER THE WATER SERVICE LINE CAN BE EXTENDED OR SHORTENED. IF THE INSPECTOR DETERMINES THE EXISTING WATER SERVICE LINE IS SUBSTANDARD, THEN A NEW POLYETHYLENE (PE) SERVICE LINE SHALL BE INSTALLED FROM THE MAIN (MINIMUM SIZE 1" DIA).
ALL EXISTING WATER SERVICE LINES THAT ARE LESS THAN 1" DIAMETER SHALL BE CONSIDERED SUBSTANDARD AND SHALL BE REPLACED WITH A NEW 1", 1–1/2", OR 2" WATER SERVICE LINE PER CLARK PUBLIC UTILITIES STANDARDS.

MAIN LINE PIPE MATERIAL:

UNLESS OTHERWISE STATED ON THE PLAN, ALL MAIN LINE PIPE SHALL BE EITHER DUCTILE IRON PIPE (DIP) OR POLYVINYL CHLORIDE PIPE (PVC).

A. DUCTILE IRON PIPE SHALL MEET THE FOLLOWING REQUIREMENTS:

1. PIPE.

A. DUCTILE IRON PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C151. USE PUSH–ON JOINTS EXCEPT WHERE OTHER JOINT TYPES ARE NOTED ON THE CONTRACT DRAWINGS. ALL DUCTILE IRON PIPE SHALL BE GAUGED FOR DIP 12" DIAMETER AND SMALLER, UNLESS SPECIFICALLY NOTED ON THE CONTRACT DRAWINGS, 3"–12" PIPE SHALL BE PRESSURE CLASS 350. PIPE SIZES GREATER THAN 12" DIAMETER SHALL BE THICKNESS CLASS 52, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

B. POLYVINYL CHLORIDE (PVC) PRESSURE PIPE (4"–30"). PROVIDE UN–PLASTICIZED PVC PLASTIC PIPE WITH INTEGRAL BELL AND SPIGOT JOINTS. PIPE SHALL BE SUITABLE FOR POTABLE WATER SERVICE. PVC PIPE SHALL MEET THE FOLLOWING REQUIREMENTS:

1. PIPE.

A. LARGE DIAMETER PIPE (14"–30"). PIPE SHALL MEET THE REQUIREMENTS OF AWWA C905. PROVIDE PIPE MEETING THE REQUIREMENTS OF DR 18, UNLESS OTHERWISE NOTED ON THE DRAWING. USE PUSH–ON JOINTS EXCEPT WHERE OTHER JOINT TYPES ARE NOTED ON THE CONTRACT DRAWINGS.

B. SMALL DIAMETER PIPE (4"–12"). PIPE SHALL MEET THE REQUIREMENTS OF AWWA C900. PROVIDE PIPE MEETING THE REQUIREMENTS OF DR 18, UNLESS OTHERWISE NOTED ON THE DRAWINGS. USE PUSH–ON JOINTS EXCEPT WHERE OTHER JOINT TYPES ARE NOTED ON THE CONTRACT DRAWINGS.

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE MOST CURRENT EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A CPU WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360–992–8019 TWO WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT–OF–WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT–OF–WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. VALVE SHALL BE 2" SQUARE OPERATING NUT OR AS SPECIFIED ON PLANS.
5. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1–800–424–5555).
6. ONLY TAPPING COMPANIES APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
7. ACTUAL ROAD ALIGNMENTS MAY VARY FROM RIGHT–OF–WAY INDICATED. THE CONTRACTOR SHALL VERIFY THE PROPOSED PIPE ALIGNMENT AND REPORT DIFFERENCES TO THE CPU INSPECTOR. ALL ALIGNMENT CHANGES MUST BE APPROVED BY THE CPU INSPECTOR PRIOR TO INSTALLATION.
8. DRIVEWAYS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION. REFER TO PLAN FOR APPROXIMATE LOCATIONS AND TYPES.
9. CONTRACTOR SHALL VERIFY EXISTING UTILITY CULVERTS, CONDUITS AND LINE LOCATION PRIOR TO CONSTRUCTION. DUE TO FIELD CONDITIONS, THE CONTRACTOR SHALL FIELD ADJUST THE VERTICAL AND HORIZONTAL ALIGNMENT OF THE WATER MAIN TO CLEAR THE UTILITY IN CONFLICT AND PROVIDE THE MIN. 3.0 FEET OF COVER AS APPROVED BY THE CPU INSPECTOR. ALL CULVERTS WHICH ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.
10. FENCES DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION.
11. CONTRACTOR SHALL VERIFY EXISTING SIGN AND MAILBOX LOCATIONS PRIOR TO CONSTRUCTION. SIGNS & MAILBOXES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RELOCATED BACK FROM EDGE OF PAVEMENT, 1.0 FEET CLEAR OF WATER MAIN. ANY SIGNS OR MAILBOXES DAMAGED SHALL BE REPAIRED OR REPLACED AS PER THE SPECIFICATIONS.
12. THE LOCATIONS OF ALL EXISTING UTILITIES ARE FOR INFORMATIONAL PURPOSES ONLY. MANY LOCATIONS ARE PER SCHEMATIC RECORD DRAWINGS. THE CURRENT AND EXACT LOCATIONS OF FACILITIES MUST BE VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR PERFORMING THE WORK SHALL COMPLY WITH THE PROVISIONS OF FACILITIES AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATION. CALL 1–800–553–4344 FOR UTILITY LOCATE SERVICE.
13. THE WATER FACILITIES SHALL BECOME THE PROPERTY OF CLARK PUBLIC UTILITIES AFTER A SATISFACTORY BACTERIA AND PRESSURE TEST HAVE BEEN PERFORMED BY THE UTILITY. ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO A ONE YEAR WARRANTY, COMMENCING AT ACCEPTANCE OF FINAL TESTING. REPLACEMENT AND/OR REPAIRS OF DEFECTIVE MATERIALS SHALL BE THE DEVELOPERS/OWNERS RESPONSIBILITY.
14. WHEN ASBESTOS CONCRETE PIPE IS ENCOUNTERED, THE CONTRACTOR SHALL SUPPLY WORKERS WHO ARE CERTIFIED TO WORK ON ASBESTOS CONCRETE PIPE.
15. THE CONTRACTOR SHALL TRANSFER AND/OR ABANDON EXISTING SERVICES AS DIRECTED BY THE INSPECTOR.
16. THE INSTALLED WATER MAIN SHALL BE PRESSURE TESTED AT A MINIMUM OF 150 PSI OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER. THE TEST WILL BE PERFORMED BY THE CLARK PUBLIC UTILITIES INSPECTOR. THE CONTRACTOR SHALL PROVIDE ASSISTANCE AS NEEDED.
17. THE INSTALLED WATER MAIN SHALL BE THOROUGHLY DISINFECTED AND FLUSHED IN ACCORDANCE WITH THE CLARK PUBLIC UTILITIES STANDARDS AND REQUIREMENTS. ONLY CLARK PUBLIC UTILITIES EMPLOYEES ARE PERMITTED TO FILL AND FLUSH THE WATER MAIN. THE CONTRACTOR SHALL PROVIDE ASSISTANCE AS NEEDED. IN AREAS WHERE THE DE–CHLORINATION OF FLUSHED WATER IS NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE WATER TRUCKS TO FLUSH INTO.
18. PRIOR TO ACCEPTING THE SYSTEM OR ALLOWING THE MAIN TO BE PUT IN SERVICE, A WATER SAMPLE SHALL BE TAKEN BY THE CLARK PUBLIC UTILITIES INSPECTOR AND A TEST PERFORMED BY AN ACCREDITED LAB TO INSURE NO HAZARD EXISTS.

FITTING & VALVE SPECIFICATIONS:

1. PIPE FITTINGS SHALL BE GRAY–IRON OR DUCTILE IRON AND SHALL CONFORM TO AWWA STANDARD C110. DUCTILE IRON (COMPACT) FITTINGS CONFORMING TO AWWA STANDARD C153 MAY BE SUBSTITUTED IN LIEU OF AWWA C110 FITTINGS FOR FITTING SIZES 3–INCHES THROUGH 24–INCHES IN DIAMETER. FITTINGS SHALL BE MECHANICAL JOINT OR FLANGED AS REQUIRED AND SHOWN ON THE PLANS.
2. DUCTILE IRON AND GREY IRON MECHANICAL JOINT FITTINGS SHALL BE PRESSURE RATED FOR 350 PSI. DUCTILE IRON AND GREY IRON FLANGED JOINT FITTINGS SHALL BE PRESSURE RATED FOR 250 PSI.
3. FITTINGS SHALL BE MORTAR LINED AND SEAL COATED.
4. BELOW GROUND USE FLANGE ADAPTERS – THE FLANGE ADAPTER TO CONNECT PLAIN END PVC PIPE OR DIP TO FLANGED FITTINGS SHALL BE A DUCTILE IRON FITTING CONFORMING TO ANSI/AWWA C153/A21.53. FITTING SHALL BE MECHANICAL JOINT ON ONE END AND FLANGED ON THE OPPOSITE END.
5. DUCTILE IRON AND GREY IRON SOLID SLEEVES SHALL BE OF THE LONG BODY DESIGN AND BOTH ENDS MECHANICAL JOINT.
6. GASKETS FOR FLANGED JOINTS SHALL BE FULL FACED, RED RUBBER, AND 1/8" THICK.
7. MECHANICAL JOINT GASKETS SHALL BE STANDARD STYRENE BUTADIENE RUBBER (SBR) GASKETS
8. BOLTS AND NUTS SHALL BE CARBON STEEL AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 OR ASTM A193 GRADE B7 WITH ASTM A194 GRADE 2H HEAVY HEX NUTS.
9. GATE VALVES (4" AND LARGER) – GATE VALVES FOR BURIED SERVICE SHALL BE THE RESILIENT–SEAT TYPE, WITH AN IRON BODY, NON–RISING STEM, BOLTED BONNET, LEFT OPENING AND SHALL CONFORM TO AWWA STANDARD C509 AND C515. THE WEDGE SHALL BE TOTALLY ENCAPSULATED WITH RUBBER. ALL GATE VALVES SHALL BE RATED AT 250 PSI FOR AWWA SERVICE. THE INTERIOR AND EXTERIOR SHALL BE FUSION–BONDED EPOXY AND ALL COATINGS AND/OR LININGS SHALL CONFORM TO AWWA STANDARD C550 AND SHALL BE SUITABLE FOR POTABLE WATER SERVICE AND NSF CERTIFIED.
10. BUTTERFLY VALVES – BUTTERFLY VALVES SHALL BE SHORT BODY CLASS 250 VALVES CONFORMING TO THE REQUIREMENTS OF AWWA STANDARD C504. BUTTERFLY VALVES SHALL BE RUBBER SEATED AND TIGHT CLOSING. VALVE BODIES SHALL BE HIGH STRENGTH CAST IRON OR HIGH STRENGTH DUCTILE IRON. VALVE INTERIOR AND EXTERIOR SURFACES SHALL BE COATED WITH EPOXY IN ACCORDANCE WITH AWWA C504 AND SHALL BE SUITABLE FOR POTABLE WATER SERVICE AND NSF 61 CERTIFIED.

MECHANICAL JOINT & PIPE JOINT RESTRAINT SPECIFICATIONS:

MECHANICAL JOINT RESTRAINT SPECIFICATIONS

1. MECHANICAL JOINT RESTRAINT SHALL BE ACCOMPLISHED BY A RESTRAINT DEVICE CONSISTING OF A FOLLOWER GLAND UTILIZING MULTIPLE GRIPPING WEDGES. GLAND BODY AND WEDGES SHALL BE DUCTILE IRON AND EPOXY COATED.
2. T–BOLTS AND NUTS SHALL BE HIGH STRENGTH LOW ALLOY STEEL T–BOLTS AND STEEL SHALL MEET AWWA C111 COMPOSITION SPECIFICATIONS.
3. RESTRAINT GLAND SHALL UTILIZE A STANDARD MECHANICAL JOINT GASKET.
4. THE FOLLOWING IS THE APPROVED LIST OF RESTRAINED JOINT SYSTEMS FOR MECHANICAL JOINTS AND DIP:
   - 4.1 "ROMAGRIP", ROMAC INDUSTRIES.
   - 4.2 "SERIES 1000 TUFGRIP", TYLER UNION.
   - 4.3 "MEGALUG", EBAA IRON, INC.
   - 4.4 APPROVED EQUIVALENT
5. THE FOLLOWING IS THE APPROVED LIST OF RESTRAINED JOINT SYSTEMS FOR MECHANICAL JOINTS AND PVC:
   - 5.1 "ROMAGRIP FOR PVC", ROMAC INDUSTRIES.
   - 5.2 "SERIES 2000 FOR PVC TUFGRIP", TYLER UNION.
   - 5.3 "MEGALUG SERIES 2000 PV", EBAA IRON, INC.
   - 5.4 APPROVED EQUIVALENT

DUCTILE IRON PIPE RESTRAINED JOINT SPECIFICATIONS

1. PIPE JOINT RESTRAINT FOR DIP SHALL BE ACCOMPLISHED WITH A PIPE BELL/SPIGOT INTEGRAL LOCK MECHANISM.
2. AS AN ALTERNATIVE AND WHERE ALLOWED BY CLARK PUBLIC UTILITIES, A BOLTLESS RESTRAINING GASKETS FOR DIP TYTON JOINT STYLE PIPE MAY BE USED. THE RESTRAINT GASKET SHALL BE A BOLTLESS GASKET WITH INTEGRAL RESTRAINING SYSTEM UTILIZING STAINLESS STEEL PARTS AND SHALL BE PRESSURE RATED FOR 350 PSI. THE GASKETS SHALL BE IN CONFORMANCE WITH ANSI/AWWA C111/A21.11 AND CERTIFIED TO NSF/ANSI 6. THE FOLLOWING IS THE APPROVED LIST OF DIP PIPE JOINT RESTRAINED GASKET SYSTEMS:
   - 2.1 "FIELD LOK 350 GASKET", U.S. PIPE AND FOUNDRY CO.
   - 2.2 "GRIPPER GASKET", GRIPPER GASKET LLC.
   - 2.3 APPROVED EQUIVALENT

PVC PIPE RESTRAINED JOINT SPECIFICATIONS

1. PVC PIPE JOINT RESTRAINT FOR MAY BE ACCOMPLISHED BY UTILIZING A PROPRIETARY PVC PIPE WHICH UTILIZES A PIPE BELL/SPIGOT INTEGRAL JOINT RESTRAINT MECHANISM. THE FOLLOWING IS THE APPROVED LIST OF PROPRIETARY PVC C–900 PIPE JOINT RESTRAINED SYSTEMS:
   - 1.1 "EAGLE LOC 900", JM EAGLE
   - 1.2 "CERTA–LOK C900/RJ", CERTAINTEED
   - 1.3 "DIAMOND LOK–21", DIAMOND PLASTICS INC.
   - 1.4 APPROVED EQUIVALENT
2. AS AN ALTERNATIVE, PVC PIPE MAY BE COUPLED TO CREATE A RESTRAINED JOINT BY UTILIZING A GREY IRON OR DUCTILE IRON MECHANICAL JOINT LONG PATTERN SLEEVE WITH A RESTRAINT FOLLOWER GLAND UTILIZING MULTIPLE GRIPPING WEDGES.

Clark Public Utilities

CALL 48 HOURS BEFORE YOU DIG 1–800–553–4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

REVISION	MARK	DATE
Service Saddle Specifications	NJW	1/15/19
Meter box Specifications	JAS	2/8/17

WATER MAIN INSTALLATION STANDARD DETAILS

CLARK PUBLIC UTILITIES

RIO	NNNNNN
DESIGNED	XXX
DRAWN	XXX
CHECKED	XXX
SCALE	NTS
DATE	01/15/2019
SHEET	1 OF 3

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= 40' V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

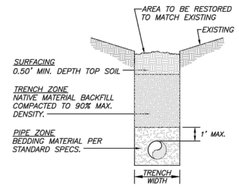
SHEET C12.0

J:\data\9000\9800\9820\9825\Engineering\Final\Sheets\9825.e C12.0-C12.X.CPU details.dwg
DETAIL SHEETS.STB

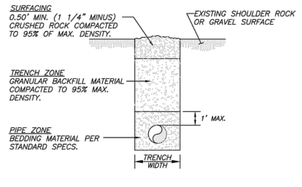
CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CLARK PUBLIC UTILITIES STANDARD DETAILS (1 OF 3) FOR:
MINIT MANAGEMENT

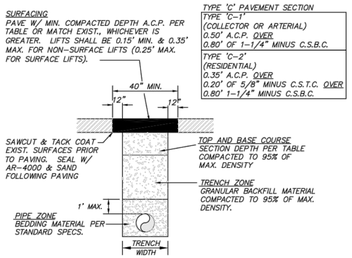
OLSON ENGINEERING INC. LAND SURVEYORS ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936



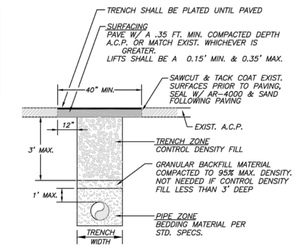
NATIVE BACKFILL
–OUTSIDE ROADWAY PRISM–
(TYPE 'A' RESTORATION)



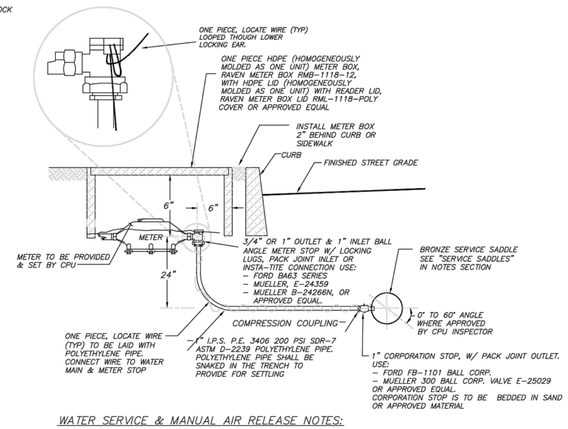
ROADWAY SHOULDERS,
GRAVEL SURFACE
(TYPE 'B' RESTORATION)



ASPHALT CONCRETE PAVEMENT
(TYPE 'C-1' & 'C-2' RESTORATION)



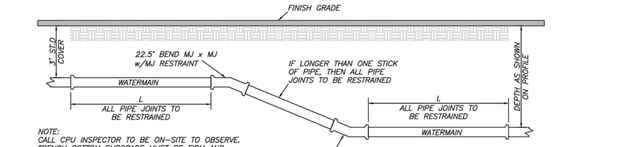
CONTROL DENSITY FILL – A.C.P.
(TYPE 'D' RESTORATION)



WATER SERVICE & MANUAL AIR RELEASE NOTES:

1. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
2. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
3. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

STANDARD 3/4" & 1" WATER SERVICE



NOTE:
CALL CPU INSPECTOR TO BE ON-SITE TO OBSERVE. TRENCH BOTTOM SUBGRADE MUST BE FIRM AND UNDISTURBED. PIPE BEDDING (5/8"-0 AGG BASE) SHALL BE A MINIMUM OF 6" EACH SIDE AND TOP AND BOTTOM OF PIPE COMPACTE.

WATERMAIN VERTICAL
FITTING INSTALLATION DETAIL
NTS

PVC & DIP (WITHOUT POLY BAG ENCASEMENT)				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	12'	14'
22-1/2° BEND	12'	15'	21'	27'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS

SERVICE SADDLES:

PROVIDE BRONZE SERVICE SADDLES WITH NEOPRENE GASKETS CEMENTED IN PLACE AND I.P.S. TAP AS SPECIFIED ON THE CONTRACT DRAWINGS. SADDLES SHALL BE SPECIFICALLY DESIGNED FOR THE TYPE OF PIPE TO WHICH THEY ARE BEING INSTALLED.

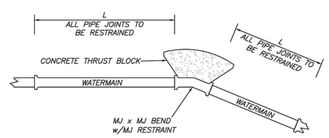
1. SADDLES FOR 1" AND 2" SERVICE LINES ON WATER MAINS 8" AND SMALLER SHALL BE "ROMAC 101B" OR APPROVED EQUAL.

2. SADDLES FOR 1" AND 2" SERVICE LINES ON WATER MAINS 10" AND LARGER SHALL BE "ROMAC 202B" OR APPROVED EQUAL.

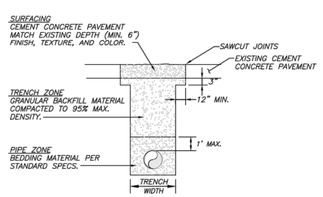
PVC PIPE				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	10'	10'
22-1/2° BEND	10'	10'	10'	12'
45° BEND	10'	13'	20'	24'
90° BEND	24'	32'	45'	60'

DIP PIPE (WITHOUT POLY BAG ENCASEMENT)				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	10'	10'
22-1/2° BEND	10'	10'	10'	10'
45° BEND	10'	11'	15'	20'
90° BEND	19'	26'	36'	46'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS



PIPE HORIZONTAL
BEND INSTALLATION DETAIL
NTS



CEMENT CONCRETE PAVEMENT
(TYPE 'E' RESTORATION)

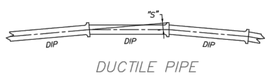
TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

2" SERVICE WITH 1–1/2 OR 2" METER NOTES:

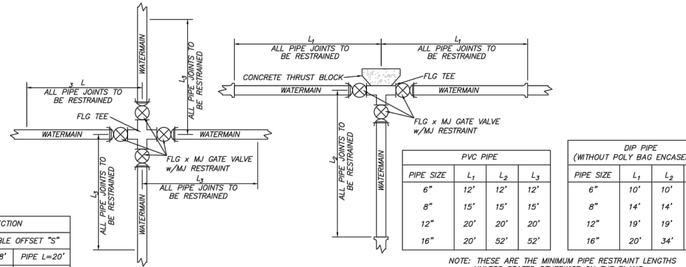
1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A CPU WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
5. A TAPPING COMPANY APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
6. LOCATE WIRE SHALL BE BLUE COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
7. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
8. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITHSTANDING THE MAINS TEST PRESSURE.
9. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

ALLOWABLE DIP JOINT DEFLECTION			
PIPE SIZE	ALLOWABLE DEFLECTION ANGLE	ALLOWABLE OFFSET "S"	
		PIPE L=18'	PIPE L=20'
6"	3°	11"	12"
8"	3°	11"	12"
12"	3°	11"	12"



NOTE: DEFLECTIONS IN ALIGNMENT FOR DIP SHALL BE MADE BY DEFLECTING THE PIPE JOINTS PER THE ATTACHED DEFLECTION TABLE

DUCTILE PIPE
DEFLECTION DETAIL
NTS



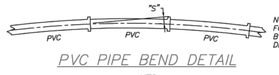
PVC PIPE			
PIPE SIZE	L_1	L_2	L_3
6"	12'	12'	12'
8"	15'	15'	15'
12"	20'	20'	20'
16"	20'	52'	52'

DIP PIPE (WITHOUT POLY BAG ENCASEMENT)			
PIPE SIZE	L_1	L_2	L_3
6"	10'	10'	10'
8"	14'	14'	14'
12"	19'	19'	19'
16"	20'	34'	34'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS

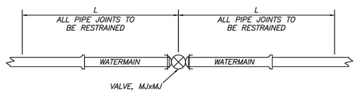
TYPICAL FITTING &
VALVE INSTALLATION DETAIL
NTS

ALLOWABLE PVC PIPE BENDING		
PIPE SIZE	ALLOWABLE MINIMUM BENDING RADIUS	ALLOWABLE OFFSET "S"
6"	200'	12"
8"	250'	9.5"
12"	350'	7"
NO BENDING OF PVC PIPE ALLOWED FOR PIPE LARGER THAN 12" DIAMETER		



NOTE: DEFLECTIONS IN ALIGNMENT FOR PVC PIPE SHALL BE MADE BY BENDING THE PIPE AND NOT DEFLECTING PIPE JOINTS

PVC PIPE BEND DETAIL
NTS



PVC PIPE		
PIPE SIZE	L_1	L_2
6"	60'	30'
8"	80'	40'
12"	110'	55'
16"	140'	70'

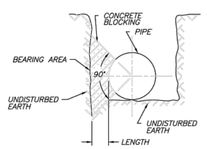
DIP PIPE (WITHOUT POLY BAG ENCASEMENT)		
PIPE SIZE	L_1	L_2
6"	40'	20'
8"	50'	25'
12"	70'	35'
16"	90'	45'

L_1: REQUIRED LENGTH WHEN PIPE JOINT RESTRAINT IS ONLY EFFECTIVE IN TENSION (SUCH AS FIELD-LOK GASKETS OR OTHER SIMILAR RESTRAINT SYSTEMS)

L_2: REQUIRED LENGTH WHEN PIPE JOINT RESTRAINT IS ONLY EFFECTIVE IN BOTH TENSION AND COMPRESSION (SUCH AS A MJ SLEEVE WITH MJ RESTRAINT OR A PROPRIETARY INTEGRAL BELL & SPIGOT RESTRAINT SYSTEM).

TYPICAL IN-LINE VALVE INSTALLATION DETAIL
NTS

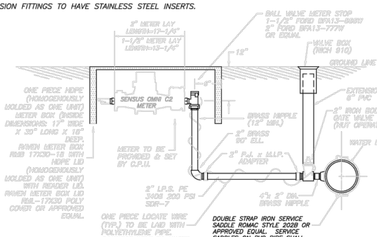
PIPE SIZE	HORIZ. BEARING (BEND)	BEARING AREA (SF)	MINIMUM BLOCK (FT.)	VOL. OF BLOCKING (CF)	MINIMUM HEIGHT OF BLOCKING (FT.-IN.)
4"	TEE	1.2	1.0' x 1.0'	0.3	0'-6"
	90°	1.7	1.5' x 1.5'	0.6	0'-6"
	45°	0.9	1.0' x 1.0'	0.3	0'-6"
	22-1/2°	0.5	1.0' x 1.0'	0.3	0'-6"
6"	TEE	2.4	1.5' x 1.5'	0.6	0'-6"
	90°	3.4	2.0' x 2.0'	1.4	0'-8"
	45°	1.9	1.5' x 1.5'	0.6	0'-6"
	22-1/2°	1.0	1.0' x 1.0'	0.3	0'-6"
	11-1/4°	0.5	1.0' x 1.0'	0.3	0'-6"
8"	TEE	4.0	2.0' x 2.0'	1.5	0'-8"
	90°	5.6	2.5' x 2.5'	2.8	0'-10"
	45°	3.1	2.0' x 2.0'	1.5	0'-9"
	22-1/2°	1.6	1.5' x 1.5'	0.7	0'-6"
	11-1/4°	0.8	1.0' x 1.0'	0.3	0'-6"
10"	TEE	6.2	2.5' x 2.5'	3.0	0'-10"
	90°	8.7	3.0' x 3.0'	4.5	1'-0"
	45°	4.8	2.5' x 2.5'	2.5	0'-8"
	22-1/2°	2.5	2.0' x 2.0'	1.4	0'-6"
	11-1/4°	1.3	1.5' x 1.5'	0.8	0'-6"
12"	TEE	8.6	3.0' x 3.0'	5.0	1'-0"
	90°	12.2	3.5' x 3.5'	7.8	1'-3"
	45°	6.6	2.5' x 2.5'	3.0	0'-9"
	22-1/2°	3.4	2.0' x 2.0'	1.5	0'-6"
	11-1/4°	1.7	1.5' x 1.5'	0.8	0'-6"
16"	TEE	15.2	4.0' x 4.0'	12	1'-3"
	90°	21.4	4.5' x 4.5'	17	1'-6"
	45°	11.6	3.5' x 3.5'	7.5	1'-0"
	22-1/2°	5.9	2.5' x 2.5'	2.7	0'-6"
	11-1/4°	3.0	2.0' x 2.0'	1.7	0'-6"
18"	TEE	19.1	4.0' x 4.0'	12	1'-3"
	90°	27.1	5.0' x 5.0'	23	1'-9"
	45°	14.7	4.0' x 4.0'	12	1'-2"
	22-1/2°	7.5	3.0' x 3.0'	4.7	0'-8"
	11-1/4°	3.8	2.0' x 2.0'	1.9	0'-6"
SOIL BEARING = 2000 LB/SQFT 11/98					



THRUST BLOCK NOTES:

1. POURED BLOCKING SHALL BE POURED IN PLACE WITHOUT DIRECT CONTACT TO THE PIPE OR FITTINGS. SOME PROTECTIVE MATERIAL SUCH AS PLASTIC SHALL BE PLACED BETWEEN THE CONCRETE AND PIPE OR FITTING.
2. POURED BLOCKING SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL.
3. CONCRETE FOR ALL BLOCKING SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI
4. CONCRETE BLOCKING FOR VERTICAL BENDS SHALL BE PER APWA STD. PLAN NO. 8-22.
5. LAYOUT TO BE APPROVED BY THE CPU INSPECTOR PRIOR TO AND AFTER CONCRETE POUR.
6. ALL FIRE-CAST THRUST BLOCKS SHALL BE PLACED IN CENTER OF TEE OR BEND.

STANDARD THRUST BLOCK



2" WATER SERVICE

				1/15/19	NJW
				2/8/17	JAS
				DATE	MARK

REVISION

Service Saddle Specifications

Meter box Specifications

R/O	NNNNNN
DESIGNED	XXX
DRAWN	XXX
CHECKED	XXX
SCALE	NTS
DATE	01/15/2019
SHEET	2 OF 3

WATER MAIN INSTALLATION STANDARD DETAILS

CLARK PUBLIC UTILITIES

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM

DRAWN: TAS

CHECKED: CEM

DATE: APRIL 2020

SCALE: H: 1"= XX'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET
C12.1

CLIENT:
MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668
PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CLARK PUBLIC UTILITIES STANDARD DETAILS (2 OF 3) FOR:

MINIT MANAGEMENT

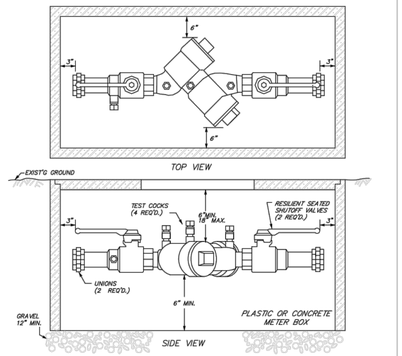
OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN, VANCOUVER, WA 98660
360-695-1385
503-289-9936

Clark Public Utilities

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

c:\users\mflagg\appdata\local\microsoft\windows\inetcache\content.outlook\75xis0qn\cpu_standard_detail_2019-01-15.dwg

J:\data\9000\9800\9820\9825\Engineering\Final\Sheets\9825.e.C12.0-C12.X.CPU details.dwg
DETAIL SHEETS.STB



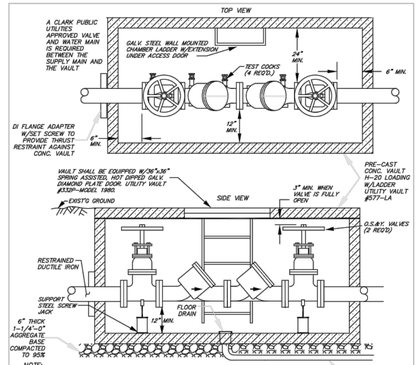
NOTE:
- APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
- DISINFFECT, PRESSURE TEST AND THOUROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
- THE DCVA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET
- DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
- MUST BE PROTECTED FROM FREEZING CONDITIONS.
- THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
- A PLUMBING PERMIT IS REQUIRED– PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
- MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

(BELOW GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
TEXT – 10/20/00 BJA
APP. DATE
CAD FILE: 83W

STANDARD DETAILS
STANDARD D.C.V.A. 2" & SMALLER

Clark Public Utilities



NOTE:
- APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH THE GROUND.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
- THE D.C.V.A. MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
- ALL PIPE, VALVE, AND FITTING JOINTS, FROM THE SUPPLY MAIN, SHALL BE RESTRAINED.
- FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
- GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER–TITE GROUT.
- ALL VAULTS SHALL BE PRE–APPROVED PRIOR TO INSTALLATION.
- VAULTS SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNERS PROPERTY.
- VAULTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
- THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

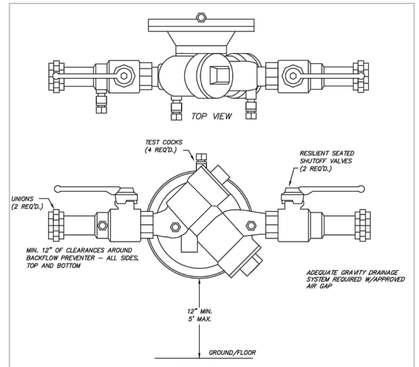
4" DRAIN LINE. EXTEND TO APRV'D OUTLET. IN LOCATONS W/ NO FEASIBLE DRAINAGE SYSTEM, CONNECT TO DRYWELL IF APRV'D BY CPU.

(BELOW GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
TEXT – 10/20/00 BJA
APP. DATE
CAD FILE: 76W

STANDARD DETAILS
STANDARD DOUBLE CHECK VALVE ASSEMBLY 2 1/2" & LARGER

Clark Public Utilities

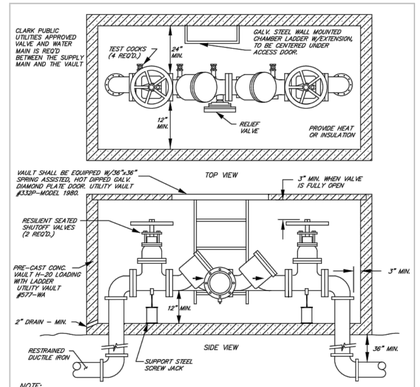


NOTE:
- APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY TO LAY HORIZONTAL ONLY.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- DISINFECT, PRESSURE TEST AND THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
- DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
- MUST BE PROTECTED FROM FREEZING CONDITIONS.
- THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
- A PLUMBING PERMIT IS REQUIRED– PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
- MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.
- ABOVE GROUND INSTALLATION REQUIRED.

APP. DATE
APP. DATE
REVISIONS
TEXT – 10/20/00 BJA
APP. DATE
CAD FILE: 88W

STANDARD DETAILS
STANDARD R.P.B.A. 2" & SMALLER

Clark Public Utilities



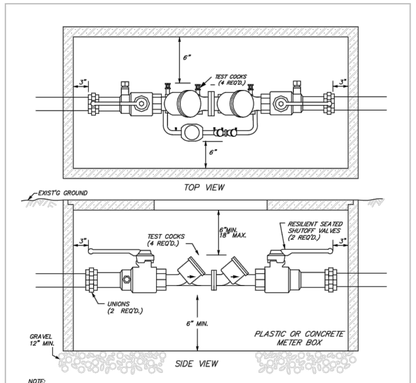
NOTE:
- APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY TO LAY HORIZONTAL ONLY.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
- ALL PIPE, VALVES, AND FITTING JOINTS, FROM SUPPLY MAIN, SHALL BE RESTRAINED.
- FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
- GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER–TITE GROUT.
- ALL VAULTS SHALL BE PRE–APPROVED PRIOR TO INSTALLATION.
- VAULTS SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNERS PROPERTY.
- VALUTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
- THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

(ABOVE GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
TEXT – 10/20/00 BJA
APP. DATE
CAD FILE: 87W

STANDARD DETAILS
STANDARD R.P.B.A. 2 1/2" & LARGER

Clark Public Utilities



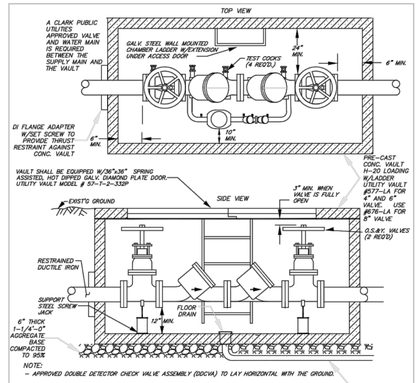
NOTE:
- APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY (DCDA) TO LAY HORIZONTAL WITH GROUND.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
- DISINFFECT, PRESSURE TEST AND THOUROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
- THE DCDA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET
- DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
- MUST BE PROTECTED FROM FREEZING CONDITIONS.
- THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
- A PLUMBING PERMIT IS REQUIRED– PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
- MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

(BELOW GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
TEXT – 01/02/07 BCL
APP. DATE
CAD FILE: 91W

STANDARD DETAILS
STANDARD D.C.D.A. 2" & SMALLER

Clark Public Utilities



NOTE:
- APPROVED DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) TO LAY HORIZONTAL WITH THE GROUND.
- DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
- THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
- THE D.D.C.V.A. MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
- ALL PIPE, VALVE, AND FITTING JOINTS, FROM THE SUPPLY MAIN, SHALL BE RESTRAINED.
- FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
- GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER–TITE GROUT.
- ALL VAULTS SHALL BE PRE–APPROVED PRIOR TO INSTALLATION.
- VAULTS SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNERS PROPERTY.
- VAULTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
- THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

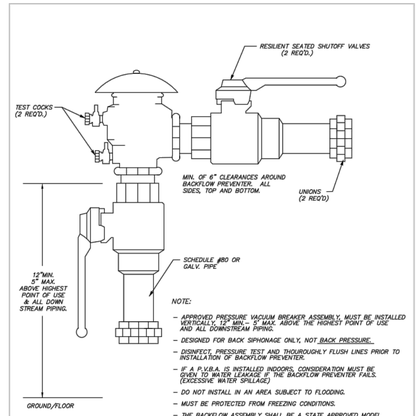
4" DRAIN LINE. EXTEND TO APRV'D OUTLET. IN LOCATONS W/ NO FEASIBLE DRAINAGE SYSTEM, CONNECT TO DRYWELL IF APRV'D BY CPU.

(BELOW GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
08/02/06 BCL
APP. DATE
CAD FILE: 75W

STANDARD DETAILS
STANDARD DOUBLE DETECTOR CHECK ASSEMBLY 2 1/2" & LARGER

Clark Public Utilities



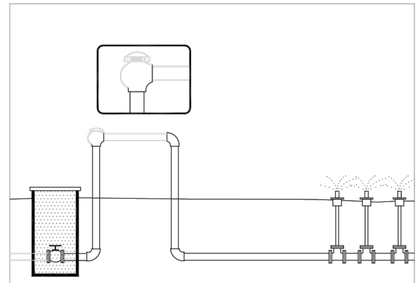
NOTE:
- APPROVED PRESSURE VACUUM BREAKER ASSEMBLY, MUST BE INSTALLED VERTICALLY, 12" MIN.– 5' MAX. ABOVE THE HIGHEST POINT OF USE AND ALL DOWNSTREAM PIPING.
- DESIGNED FOR BACK SIPHONAGE ONLY, NOT BACK PRESSURE.
- DISINFECT, PRESSURE TEST AND THOUROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
- IF A P.V.B.A. IS INSTALLED INDOORS, CONSIDERATION MUST BE GIVEN TO WATER LEAKAGE IF THE BACKFLOW PREVENTER FAILS. (EXCESSIVE WATER SPILLAGE)
- DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
- MUST BE PROTECTED FROM FREEZING CONDITIONS.
- THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
- A PLUMBING PERMIT IS REQ'D.– PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
- MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

(ABOVE GROUND INSTALLATION)

APP. DATE
APP. DATE
REVISIONS
TEXT – 10/20/00 BJA
APP. DATE
CAD FILE: 86W

STANDARD DETAILS
STANDARD P.V.B.A. 2" & SMALLER

Clark Public Utilities



NOTES

ONE AVB IS REQUIRED ON EACH IRRIGATION ZONE; NO CONTROL VALVES ALLOWED DOWN STREAM (AFTER) AN AVB

EACH AVB MUST BE INSTALLED A MINIMUM OF SIX INCHES ABOVE THE HIGHEST POINTOF WATER IN THE ZONE IT SERVES

NO CHEMICAL FERTILIZER MAY BE INTRODUCED INTO AN IRRIGATION SYSTEM EQUIPPED WITH AND AVB

NO PUMPS, AIR FITTINGS OR BACK PRESSURE SOURCE IS ALLOWED ON THE DOWNSTREAM SIDE OF (AFTER) AN AVB

MUST BE PROTECTED FROM FREEZING

APP. DATE
APP. DATE
REVISIONS
APP. DATE
CAD FILE: 198W

STANDARD DETAILS
ATMOSPERIC VACUUM BREAKER (AVB)

Clark Public Utilities

RIO	NNNNNN
DESIGNED	XXX
DRAWN	XXX
CHECKED	XXX
SCALE	NTS
DATE	01/15/2019
SHEET	3 OF 3

BACKFLOW DETAILS

CLARK PUBLIC UTILITIES

DATE	MARK	REVISION
1/15/19	NJW	Service Saddle Specifications
2/8/17	JAS	Meter box Specifications

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

Clark Public Utilities

c:\users\nflagg\appdata\local\microsoft\windows\inetcache\content.outlook\75vislzq\cpu_standard_detail_2019-01-15.dwg

CLIENT:

MINIT MANAGEMENT LLC.
P.O. BOX 5998
VANCOUVER, WA. 98668

PH: (360) 901-3875
FX: N/A
CONTACT: DON RHOADS
EMAIL: drhoads@tcgstores.com

CLARK PUBLIC UTILITIES STANDARD DETAILS (3 OF 3) FOR:

MINIT MANAGEMENT

OLSON LAND SURVEYORS
ENGINEERS
ENGINEERING INC. 222 E. EVERGREEN, VANCOUVER, WA 98660
360–695–1385
503–289–9936

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: CEM
DRAWN: TAS
CHECKED: CEM
DATE: APRIL 2020
SCALE: H: 1"= XX'
V: N/A

MINIT MANAGEMENT

JOB NO.: 9825.01.01

SHEET

C12.2

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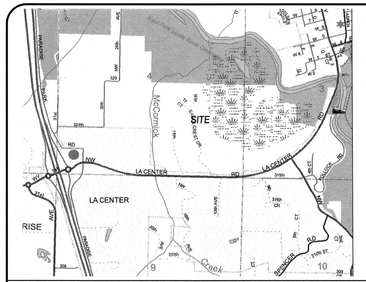
DETAIL SHEETS.STB



VICINITY MAP NTS SEC. 04 T4N R1E W.M.

SITE PLAN NOTES

EXISTING SITE DATA:

PRESENT USE:	CONVENIENCE STORE AND GAS STATION
EXISTING ZONING:	IP
GROSS SITE AREA:	PARCEL 209738-000 IS 3.97 ACRES (172,933 SF) ACCORDING TO CLARK COUNTY GIS, 4.38 ACRES (190,891 SF) ACCORDING TO SURVEY BY OLSON ENGINEERING, INC.

PROPOSED SITE DATA:

PROPOSED PROJECT:	CONVENIENCE STORE WITH GAS SERVICE, 101-ROOM HOTEL, COMMERCIAL/RETAIL, DRIVE-THROUGH RESTAURANT AND 4-LOT SHORT PLAT
WETLAND, STREAM, STEEP BANK BUFFER AREAS/PROTECTED AREAS, AND PLANNED ENHANCEMENT AREAS:	NONE PROPOSED
PROPOSED PRIVATE ROADS:	NONE PROPOSED
PROPOSED EASEMENTS:	AS SHOWN ON ENGINEERING PLANS
PROPOSED ON-SITE ROAD RIGHTS-OF-WAY:	NONE PROPOSED
PROPOSED PEDESTRIAN AND BICYCLE FACILITIES:	AS SHOWN
PROPOSED EASEMENTS FOR ACCESS, DRAINAGE, UTILITIES, ETC:	AS SHOWN ON ENGINEERING PLANS
PROPOSED LOADING ZONES:	AS SHOWN
PROPOSED SEPTIC SYSTEMS:	NONE PROPOSED
PROPOSED OPEN SPACE/PARK:	NONE PROPOSED
PROPOSED TRANSIT FACILITIES:	NONE PROPOSED
ROAD SEGMENTS IN EXCESS OF 15% ON-SITE OR WITHIN 500' OF THE SITE:	NONE KNOWN
PROPOSED SIGNS (SIGN PLAN):	NONE PROPOSED AT THIS TIME
PROPOSED LIGHTING:	AS SHOWN ON THE LIGHTING PLAN
PROPOSED LOTS, TRACTS, ETC:	AS SHOWN
EXISTING BUILDINGS TO REMAIN:	NONE
PROPOSED LANDSCAPING (LANDSCAPE PLAN):	AS SHOWN ON THE LANDSCAPE PLAN
PROPOSED BUILDINGS:	AS SHOWN
PROPOSED PARKING:	AS SHOWN
PROPOSED WALLS OR FENCES:	NONE PROPOSED

OVERALL SITE PLAN CALCULATIONS

TOTAL SITE AREA	190,891 SF
BUILDING AREA	32,934 SF (17.3%) 1ST FLOOR ONLY
LANDSCAPE AREA	32,876 SF (17.2%)
PAVED AREA	125,081 SF (65.5%) INCLUDING TRASH ENCLOSURES
TOTAL BUILDING AREA	81,202 SF

PARKING NOTES

1. ALL SURFACE PARKING STALLS HAVE A 2-FOOT CONCRETE/LANDSCAPE OVERHANG, UNLESS SHOWN OTHERWISE. LANDSCAPE AND SIDEWALK WIDTHS HAVE BEEN INCREASED BY 2 FEET TO COMPENSATE.

PARKING CALCULATIONS

PARKING REQUIRED

101-ROOM HOTEL
101 STALLS (1 STALL PER ROOM)
12 EMPLOYEES = 6 STALLS (1 STALL PER EVERY 2 EMPLOYEES)
11,600 SF COMMERCIAL USE
11,600 / 400 SF = 29 STALLS (1 STALL PER 400 SF COMMERCIAL USE)
22 EMPLOYEES = 11 STALLS (1 STALL PER EVERY 2 EMPLOYEES)
4,510 SF COMMERCIAL USE
4,000 / 400 SF = 12 STALLS (1 STALL PER 400 SF COMMERCIAL USE)
4 EMPLOYEES = 2 STALLS (1 STALL PER EVERY 2 EMPLOYEES)
2,800 SF RESTAURANT USE
2,800/ 200 SF = 14 STALLS (1 STALL PER 200 SF REST. USE)
8 EMPLOYEES = 4 STALL S(1 STALL PER EVERY 2 EMPLOYEES)

TOTAL PARKING REQUIRED - 179 STALLS

PARKING PROVIDED: 181 STANDARD PARKING STALLS, WHICH INCLUDES 9 ADA STALLS

IF ANY CULTURAL RESOURCES AND/OR HUMAN REMAINS ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION IN OLYMPIA SHALL BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY, SUBJECT TO IMPRISONMENT AND/OR FINES.

PHASING NOTE

CONSTRUCTION PHASING SHALL GENERALLY FOLLOW THE PHASING AS INDICATED BELOW. PHASING MAY BE ADJUSTED DEPENDING ON FUTURE TENANT REQUIREMENTS, BUSINESS OPERATIONAL ISSUES, CONSTRUCTION RELATED ISSUES, MARKET CONDITIONS, ETC. EVEN THOUGH PHASING IS LISTED AS PHASES 1-4, PHASING SHALL NOT NECESSARILY FOLLOW ANY PREDETERMINED ORDER. SOME PHASES MAY BE CONSTRUCTED SIMULTANEOUSLY. PLEASE SEE BELOW A DESCRIPTION OF EACH PHASE:

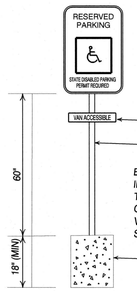
PHASE 1- CONSTRUCTION OF THE CONVENIENCE STORE, FUEL PUMPS AND ASSOCIATED PARKING.

PHASE 2 - CONSTRUCTION OF THE HOTEL AND ASSOCIATED PARKING.

PHASE 3 - CONSTRUCTION OF THE MULTI-TENANT BUILDING AND ASSOCIATED PARKING.

PHASE 4 - CONSTRUCTION OF THE DRIVE-THROUGH RESTAURANT AND ASSOCIATED PARKING.

THE PROPOSED FOUR-LOT SHORT PLAT MAY ALSO BE RECORDED IN PHASES.



1) HANDICAPPED SIGN SHALL BE 70 SQ.IN.(MIN) PORCELAIN ON STEEL.

2) BEADED TEXT OR EQUAL DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND TEXT STATING "STATE DISABLED PARKING PERMIT REQUIRED".

3) SIGN PROVIDED BY CONTRACTOR.

VAN PARKING (WHERE REQUIRED)

2" (ID) STANDARD GALVANIZED PIPE

EVERY ACCESSIBLE PARKING SPACE WILL BE IDENTIFIED BY A SIGN, LOCATED AT 60 INCHES TO THE BOTTOM OF THE SIGN ABOVE THE PARKING SURFACE, LOCATED AT THE HEAD OF THE PARKING SPACE. THE SIGN SHALL INCLUDE INTERNATIONAL SYMBOL OF ACCESS AND THE PHRASE "STATE DISABLED PARKING PERMIT REQUIRED". VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN IDENTIFYING THE SPACES AS "VAN ACCESSIBLE" WAC 51-20-3107(C).

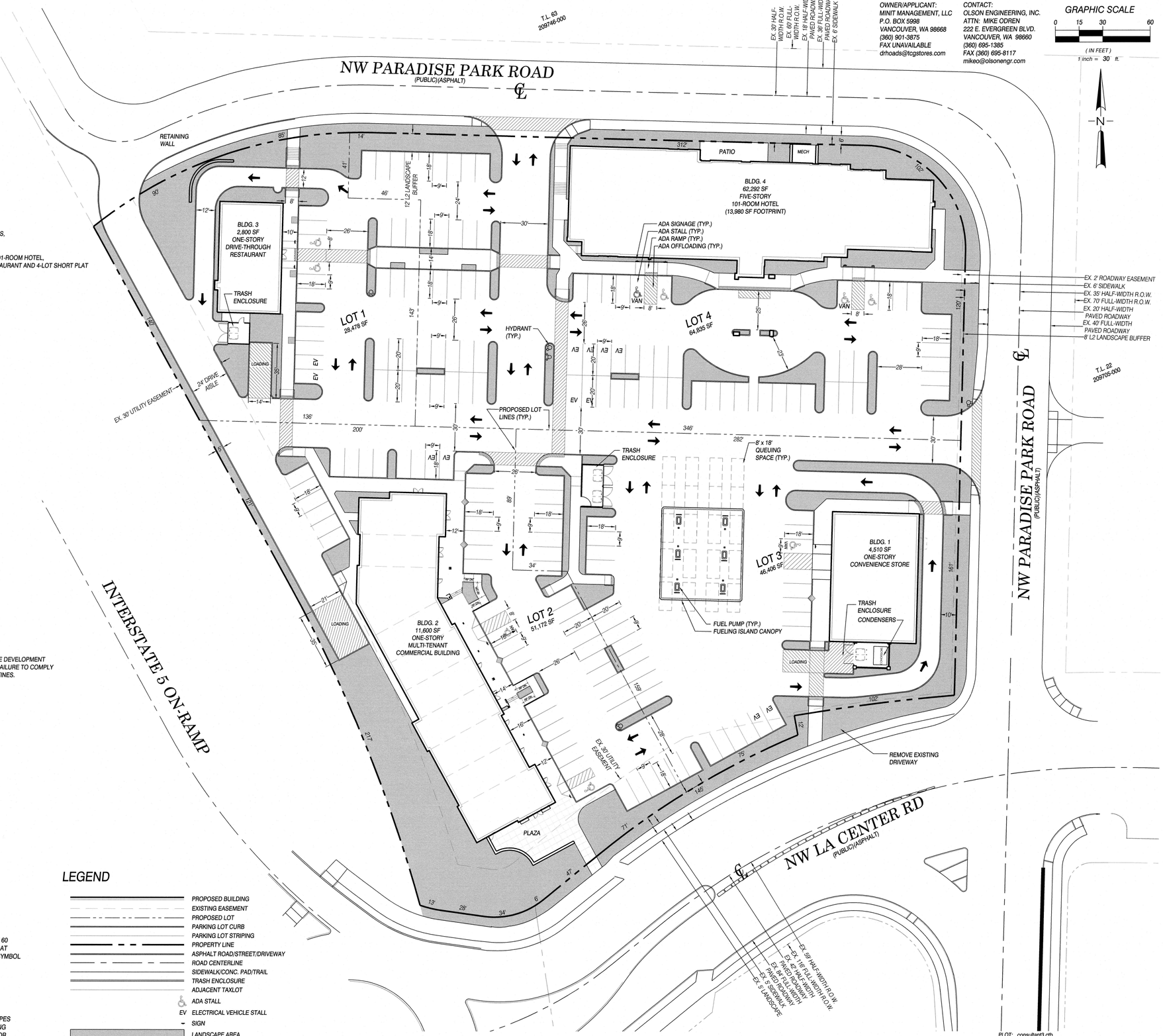
18" DIAMETER POURED CONCRETE BASE

ADA AISLE WIDTHS SHALL BE 8' FOR VAN ACCESSIBLE AND 5' OTHERWISE. SLOPES SHALL BE LESS THAN 5%. THE INTERNATIONAL SYMBOL USED WITHIN A PARKING SPACE SHALL BE 'WHITE ON BLUE' BACKGROUND. SEE ENGINEERING PLANS FOR RAMP AND SYMBOL DETAILS.

NOT TO SCALE

LEGEND

- PROPOSED BUILDING
- EXISTING EASEMENT
- PROPOSED LOT
- PARKING LOT CURB
- PARKING LOT STRIPING
- PROPERTY LINE
- ASPHALT ROAD/STREET/DRIVEWAY
- ROAD CENTERLINE
- SIDEWALK/CONC. PAD/TRAIL
- TRASH ENCLOSURE
- ADJACENT TAXLOT
- ADA STALL
- EV ELECTRICAL VEHICLE STALL
- SIGN
- LANDSCAPE AREA



OWNER/APPLICANT:
MINIT MANAGEMENT, LLC
P.O. BOX 5998
VANCOUVER, WA 98668
(360) 901-3875
FAX UNAVAILABLE
drhoads@tcgstores.com

CONTACT:
OLSON ENGINEERING, INC.
ATTN: MIKE ODREN
222 E. EVERGREEN BLVD.
VANCOUVER, WA 98660
(360) 695-1385
FAX (360) 695-8117
mikeo@olsonengr.com

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

FINAL SITE PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA 98660
360.695.1385
503.223.6256

CHARLES EDWARD MORRISON
STATE OF WASHINGTON
37908
REGISTERED
PROFESSIONAL ENGINEER
8/5/2020

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: SGA/MRO

DRAWN: MRO

CHECKED: KFS

DATE: AUGUST 2020

SCALE: H: 1" = 30'
V:

MINIT MANAGEMENT

JOB NO. 9825.01.01

SHEET
SP1.0

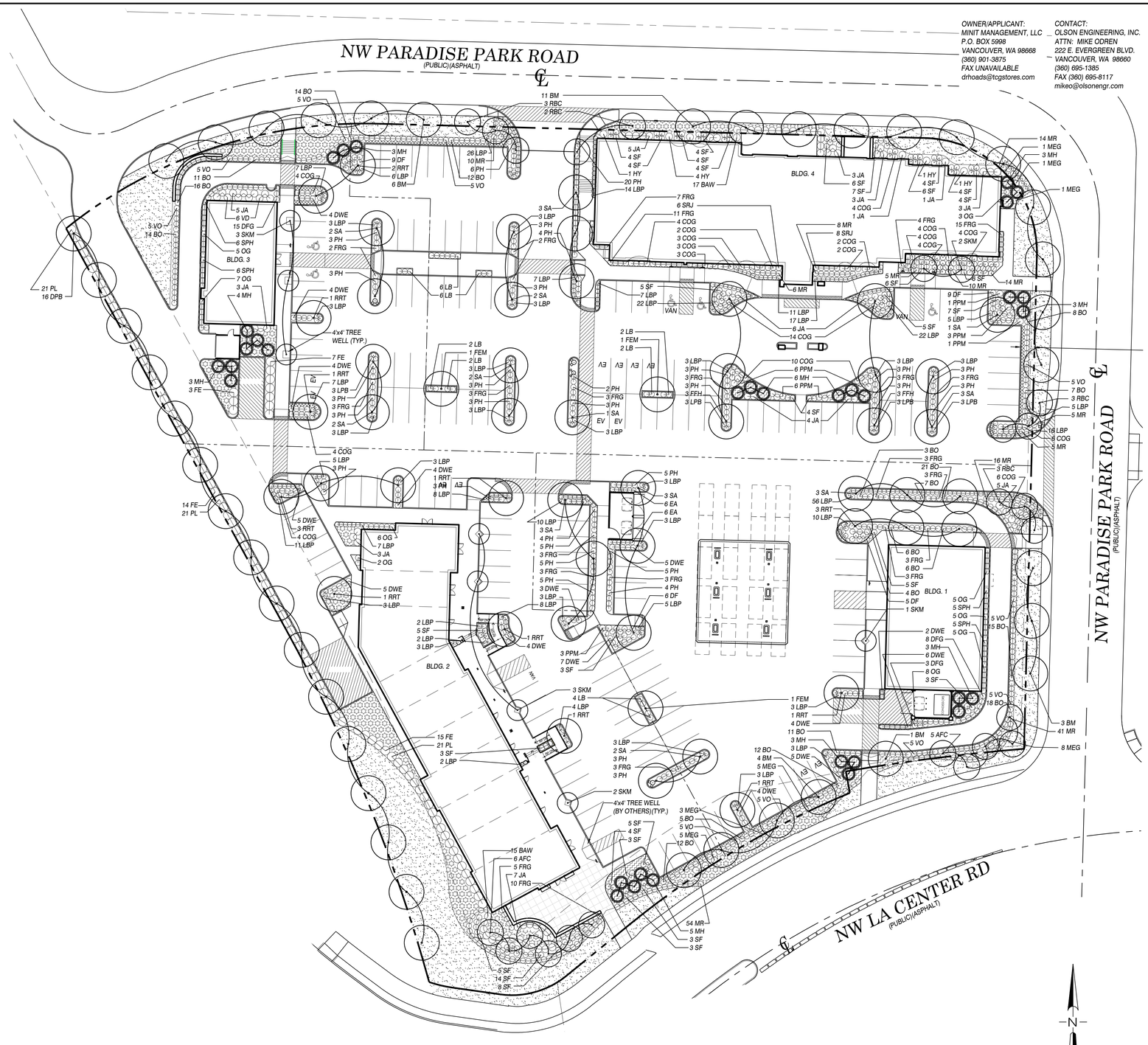
PLOT: consultant3.ctb
FILE: J:\data\9000\9800\9820\9825\Planning\9825.p.siteplan.final.dwg

LANDSCAPE LEGEND

SYMBOL	COMMON NAME	SIZE/COND.	SPACING	COMMENTS
TREES				
AFC	Autumn Flowering Cherry Prunus subhirtella 'Autumnalis Rosea'	1.5" CAL.	15' O.C.	
BM	Bowhall Maple Acer rubrum 'Bowhall'	1.5" CAL.	30' O.C.	
DPB	Dakota Pinnacle Birch Betula platyphylla 'Fargo'	1.5" CAL.	30' O.C.	
FEM	Frontier Elm Ulmus 'Frontier'	2" CAL.	AS SHOWN	
FFH	Frans Fontaine Hornbeam Carpinus betulus 'Frans Fontaine'	2" CAL.	AS SHOWN	
MH	Mountain Hemlock Tsuga mertensiana	6' HEIGHT	AS SHOWN	
RBC	Royal Burgundy Cherry Prunus serrulata 'Royal Burgundy'	1.5" CAL.	15' O.C. & AS SHOWN	
RRT	Red Rage Tupelo Nyssa sylvatica 'Haymanred'	2" CAL.	AS SHOWN	
SA	Summit Ash Fraxinus pennsylvanica 'Summit'	2" CAL.	AS SHOWN	
SKM	Sango Kaku Maple Acer palmatum 'Sango Kaku'	1.5" CAL.	AS SHOWN	
SHRUBS				
BAW	Blue Arctic Willow Salix purpurea 'Nana'	5 GAL.	4' O.C.	
BO	Burkwood Osmanthus Osmanthus x burkwoodii	24"-30"	3' O.C.	
COG	Compact Oregon Grape Mahonia aquifolium 'Compactum'	3 GAL.	3' O.C.	See Note 12
DF	Dwarf Fothergilla Fothergilla gardenii	3 GAL.	3' O.C.	
DFG	Dwarf Fountain Grass Pennisetum alopecuroides 'Hameln'	1 GAL.	3' O.C.	
DWE	Dwarf Winged Euonymus Euonymus alata 'Compacta'	5 GAL.	3' O.C.	
EA	Emerald Arborvitae Thuja occidentalis 'Smaragd'	3'-4' HEIGHT	2.5' O.C.	
FE	Frades Escallonia Escallonia x exoniensis 'Frades'	24"-30"	5' O.C.	
FRG	Feather Reed Grass Calamagrostis x acutiflora 'Karl Foerster'	1 GAL.	3' O.C.	See Note 12
HY	Hydrangea Hydrangea macrophylla 'Nikko Blue'	5 GAL.	4' O.C.	See Note 12
JA	Japanese Andromeda Pieris japonica 'Mt. Fire'	5 GAL.	4' O.C.	See Note 12
LB	Lydia Broom Genista lydia	1 GAL.	3' O.C.	
LBP	Little Bunny Pennisetum Pennisetum alopecuroides 'Little Bunny'	1 GAL.	2.5' O.C.	
MEG	Maiden Eulalia Grass Miscanthus sinensis 'Gracillimus'	1 GAL.	3.5' O.C.	
MR	Meidiland Rose Rosa x Meidiland 'Scarlet'	2 GAL.	3' O.C.	
OG	Oregon Grape Mahonia aquifolium	3 GAL.	3' O.C.	
PH	Privet Honeysuckle Lonicera pileata	5 GAL.	3' O.C.	
PL	Portugal Laurel Prunus lusitanica	24"-30"	5' O.C.	
PPM	Porcupine Miscanthus Miscanthus sinensis 'Strictus'	1 GAL.	3.5' O.C.	
SRJ	Skyrocket Juniper Juniperus scopulorum 'Skyrocket'	3'-4' HEIGHT	3' O.C.	See Note 12
SF	Sword Fern Polystichum munitum	1 GAL.	3' O.C.	See Note 12
SPH	Sky Pencil Holly Ilex crenata 'Sky Pencil'	3 GAL.	3' O.C.	
VD	Variegated Dogwood Cornus alba 'Elegantissima'	5 GAL.	4' O.C.	
VO	Variegated Osmanthus Osmanthus heterophyllus 'Variegatus'	24"-30"	3' O.C.	
GROUNDCOVER				
	Bearberry Cotoneaster Cotoneaster dammeri	1 GAL.	24" O.C.	
	Emerald Carpet Rubus Rubus calycinoides 'Emerald Carpet'	1 GAL.	18" O.C.	
	Lawn - Seeded/Sod/Hydroseeded Oregon Ryegrass Blend			
	Purpleleaf Wintercreeper Euonymus fortunei 'Colorata'	1 GAL.	30" O.C.	

NOTES

1. *Installation shall fully comply with all landscape code requirements and any City of La Center conditions of approval.*
2. *Irrigation shall be provided by a fully automatic underground system design/build by the landscape contractor.*
3. *All landscaping shall be installed in a sound workman-like manner, and according to accepted good planting procedures with quality plant materials.*
4. *The owner, or his agent, shall be responsible for the maintenance of all landscaping which shall be maintained in good condition so as to present a healthy, neat, and orderly appearance, and shall be kept free from refuse and debris.*
5. *Plants shall be spaced as indicated above unless otherwise shown on the plan. If a discrepancy exists, the plan shall prevail.*
6. *Contractor shall verify species and quantities of all plant material prior to bid.*
7. *Install jute erosion control fabric on all slopes 2-1/2:1 and greater. Refer to Civil Engineering plans.*
8. *Install root control barrier on all trees located within 8' of any paved/concrete surface, curb or wall, 18'-inches deep, .08-inches or 2 mm thick, 10 feet long. Center barrier on trunk of tree. Install adjacent to back of sidewalk, pavement, curb and/or wall as per manufacturer's recommendations and specifications.*
9. *Prior to installation of topsoil in tree, shrub, groundcover and lawn planting areas as indicated on the Landscape Plan, cross-rip at 18 inches on center or rototill subgrade to an 8-inch to 12-inch depth.*
10. *Install minimum 12-inch depth imported topsoil in all tree, shrub and groundcover planting areas, 6 inches in lawn areas, as indicated on the Landscape Plan. Amend planting area topsoil with 2-inch minimum layer composted yard debris prior to installation of plant material. Imported planting area topsoil shall be a sandy loam topsoil with a combined silt and clay content less than 20% and medium to very fine sand 60%-70% which shall be percentages by weight of those particles passing a 2mm screen. The remaining percentages shall be particles larger than medium to very fine sand (coarse or very coarse sand or gravel sized particles). All particles shall pass a 1/2-inch screen. All topsoil shall be free from subsoil, debris, turf, mushrooms, weeds or any other objectionable material. If subgrade is comprised of rock, rock fill or cement treated soil, remove subsoil from site and deposit topsoil to the following depths: 24-inch minimum depth in all planting areas, 36-inch minimum depth at all tree locations in a 5 foot diameter. Allow no cross contamination of cement treated soil with placed topsoil.*
11. *Install minimum 2-inches bark mulch in all new landscape areas within 2 days of planting.*
12. *For plantings around the hotel (Bldg. 4), center/align/place HY, JA, FRG and SRJ between windows. Center/place/align SF and COG with windows.*



OWNER/APPLICANT:
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P.O. BOX 5998
VANCOUVER, WA 98668
(360) 901-3875
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VANCOUVER, WA 98660
(360) 695-1385
FAX (360) 695-8117
mikeo@olsonengr.com

GRAPHIC SCALE

0 15 30 60

(IN FEET)
1 inch = 30 ft.

PLOT: consultant3.ctb
FILE: J:\data\9000\9800\9820\9825\Planning\9825.p.siteplan.final.dwg

FINAL LANDSCAPE PLAN FOR:

MINIT MANAGEMENT

OLSON ENGINEERING INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA 98660
360-695-1385
503-339-2698

STATE OF WASHINGTON
REGISTERED LANDSCAPE ARCHITECT
MICHAEL R. ODREN
CERTIFICATE NO. 991

08/06/2020

CHANGES / REVISIONS

DESCRIPTION:	*DATE:*

DESIGNED: MRO

DRAWN: MRO

CHECKED: MRO

DATE: AUGUST 2020

SCALE: H: 1" = 30'
V:

MINIT MANAGEMENT

JOB NO. 9825.01.01

SHEET

LS1.0

OWNER/APPLICANT:
MINIT MANAGEMENT, LLC
P.O. BOX 5998
VANCOUVER, WA 98668
(360) 901-3875
FAX UNAVAILABLE
drhoads@tcgstores.com

CONTACT:
OLSON ENGINEERING, INC.
ATTN: MIKE ODREN
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VANCOUVER, WA 98660
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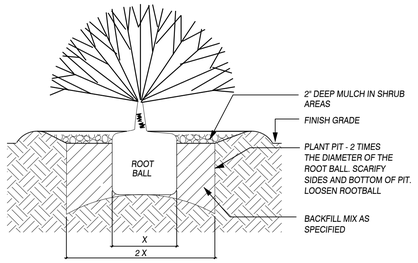
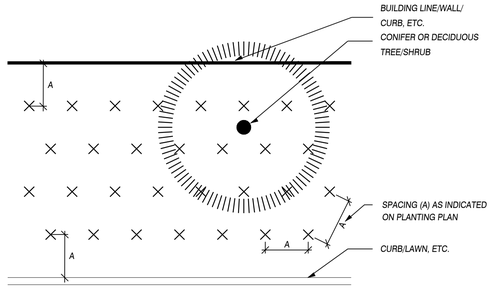
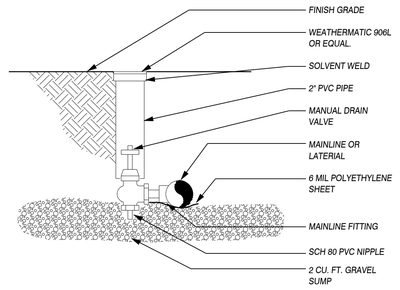


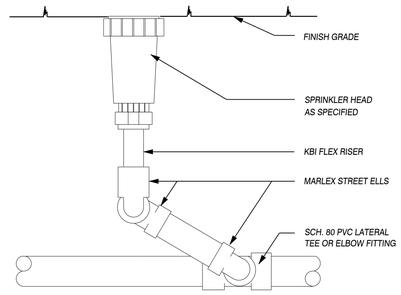
1 SHRUB/GROUNDCOVER PLANTING
SCALE: NTS



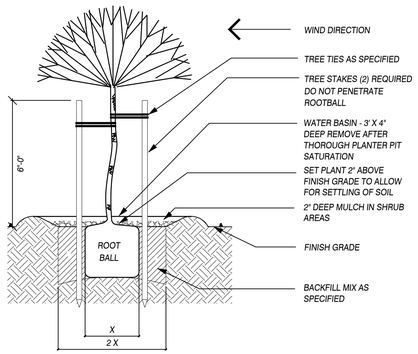
4 GROUNDCOVER PLANTING
SCALE: NTS



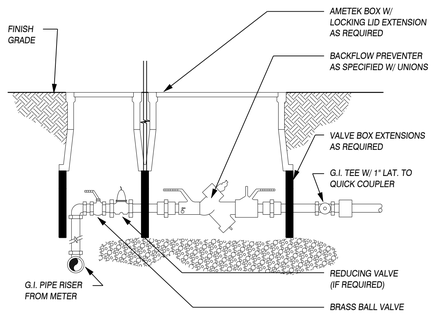
7 MANUAL DRAIN VALVE
SCALE: NTS



10 GEAR DRIVEN SPRINKLER
SCALE: NTS

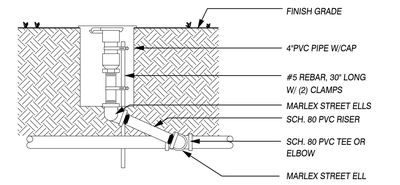


2 DECIDUOUS TREE PLANTING
SCALE: NTS

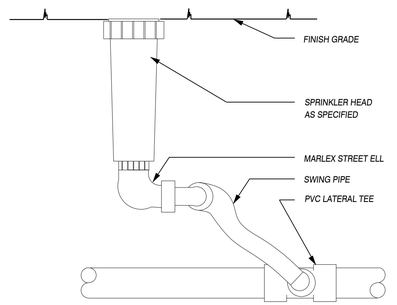


NOTE: THIS INSTALLATION DETAIL MUST COMPLY WITH ALL LOCAL AND STATE CODES. LANDSCAPE CONTRACTOR MUST VERIFY CORRECT INSTALLATION WITH LOCAL WATER JURISDICTION.

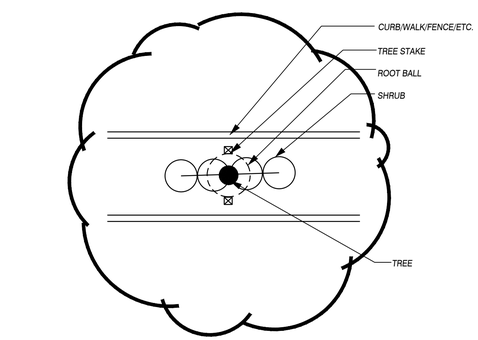
5 BACKFLOW PREVENTION DEVICE
SCALE: NTS



8 QUICK COUPLER
SCALE: NTS

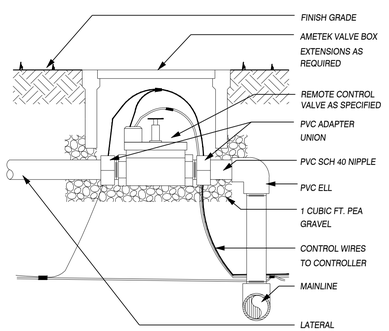


11 POP-UP SPRINKLER
SCALE: NTS

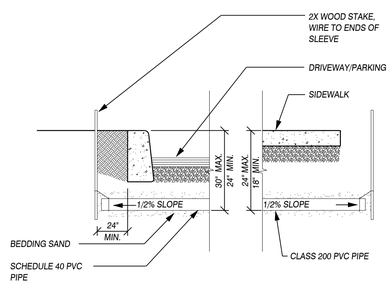


NOTE -- WHERE TREES ARE INDICATED IN SHRUB BED OR HEDGE, MAINTAIN SHRUB SPACING INDICATED. OFFSET TREE STAKES AS REQUIRED.

3 TREE STAKING DETAIL
SCALE: NTS



6 ELECTRIC VALVE ASSEMBLY
SCALE: NTS



9 SLEEVE
SCALE: NTS

GALLON PER MINUTE		PIPE SIZE & CLASS	
0 - 10	GALLONS	3/4"	CLASS 200
11 - 15	GALLONS	1"	CLASS 200
16 - 25	GALLONS	1 1/4"	CLASS 200
26 - 40	GALLONS	1 1/2"	CLASS 200
41 - 55	GALLONS	2"	CLASS 200
56 - 85	GALLONS	2 1/2"	CLASS 200
86 - 125	GALLONS	3"	CLASS 200

12 PIPE SIZE SCHEDULE - LATERAL LINES
SCALE: NTS

GALLON PER MINUTE		PIPE SIZE & CLASS	
0 - 8	GALLONS	3/4"	SCH. 40
9 - 13	GALLONS	1"	SCH. 40
14 - 20	GALLONS	1 1/4"	SCH. 40
21 - 30	GALLONS	1 1/2"	SCH. 40
31 - 50	GALLONS	2"	SCH. 40
51 - 70	GALLONS	2 1/2"	SCH. 40
71 - 110	GALLONS	3"	SCH. 40

13 PIPE SIZE SCHEDULE - SUPPLY LINES
SCALE: NTS

IRRIGATION AND LANDSCAPE DETAILS FOR:

MINIT MANAGEMENT

OLSON ENGINEERING INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA 98660
360-695-1385
503-339-9688

STATE OF WASHINGTON
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LANDSCAPE ARCHITECT
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SECTION 02750 IRRIGATION

PART 1 - GENERAL

1.01 SCOPE: Furnish design services and plans, labor, material, equipment and services for installation of a new irrigation system all in accordance with requirements of this and other specifications, local and state codes and equipment manufacturer's recommendations and specifications.

1.02 RELATED WORK BY OTHERS:
A. Provisions for electrical service to controller location.
B. Conduit from controller location to exterior of building (if applicable), preferably to an adjacent landscape area.
C. Conduit from controller location to rain sensor if a wired model utilized.
D. Domestic water meter at point of connection minimum 1-1/2" size.
E. Ball valve at point of connection.

1.03 QUALITY ASSURANCE:
A. Acceptable manufacturer: Hunter, Rainbird.
B. Contractor shall be licensed and bonded in State of Washington.
C. Contractor shall have at least 5 years prior experience in projects of equal or larger size.
D. Contractor shall employ on-site at all times at least one person who is thoroughly experienced and competent in all phases of the work of this section and who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation, and who shall direct all work performed under this section.
E. Conform to the 'Uniform Plumbing Code' as adopted and modified by the State of Washington and all legally constituted authorities having jurisdiction.
F. Materials and Equipment: New materials and equipment of type and brands as specified herein or accepted substitute.

1.04 DESIGN AND PLAN:
A. Design requirements:
1. Contractor shall provide design and layout of a new irrigation system meeting requirements of this and other specifications.
2. Meet requirements of local and state codes.
3. Meet recommendations and specifications of equipment manufacturer.
4. Contractor shall obtain services of an irrigation system designer with a minimum 5 years experience.
5. Provide minimum water coverage of 100% in all lawn, shrub and groundcover areas.
6. Layout system to obtain optimum coverage utilizing manufacturer's standard heads. Spray across walks,onto walls, buildings, windows or paved areas is not acceptable.
7. Obtain static water pressure from local jurisdiction and install pressure regulating equipment as necessary including, but not limited to, pressure relief valves, pressure regulating valves, etc.
8. Install approved backflow protection to the public water source. If acceptable, use a double check backflow prevention device.
9. Install manual drain valves and gravel backfilled sumps of one cubic foot minimum size on each zone. Slope lines to drain valves.
10. Provide gate valves on supply lines for isolation of various sections of the irrigation system.
11. Provide quick coupling valves at various locations on site. Locations as acceptable to Project Representative.
B. Plan Requirements:
1. Provide at same scale as landscape plan.
2. Prepare on good quality tracing paper.
3. Irrigation plan shall indicate system irrigation head and nozzle layout, location and size of all zones, piping size and layout, fittings, equipment necessary for full installation of entire system, locations and sizes of sleeving.

1.05 VERIFICATION OF EXISTING CONDITIONS:
A. Before proceeding with the installation of any section of the irrigation system, verify all existing irrigation conditions.

1.06 VERIFICATION OF DIMENSIONS:
A. Before proceeding with the installation of any section of the irrigation system, check and verify correlation between ground measurements and Drawings.
B. Advise Project Representative of discrepancies before proceeding.

1.07 VERIFICATION OF WATER PRESSURE:
A. Verify water pressure at point of connection.
B. Submit pressure test results to Landscape Architect prior to any work.

1.08 PROTECTION OF UNFINISHED WORK:
A. Protect work at all times.
B. Keep rock, dirt, gravel, debris and foreign materials from entering piping, valves and other irrigation equipment.
C. Flag/barricade open trenches, valve locations/boxes, etc. when not actively working in area.

1.09 VERIFICATION OF CONTROLLER LOCATION:
A. Verify exact location of controller with Project Representative.
B. Coordinate electrical service, conduit to building exterior (if applicable) and conduit to rain sensor (if a wired model is utilized) with other trades.

1.10 ENVIRONMENTAL CONDITIONS:
A. No solvent welding of PVC pipe in freezing weather.
B. Protect active utilities. If encountered, notify persons owning same.

1.11 UTILITIES:
A. Be responsible for location of underground utilities.
B. Protect active utilities. If encountered, notify persons owning same.

1.12 STORAGE:
A. Store on job site only as approved.
B. Be responsible for security and protection.
C. Store no PVC pipe or fittings in direct sunlight.

1.13 EQUIPMENT FOR OPERATION:
A. Provide Owner with the following operation equipment.
B. Turn over to Owner at time of Final Inspection.
1. (2) lock cap key, Weathermatic RLK-1 or accepted substitute.
2. (2) snap-lock unlocking tools for valve box covers.
3. (2) quick coupling valve keys.
4. (2) hose swivel.
5. (2) lock cap key, Rain Bird 2049 or accepted substitute.
6. (2) valve operating key, 30-inch handle length.
7. (2) irrigation controller keys.

1.14 RECORD DRAWINGS:
A. Maintain current with work progress, one red pencil marked print showing all deviations from drawings occurring during installation.
B. Show locations of stubouts, manual drains, valves, pipe lines, splices and other subsurface features as installed.
C. Show dimension references from subsurface features to permanent structural or surface elements sufficient to identify in the field.
D. Submit clean red-lined mylar at end of project.
E. Place one (1) reduced size laminated print inside controller door.

1.15 SUBMITTALS:
A. Within 14 days after award of contract, submit:
1. Irrigation design plan for new irrigation system, five (5) prints.
2. Manufacturer's printed product information and catalog cut sheets for all system components.
3. Sleeving plan showing sizes and locations of all sleeving.
4. Static water pressure test results.
B. Submit to Landscape Architect at time of inspection for final approval.
1. As-built irrigation mylar.
2. Copy of guarantees, warranties or affidavits applicable to equipment or materials beyond Contractors 1-year guarantee period.
3. Manufacturer's catalog cuts describing all equipment and materials used.
4. Names, addresses and phone numbers of manufacturers and local suppliers of equipment.
5. Written operating and maintenance instructions for all electrical or mechanical equipment used.
C. Submit to Landscape Architect three (3) complete copies of the above submittals in hard cover binder.

1.16 GUARANTEE:
A. Guarantee the irrigation system or any part thereof, against defective material or workmanship for one (1) year from the date of final acceptance.
B. Repair any settling of backfilled trenches occurring during a one (1) year period after final acceptance.
C. Include restoration of planting, paving or other improvements of any kind associated with corrections.
D. Make corrections without expense to Owner.

PART 2 - PRODUCTS

2.01 GENERAL:
A. New materials and equipment.
B. Manufacturer's catalog numbers indicated below.
C. Substitutions or equals only by written approval of the Landscape Architect.

2.02 IRRIGATION HEADS:
A. Construction as specified by model number reference.
B. Manufacturer's catalog numbers indicated below.
C. Lawn heads - 6" pop up.
1. Spray heads: Rainbird RD1800 series, plastic body and nozzle or accepted substitute.
2. Rotor heads: Rainbird 5000 MPR series, plastic body and nozzle or accepted substitute.
D. Shrub heads - 6" pop up.
1. Spray heads: Rainbird RD1800 series, plastic body and nozzle or accepted substitute.
2. Rotor heads: Rainbird 5000 MPR series, plastic body and nozzle or accepted substitute.
E. Groundcover heads - 12" pop up.
1. Spray heads: Rainbird RD1800 series, plastic body and nozzle or accepted substitute.

2.03 PIPE AND FITTINGS:
A. PVC Pipe for Supply Lines: PVC pipe, Polyvinyl Chloride Plastic; PVC 1120, Schedule 40, Type I, normal impact, I.P.S., NSF approved plain and/or bell end; color white; meeting requirements ASTM D2241 and D1784.
B. PVC Pipe for Lateral Lines: PVC pipe, Polyvinyl Chloride Plastic; PVC 1120, Class 200, Type I, normal impact, I.P.S., NSF approved plain and/or bell end; color white; meeting requirements ASTM D2241 and D1784.
C. PVC Pipe Fittings: PVC 1120, Schedule 40, Type I, normal impact, I.P.S., NSF approved; meeting requirements of ASTM D 2466-74.
D. Galvanized Pipe and Fittings: Standard weight pipe, hot dipped galvanized and threaded. Threaded cast iron or galvanized malleable fittings.
E. PVC Riser: PVC 1120, Type I, normal impact I.P.S., NSF approved Schedule 80 PVC, conform to PS 21-70. Cut to required lengths; threaded both ends, color dark grey.

2.04 SLEEVES:
A. Under parking, driveway paving and through walls - Schedule 40 PVC pipe.
B. All other - Class 200 PVC pipe.
C. Sleeve diameter shall be two sizes larger than diameter of pipe installed in sleeve.
D. Install separate sleeve dedicated for irrigation control wire.

2.05 PVC SOLVENT CEMENT:
A. NSF approved solvent for PVC to 4" pipe size.
B. Meeting requirements of ASTM D 2564-73a, #705.
C. Weld-On 705 or accepted substitute.

2.06 PVC PRIMER AND CLEANER:
A. Weld-On P-70 or accepted substitute.

2.07 BALL VALVE:
A. Full port, brass or bronze with stainless steel ball and Teflon seat.

2.08 MANUAL DRAIN VALVE:
A. Brass globe valve, 1/2" size with cross-type wheel.

2.09 QUICK-COUPLING VALVE:
A. One piece, double slot, 3/4" inlet with vinyl cover and lock top.
B. Rain Bird Model or accepted substitute.

2.10 QUICK-COUPLING VALVE KEY:
A. Rain Bird or accepted substitute.

2.11 LOCK CAP KEY:
A. Rain Bird or accepted substitute.

2.12 HOSE SWIVEL:
A. Rain Bird or accepted substitute.

2.13 LOCKING LID AND KEY:
A. Rain Bird or accepted substitute.

2.14 LOCKING LID FOR MANUAL DRAIN VALVE:
A. Weathermatic 906L or accepted substitute.

2.15 VALVE BOX:
A. Ametek Economy, Standard and Jumbo sized boxes, extensions and locking covers where applicable or accepted substitute.

2.16 DRAINAGE ROCK:
A. 1-1/2-inch clean, washed round drain rock.

2.17 BACKFLOW PREVENTION DEVICE:
A. As approved by local jurisdiction. If acceptable, use a double check backflow prevention device.
B. Size as required.

2.18 RAIN SENSOR:
A. Rain Bird Model RSD-BEx or accepted substitute.

2.19 REMOTE CONTROL VALVE:
A. Rain Bird PEB Series, 24 volt electric valve or accepted substitute.
B. Sizes as required.

2.20 CONTROL WIRE:
A. Type UF bearing U/L label for direct underground burial, NEC Class II circuits. AWG sizes, #14 minimum.

2.21 ELECTRIC CONNECTORS:
A. 3M DBY connectors or accepted substitute.

2.22 IRRIGATION CONTROLLER
A. Rain Bird Model ESP-LX Modular Series wall mounted controller with lock and two (2) keys or accepted substitute.
B. Number of circuits as determined by planting types and planter layout.

PART 3 - EXECUTION

3.01 GENERAL:
A. Install materials and equipment in strict accordance with manufacturer's written specifications and commendations.
B. Comply with local and state codes.
C. Maintain job premises clean and free from accumulations of debris or disorder at all times. Remove equipment and surplus materials from each area of work as completed.
D. Leave no work in condition that would jeopardize other persons or property.
E. Test all lines for one hour minimum at pressure of water source. Receive approval of test prior to back filling work. Test acceptable if no more than 5 psi loss after 1 hour. Coordinate with Project Representative.

3.02 TRENCH EXCAVATION:
A. Bring to "grade" slightly.
B. Slope bottoms uniformly, 1/2% minimum grade to drain.
C. Trench depth 18" minimum (lateral lines), 24" minimum (supply lines) and 30" maximum, bottoms free from sharp rocks or objects that may damage pipe.
D. Trench width sufficient to allow proper tamping of backfill around pipe.
E. Keep topsoil separate from subsoils. Replace in order of removal.
F. Do not machine trench through root zones of existing trees to remain. Hand dig only.

3.03 TRENCH BACKFILL:
A. Do no backfilling until approval of pressure test.
B. Use excavated soil or sand bedding materials.
C. Material free from rock and/or debris that may damage pipe or prevent proper compaction.
D. Place 6-inch maximum lifts and compact thoroughly.
E. Place mainline backfill only when pipe is filled with water, 25 psi pressure minimum.

3.04 INSTALLATION OF PIPE:
A. Sizes, type as specified.
1. Lay with support beneath entire lengths.
2. Slope all pipe to gravity drain.
3. Snake PVC piping to allow for expansion and contraction.
4. Combine runs in common trench where feasible with 3-inch minimum vertical and horizontal separation.
5. Flush lines prior to installation of valves, irrigating heads and nozzles.
6. Install stubouts for future connection(s) as approved. Enclose stubouts in valve box.
B. Cutting and Joining:
1. Cut pipe square, debur and remove all surface contaminants or moisture.
2. Chamfer all cut ends.
3. Apply primer and solvent cement in accordance with manufacturer's recommendations.
4. Make threaded joints leak resistant, with freedom of movement.
5. Use Teflon thread sealant for threaded joints.
6. Clean out threads and use tape or compound joint sealants for all galvanized pipe connections. Leave no more than two (2) threads showing at joints.

3.05 INSTALLATION OF SLEEVING:
A. Install sleeving under all asphalt, concrete or other hard surface pavement areas and through walls as required.
B. Size as required for pipe and control valve wiring.
C. Coordinate for placement prior to asphalt/concrete/wall work.
D. Position sleeves so pipe can be easily removed.
E. Jack/bore under existing pavement as required.
F. Install separate sleeve dedicated for irrigation control wiring.
G. Extend sleeves 12 inches minimum beyond walk or pavement edge.

3.06 INSTALLATION OF VALVES:
A. Types as specified.
1. Install in accordance with manufacturer's specifications and recommendations.
2. Install manual drain valves at locations to completely drain all pipe lines. Minimum one manua drain valve per zone.

3.07 SYSTEM PURGING:
A. Prior to backfilling installed system, installing irrigation heads/emitters and testing the system, purge all system zones with clean water at sufficient pressure and duration to verify that lines are free and clear of any rocks, dirt, gravel, debris, foreign materials and/or contaminants.
B. If blockages are discovered, remove sections of system piping and remove blockages as required, reconnect sections and repurge system.
C. Install irrigation heads/emitters and test all system zones with clean water of sufficient pressure and duration to ensure the system is capable of handling the loads required and verify that controller and valves are functioning as intended.

3.08 INSTALLATION OF IRRIGATION HEADS:
A. Types as specified. Install in accordance with manufacturer's recommendations and specifications.
B. Adjust and balance:
1. Adjust and balance each system zone.
2. Achieve uniform area coverage by all head types.
3. Spray across walks, onto walls, buildings, windows or paved areas is not acceptable.

3.09 INSTALLATION OF IRRIGATION CONTROLLER:
A. Type as specified.
1. Install wall or pedestal mounted unit or battery-powered unit per manufacturer's recommendations and specfications.
2. Enclose all control wiring in conduit.
3. Verify exact placement of controller with Project Representative.
4. Adjust irrigation controller timing for each zone based on plant type, sun exposure, microclimatic conditions,current industry standards, etc.
B. Work by other trades include the following (Landscape Contractor to coordinate):
1. Provision for electrical service to controller location.
2. Control wire conduit to exterior of building.

3.10 INSTALLATION OF RAIN SENSOR:
A. Install per manufacturer's recommendations and specifications.
B. Location as acceptable to Project Representative.
C. Coordinate conduit from irrigation controller to rain sensor location with appropriate trades.

3.11 INSTALLATION OF CONTROL WIRE:
A. For wire sizes, refer to wire sizing chart published by manufacturer of control valves.
B. Use specified electrical connectors at all splices. Place all splices in valve boxes, and note locations on as-built record drawings.
C. Bundle wire together with electrical tape at 10-foot intervals. Provide 12-inch expansion coils every 100 feet where runs exceed this length and at each valve.
D. Place wire at bottom of pipe runs to provide protection.
E. Provide one extra wire to each control valve similar to common wire for use if wire fails. Color to be different. Label as "Extra Wire" at controller. If multiple controllers utilized, provide one extra wire per controller.
F. Install additional sets of irrigation control wires at stubouts as approved.

3.12 FINAL TESTING:
A. Test entire system for one (1) hour at normal operating pressure.
B. Test is acceptable if, after one (1) hour of pressure testing, at normal operating pressure, operating pressure has dicreased one (1) percent or less.
C. If test fails, immediately trace leaks and correct.
D. Replace soils liquified by system failures with stable materials.
E. Repeat system test as indicated above until testing meets requirements.

END OF SECTION

SECTION 02950 LANDSCAPING

PART 1 - GENERAL

1.01 SCOPE OF WORK: Soil testing; supply and placement of topsoil; soil preparation; establishment of fine finish grading; supply and installation of root control barriers; installation of landscape construction details; supply, installation and maintenance of trees, shrubs, groundcovers, and lawn areas; tree staking; mulching of planting bed areas and tree rings; protection of existing trees/shrubs to remain; repair/replacement of existing landscape/irrigation to remain damaged by construction; submittal of all submittal material and contract period maintenance.

1.02 USE OF HERBICIDES: Applications of herbicides only by applicator licensed under Washington herbicide laws.

1.03 PLANT MATERIAL: Provide in accordance with species, sizes, and quantities indicated on the Drawings.

1.04 GUARANTEE AND REPLACEMENT:
A. Guarantee plant materials and related workmanship of installation, beginning after written final acceptance or work, for one year or one full growing season, whichever is longer.
1. Replace plant material not surviving or in poor condition during guarantee period.
2. Correct deficiencies in soil or drainage conditions when attributable to plant losses, prior to replacement.
3. Perform all replacement work in accordance with original specifications at no additional cost to Owner.
4. Damage or loss of plant materials due to vandalism, freezing, or acts of neglect by others, is exempt from Contractor's replacement responsibility.
B. Perform replacement work when requested by Owner within fourteen (14) days after notification.
1. Plant replacements subject to seasonal limitations may be performed at a later date when, in the judgement of the Landscape Architect, survival of replacements is jeopardized by weather or other conditions.
2. Advise Owner or Project Representative in writing when replacement work is performed. Include specific instructions for immediate care of same.

1.05 SUBMITTALS:
A. Soil testing:
1. Submit 1 representative sample of on-site and/or imported topsoil to a local soil testing laboratory for a topsoil analysis as indicated below prior to installation of plant material and/or seeding/sodding of lawn areas.
2. Topsoil Analysis: Topsoil analysis shall include the following:
a. Soil fertility, including tests for soil pH, salinity, half-saturation percentage, nitrate nitrogen, ammonium nitrogen, phosphate phosphorus, potassium, calcium, magnesium, sodium, copper, zinc, manganese, iron, sulfate and boron.
b. Particle size distribution, organic matter content and USDA soil classification.
c. Recommendations for amendments to the topsoil.
3. Submit test results to Landscape Architect prior to installation of plant materials and/or seeding/sodding of lawn areas. Amend all topsoil in accordance with soils laboratory recommendations prior to installation of plant material and/or seeding/sodding of lawn areas. Topsoil testing shall be done at Contractor's expense.
B. Submit 1 quart sample of textural soil amendment to Landscape Architect for review prior to installation of plant materials and/or seeding/sodding of lawn areas.
C. Submit 1 quart sample of specified mulch material to Landscape Architect for review prior to installation of mulch.
D. Submit list of growers for each plan species to be installed, including common and botanical name of each plant material as ordered to Landscape Architect for approval.
E. Submit to Owner a complete schedule for maintenance of all landscape plantings including, but not limited to, weeding, trimming, pruning, mulching, mowing/edging of lawn areas, fertilization of lawns and plant materials, spraying of herbicides and insecticides, watering of all landscape areas, clean-up of maintenance-generated debris, etc.

PART 2 - PRODUCTS

2.01 FERTILIZERS:
A. Guarantee analysis of mineral or formulated Products as specified.
1. Comply with applicable state fertilizer laws.
2. Deliver to job in original, unopened containers, each bearing manufacturer's label of content.
3. Uniform composition, dry and free-flowing.
B. Brands and Analysis: Fertilizers and amendments listed below are for bidding purposes only. Actual fertilizers and amendments may vary based upon the results of the soils test.
1. Calcium Carbonate Limestone (agricultural limestone)
2. Dolomite Limestone
3. Calcium Sulfate (gypsum)
4. Bloodmeal
5. Organic 10N-10P-5K
6. Laundry Borax (10% Borax)

2.02 TEXTURAL SOIL AMENDMENTS:
A. Compost: Composted yard debris, medium grind, or accepted substitute. Color dark brown to black.

2.03 MULCH MATERIAL:
A. Free from noxious weed seed and all foreign materials harmful to plant life.
1. Fir or hemlock bark mulch, medium grind.

2.04 WOOD TREE STAKES:
A. Sound wood, 2" x 2", Douglas Fir or Lodgepole Pine; 8-foot lengths.
B. Installed as shown on Tree Planting Detail.
C. Tree ties:
1. "Chain Lock" system or accepted substitute.
2. Install as shown on Tree Planting Detail.

2.05 TREES, SHRUBS AND GROUNDCOVERS:
A. General, species, variety, quantity and size.
1. As indicated on the plans.
2. Nomenclature - conform to names given in Standardized Plant Names, 1942 edition or that accepted in localized nursery trade.
3. Meet requirements of American Standard for Nursery Stock, 2014 edition ANSI Z60.1-2014.

2.06 LAWN SEED:
A. Oregon Rye Grass Blend from Oregon Turf Farms, Hubbard, Oregon, or approved equal.
B. Seed type and percentage:
1. 20% Manhattan Perennial Ryegrass.
2. 20% Sherwood Perennial Ryegrass.
3. 20% Terra Perennial Ryegrass.
4. 15% America Kentucky Bluegrass.
5. 15% Midnight Kentucky Bluegrass.
6. 10% Discovery Hard Fescue.

2.07 SOD:
A. Match seed type.

2.08 HYDROSEED:
A. Match seed type.
B. Mulch: 100% virgin wood fiber or wood cellulose fiber mulch.
C. Tackifier: Powdered Organic Tackifier - GUAR based.

2.09 TOPSOIL:
A. Imported topsoil shall be a sandy loam topsoil with a combined silt and clay content less than 20% and medium to very find sand 60%-70% which shall be percentages by weight of those particles passing a 2mm screen. The remaining percentages shall be particles larger than medium to very fine sand (coarse or very coarse sand or gravel sized particles). All particles shall pass a 1/2" screen.

2.10 WATER:
A. Metered domestic service for Contractor's use is provided on site.
B. Be responsible for conveying any application equipment required to perform the work.

2.11 ROOT CONTROL BARRIERS:
A. As manufactured by Deep Root Corp., 18" depth x 10' length, .08" or 2 mm thick or accepted substitute.

PART 3 - EXECUTION

3.01 GENERAL:
A. Scheduling and Coordination: Coordinate work schedule with Owner's Project Representative where cooperation with other trades or contracts is required. Be responsible for timely performance of work. Coordinate topsoil placement responsibility with General Contractor.

3.02 WEED ERADICATION AND CONTROL:
A. Remove grass, noxious weed growth and roots by herbicide application (Johnson grass, Crabgrass, Morning Glory, Horsetail, Canadian Thistle, Nutgrass, Quackgrass, etc.).
B. Kill achieved by working soil permissible for annual types only.
C. Allow time for herbicides to achieve effective kill prior to cultivating.

3.03 SOIL PREPARATION/TOPSOIL DEPTH:
A. General: Remove large (1" and larger) stones, concrete, asphalt, or debris encountered or generated by this work from job site. Crossrip @ 18" on center or rototill subgrade to 8"-12" depth prior to placement of topsoil.
B. Deposit topsoil to a minimum 12" depth in planting areas, 6" in lawn areas. If subgrade is comprised of rock, rock fill or cement treated soil, excavate rock or cement treated soil, remove from site and deposit topsoil to the following depths: 24" minimum depth in all planting areas, minimum 36" depth at tree locations (5' diameter). Allow no cross contamination of cement treated soil with placed topsoil.
C. Install underground irrigation lines prior to placement and incorporation of fertilizers and soil amendments.
D. Initial Soil Preparation - Apply soils testing laboratory recommended fertilizers and soil amendments to all landscape areas at rate specified prior to installation of plant material and/or seeding/sodding of lawn areas. Fertilizers and soil amendments and rates indicated below are for bidding purposes only. Actual fertilizers and soil amendments and rates shall be per specified soil test. Rototill the following proportions of materials, evenly mixed, to a 6-8 inch depth over each 1,000 square feet of planting area.
1. Planting bed areas:
a. 2" Layer textural soil amendment.
b. 10 lbs. Organic 10N-10P-5K.
c. 15 lbs. Bloodmeal.
d. .9 oz. Laundry Borax
e. 23 lbs. Calcium Carbonate Limestone.
f. 23 lbs. Dolomitic Limestone (Ag66 or equal)
g. 1.5 lbs. Calcium Sulfate (gypsum).
2. Seeded/Sod/Hydroseeded Lawn areas:
a. 10 lbs. Organic 10N-10P-5K.
b. 15 lbs. Bloodmeal.
c. .9 oz. Laundry Borax
d. 23 lbs. Calcium Carbonate Limestone.
e. 23 lbs. Dolomitic Limestone (Ag66 or equal)
f. 11.5 lbs. Calcium Sulfate (gypsum).
3. Backfill soil mixture- For all tree and shrub plantings.
a. To each cubic yard of excavated planting bed soil, thoroughly mix the following ingredients for backfill:
1. 1/3 cubic yards by volume specified Textural Soil Amendments.
2. Fertilizers as per Soils laboratory test.

3.04 INSTALLATION OF ROOT CONTROL BARRIER:
A. Install root control barrier on all trees located within 8 feet of any paved/concrete surface, curb or wall.
B. Center root control barrier on trunk of tree.
C. Install root control barrier adjacent to back of sidewalk, pavement, curb and/or wall.
D. Install so top of root control barrier is 1"-2" below top of finish grade, curb or other adjacent paved surface.
E. Install root control barrier per manufacturer's recommendations and specifications.

3.05 PLANTING TREES, SHRUBS AND GROUNDCOVERS:
A. Install plant material in the following order: trees, shrubs/ornamental grasses, groundcover.
B. Test tree, shrub and groundcover planting holes for adequate drainage. Fill hole with water. If water does not drain away in 1 hour, do not plant and notify Landscape Architect immediately.
C. All planting holes shall be excavated twice the diameter of the tree, shrub or groundcover root ball or root system.
D. Plant upright and face to give best appearance or relationship to plants, structures, fences, walls, etc.
E. Loosen and remove twine binding and burlap from around top 2/3 of each rootball. Pull no burlap from under balls.
F. Cut off cleanly all broken or frayed roots.
G. Place and compact backfill soil mixture carefully to avoid injury to roots, and fill all voids.
H. When hole is nearly filled, completely soak with water and allow water to soak away.
I. Fill holes to finish grade and prepare for other work indicated.
J. Provide 2" water ring at base of each tree. Remove at end of contract period maintenance.

3.06 FINISH GRADES:
A. Establish slopes in accordance with Civil grading plan.
1. Fine grade to uniform slopes, free of low spots or irregularities. Allow no ponding of water.
2. Slope grades away from all structures.
3. Slope grades to all area drains and catch basins as per Civil grading plan. Allow no ponding of water.
4. Verify with Civil Engineer that finish grades meet Civil grading plan prior to planting.
B. Grade planting bed soil 3" below bordering pavement or curb elevations prior to application of mulch.
C. Grade sod lawn areas 2" below bordering pavement or curb elevations prior to installation of sod.
D. Grade seeded lawn areas 1" below bordering pavement or curb elevations prior to seeding.

3.07 INSTALLATION OF EROSION CONTROL FABRIC:
A. Install on all slopes 2-1/2H:1V and greater.
B. Install as per manufacturer's recommendations and specifications with manufacturer's staples.

3.08 PLANTING BED MULCH:
A. Mulch all shrub planting beds with a 2" minimum layer.
B. Apply evenly to all visible areas, within two (2) days after planting.

3.09 INSTALLATION OF SOD:
A. Sodbed Preparation:
1. Immediately prior to laying sod, bring areas to an even, smooth machine grade, removing all hard or soft areas and removing irregularities that impede surface drainage or cause puddling.
2. Install as per grower's recommendations.
3. Fertilize with Bloodmeal (10 lbs. per 1,000 sq. ft.) two weeks after installation and again at end of maintenance period.
B. Install 6" wide bark mulch strip where lawn areas abut buildings, fences, walls, utility appurtenances, etc.

3.10 INSTALLATION OF SEEDED LAWN:
A. Seedbed Preparation:
1. Immediately prior to seeding, bring areas to an even, smooth machine grade, removing all hard or soft areas and removing irregularities that impede surface drainage or cause puddling.
B. Sowing of Seed:
1. Apply seed at at rate of 8 lbs. per 1000 sq. ft. Transverse all areas a minimum of two times to achieve maximum seed distribution.
2. Lightly rake seed bed to cover seed evenly over al areas at a depth not to exceed 1/4".
3. Irrigate immediately after raking with fine droplet sprinklers to wet surface and slowly penetrate soil to a several inch depth without eroding surface soils. Maintain soil moisture adequate to germinate and grow seed to a 2-inch stand. Apply Bloodmeal at a rate of 10 lbs. per 1000 sq. ft. at end of lawn maintenance period.
C. Install 6" wide bark mulch strip where lawn areas abut buildings, fences, walls, utility appurtenances, etc.

3.11 INSTALLATION OF HYDROSEEDED LAWN:
A. Seedbed Preparation:
1. Immediately prior to seeding, bring areas to an even, smooth machine grade, removing all hard or soft areas and removing irregularities that impede surface drainage or cause puddling.
B. Hydroseed Method:
1. Sow seed at a rate of 10 lbs. per 1,000 sq. ft.
2. Apply mulch at a rate of 50 lbs. per 1,000 sq. ft.
3. Apply tackifier at rate of 1.5 lbs. per 1,000 sq. ft.
4. Apply fertilizer at a rate of 1.5 lbs. per 1,000 sq. ft.
5. Apply seed, mulch, tackifier and fertilizer in a one-step application combining the appropriate components and weights to achieve the required rates of application.
C. Install 6" wide bark mulch strip where lawn areas abut buildings, fences, walls, utility appurtenances, etc.

3.12 CONTRACT PERIOD MAINTENANCE:
A. Begin immediately after planting of any type and continue for ninety (90) days after final written acceptance by Owner or Owner's Representative. Contractor to verify phasing.
B. Plantings:
1. Irrigate as required to establish plant materials.
2. Reset plants to proper grade or alignment.
3. Maintain bed areas weed-free.
4. Miscellaneous pruning as required.
5. Any action necessary to promote new plant establishment.
6. Replacement of immediate transplant losses.
7. Adjustment of tree staking and ties.
8. Dead-head spent flowers.
9. Bed lines smooth, lines straight, curves uniform and as shown on Landscape Plan.
C. Sod/Seeded/Hydroseeded Lawn:
1. Irrigate as required. Contractor is responsible for irrigation of all lawn areas until acceptance.
2. Re-seed eroded or bare areas at or before 21 days after original seeding date.
3. Mow grass at 1-1/2 inch height when any portion attains a 3 inch height. Allow clippings to remain as mulch.
4. Fertilize as specified herin.
5. Continue maintenance beyond minimum period if required to meet this specification. Acceptance upon achievement of a full, uniform, weed-free stand of grass.
6. Bed lines smooth, lines straight, curves uniform and as shown on Landscape Plan.

END OF SECTION 02950

OWNER/APPLICANT:
MINIT MANAGEMENT, LLC
P.O. BOX 5998
VANCOUVER, WA 98668
(360) 901-3875
FAX UNAVAILABLE
drhoads@tcgstores.com

CONTACT:
OLSON ENGINEERING, INC.
ATTN: MIKE ODREN
222 E. EVERGREEN BLVD.
VANCOUVER, WA 98660
(360) 695-1385
FAX (360) 695-8117
mikeo@olsonengr.com

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

PLOT: consultant3.ctb
FILE: J:\data\9000\9800\9820\9825\Planning\9825.p.siteplan.final.dwg

IRRIGATION AND LANDSCAPE SPECIFICATIONS FOR:
MINIT MANAGEMENT

OLSON ENGINEERING, INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA 98660
360-695-1385
503-289-9696

STATE OF WASHINGTON
REGISTERED LANDSCAPE ARCHITECT
MICHAEL R. ODREN
CERTIFICATE NO. 691

08/06/2020

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: MRO
DRAWN: MRO
CHECKED: MRO
DATE: AUGUST 2020
SCALE: H: 1" = 30' V:

MINIT MANAGEMENT
JOB NO. 9825.01.01

SHEET
LS3.0