

ABBREVIATIONS

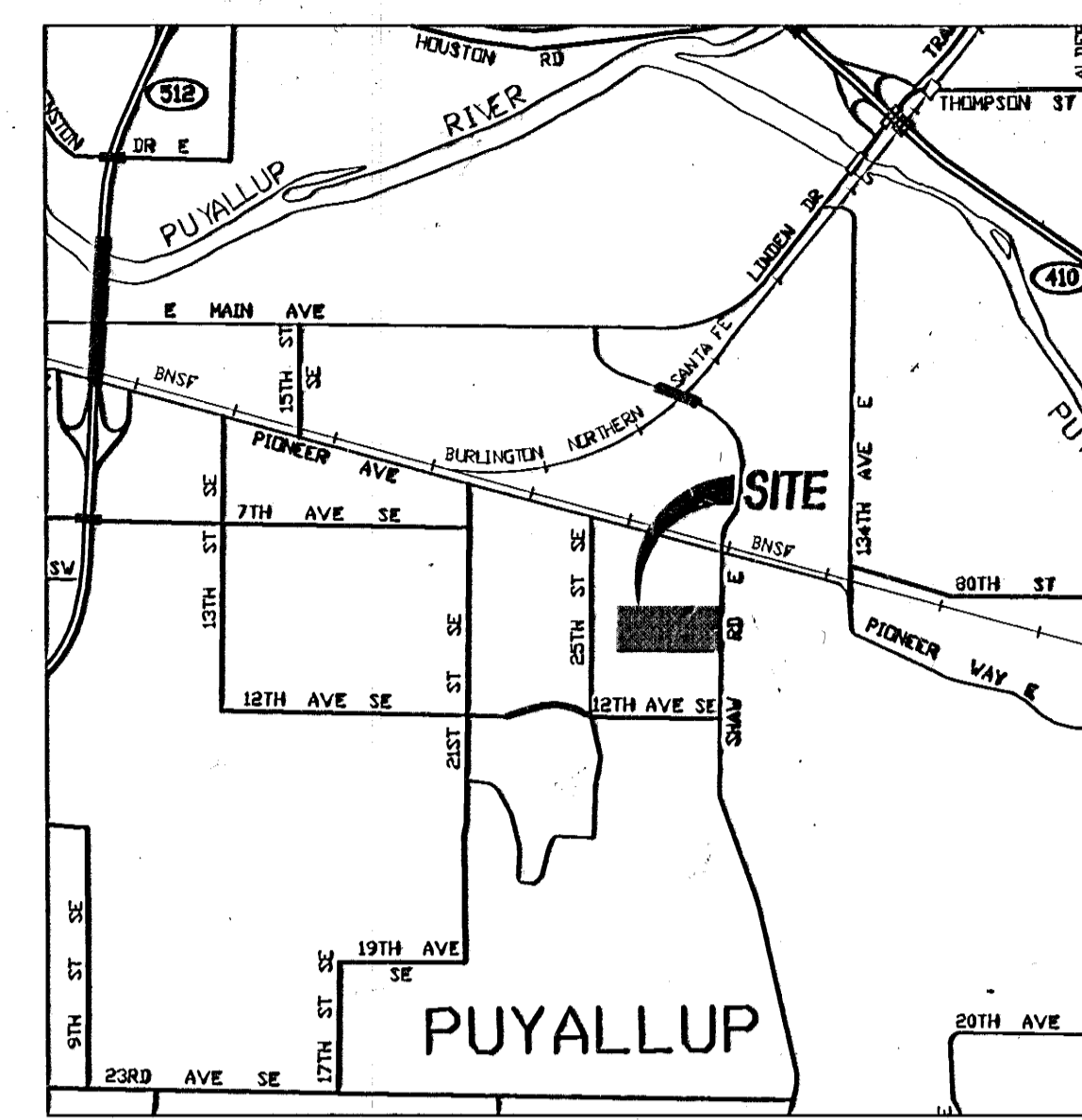
ABAND ABANDON	N NORTH
AC ASPHALT CONCRETE PAVEMENT	NG NOT IN CONTRACT
AD ANGLE POINT	NTS NOT TO SCALE
AP ARCHITECTURAL	O.C. ON CENTER
ASSEMBLY ASSEMBLY	PC POINT OF CURVE
AVE AVENUE	PIC POINT OF INTERSECTION
BLDG BUILDING	PIV POINT OF VERTICAL INTERSECTION
BVD BOULEVARD	PVT POINT OF VERTICAL TANGENT
BY BUTTERFLY VALVE	R RADIUS
C/L CENTERLINE	RR RAILROAD
CD CENTER DRAIN	R/W RIGHT-OF-WAY
CCP CEMENT CONCRETE PAVEMENT	RCR REINFORCED CONCRETE PIPE
CI CAST IRON	RS RESISTANT JOINT
CM CORRUGATED METAL PIPE	RT RIGHT
COMP COMPACTED	S SOUTH
CP CORRUGATED POLYETHYLENE PIPE	SD STORM DRAIN
CSTC CRUSHED SURFACING TOP COURSE	SDM STORM DRAIN MANHOLE
CV CUBIC YARD	SDR STANDARD DIMENSION RATIO
D DRAIN	SE SQUARE FEET
DI DUCTILE IRON	SEW SEWAGE
DM DIMETER	SEWED SEWAGE
DS DOWNSPOUT	SEWED SEWAGE
E EAST	SEWED SEWAGE
EA ENGRAINED CURB	SEWED SEWAGE
ELEV ELEVATION	SEWED SEWAGE
EP ELEVATION POINT	SEWED SEWAGE
ES ELEVATION SURFACE	SEWED SEWAGE
EXIST EXISTING	SEWED SEWAGE
F.F.E. FINISH FLOOR ELEVATION	SEWED SEWAGE
FL FIRE LINE	SEWED SEWAGE
FO FLOOR FINISH	SEWED SEWAGE
FT FOOT	SEWED SEWAGE
G.G.S. GAS VALVE	SEWED SEWAGE
H HEIGHT	SEWED SEWAGE
HDPE HIGH DENSITY POLYETHYLENE	SEWED SEWAGE
HORIZ HORIZONTAL	SEWED SEWAGE
IC INTEGRAL CURB	SEWED SEWAGE
IR INVERT ELEVATION	SEWED SEWAGE
IRR IRRIGATION	SEWED SEWAGE
KCRS KING COUNTY ROAD STANDARDS	SEWED SEWAGE
L LENGTH	SEWED SEWAGE
LF LEFT	SEWED SEWAGE
MAX MAXIMUM	SEWED SEWAGE
MDP MECHANICAL, ELECTRICAL, PLUMBING	SEWED SEWAGE
MIN MINIMUM	SEWED SEWAGE
MISC MECHANICAL JOINT	SEWED SEWAGE
MON MONUMENT	SEWED SEWAGE

COVER SHEET

A PORTION OF THE NW 1/4 & SW 1/4 OF SEC 10, T19N, R4E, W.M., CITY OF PUYALLUP, PIERCE COUNTY, WASHINGTON

SHEET	DRAWING DESCRIPTION
●	REPRESENTS SHEETS SUBMITTED
● C0.01b	COVER SHEET
● 1 OF 1	TOPOGRAPHIC SURVEY (FOR REFERENCE ONLY)
● C1.00b	DEMOLITION PLAN-EAST
● C1.01b	TEMPORARY EROSION & SEDIMENT CONTROL PLAN-EAST
● C1.02b	TEMPORARY EROSION & SEDIMENT CONTROL PLAN-WEST
● C1.11b	TEMPORARY EROSION & SEDIMENT CONTROL DETAILS
● C2.01b	SITE & SURFACING PLAN-EAST
● C2.02b	SITE & SURFACING PLAN-WEST
● C2.11b	SITE & SURFACING DETAILS
● C3.01b	GRADING PLAN-EAST
● C3.02b	GRADING PLAN-WEST
● C4.01b	STORM DRAINAGE PLAN-EAST
● C4.02b	STORM DRAINAGE PLAN-WEST
● C4.11b	GRADING, DRAINAGE, ESC & ROCKERY NOTES & DETAIL
● C4.12b	STORM DRAINAGE DETAILS
● C4.13b	STORM DRAINAGE DETAILS
● C4.14b	STORM DRAINAGE DETAILS
● C5.01b	UTILITY PLAN-EAST
● C5.11b	WATER DETAILS
● C5.12b	WATER & SEWER DETAILS & NOTES
● C5.13b	WATER DETAILS & NOTES
● C5.14b	WATER MAIN PROFILE

VICINITY MAP:



APPROVED BY *[Signature]*
 CITY OF PUYALLUP
 ENGINEERING DEPARTMENT
 DATE 10-24-07
 NOTES:
 THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

LEGAL DESCRIPTION

PARCEL 2 PIERCE COUNTY BOUNDARY LINE REVISION AS RECORDED WITH THE PIERCE COUNTY AUDITOR UNDER RECORDING NUMBER 200409085002.

VERTICAL DATUM:

PIERCE COUNTY BENCH MARI 56-1
 NGVD 29
 ELEV=62.16

BASIS OF BEARING:

PIERCE COUNTY BOUNDARY LINE REVISION, RECORDING NUMBER 200409085002.

PARCEL #

200409085002

PROJECT AREA:

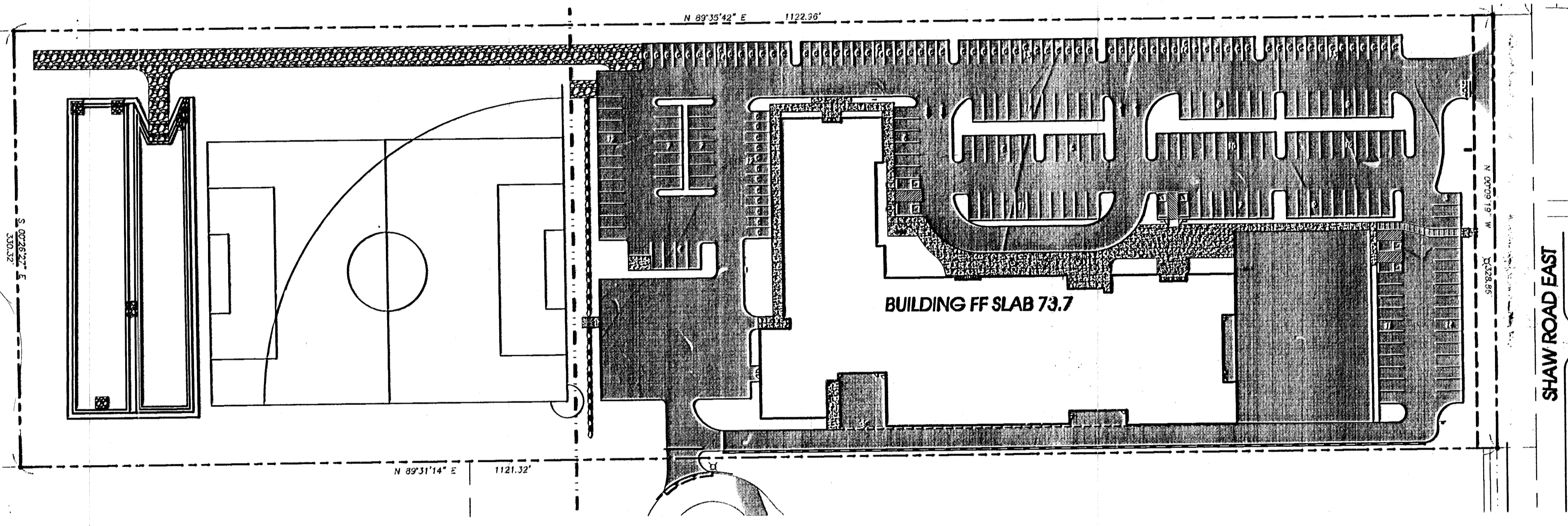
8.49 AC

NOTE:

THE PROJECT SITE IS IN AN 'A0' FLOOD PLAIN. THE HIGHEST ADJACENT GRADE OF THE SITE IS 72.7'. THIS IS THE HIGHEST CROWN ELEVATION IN SHAW ROAD. THE BUILDING FINISHED FLOOR ELEVATION IS SET AT 73.7, 1" HIGHER THAN THE HIGHEST ADJACENT GRADE.

CITY OF PUYALLUP GENERAL NOTES:

- ALL WORK IN CITY RIGHT OF WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE CONTRACTOR SHALL ARRANGE FOR A PRECONSTRUCTION MEETING AT THE DEVELOPMENT CENTER TO BE ATTENDED BY ALL MAJOR CONTRACTORS, REPRESENTATIVES OF INVOLVED UTILITIES, AND THE CITY OF PUYALLUP. CONTACT THE ENGINEERING DIVISION TO SCHEDULE THE MEETING (253-841-5481). THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR SET OF PLANS AT THE MEETING.
- AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A "PUNCH LIST" PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF IMPROVEMENTS.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS"), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "CITY STANDARDS").
- A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
- ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVAL BY THE DEVELOPER'S ENGINEERS AND THE CITY PRIOR TO ANY IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
- THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (1-800-424-5555) AT LEAST 48 HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
- ANY STRUCTURE AND/OR OBSTRUCTION WHICH REQUIRES REMOVAL OR RELOCATION RELATING TO THIS PROJECT SHALL BE DONE SO AT THE DEVELOPER'S EXPENSE.
- LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE ELEVATIONS AND LOCATIONS OF HIDDEN UTILITIES. ALL VISIBLE ITEMS SHALL BE THE ENGINEER'S RESPONSIBILITY.
- THE CONTRACTOR SHALL INSTALL, REPLACE, OR RELOCATE ALL SIGNS, AS SHOWN ON THE PLANS OR AS AFFECTED BY CONSTRUCTION, PER CITY STANDARD NOS. 111.1 AND 111.2.
- POWER, STREET LIGHT, CABLE AND TELEPHONE LINES SHALL BE IN A TRENCH LOCATED WITHIN A 10 FOOT UTILITY EASEMENT ADJACENT TO THE PUBLIC RIGHT-OF-WAY. RIGHT-OF-WAY CROSSINGS SHALL HAVE A MINIMUM HORIZONTAL SEPARATION FROM OTHER UTILITIES (SEWER, WATER, STORM) OF 5 FEET.
- ALL CONSTRUCTION SURVEYING FOR EXTENSIONS OF PUBLIC FACILITIES SHALL BE DONE UNDER THE DIRECTION OF A WASHINGTON STATE LICENSED LAND SURVEYOR OR A WASHINGTON STATE LICENSED PROFESSIONAL CIVIL ENGINEER.
- DURING CONSTRUCTION, ALL PUBLIC STREETS ADJACENT TO THIS PROJECT SHALL BE KEPT CLEAN OF ALL MATERIAL DEPOSITS RESULTING FROM ON-SITE CONSTRUCTION, AND EXISTING STRUCTURES SHALL BE PROTECTED AS DIRECTED BY THE CITY.
- CERTIFIED AS-BUILT DRAWINGS ARE REQUIRED PRIOR TO PROJECT ACCEPTANCE.
- A NPDES STORMWATER GENERAL PERMIT MAY BE REQUIRED BY THE DEPARTMENT OF ECOLOGY FOR THIS PROJECT. FOR INFORMATION CONTACT THE DEPARTMENT OF ECOLOGY AT (360) 407-8300.
- ANY DISTURBANCE OR DAMAGE TO CRITICAL AREAS AND ASSOCIATED BUFFERS, OR SIGNIFICANT TREES DESIGNATED FOR PRESERVATION AND PROTECTION SHALL BE MITIGATED IN ACCORDANCE WITH A MITIGATION PLAN REVIEWED AND APPROVED BY THE CITY'S PLANNING DIVISION. PREPARATION AND IMPLEMENTATION OF THE MITIGATION PLAN SHALL BE AT THE DEVELOPER'S EXPENSE.



CALL UTILITIES LOCATOR
 48 HOURS PRIOR TO DIGGING
 1-800-424-5555

10/24/07
 DESIGNED BY: [Name]
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 DATE: 10/24/07
 SHEET NO: 00010
 TOTAL SHEETS: 10
 PROJECT NO: 01000001-012
 PERMIT NO: [Number]

BCRA
 PUYALLUP 7TH DAY ADVENTIST SCHOOL
 2108 PACIFIC AVE SUITE 300 TACOMA, WASHINGTON 98402
 PHONE: (253) 627-4587 FAX: (253) 627-4589
 WWW.BCRAENGINEERING.COM

BCRA ENGINEERING
 10/24/07
 SHEET 1 OF 21
 C0.01b
 PERMIT SET

Date Plotted: 10/25/2007 1:17:51 PM Filename: X:\Studies\civil\050109\puyallup\sewermby\Coad\BCRA\01000001-plr2.dwg By: Danielle Herzy

DRAWING NUMBER
 7TH DAY ADVENTIST SCHOOL
 COVER SHEET
 DRAWING NUMBER
 DRAWING NUMBER

CITY OF PUYALLUP GRADING, EROSION & SEDIMENTATION CONTROL NOTES:

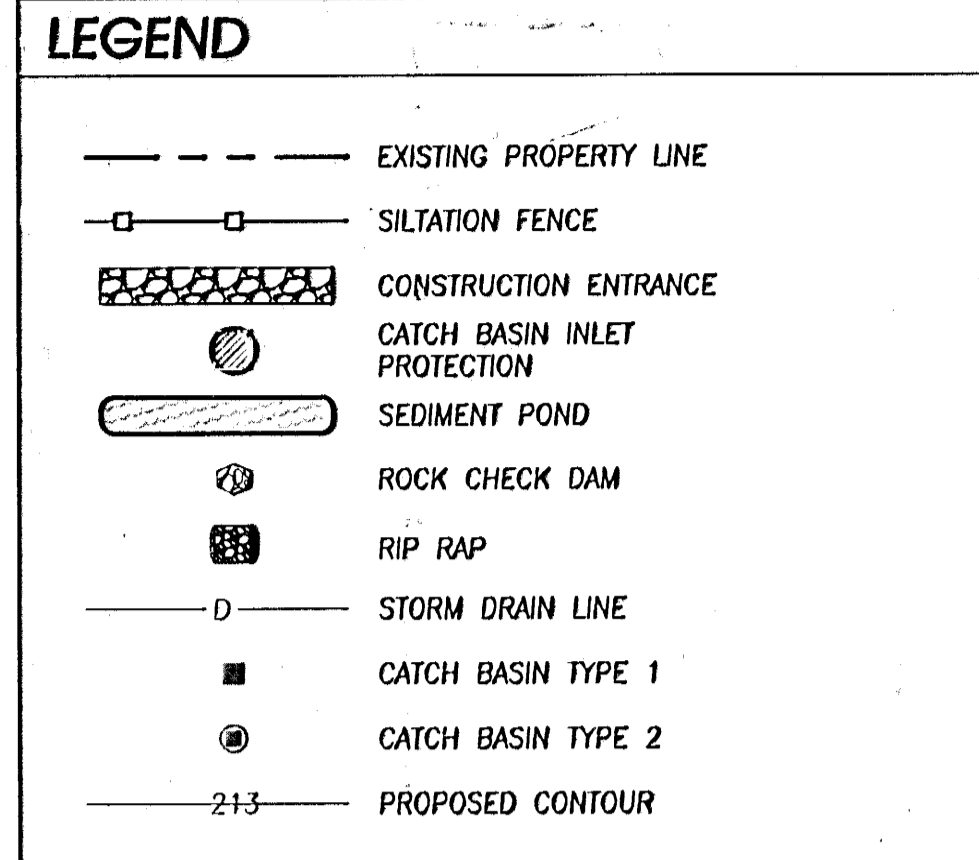
1. ALL WORK IN CITY RIGHT OF WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE GENERAL CONTRACTOR SHALL ARRANGE FOR A PRE-CONSTRUCTION MEETING AT THE DEVELOPMENT CENTER TO BE ATTENDED BY ALL MAJOR CONTRACTORS, REPRESENTATIVES OF INVOLVED UTILITIES, AND THE CITY OF PUYALLUP. CONTACT THE ENGINEERING DIVISION TO SCHEDULE THE MEETING (253-841-5481). THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR SET OF PLANS AT THE MEETING.
2. AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A "PUNCH LIST" PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE WATER SYSTEM AND PROVISION OF SANITARY SEWER SERVICE.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS"), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "CITY STANDARDS").
4. A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
5. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEERS AND THE CITY PRIOR TO ANY IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
6. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (1-800-424-5555) AT LEAST 48 HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
7. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
8. ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENTATION LOADED WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION AND SEDIMENT CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION AS DETERMINED BY THE CITY. UNTIL SUCH A TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED, THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.
9. THE EROSION AND SEDIMENTATION CONTROL SYSTEM FACILITIES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITTEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEM.

TEMPORARY EROSION AND SEDIMENT CONTROL PLAN - WEST

A PORTION OF THE NW 1/4 & SW 1/4 OF SEC 10, T19N, R4E,
W.M., CITY OF PUYALLUP, PIERCE COUNTY, WASHINGTON

CITY OF PUYALLUP GRADING, EROSION & SEDIMENTATION CONTROL NOTES:

10. APPROVAL OF THESE PLANS IS FOR GRADING, TEMPORARY DRAINAGE, EROSION AND SEDIMENTATION CONTROL ONLY. IT DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT STORM DRAINAGE DESIGN, SIZE OR LOCATION OF PIPES, RESTRICTORS, CHANNELS, OR RETENTION FACILITIES.
11. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 30 DAYS OR MORE, MUST BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF APRIL THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE PERMITTEE BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.
12. IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTIES, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL FURTHER AGGRAVATE THE SITUATION MUST CEASE, AND THE OWNER/CONTRACTOR WILL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
13. NO TEMPORARY OR PERMANENT STOCKPILING OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN CRITICAL AREAS OF ASSOCIATED BUFFERS, OR THE CRITICAL ROOT ZONE FOR VEGETATION PROPOSED FOR RETENTION.



REFER TO SITE SURVEY FOR A LEGEND OF EXISTING FEATURES. THE SITE SURVEY HAS BEEN INCLUDED AT THE BEGINNING OF THIS PLAN SET.

SHEET NOTES:

1. NOT USED
2. PROVIDE SILTATION FENCE PER CITY OF PUYALLUP STANDARD DETAIL NO. 210
3. CONSTRUCT 2-CELLED DETENTION POND, REFER TO SHEET C4.01 FOR COMPLETE INFORMATION.
4. NOT USED
5. PROVIDE TEMPORARY CONVEYANCE DITCH, MAINTAIN DITCH UNTIL ALL PERMANENT STORMWATER FACILITIES ARE INSTALLED.
6. PROVIDE RIP RAP AT TEMPORARY DITCH INVERT
7. PROVIDE ROCK CHECK DAM PER DETAIL
8. HYDROSEED AREA AND COVER WITH BIODEGRADABLE COCONUT AND STRAW FIBER MATRIX BLANKET. BLANKET SHALL BE STAKED WITH WOOD STAKES A MINIMUM OF 3' BEYOND THE TOP OF THE STREAM BANK.

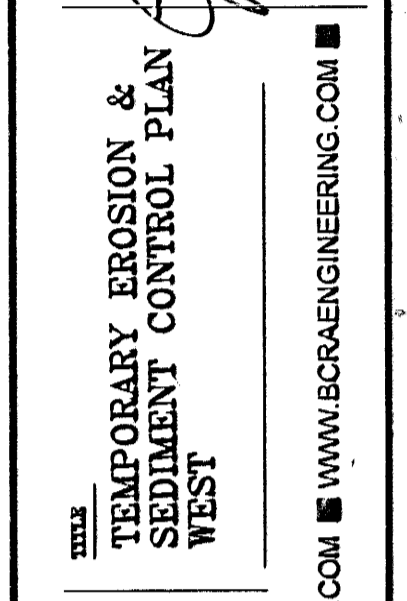
GENERAL NOTES:

1. REFER TO SHEET C1.00 FOR PROJECT CONSTRUCTION SEQUENCE.
2. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING CONSTRUCTION.
3. REFER TO SHEET C4.01 FOR DESIGN OF STORM DRAINAGE FEATURES NECESSARY FOR T.E.S.C.

APPROVED
BY *[Signature]*
CITY OF PUYALLUP
ENGINEERING DEPARTMENT
DATE 10-24-17

NOTE:
THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

DATE	10/24/17
DESIGNED BY	DAVID W. BROWN
CHECKED BY	DAVID W. BROWN
DATE	10/24/17
DESIGNED BY	DAVID W. BROWN
CHECKED BY	DAVID W. BROWN
DATE	10/24/17
DESIGNED BY	DAVID W. BROWN
CHECKED BY	DAVID W. BROWN

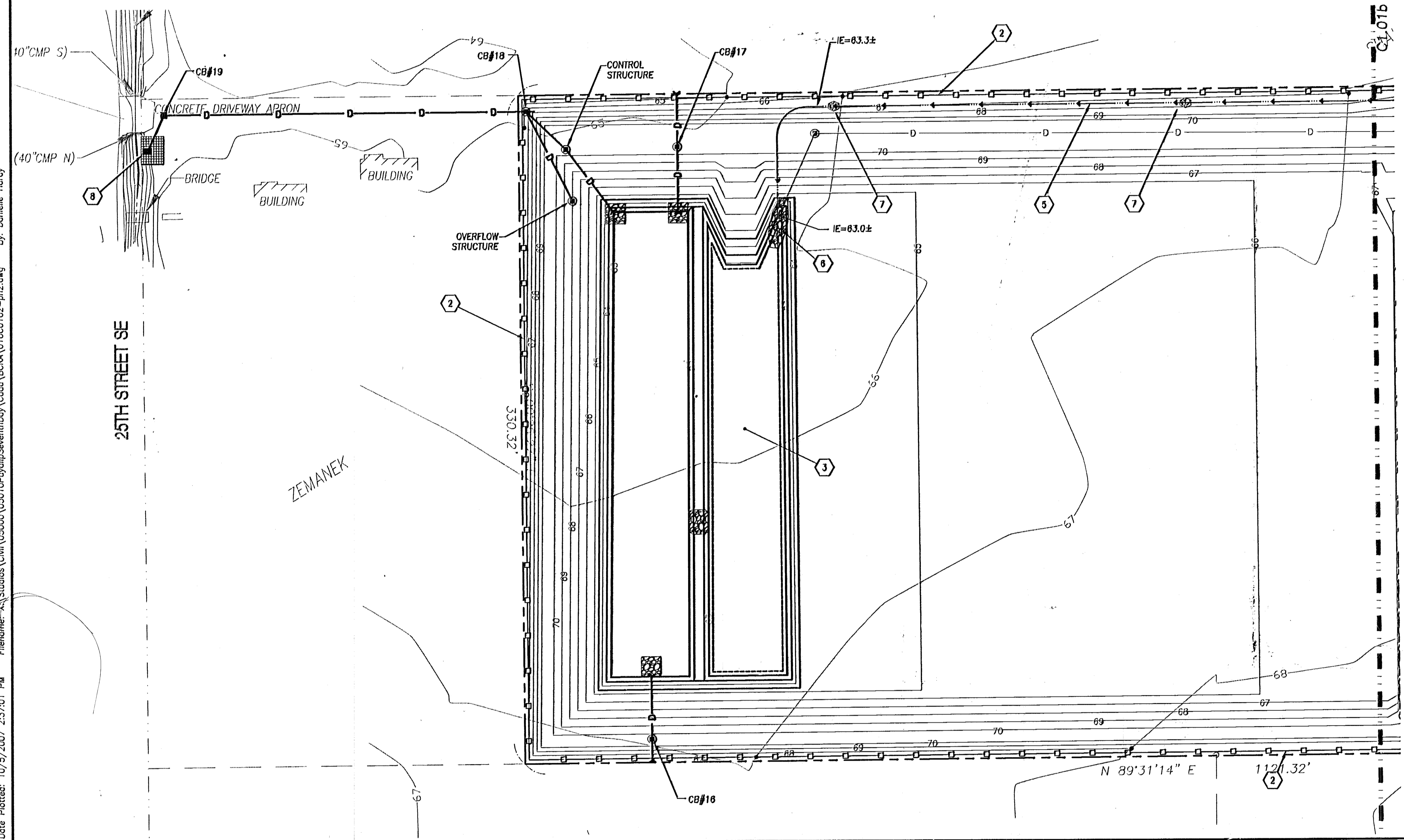


BCRA ENGINEERING
2108 PACIFIC AVE, SUITE 300
TACOMA, WASHINGTON 98402
PHONE: (253) 827-4387
FAX: (253) 827-4385
OFFICE@BCRAENGINEERING.COM
WWW.BCRAENGINEERING.COM

BCRA
PUYALLUP 7TH DAY
ADVENTIST SCHOOL
7TH DAY ADVENTIST SCHOOL
T.E.S.C. PLAN - WEST

CALL UTILITIES LOCATOR
48 HOURS PRIOR TO DIGGING
1-800-424-5555

SHEET 4 OF 21
C1.02b
PERMIT SET

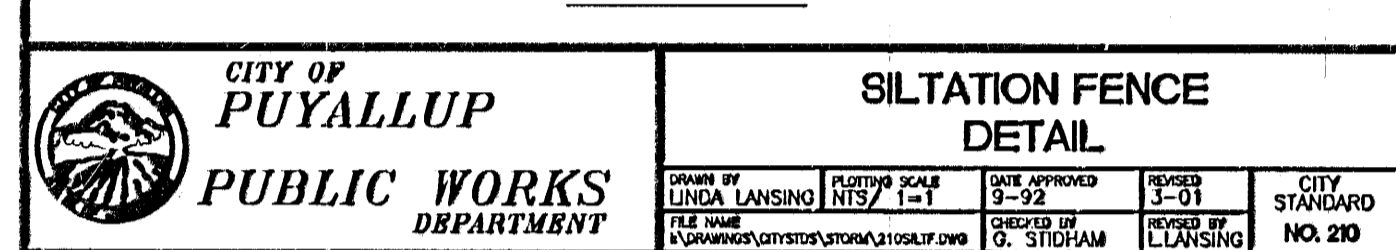
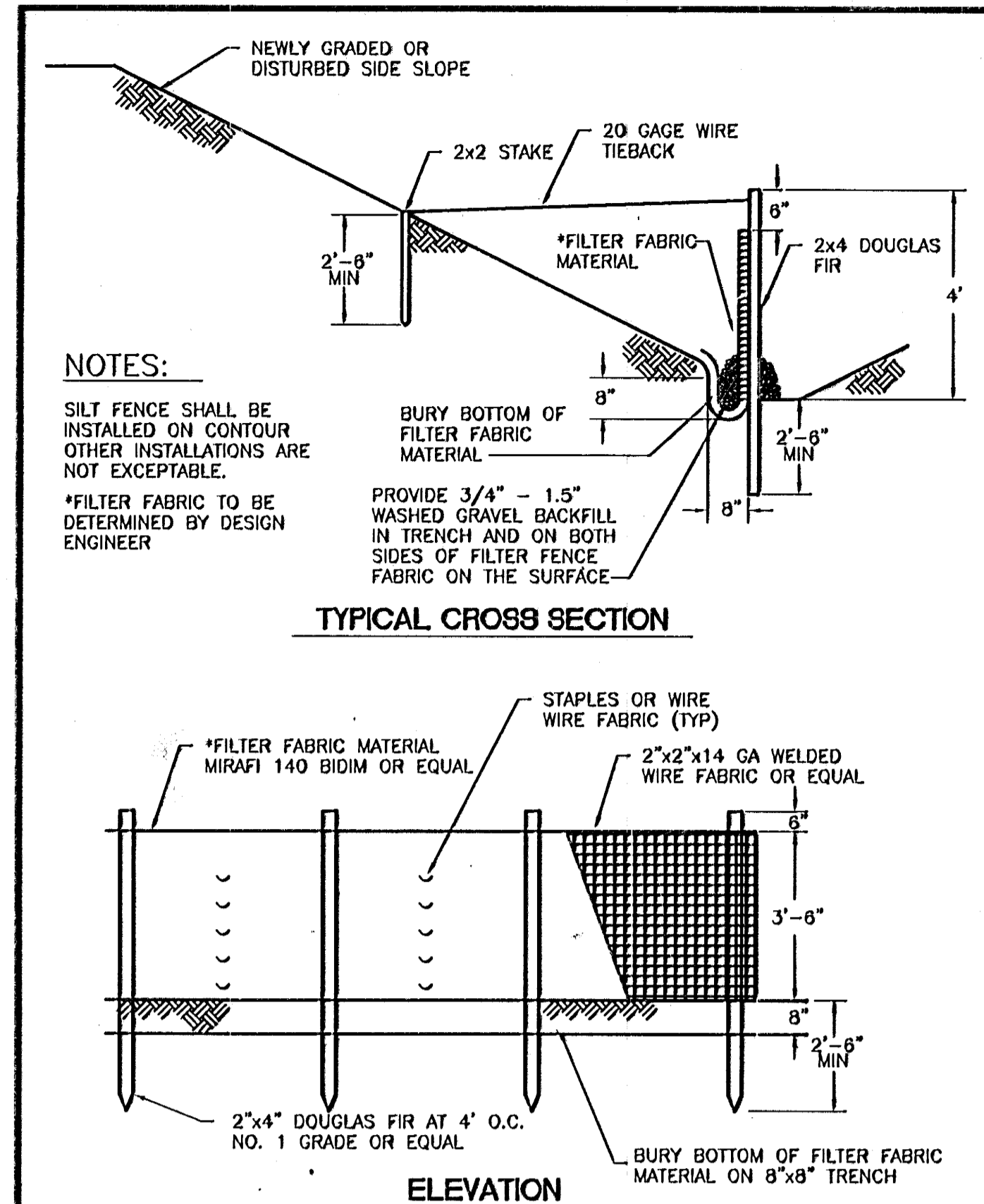


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By: Danielle Harcy

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TEMPORARY EROSION & SEDIMENT CONTROL DETAILS

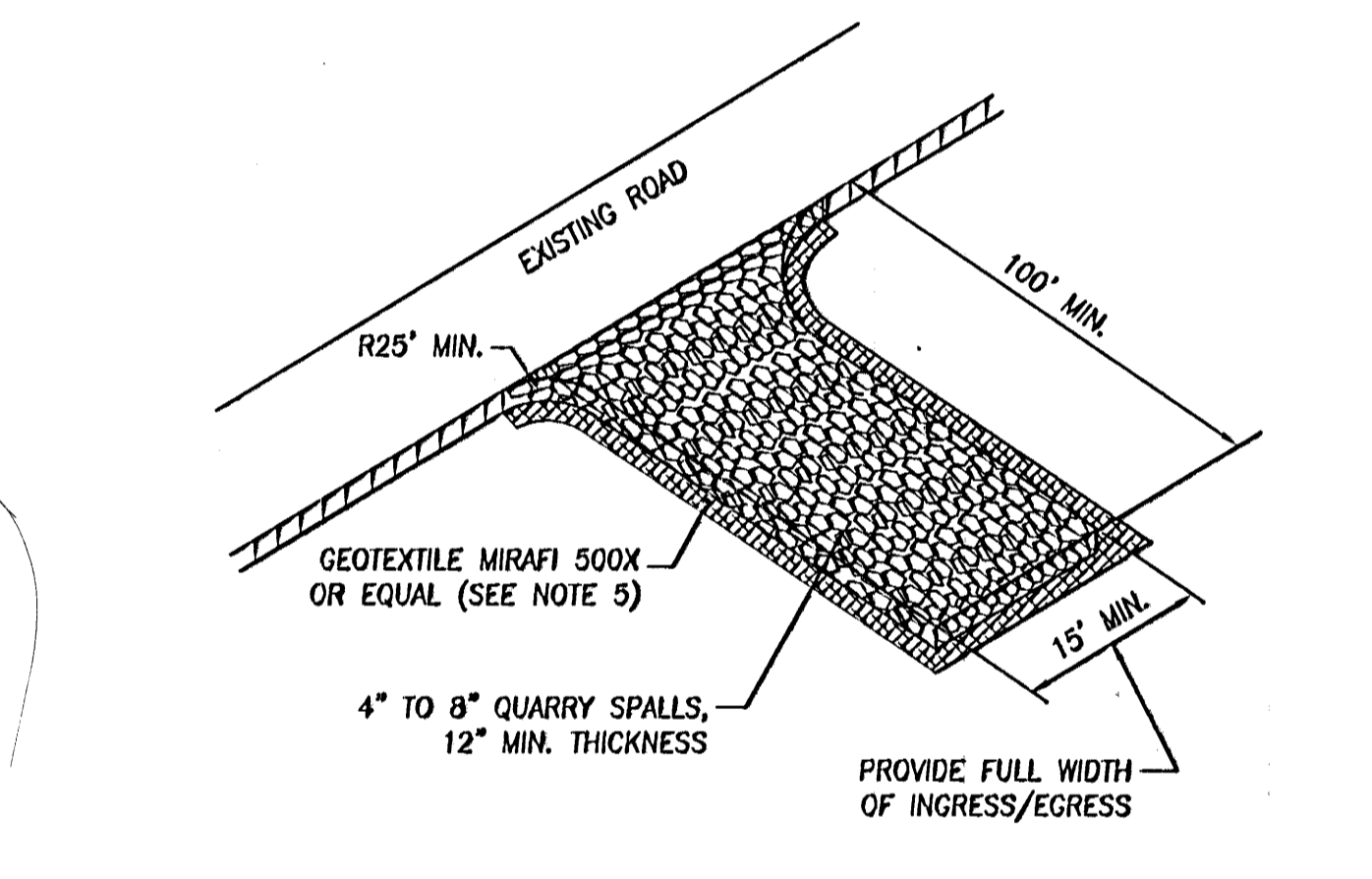
A PORTION OF THE NW 1/4 & SW 1/4 OF SEC 10, T19N, R4E,
W.M., CITY OF PUYALLUP, PIERCE COUNTY, WASHINGTON



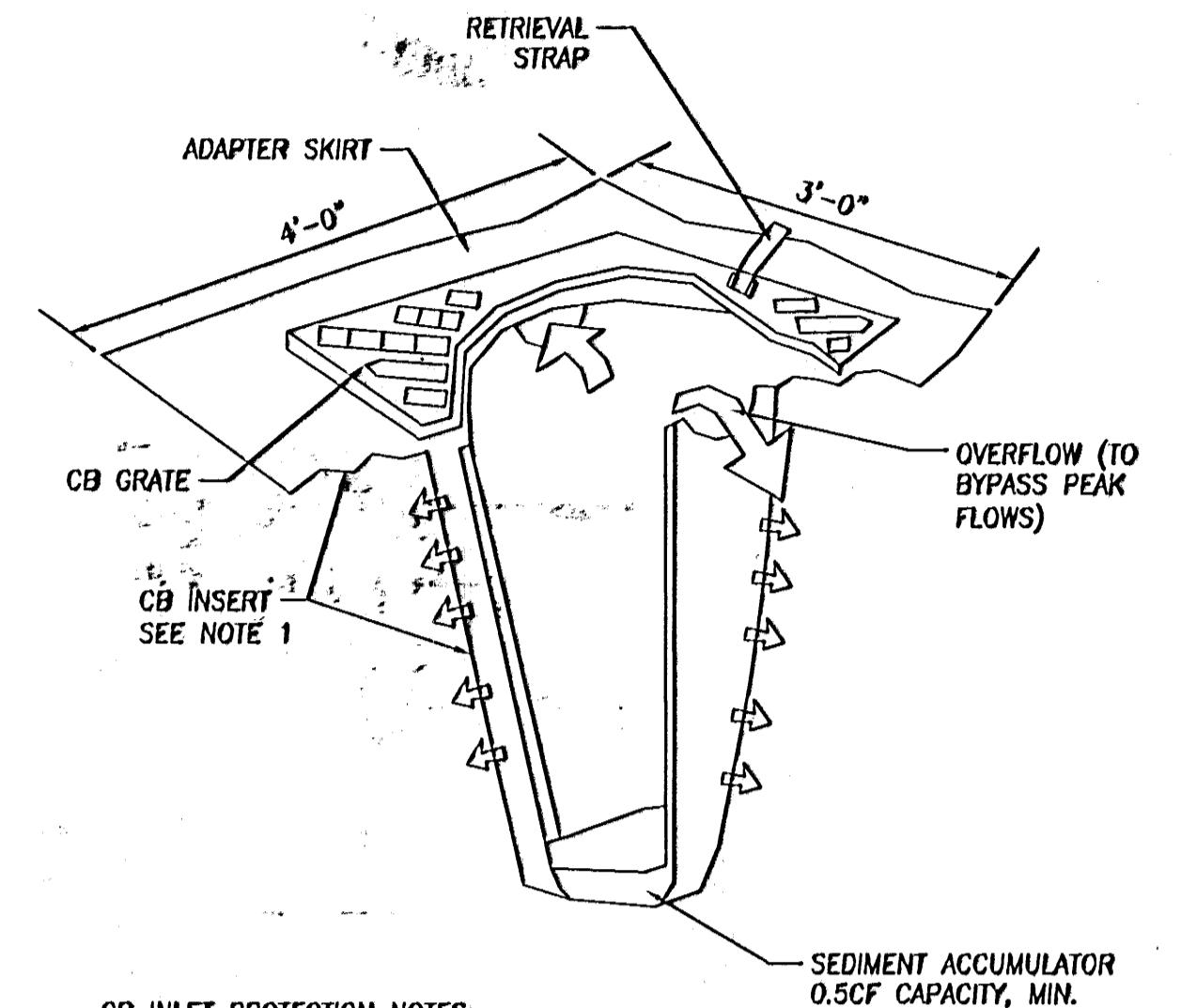
CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT	SILTATION FENCE DETAIL			
	DESIGNED BY LANSING	CHECKED BY JAY	DATE 10-24-07	NO. 20

SILTATION FENCE SCALE: NTS (A)

- CONSTRUCTION ENTRANCE NOTES:**
- MATERIAL SHALL BE 4-INCH TO 8-INCH QUARRY SPALLS AND MAY BE TOP-DRESSED WITH 1-INCH TO 3-INCH ROCK.
 - THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 100 FEET LONG. WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA.
 - ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
 - IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.
 - GEOTEXTILE MIRAFI 500X OR APPROVED EQUAL SHALL BE PLACED UNDER THE ENTIRETY OF THE TEMPORARY ENTRANCE.

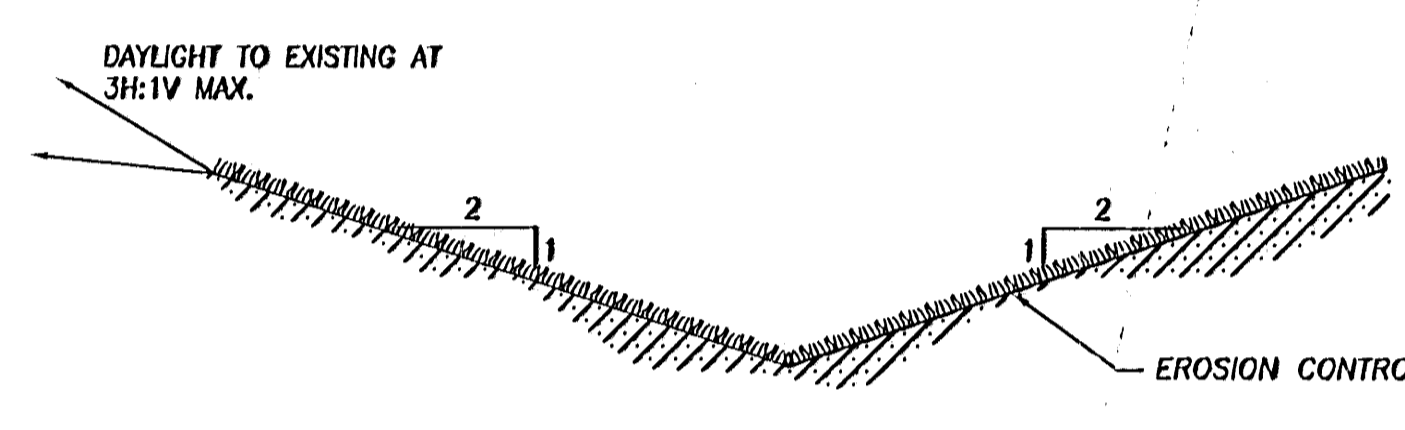


SCALE: NTS (B)



- CB INLET PROTECTION NOTES:**
- CATCH BASIN INSERT TO BE ULTRA-DRAINARD ITEM#9228 (PLASTIC ENGINEERED PRODUCTS CO., 1-800-407-3728), OR APPROVED EQUIVALENT.
 - FILTERS SHALL BE REMOVED AND CLEANED OR REPLACED AFTER EACH STORM EVENT.

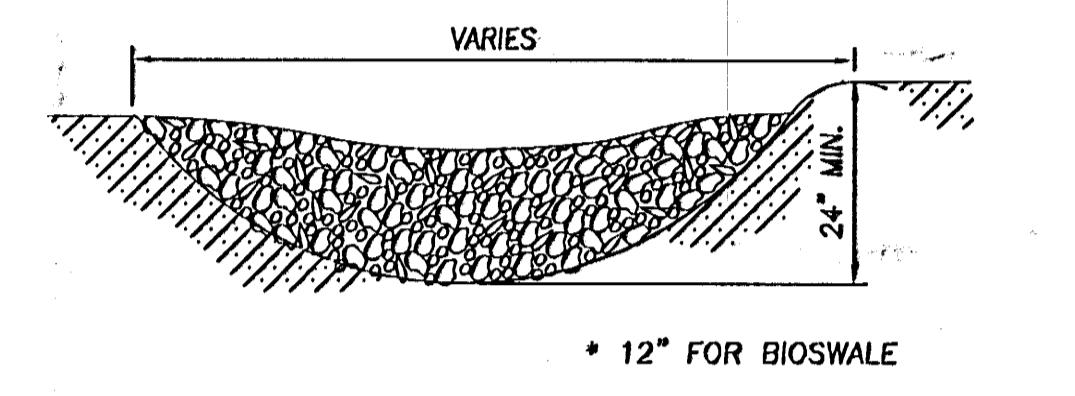
SCALE: NTS (C)



SCALE: NTS (D)

NOT USED SCALE: NTS (E)

- CHECK DAM NOTES:**
- THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
 - ROCK CHECK DAMS SHALL BE CONSTRUCTED OF 2- TO 4-INCH DIAMETER QUARRY SPALLS. THE QUARRY SPALLS MUST BE PLACED BY HAND OR MECHANICAL PLACEMENT (NO DUMPING OF SPALLS TO FORM DAM) TO ACHIEVE COMPLETE COVERAGE OF THE DITCH OR SWALE AND TO INSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
 - IN THE CASE OF GRASS-LINED DITCHES AND SWALES, CHECK DAMS SHALL BE REMOVED WHEN THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE. THE AREA BENEATH THE CHECK DAMS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER DAM REMOVAL.
 - CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH SIGNIFICANT RAINFALL. SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL DAM HEIGHT OR BEFORE.

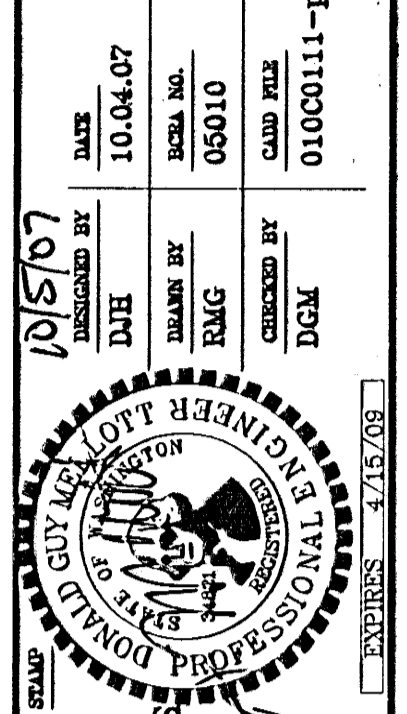


SCALE: NTS (F)

APPROVED
BY: *[Signature]*
CITY OF PUYALLUP
ENGINEERING DEPARTMENT
DATE: 10-24-07

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
FIELD CONDITIONS MAY OCCUR CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

DATE	10/24/07
DESIGN NO.	00010
ISSUED BY	DUK
CHECKED BY	DUK
DATE	10/24/07
PROJECT NO.	01000111-100



TEMPORARY EROSION & SEDIMENT CONTROL DETAIL
WWW.BCRAENGINEERING.COM

7TH DAY ADVENTIST SCHOOL
PACIFIC PUEBLO
PACIFIC PUEBLO, WASHINGTON

BCRA
ENGINEERING
2108 PACIFIC AVE, SUITE 300
TACOMA, WASHINGTON 98402
PHONE: (253) 827-4387
FAX: (253) 827-4385
OFFICE@BCRAENGINEERING.COM

CALL UTILITIES LOCATOR
48 HOURS PRIOR TO DIGGING
1-800-424-6666

SHEET 5 OF 21
C1.11b
PERMIT SET

Date Plotted: 10/5/2007 2:04:25 PM
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By: Danielle Roy

DRAWING NUMBER
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DRAWING NUMBER

CITY OF PUYALLUP STORMWATER NOTES:

- 1. ALL WORK IN CITY RIGHT OF WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE GENERAL CONTRACTOR SHALL ARRANGE FOR A PRE-CONSTRUCTION MEETING AT THE DEVELOPMENT CENTER TO BE ATTENDED BY ALL MAJOR CONTRACTORS, REPRESENTATIVES OF INVOLVED UTILITIES, AND THE CITY OF PUYALLUP. CONTACT THE ENGINEERING DIVISION TO SCHEDULE THE MEETING (253-841-5481). THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR SET OF PLANS AT THE MEETING.
2. AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A 'PUNCH LIST' PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE WATER SYSTEM AND PROVISION OF SANITARY SEWER SERVICE.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE 'STANDARD SPECIFICATIONS'), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE 'CITY STANDARDS').
4. A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
5. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEERS AND THE CITY PRIOR TO IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
6. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (1-800-424-5555) AT LEAST 48 HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
7. ANY STRUCTURE AND/OR OBSTRUCTION WHICH REQUIRES REMOVAL OR RELOCATION RELATING TO THIS PROJECT, SHALL BE DONE SO AT THE DEVELOPER'S EXPENSE.
8. DURING CONSTRUCTION, ALL EXISTING AND NEWLY INSTALLED DRAINAGE STRUCTURES SHALL BE PROTECTED FROM SEDIMENTS.
9. ALL STORM MANHOLES SHALL CONFORM TO CITY STANDARD NO. 201. FLOW CONTROL MANHOLE/OIL WATER SEPARATOR SHALL CONFORM TO CITY STANDARD NO. 205.
10. MANHOLE RING AND COVER SHALL CONFORM TO CITY STANDARD NO. 504.1. THE COVER SHALL BE MARKED WITH 'STORM' OR 'DRAIN' IN 2-INCH RAISED LETTERS. MINIMUM WEIGHT OF THE FRAME SHALL BE 210 POUNDS. MINIMUM WEIGHT OF THE COVER SHALL BE 150 POUNDS.
11. CATCH BASINS TYPE 1 SHALL CONFORM TO CITY STANDARD NO. 202 AND SHALL BE USED ONLY FOR DEPTHS LESS THAN 5 FEET FROM TOP OF THE GRATE TO THE INVERT OF THE STORM PIPE.
12. CATCH BASINS TYPE 2 SHALL CONFORM TO CITY STANDARD NO. 203 AND SHALL BE USED FOR DEPTHS GREATER THAN 5 FEET FROM TOP OF THE GRATE TO THE INVERT OF THE STORM PIPE.
13. CAST IRON OR DUCTILE IRON FRAME AND GRATE SHALL CONFORM TO CITY STANDARD NO. 204. GRATE SHALL BE MARKED WITH 'DRAINS TO STREET' IN 2-INCH RAISED LETTERS. UNLESS NOTED AS ROUND SHALL CONFORM TO WSDOT STANDARD PLAN B-2 (OLYMPIC FOUNDRY NO. SM60 OR EQUAL). VANED GRATES SHALL CONFORM TO WSDOT STANDARD PLAN B-2a (OLYMPIC FOUNDRY NO. SM60V OR EQUAL).
14. STORMWATER PIPE SHALL BE ONLY PVC, CONCRETE OR DUCTILE IRON PIPE.
A. THE USE OF ANY OTHER TYPE SHALL BE REVIEWED AND APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
B. PVC PIPE SHALL BE PER ASTM D3034, SDR 35 FOR PIPE SIZE 15-INCH AND SMALLER AND F79 FOR PIPE SIZES 18 TO 27-INCH. MINIMUM COVER ON PVC PIPES SHALL BE 3.0 FEET.
C. CONCRETE PIPE SHALL CONFORM TO THE WSDOT STANDARD SPECIFICATIONS FOR CONCRETE UNDERDRAIN PIPE. MINIMUM COVER ON CONCRETE PIPE SHALL NOT BE LESS THAN 3.0 FEET.
D. DUCTILE IRON PIPE SHALL BE CLASS 50, CONFORMING TO AWWA C151. MINIMUM COVER ON DUCTILE IRON PIPE SHALL BE 1.0 FOOT.
15. TRENCHING, BEDDING, AND BACKFILL FOR PIPE SHALL CONFORM TO CITY STANDARD NO. 503.
16. STORM PIPE SHALL BE A MINIMUM OF 10 FEET AWAY FROM BUILDING FOUNDATIONS AND/OR ROOF LINES.
17. ALL STORM DRAIN MAINS SHALL BE TELEVISION INSPECTED PRIOR TO FINAL ACCEPTANCE BY THE CITY. A COPY OF THE TAPE SHALL BE PROVIDED TO THE CITY.
18. AFTER ALL OTHER UTILITIES ARE INSTALLED AND PRIOR TO ASPHALT WORK, ALL STORM PIPE SHALL PASS A LOW PRESSURE AIR TEST IN ACCORDANCE WITH SECTION 7-04.3(4) OF THE STANDARD SPECIFICATIONS. PRODUCTS USED TO SEAL THE INSIDE OF THE PIPE ARE NOT TO BE USED TO OBTAIN THE AIR TEST.
19. ALL STORM DRAIN MAINS SHALL BE MANHOLED.
20. ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES, AND PROTECTIVE MEASURES FOR CRITICAL AREAS AND SIGNIFICANT TREES SHALL BE INSTALLED PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.

CITY OF PUYALLUP GRADING, EROSION & SEDIMENTATION CONTROL NOTES:

- 1. ALL WORK IN CITY RIGHT OF WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE GENERAL CONTRACTOR SHALL ARRANGE FOR A PRE-CONSTRUCTION MEETING AT THE DEVELOPMENT CENTER TO BE ATTENDED BY ALL MAJOR CONTRACTORS, REPRESENTATIVES OF INVOLVED UTILITIES, AND THE CITY OF PUYALLUP. CONTACT THE ENGINEERING DIVISION TO SCHEDULE THE MEETING (253-841-5481). THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR SET OF PLANS AT THE MEETING.
2. AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A 'PUNCH LIST' PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE WATER SYSTEM AND PROVISION OF SANITARY SEWER SERVICE.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE 'STANDARD SPECIFICATIONS'), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE 'CITY STANDARDS').
4. A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
5. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEERS AND THE CITY PRIOR TO IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
6. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (1-800-424-5555) AT LEAST 48 HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
7. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
8. ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENTATION LADEN WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION AS DETERMINED BY THE CITY, UNTIL SUCH A TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.

CITY OF PUYALLUP GRADING, ESC NOTES (CONTINUED):

- 9. THE EROSION AND SEDIMENTATION CONTROL SYSTEM FACILITIES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SITUATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITTEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEM.
10. APPROVAL OF THESE PLANS IS FOR GRADING, TEMPORARY DRAINAGE, EROSION AND SEDIMENTATION CONTROL ONLY. IT DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT STORM DRAINAGE DESIGN, SIZE OR LOCATION OF PIPES, RESTRICTORS, CHANNELS, OR RETENTION FACILITIES.
11. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 30 DAYS OR MORE, MUST BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF APRIL THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE PERMITTEE BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.
12. IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTIES, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL FURTHER AGGRAVATE THE SITUATION MUST CEASE, AND THE OWNER/CONTRACTOR WILL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
13. NO TEMPORARY OR PERMANENT STOCKPILING OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN CRITICAL AREAS OF ASSOCIATED BUFFERS, OR THE CRITICAL ROOF ZONE FOR VEGETATION PROPOSED FOR RETENTION.

CITY OF PUYALLUP ROCK RETAINING WALL NOTES:

MATERIALS:
ROCK QUALITY: ALL ROCK SHALL BE SOUND, UNWEATHERED, WEATHERING RESISTANT, ANGULAR LEDGE ROCK, THE LONGEST DIMENSION OF ANY INDIVIDUAL ROCK SHOULD NOT EXCEED THREE TIMES ITS SHORTEST DIMENSION. ACCEPTABILITY OF ROCK WILL BE DETERMINED BY LABORATORY TEST AS HEREINAFTER SPECIFIED, GEOLOGICAL EXAMINATION AND HISTORICAL USAGE RECORDS.
ALL ROCK DELIVERED TO AND INCORPORATED IN THE PROJECT SHALL MEET THE FOLLOWING MINIMUM SPECIFICATIONS:
A. ABSORPTION (CORPS OF ENGINEERS CRD-C 107) NOT MORE THAN 3.0%
B. ACCELERATED EXPANSION (15 DAYS) (COR-C-148) NOT MORE THAN 15.0%
BREAKDOWN: THE TEST SAMPLE WILL BE PREPARED AND TESTED IN ACCORDANCE WITH CORPS OF ENGINEERS TESTING PROCEDURE CRD-C-148. METHOD OF TESTING STONE FOR EXPANSIVE BREAKDOWN BY SOAKING IN ETHYLENE GLYCOL. TEST REQUIREMENTS OF NOT MORE THAN 15 PERCENT BREAKDOWN WILL BE COMPUTED BY DIVIDING THE NUMBER OF INDIVIDUAL PIECES OF INITIAL SAMPLE SUFFERING BREAKDOWN (THAT IS, SEPARATING INTO TWO OR MORE PIECES) BY THE TOTAL NUMBER OF INITIAL PIECES IN THE SAMPLE.
C. SOUNDNESS (M5304 AT 5 CYCLES) NOT GREATER THAN 5% LOSS
D. UNCONFINED COMPRESSIVE STRENGTH (ASTM D 2188-88 (REAPPROVED 1979)) INTACT STRENGTH OF 14,500 OR GREATER

FREQUENCY OF TESTING: QUARRY SOURCES OF ROCKERY ROCK SHALL BEGIN A TESTING PROGRAM WHEN EITHER BECOMING A SUPPLIER OR WHEN A NEW AREA OF THE SOURCE PIT IS OPENED. THE TESTS DESCRIBED IN ROCK QUALITY SECTION SHALL BE PERFORMED FOR EVERY FOUR THOUSAND (4000) TONS FOR THE FIRST TWELVE THOUSAND (12000) TONS OF MATERIAL BLASTED AND REMOVED TO ESTABLISH THAT SPECIFIC ROCK SOURCE. THE TESTS SHALL THEN BE PERFORMED ONCE A YEAR OR AT AN APPARENT CHANGE IN MATERIAL. IF PROBLEMS WITH A SPECIFIC AREA IN A PIT OR WITH A PARTICULAR MATERIAL ARE ENCOUNTERED, THE INITIAL TESTING CYCLE SHALL BE RESTARTED.

ROCK DENSITY: RECOGNIZING THAT NUMEROUS SOURCES OF ROCK EXIST, AND THAT THE NATURE OF ROCK WILL VARY NOT ONLY BETWEEN SOURCES BUT ALSO WITHIN EACH SOURCE, THE DENSITY OF ROCK SHALL RANGE BETWEEN ONE HUNDRED FIFTY-FIVE (155) AND ONE HUNDRED SIXTY FIVE (165) PCF. TYPICALLY, ROCKS USED FOR ROCKERY CONSTRUCTION SHALL BE SIZED APPROXIMATELY AS FOLLOWS:

ROCK SIZE ROCK WEIGHT
SMALL ONE MAN 58
LARGE ONE MAN 210
SMALL TWO MAN 285
LARGE TWO MAN 580
SMALL THREE MAN 760
LARGE THREE MAN 1650
SMALL FOUR MAN 3000
LARGE FOUR MAN 4000
FIVE MAN >5000
SIX MAN <5000

TWO AND ONE MAN ROCK, AND SOMETIMES SMALLER, ARE OFTEN USED TO FILL SURFACE GAPS ALONG THE TOP OF THE COMPLETED ROCKERY TO CREATE AN AESTHETICALLY PLEASING SURFACE. THIS IS AN ACCEPTABLE PRACTICE PROVIDED NONE OF THE EVENTS DESCRIBED IN CHANGES TO FINISHED PRODUCT SECTION OCCUR, AND THAT THE OWNER PREVENTS PEOPLE FROM CLIMBING OR WALKING ON THE COMPLETED ROCKERY.

IN ROCKERIES OVER EIGHT FEET IN HEIGHT, IT SHOULD NOT BE POSSIBLE TO MOVE THE LARGE SIZED ROCKS (FOUR TO SIX MAN SIZE) WITH A PRYBAR. IF THESE ROCKS CAN BE MOVED, THE ROCKERY SHOULD NOT BE CONSIDERED CAPABLE OF RESTRAINING ANY SIGNIFICANT LATERAL LOAD. HOWEVER, IT IS BOTH PRACTICAL AND EVEN DESIRABLE THAT SMALLER ROCKS, PARTICULARLY THOSE USED FOR 'CHINKING' PURPOSES, CAN BE MOVED WITH A PRYBAR TO ACHIEVE THE 'BEST FIT'.

SUBMITTALS: THE ROCK SOURCE SHALL PRESENT CURRENT, OR MOST RECENT, TEST DATA FOR THE TESTING DESCRIBED IN ROCK QUALITY SECTION ON REQUEST BY EITHER THE ROCKERY CONTRACTOR, THE CLIENT OR THE APPLICABLE MUNICIPALITY.

3.01 ROCKERY CONSTRUCTION:
3.01 GENERAL: ROCKERY CONSTRUCTION IS A CRAFT AND DEPENDS LARGELY ON THE SKILL AND EXPERIENCE OF THE BUILDER. A ROCKERY IS A PROTECTIVE SYSTEM WHICH HELPS TO RETARD THE WEATHERING AND EROSION PROCESS ON AN EXPOSED CUT OR FILL SOIL FACE, WHILE BY ITS NATURE (THE MASS, SIZE AND SHAPE OF THE ROCKS) IT WILL PROVIDE SOME DEGREE OF RETENTION. IT IS NOT A DESIGNED OR ENGINEERED SYSTEM IN THE SENSE A REINFORCED CONCRETE WALL WOULD BE CONSIDERED DESIGNED OR ENGINEERED. THE DEGREE OF RETENTION ACHIEVED IS DEPENDENT ON THE SIZE OF ROCK USED; THAT IS, THE MASS OR WEIGHT, AND THE HEIGHT OF THE WALL BEING CONSTRUCTED. THE LARGER THE ROCK, THE MORE COMPETENT THE WALL TO ACCOMPLISH THIS, ALL ROCKERIES IN EXCESS OF FOUR FEET IN HEIGHT SHOULD BE BUILT ON A 'MASS' BASIS.

ALL ROCKERIES CONSTRUCTED IN FRONT OF CUTS AND FILLS IN EXCESS OF EIGHT FEET IN HEIGHT SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THIS STANDARD AND THE GEOTECHNICAL ENGINEERS SUPPLEMENTAL RECOMMENDATIONS WHICH SHOULD BE PROVIDED BEFORE BIDDING OR THE START OF CONSTRUCTION. THE SAME GEOTECHNICAL ENGINEER SHOULD BE RETAINED TO MONITOR ROCKERY CONSTRUCTION AND TO VERIFY, IN WRITING, THAT THE ROCKERY WAS CONSTRUCTED IN GENERAL ACCORDANCE WITH THIS STANDARD AND WITH HIS SUPPLEMENTAL RECOMMENDATIONS, IN A PROFESSIONAL MANNER AND OF COMPETENT AND SUITABLE MATERIALS.

3.01.2 GEOTECHNICAL ENGINEER: THE GEOTECHNICAL ENGINEER RETAINED TO PROVIDE NECESSARY SUPPLEMENTAL ROCKERY CONSTRUCTION GUIDELINES SHALL BE A PRACTICING GEOTECHNICAL/CIVIL ENGINEER LICENSED AS A PROFESSIONAL CIVIL ENGINEER IN THE STATE OF WASHINGTON WHO HAS AT LEAST FOUR (4) YEARS OF PROFESSIONAL EMPLOYMENT AS A GEOTECHNICAL ENGINEER IN RESPONSIBLE CHARGE, INCLUDING EXPERIENCE WITH FILL CONSTRUCTION AND STABILITY AND ROCKERY CONSTRUCTION.

3.01.3 RESPONSIBILITY: THE ULTIMATE RESPONSIBILITY FOR ROCKERY 'DESIGN' AND CONSTRUCTION SHOULD REMAIN WITH THE ROCKERY BUILDER. HOWEVER, ROCKERIES PROTECTING MODERATE TO THICK FILLS, WITH STEEP SLOPING SURFACES ABOVE OR BELOW THEM, WITH MULTIPLE STEPS, WITH FOUNDATIONS OR OTHER LOADS AFFECTING THEM, PROTECTING SANDY OR GRAVELLY SOILS SUBJECT TO BLOWING, WITH SEEPAGE OR WET CONDITIONS, OR THAT ARE MORE THAN EIGHT FEET IN HEIGHT, ALL REPRESENT SPECIAL CONDITIONS AND REQUIRE CONSULTATION AND/OR ADVICE FROM QUALIFIED EXPERTS.

3.01.4 WORKMANSHIP: ALL WORKMANSHIP IS GUARANTEED BY THE ROCKERY CONTRACTOR AND ALL MATERIALS ARE GUARANTEED BY SUPPLYING QUARRY FOR A PERIOD OF SIX (6) YEARS FROM THE DATE OF COMPLETION OF ERECTION, PROVIDING NO MODIFICATION OR CHANGES TO THE CONDITIONS EXISTING AT THE TIME OF COMPLETION ARE MADE.

CITY OF PUYALLUP ROCK RETAINING WALL NOTES (CONTINUED):

- 3.01.5 CHANGES TO FINISHED PRODUCT: SUCH CHANGES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, EXCAVATION OF DITCHES OR TRENCHES WITHIN A DISTANCE OF LESS THAN 1.5 TIMES THE ROCKERY HEIGHT MEASURED FROM THE TOE OF THE ROCKERY, REMOVAL OF ANY MATERIAL FROM THE SUBGRADE IN FRONT OF THE ROCKERY'S HEIGHT, THE ADDITION OF ANY SURCHARGE OR OTHER LOADS WITHIN A SIMILAR DISTANCE OF THE TOP OF THE ROCKERY, OR SURFACE OR SUBSURFACE WATER FORCED, DIRECTED, OR OTHERWISE CAUSED TO FLOW BEHIND THE ROCKERY IN ANY QUANTITY.
3.01.6 SLOPES: SLOPES ABOVE ROCKERIES SHOULD BE KEPT AS FLAT AS POSSIBLE, BUT SHOULD NOT EXCEED 2:1 (HORIZONTAL:VERTICAL) UNLESS THE ROCKERY IS DESIGNED SPECIFICALLY TO PROVIDE SOME RESTRAINT TO THE LOAD IMPOSED BY THE SLOPE. ANY SLOPE EXISTING ABOVE A COMPLETED ROCKERY SHOULD BE PROVIDED WITH A VEGETATIVE COVER BY THE OWNER TO HELP REDUCE THE POTENTIAL FOR SURFACE WATER FLOW INDUCED EROSION. IT SHOULD CONSIST OF A DEEP ROOTED, RAPID GROWTH VEGETATIVE MAT AND TYPICALLY WILL BE PLACED BY HYDROSEEDING AND COVERED WITH A MULCH.
3.01.7 MONITORING: ALL ROCKERIES CONSTRUCTED AGAINST CUTS OR FILLS IN EXCESS OF EIGHT FEET IN HEIGHT SHALL BE PERIODICALLY MONITORED DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER TO VERIFY THE NATURE AND QUALITY OF THE BEING CONSTRUCTED IN A GENERALLY PROFESSIONAL MANNER AND IN ACCORDANCE WITH THIS STANDARD AND ANY SUPPLEMENTAL RECOMMENDATIONS.

ON COMPLETION OF THE ROCKERY, THE GEOTECHNICAL ENGINEER SHALL SUBMIT TO THE CLIENT, THE ROCKERY CONTRACTOR, AND TO THE APPROPRIATE MUNICIPALITY, COPIES OF HIS ROCKERY EXAMINATION REPORTS ALONG WITH A FINAL REPORT SUMMARIZING ROCKERY CONSTRUCTION.

3.01.8 FILL COMPACTION: WHERE ROCKERIES ARE CONSTRUCTED IN FRONT OF A FILL, IT IS IMPERATIVE THAT THE OWNER ENSURE THE FILL BE PLACED AND COMPACTED IN A MANNER THAT WILL PROVIDE A COMPETENT FILL MASS. TO ACHIEVE THIS GOAL, ALL FILL SHOULD CONSIST OF RELATIVELY CLEAN, ORGANIC AND DEBRIS FREE, GRANULAR MATERIALS WITH A MAXIMUM SIZE OF FOUR INCHES. IDEALLY, BUT PARTICULARLY IF PLACEMENT AND COMPACTION IS TO TAKE PLACE DURING THE WET SEASON, THEY SHOULD CONTAIN NO MORE THAN FIVE PERCENT FINES (SILT AND CLAY SIZE PARTICLES PASSING THE NUMBER 200 MESH SIEVE).

ALL FILLS SHOULD BE PLACED IN THIN LIFTS NOT EXCEEDING TEN INCHES IN LOOSE THICKNESS. EACH LIFT SHOULD BE COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM TESTING METHOD D-1557-78 (MODIFIED PROCTOR). BEFORE ANY ADDITIONAL FILL IS PLACED AND COMPACTED, IN-PLACE DENSITY TESTS SHOULD BE PERFORMED AT RANDOM LOCATIONS WITHIN EACH LIFT OF THE FILL TO VERIFY THIS DEGREE OF COMPACTION IS BEING ACHIEVED.

3.01.9 ROCK SELECTION: THE CONTRACTOR SHOULD HAVE SUFFICIENT SPACE AVAILABLE SO THAT HE CAN SELECT FROM AMONG A NUMBER OF STOCKPILED ROCKS FOR EACH SPACE IN THE ROCKERY TO BE FILLED. ROCKS WHICH HAVE SHAPES WHICH DO NOT MATCH THE SPACES OFFERED BY THE PREVIOUS COURSE OF ROCK SHOULD BE PLACED ELSEWHERE TO OBTAIN A BETTER FIT. ROCK SHOULD BE OF A GENERALLY CUBICAL, TABULAR OR SEMI-RECTANGULAR SHAPE. ANY ROCKS OF BASICALLY ROUNDED OR TETRAHEDRAL FORM SHOULD BE REJECTED OR USED FOR FILLING LARGE VOID SPACES.

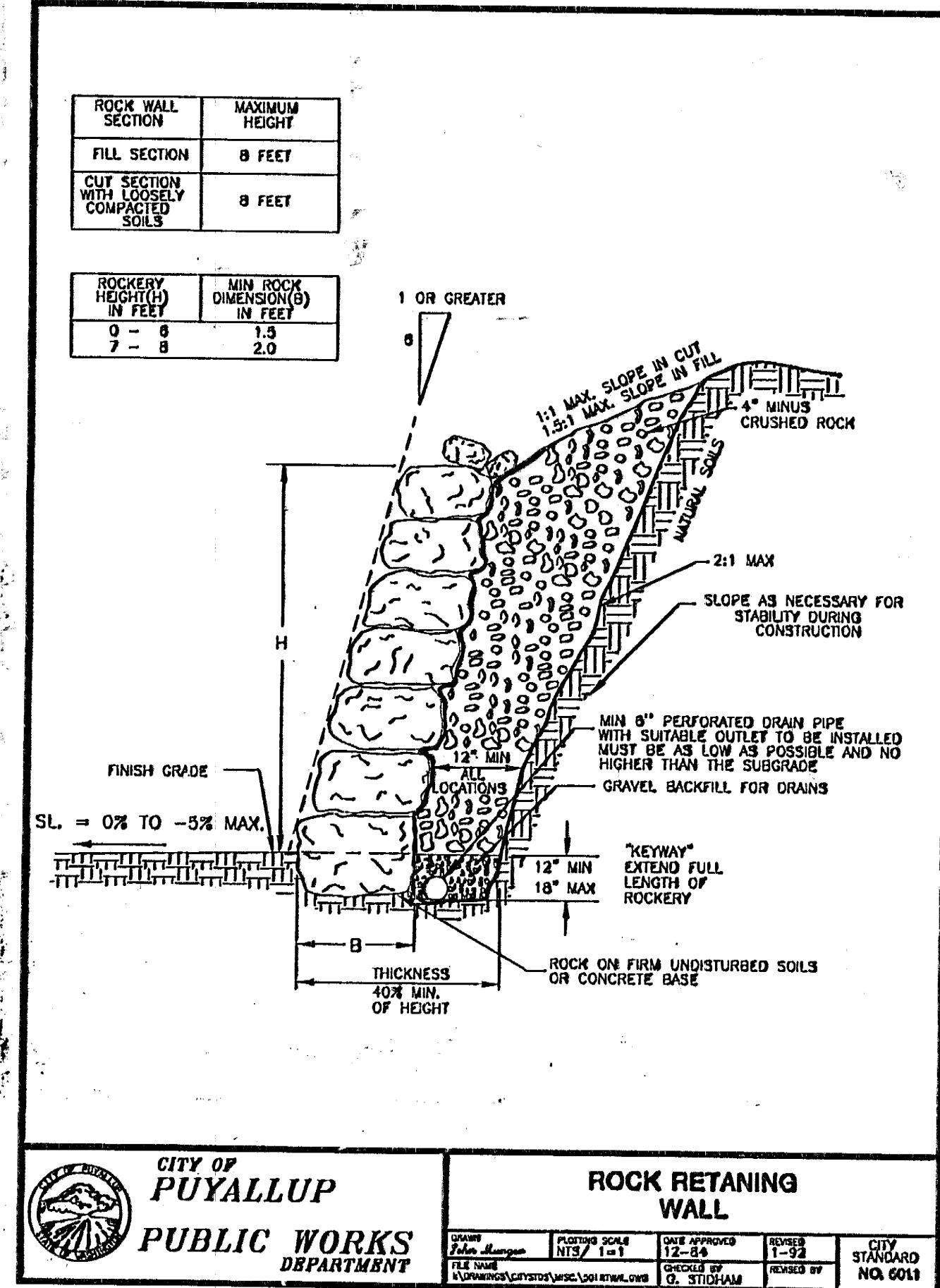
SMALLER ROCKS (ONE TO TWO-MAN SIZE OR SMALLER) ARE OFTEN USED TO CREATE AN AESTHETICALLY PLEASING 'TOP EDGE' TO A ROCKERY. THIS IS ACCEPTABLE PROVIDED NONE OF THE EVENTS DESCRIBED IN SECTION 3.01.5 OCCUR, AND THAT PEOPLE ARE PREVENTED FROM CLIMBING OR WALKING ON THE FINISHED ROCKERY. THIS IS THE OWNER'S RESPONSIBILITY.

ROCK PLACEMENT: THE FIRST COURSE OF ROCK SHOULD BE PLACED ON FIRM UNYIELDING SOIL. THERE SHOULD BE FULL CONTACT BETWEEN THE ROCK AND SOIL, WHICH MAY REQUIRE SHAPING OF THE GROUND SURFACE OR SLAMMING OR DROPPING THE ROCKS INTO PLACE AND TAMP CRUSHED ROCK INTO THE SUBGRADE TO TIGHTEN IT UP. THE BOTTOM OF THE FIRST COURSE OF ROCK SHOULD BE MINIMUM OF TWELVE (12) INCHES BELOW THE LOWEST ADJACENT SITE GRADE.

AS THE ROCKERY IS CONSTRUCTED, THE ROCKS SHOULD BE PLACED SO THAT THERE ARE NO CONTINUOUS JOINT PLANES IN EITHER THE VERTICAL OR LATERAL DIRECTION. EACH ROCK SHOULD BEAR ON AT LEAST TWO ROCKS BELOW IT. ROCKS SHOULD BE PLACED SO THAT THERE IS SOME BEARING BETWEEN FLAT ROCK FACES RATHER THAN ON JOINTS. JOINTS BETWEEN COURSES SHOULD SLOPE DOWNWARD TOWARDS THE MATERIAL BEING PROTECTED (AWAY FROM THE FACE OF THE ROCKERY).

3.01.10 VOIDS: WHERE VOIDS OF GREATER THAN SIX (6) INCHES IN DIMENSION EXIST IN THE FACE OF ROCKERY THEY SHOULD BE VISUALLY EXAMINED TO DETERMINE IF CONTACT BETWEEN THE ROCKS EXISTS WITHIN THE THICKNESS OF THE ROCKERY. IF CONTACT DOES EXIST, NO FURTHER ACTION IS REQUIRED. HOWEVER, IF THERE IS NO ROCK CONTACT WITHIN THE ROCKERY THICKNESS THE VOID SHOULD BE 'CHINKED' WITH A SMALLER PIECE OF ROCK. IF A VOID OF GREATER THAN SIX (6) INCHES EXISTS IN THE REAR FACE OF THE ROCKERY, IT SHOULD BE 'CHINKED' WITH A SMALLER ROCK.

3.01.11 SURFACE DRAINAGE: IT IS THE OWNER'S RESPONSIBILITY TO INTERCEPT SURFACE DRAINAGE FROM ABOVE THE ROCKERY AND DIRECT IT AWAY FROM THE ROCKERY TO A POSITIVE AND PERMANENT DISCHARGE WELL BELOW AND BEYOND THE TOE OF THE WALL. USE OF OTHER DRAINAGE CONTROL MEASURES SHOULD BE DETERMINED ON A CASE-BY-CASE BASIS BY THE GEOTECHNICAL ENGINEER PRIOR TO BIDDING ON THE PROJECT.



ROCKERY DETAIL SCALE: NTS (A)

CALL UTILITIES LOCATOR 48 HOURS PRIOR TO DIGGING 1-800-424-5555

APPROVED BY: [Signature] CITY OF PUYALLUP ENGINEERING DEPARTMENT DATE: 10-24-17

DATE: 10/24/17 DRAWN BY: [Name] CHECKED BY: [Name] DATE: [Date]

BCRA logo and contact information for BCR ENGINEERING & CONSULTING.

PUYALLUP 7TH DAY ADVENTIST SCHOOL logo and contact information.

BCRA logo and contact information for BCR ENGINEERING & CONSULTING.

PERMIT SRT SHEET 13 OF 21 C4.11b

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LEGEND	
---	EXISTING PROPERTY LINE
- - -	PROPOSED PROPERTY LINE
SS	SANITARY SEWER SERVICE LINE
W	WATER MAIN LINE
- - -	WATER MAIN EASEMENT
WM	WATER METER
▶	REDUCER
▲	THRUST BLOCK
▼	GATE VALVE
F	FIRE WATER LINE
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
PIV	POST INDICATOR VALVE
G	GAS LINE
GM	GAS METER
D	STORM DRAIN LINE
CB	CATCH BASIN TYPE 1
CB	CATCH BASIN TYPE 2

UTILITY PLAN - EAST

A PORTION OF THE NW 1/4 & SW 1/4 OF SEC 10, T19N, R4E,
W.M., CITY OF PUYALLUP, PIERCE COUNTY, WASHINGTON

FIRE SPRINKLER NOTE

SPRINKLER SYSTEMS SHALL MEET THE FOLLOWING REQUIREMENTS:

A. UNDERGROUND FIRE SPRINKLER LINE TO BE SIZED BY FIRE PROTECTO ENGINEER.

B. A SEPARATE DETAILED PLAN OF THE UNDERGROUND FIRE SPRINKLER LINE SHALL BE APPROVED BY THE FIRE MARSHALL AND INSTALLED BY A WASHINGTON CERTIFIED LEVEL "U" CONTRACTOR IN ACCORDANCE WITH WAC 212-80-010.

UTILITY NOTES:

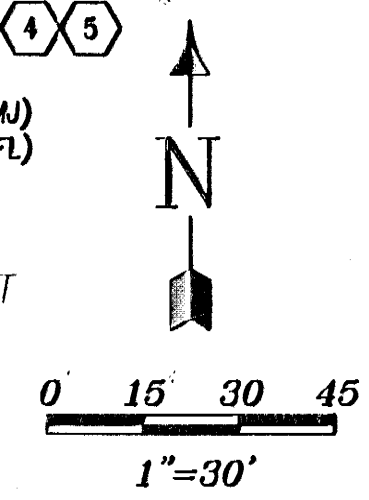
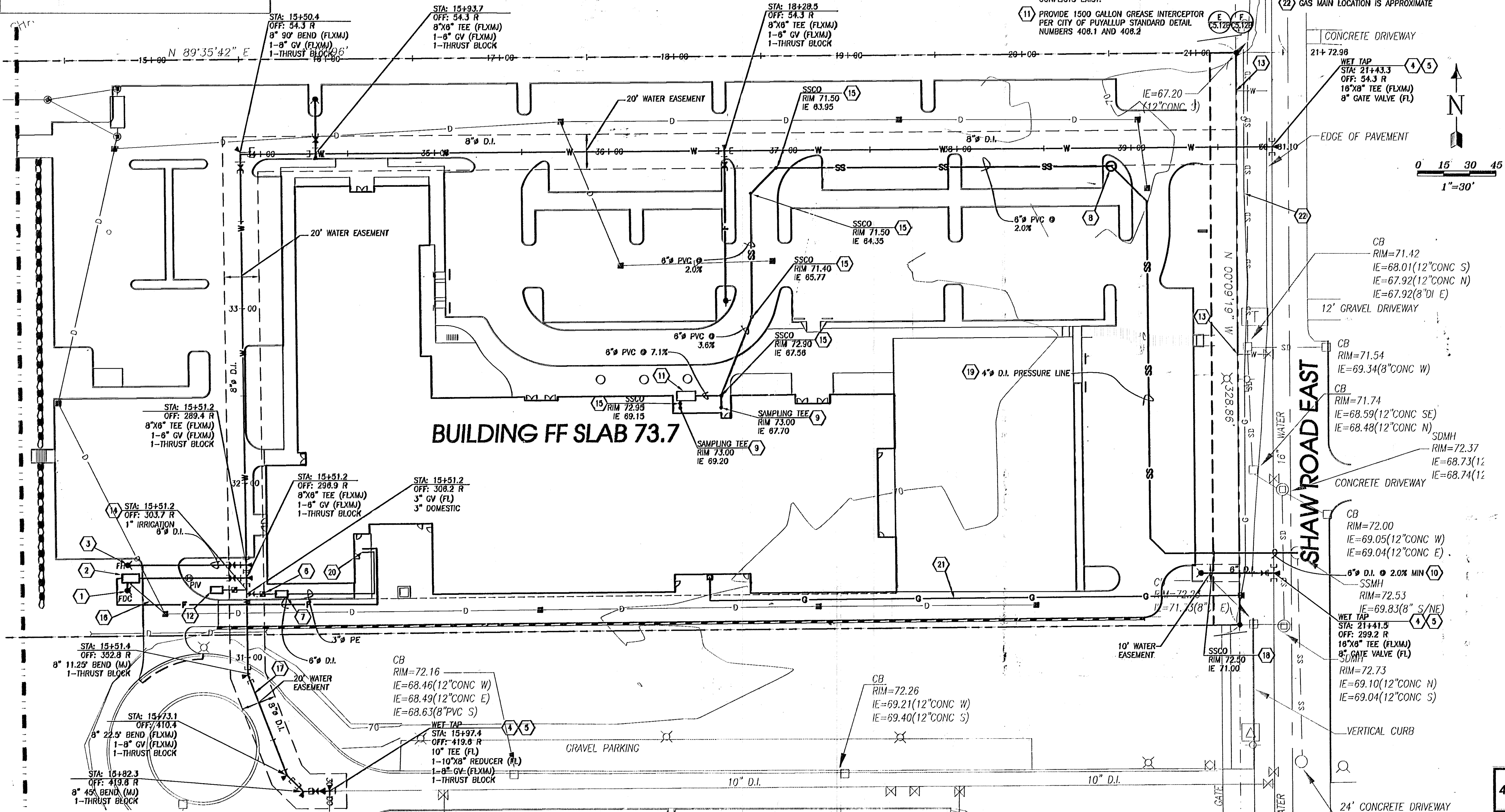
- INSTALL WATER VALVES AND MAIN PER CITY OF PUYALLUP STANDARD DETAIL NO. 301
- HORIZONTAL AND VERTICAL THRUST BLOCKING SHALL CONFORM TO CITY OF PUYALLUP STANDARD DETAILS NO. 302.1 AND 302.2
- NO UTILITY IMPROVEMENTS WILL BE NECESSARY FOR THE WEST PORTION OF THIS SITE.

SHEET NOTES:

- PROVIDE FIRE DEPARTMENT CONNECTION WITH IDENTIFICATION PLATE PER CITY OF PUYALLUP STANDARD DETAILS NO. 318.1 AND 318.2
- PROVIDE DOUBLE DETECTOR CHECK VALVE ASSEMBLY PER CITY OF PUYALLUP STANDARD DETAILS NO. 311.1 AND 311.2. REFER TO FIRE ENGINEER'S DESIGN FOR EXACT LOCATION.
- PROVIDE FIRE HYDRANT PER CITY OF PUYALLUP STANDARD DETAIL NO. 303
- FIELD VERIFY EXISTING WATER MAIN LOCATION AND INVERT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF CONFLICTS EXIST.
- CONTRACTOR TO PRESSURE TEST EXISTING MAIN AT NEAREST VALVE
- PROVIDE 3" DOMESTIC WATER METER PER CITY OF PUYALLUP STANDARD DETAIL NO. 303.1. THE METER SHALL BE A COMPOUND METER.
- PROVIDE 3" DOUBLE CHECK VALVE ASSEMBLY
- PROVIDE GRINDER PUMP STATION WITH HYDROMATIC SANX300 DUPLEX PUMP, CONCRETE WET WELL AND CONTROL PANEL PER DETAIL. PUMP STATION, ASSOCIATED APPURTENANCES, AND CONTROL PANEL TO BE PROVIDED BY PUMPTECH. CONTACT ERICK MERKLINGHAUS 425-544-8501.
- PROVIDE SIDE SEWER CONNECTION WITH SAMPLING CONNECTION PER CITY OF PUYALLUP STANDARD DETAIL NO. 405.3. REFER TO MECHANICAL PLANS FOR EXACT LOCATION AND INVERT OF CONNECTION AT BUILDING
- CONNECT 8" SIDE SEWER TO EXISTING SEWER MANHOLE. FIELD VERIFY SEWER MANHOLE LOCATION AND INVERT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF CONFLICTS EXIST.
- PROVIDE 1500 GALLON GREASE INTERCEPTOR PER CITY OF PUYALLUP STANDARD DETAIL NUMBERS 408.1 AND 408.2
- PROVIDE 1" DOUBLE CHECK VALVE ASSEMBLY FOR IRRIGATION LINE PER CITY OF PUYALLUP STANDARD DETAIL NO. 314
- PLUG SERVICE LINE AT THE MAIN. REMOVE SERVICE LINE ON SITE UP TO THE PROPERTY LINE.
- PROVIDE 1" WATER SERVICE CONNECTION FOR IRRIGATION LINE PER CITY OF PUYALLUP STANDARD DETAIL NO. 308
- PROVIDE SANITARY SEWER CLEANOUT PER DETAIL
- TIGHTLINE UTILITY VAULT WATER TO CB#11 WITH 4" PVC PIPE @ 1.0% MIN. SLOPE
- NOTIFY OWNER 7 DAYS BEFORE WORK IS SCHEDULED TO BEGIN ON PUYALLUP SCHOOL DISTRICT PROPERTY.
- PROVIDE CLEANOUT AT PROPERTY LINE AND TRANSITION PRESSURE SEWER LINE TO GRAVITY SIDE SEWER PER CITY OF PUYALLUP STANDARD DETAIL NO. 405.4
- PROVIDE INSULATED 10 GAUGE SOLID CORE COPPER TRACER WIRE ALONG LENGTH OF PRESSURE LINE. ALL SPLICES SHALL BE MADE USING WATER PROOF CONNECTORS.
- REFER TO MECHANICAL PLANS FOR EXACT LOCATION AND INVERT OF 3" DOMESTIC WATER LINE CONNECTION AT BUILDING.
- PROPOSED GAS SERVICE LINE SHOWN FOR REFERENCE ONLY. CONNECT GAS SERVICE LINE TO EXISTING GAS MAIN IN SHAW ROAD. COORDINATE INSTALLATION OF GAS SERVICE LINE AND METER WITH PUGET SOUND ENERGY. COORDINATE WITH MECHANICAL ENGINEER/PLUMBER FOR CONNECTION AT THE BUILDING.
- GAS MAIN LOCATION IS APPROXIMATE

APPROVED
BY: *[Signature]*
CITY OF PUYALLUP
ENGINEERING DEPARTMENT
DATE: 10-24-07

NOTES:
THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.



BCRA
BENTON COUNTY REGIONAL COMMUNITY AND RECREATION AUTHORITY

2108 PACIFIC AVE. SUITE 500 • TACOMA, WASHINGTON 98402 • PHONE: (253) 627-4887 • FAX: (253) 627-4885 • OFFICE@BCRAENGINEERING.COM • WWW.BCRAENGINEERING.COM

PROJECT: PUYALLUP 7TH DAY ADVENTIST SCHOOL
DRAWING NUMBER: UTILITY PLAN - EAST

DATE: 10/24/07
DRAWN BY: GUYLO
CHECKED BY: GUYLO
DATE: 10/24/07

PERMIT SET

CALL UTILITIES LOCATOR
48 HOURS PRIOR TO DIGGING
1-800-424-5555

C5.01b
SHEET 17 OF 21

Date Plotted: 10/25/2007 3:40:00 PM File Name: X:\Studies\Civil\050001\050100\puyallup\sewer\050100.dwg By: Danielle Hardy

WATER DETAILS

VALVE OPERATING NUT EXTENSION

NOTES:

1. ALL VALVE OPERATING NUTS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH SECTION 7 OF THE SPECIFICATIONS.
2. ALL VALVE OPERATING NUTS SHALL BE MADE OF STEEL, SHALL BE HEAVY DUTY, AND SHALL BE PROVIDED WITH A 1/2" DIA. HOLES FOR THE INSERTION OF A 1/2" DIA. PIN TO BE USED TO LOCK THE NUT TO THE VALVE BODY.
3. VALVE OPERATING NUTS SHALL BE PROVIDED WITH A 1/2" DIA. HOLES FOR THE INSERTION OF A 1/2" DIA. PIN TO BE USED TO LOCK THE NUT TO THE VALVE BODY.
4. VALVE OPERATING NUTS SHALL BE PROVIDED WITH A 1/2" DIA. HOLES FOR THE INSERTION OF A 1/2" DIA. PIN TO BE USED TO LOCK THE NUT TO THE VALVE BODY.
5. VALVE OPERATING NUTS SHALL BE PROVIDED WITH A 1/2" DIA. HOLES FOR THE INSERTION OF A 1/2" DIA. PIN TO BE USED TO LOCK THE NUT TO THE VALVE BODY.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

WATER VALVES AND MAINS

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

VERTICAL THRUST BLOCKING

TABLE 1: BEARING VALUE OF SOIL

SOIL TYPE	UNSATURATED	SATURATED	UNSATURATED	SATURATED	UNSATURATED	SATURATED
	4"	8"	12"	16"	20"	24"
ALLUVIAL SOIL	1000	2000	3000	4000	5000	6000
SOFT CLAY	2000	4000	6000	8000	10000	12000
FIRM CLAY	4000	8000	12000	16000	20000	24000
WET SAND	4000	8000	12000	16000	20000	24000
SAND AND CLAY MIXED	4000	8000	12000	16000	20000	24000
FINE CITY SAND	6000	12000	18000	24000	30000	36000
HARD CLAY	8000	16000	24000	32000	40000	48000
COARSE DRY SAND	12000	24000	36000	48000	60000	72000
GRAVEL	18000	36000	54000	72000	90000	108000
CEMENTED	20000	40000	60000	80000	100000	120000
HARDPAN OR HARD SHALE	40000	80000	120000	160000	200000	240000
MEDIUM ROCK	50000	100000	150000	200000	250000	300000
ROCK UNDER CONASSONS	60000	120000	180000	240000	300000	360000
HARD ROCK	100000	200000	300000	400000	500000	600000

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

VERTICAL THRUST BLOCKING

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

WATER VAULT DETAILS

1. A 1/4 HP SUMP PUMP SHALL BE INSTALLED IN THE SUMP PIT OF THE VAULT. IT SHALL BE WIRED PER WASHINGTON STATE ELECTRICAL CODE AND INSPECTED BY AT STATE ELECTRICAL INSPECTOR. THE DISCHARGE PIPE SHALL BE CONNECTED TO THE NEAREST APPROVED ON-SITE STORM DRAINAGE STRUCTURE OR DRAIN TO DAYLIGHT.
2. THE VAULT SHALL BE A PRECAST CONCRETE VAULT SIZED TO MEET THE CLEARANCE REQUIREMENTS SHOWN ON SETA. #310
3. REMOVABLE DOORS SHALL BE A MINIMUM OF 8'-0" X 3'-0" DIAMOND PLATE HINGED LOCKING DOORS, WITH HINGES LOCATED AT EACH END OF OPENING. DOORS SHALL HAVE AN 11-00 LOAD RATING IN AREAS THAT ARE SUBJECT TO VEHICLE TRAFFIC. DOORS SHALL BE SPRING LOADED WITH OPEN POSITION LOCK.
4. A GALVANIZED LADDER SHALL BE SET INSIDE THE VAULT FOR ACCESS INTO THE VAULT. IT SHALL BE SECURED TO THE VAULT WITH 1/2" DIA. BOLTS EXPOSED TO THE LADDER STEPS.
5. A SILCO LADDER UP SAFETY POST MODEL NO. 2 SHALL BE ATTACHED TO THE LADDER STEPS.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

WATER VAULT DETAILS

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

DOUBLE DETECTOR CHECK VALVE ASSEMBLY INSTALLATION

NOTES FOR: DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDOVA) INSTALLATION

1. INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY SHALL BE IN ACCORDANCE WITH THE ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL (HEREINAFTER), THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: THE CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 3100 39TH AVE SE PUYALLUP, WA 98374, PRIOR TO OCCUPANCY.
2. DDOVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
3. WATER METER SHALL BE A INVENSTY SR-2/CF OR AN APPROVED EQUAL, READING IN CUBIC FEET.
4. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
5. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT BUT NOT LESS THAN 10 FEET.
6. WHEN DDOVA IS LOCATED WITHIN A BUILDING, THE BALL GRIP SHALL DRAW TO THE NEAREST APPROVED CATCH BASIN.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

DOUBLE DETECTOR CHECK VALVE ASSEMBLY INSTALLATION

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

WATER VALVES AND MAINS SCALE: NTS (A)

VERTICAL THRUST BLOCKING SCALE: NTS (C)

WATER VAULT DETAILS SCALE: NTS (E)

DOUBLE DETECTOR CHECK VALVE SCALE: NTS (G)

HORIZONTAL THRUST BLOCKING

NOTES:

1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:
- A. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
- B. THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.
- C. CONCRETE SHOULD BE CURED FOR AT LEAST 3 DAYS AND SHOULD HAVE A COMPRESSIVE STRENGTH OF 2000 LBS. AT 28 DAYS.
- D. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESISTANT THRUST FORCE.
- E. ALL PIPE SHALL BE PROPERLY BEDED. SEE CITY OF PUYALLUP STANDARD BEDDING DETAILS.
- F. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
- G. CONCRETE TO BE PROPERLY BEDED. SEE CITY OF PUYALLUP STANDARD BEDDING DETAILS.
- H. AREAS TO BE ADJUSTED FOR OTHER PRESSURE CONDITIONS.
- I. PROVIDE TWO (2) MINIMUM DIAMETER RODS OR VALVES UP THROUGH 10" DIAMETER. VALVES LARGER THAN 10" REQUIRE SPECIAL TIE ROD DESIGN.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

HORIZONTAL THRUST BLOCKING

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

FIRE HYDRANT ASSEMBLY

NOTES:

1. ALL WORKMANSHIP SHALL BE AS SPECIFIED ON APPROVED EQUAL.
2. SAND BOX SHALL BE 18" DIA. AND SHALL BE 18" DEEP.
3. THE SAND BOX SHALL BE FILL WITH SAND TO THE TOP OF THE SAND BOX. THE SAND SHALL BE WASHED SAND (NO. 20) OR APPROVED EQUAL.
4. THE SAND BOX SHALL BE 18" DIA. AND SHALL BE 18" DEEP.
5. THE SAND BOX SHALL BE FILL WITH SAND TO THE TOP OF THE SAND BOX. THE SAND SHALL BE WASHED SAND (NO. 20) OR APPROVED EQUAL.
6. THE SAND BOX SHALL BE 18" DIA. AND SHALL BE 18" DEEP.
7. THE SAND BOX SHALL BE FILL WITH SAND TO THE TOP OF THE SAND BOX. THE SAND SHALL BE WASHED SAND (NO. 20) OR APPROVED EQUAL.
8. THE SAND BOX SHALL BE 18" DIA. AND SHALL BE 18" DEEP.
9. THE SAND BOX SHALL BE FILL WITH SAND TO THE TOP OF THE SAND BOX. THE SAND SHALL BE WASHED SAND (NO. 20) OR APPROVED EQUAL.
10. THE SAND BOX SHALL BE 18" DIA. AND SHALL BE 18" DEEP.
11. THE SAND BOX SHALL BE FILL WITH SAND TO THE TOP OF THE SAND BOX. THE SAND SHALL BE WASHED SAND (NO. 20) OR APPROVED EQUAL.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

FIRE HYDRANT ASSEMBLY

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

1 INCH WATER SERVICE CONNECTION

NOTES:

1. FOR SHALE FAMILY RESIDENTIAL CONSTRUCTION, THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: THE CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 3100 39TH AVE SE PUYALLUP, WA 98374, PRIOR TO OCCUPANCY.
2. DDOVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
3. WATER METER SHALL BE A INVENSTY SR-2/CF OR AN APPROVED EQUAL, READING IN CUBIC FEET.
4. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
5. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT BUT NOT LESS THAN 10 FEET.
6. WHEN DDOVA IS LOCATED WITHIN A BUILDING, THE BALL GRIP SHALL DRAW TO THE NEAREST APPROVED CATCH BASIN.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

1 INCH WATER SERVICE CONNECTION

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

DOUBLE DETECTOR CHECK VALVE NOTES

NOTES FOR: DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDOVA) INSTALLATION

1. INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY SHALL BE IN ACCORDANCE WITH THE ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL (HEREINAFTER), THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: THE CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 3100 39TH AVE SE PUYALLUP, WA 98374, PRIOR TO OCCUPANCY.
2. DDOVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
3. WATER METER SHALL BE A INVENSTY SR-2/CF OR AN APPROVED EQUAL, READING IN CUBIC FEET.
4. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
5. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT BUT NOT LESS THAN 10 FEET.
6. WHEN DDOVA IS LOCATED WITHIN A BUILDING, THE BALL GRIP SHALL DRAW TO THE NEAREST APPROVED CATCH BASIN.

CITY OF PUYALLUP PUBLIC WORKS DEPARTMENT

DOUBLE DETECTOR CHECK VALVE ASSEMBLY INSTALLATION

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

HORIZONTAL THRUST BLOCKING SCALE: NTS (B)

FIRE HYDRANT ASSEMBLY SCALE: NTS (D)

1 INCH WATER SERVICE CONNECTION SCALE: NTS (F)

DOUBLE DETECTOR CHECK VALVE NOTES SCALE: NTS (H)

CALL UTILITIES LOCATOR
 48 HOURS PRIOR TO DIGGING
 1-800-424-6666

APPROVED
 BY: *[Signature]*
 CITY OF PUYALLUP
 ENGINEERING DEPARTMENT
 DATE: 10-24-07

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
 FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

DATE: 10/04/07
 DRAWN BY: J. L. JENSEN
 CHECKED BY: J. L. JENSEN
 SCALE: NTS
 SHEET NO. 002

CITY OF PUYALLUP
 PUBLIC WORKS DEPARTMENT

WATER DETAILS

WWW.BCRAENGINEERING.COM

PUYALLUP 7TH DAY ADVENTIST SCHOOL

3100 39TH AVE SE PUYALLUP, WA 98374

PHONE: (253) 827-4387 FAX: (253) 827-4388

BCRA

3100 39TH AVE SE SUITE 308 PUYALLUP, WA 98374

PHONE: (253) 827-4387 FAX: (253) 827-4388

PERMIT 387

SHEET 18 OF 21

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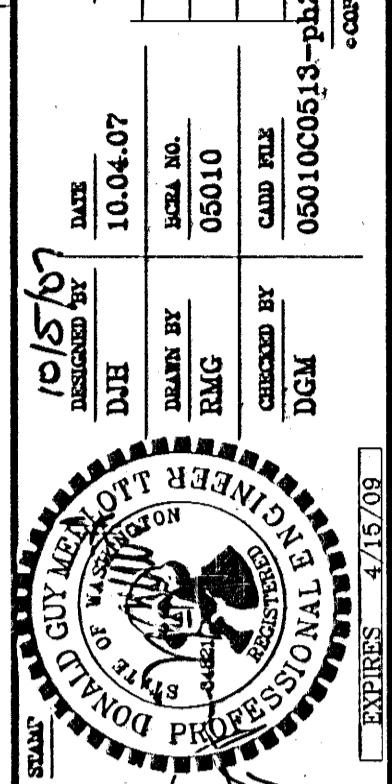
WATER DETAILS & NOTES

**CALL UTILITIES LOCATOR
48 HOURS PRIOR TO DIGGING
1-800-424-5555**

APPROVED
By *[Signature]*
CITY OF PUYALLUP
ENGINEERING DEPARTMENT
DATE 10-24-7

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

DATE 10/24/07
DRAWN BY [Name]
CHECKED BY [Name]
DATE 10/24/07
SCALE: AS SHOWN
PROJECT NO. 0501000013-112
CONTRACTOR NO. [Name]



WATER DETAILS & NOTES

7TH DAY ADVENTIST SCHOOL
WATER DETAILS & NOTES

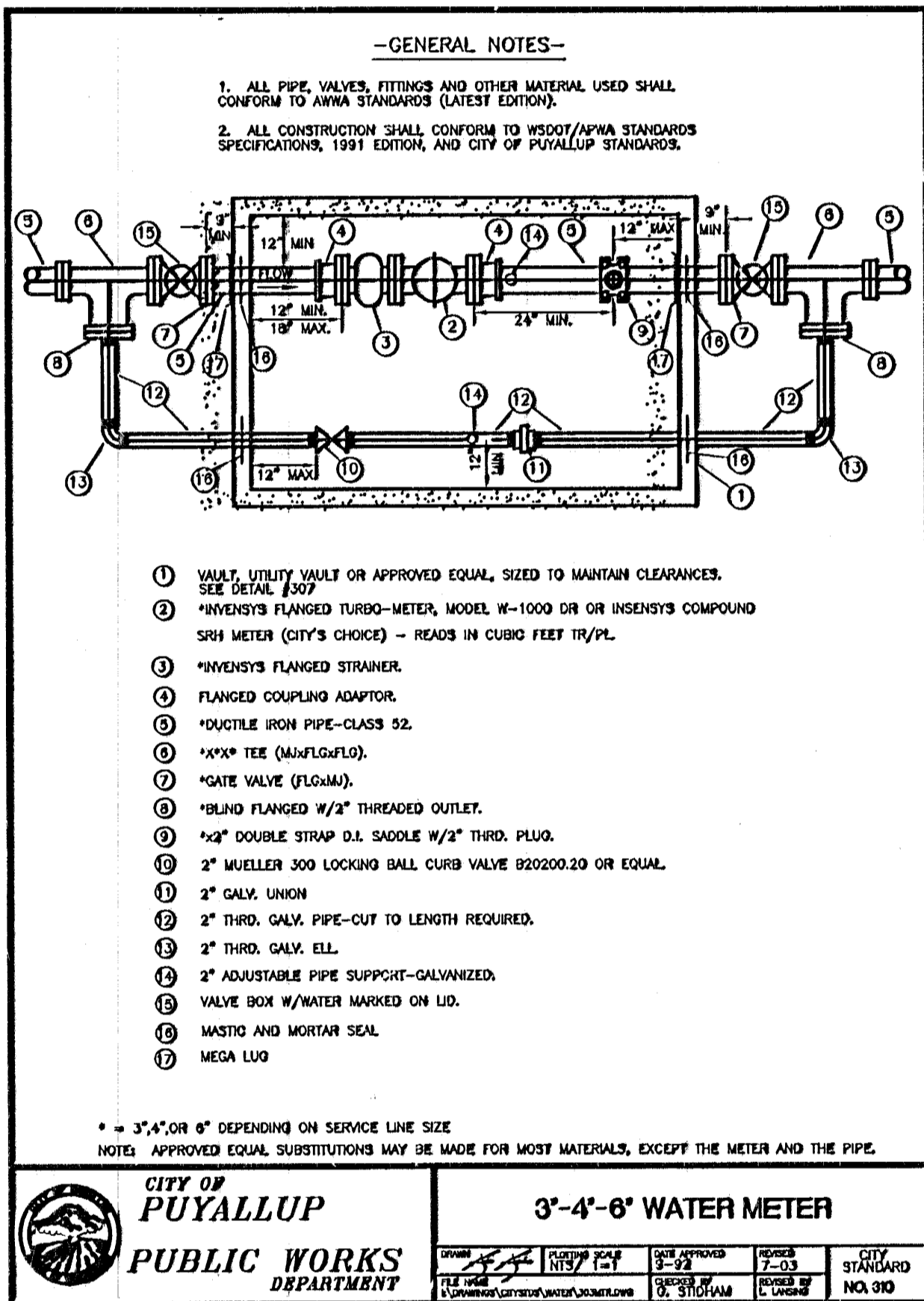


BCRA
2106 PACIFIC AVE. SUITE 300
TACOMA, WASHINGTON 98402
PHONE: (253) 627-4867
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WWW.BCRAENGINEERING.COM

SHEET 20 OF 21
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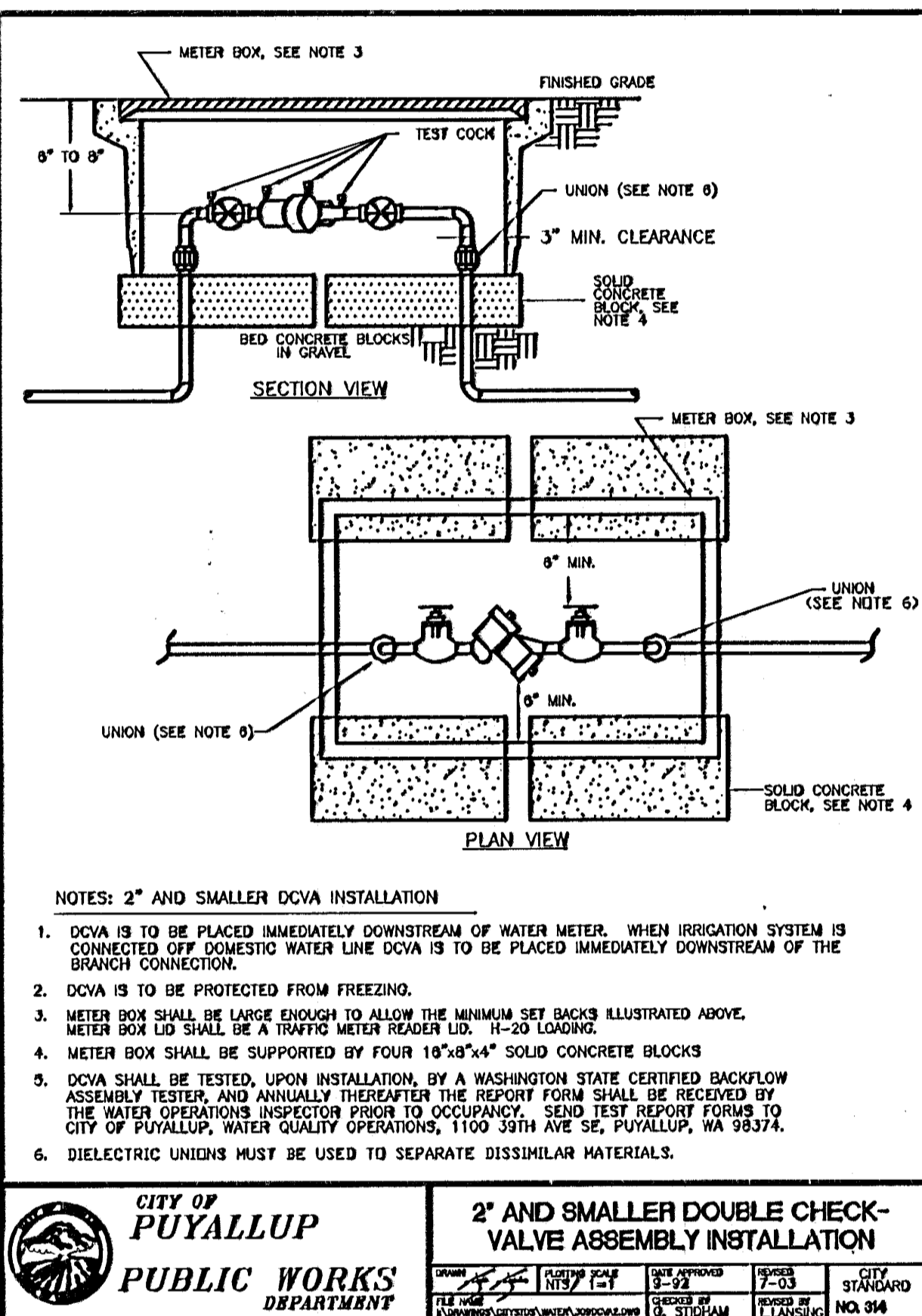
CITY OF PUYALLUP WATER SYSTEM NOTES:

1. ALL WORK IN CITY RIGHT-OF-WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE GENERAL CONTRACTOR SHALL ADVISE FOR A PRECONSTRUCTION MEETING AT THE DEVELOPMENT CENTER TO BE ATTENDED BY ALL MAJOR CONTRACTORS, REPRESENTATIVES OF INVOLVED UTILITIES, AND THE CITY OF PUYALLUP. CONTACT THE ENGINEERING DIVISION TO SCHEDULE THE MEETING (253-841-5481). THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR SET OF PLANS AT THE MEETING.
2. AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A "PUNCH LIST" PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE WATER SYSTEM AND PROVISION OF SANITARY SEWER SERVICE.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS"), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "CITY STANDARDS"), OR AS DIRECTED BY FRUITLAND MUTUAL WATER COMPANY WHEN SERVED BY FRUITLAND.
4. A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
5. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEER AND THE CITY ENGINEER, AND THE FRUITLAND MUTUAL WATER MANAGER WHEN SERVED BY FRUITLAND, PRIOR TO ANY IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
6. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (1-800-424-5555) AT LEAST 48 HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
7. ANY STRUCTURE AND/OR OBSTRUCTION WHICH REQUIRES REMOVAL OR RELOCATION RELATING TO THIS PROJECT SHALL BE DONE SO AT THE DEVELOPER'S EXPENSE.
8. BIOLOGICAL TEST SAMPLES WILL BE TAKEN BY THE CITY (OR FRUITLAND WATER WHEN SERVED BY FRUITLAND) AND PAID FOR BY THE CONTRACTOR.
9. WATER MAINS SHALL HAVE A MINIMUM COVER OF 42 INCHES IN IMPROVED RIGHT-OF-WAY AND A MINIMUM OF 48 INCHES IN UNIMPROVED RIGHT-OF-WAY AND EASEMENTS.
10. PIPE FOR WATER MAINS SHALL BE DUCTILE IRON CONFORMING TO SECTION 7-09 OF THE STANDARD SPECIFICATIONS AND AS OF JULY 1, 1993, SHALL BE THICKNESS CLASS 50 OR GREATER, WITH TYTON OR APPROVED EQUAL JOINTS. PIPE SHALL BE CEMENT LINED IN ACCORDANCE WITH A.S.A. SPECIFICATION A 21.4-1984.
11. CONNECTIONS TO EXISTING WATER MAINS SHALL BE WET TAPS THROUGH A TAPPING "TEE" AND TAPPING VALVE AND SHALL BE MADE BY A CITY-APPROVED CONTRACTOR. THE TAPPING SLEEVE SHALL BE EPOXY COATED OR DUCTILE IRON. STAINLESS SLEEVES SHALL ONLY BE USED ON A.C. PIPE. THE CITY (OR FRUITLAND WATER WHEN SERVED BY FRUITLAND) SHALL APPROVE THE TIME AND LOCATION FOR THESE CONNECTIONS.
12. ALL WATER MAINS AND APPURTENANCES SHALL BE HYDROSTATICALLY TESTED AT 300 PSI IN ACCORDANCE WITH SECTION 7-11.3(1) OF THE STANDARD SPECIFICATIONS.
13. FIRE HYDRANTS SHALL BE INSTALLED CONFORMING TO CITY STANDARD NO. 303.
14. WALK MARKER POSTS SHALL BE INSTALLED WHERE VALVE BOXES ARE HIDDEN FROM VIEW OR IN UNPAVED AREAS. THE INSTALLATION SHALL CONFORM TO CITY STANDARD NO. 312.
15. RESILIENT SEATED WEDGE GATE VALVES SHALL BE USED FOR 8-INCH MAINS AND SMALLER. BUTTERFLY VALVES SHALL BE USED FOR MAINS GREATER THAN 8 INCHES.
16. PIPE FITTING FOR WATER MAINS SHALL BE DUCTILE IRON AND SHALL BE MECHANICAL JOINT CONFORMING TO A.W.W.A. SPECIFICATION C111-72.
17. WATER MAIN PIPE AND SERVICE CONNECTIONS SHALL BE 10 FEET AWAY FROM BUILDING FOUNDATIONS AND/OR ROOF LINES.
18. WHERE A WATER MAIN CROSSES THE NORTHWEST GAS PIPELINE, THE WATER LINE SHALL BE CASED WITH PVC PIPE A MINIMUM OF 10 FEET BEYOND EACH SIDE OF THE GAS LINE EASEMENT. CONTACT NORTHWEST GAS BEFORE THE CROSSING IS MADE.
19. TRENCHING, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH CITY STANDARD NO. 503.



3 INCH WATER METER

SCALE: NTS



2" AND SMALLER DOUBLE DETECTOR CHECK VALVE

SCALE: NTS

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

WATER MAIN PROFILE

HORIZ. 1"=30'
VERT. 1"=5'

CALL UTILITIES LOCATOR
48 HOURS PRIOR TO DIGGING
1-800-424-5555

APPROVED
BY: *[Signature]*
CITY OF PUYALLUP
ENGINEERING DEPARTMENT
DATE: 12-21-17

NOTE:
THIS APPROVAL IS VOID AFTER 1 YEAR
FROM APPROVAL DATE.
THE CITY WILL NOT BE RESPONSIBLE
FOR ERRORS AND/OR OMISSIONS ON
THESE PLANS.
FIELD CONDITIONS MAY DICTATE
CHANGES TO THESE PLANS AS
DETERMINED BY THE CITY ENGINEER.

DATE	10/15/17
ISSUED BY	10/15/17
DATE	10/15/17
ISSUED BY	10/15/17
DATE	10/15/17
ISSUED BY	10/15/17

WATER MAIN PROFILE

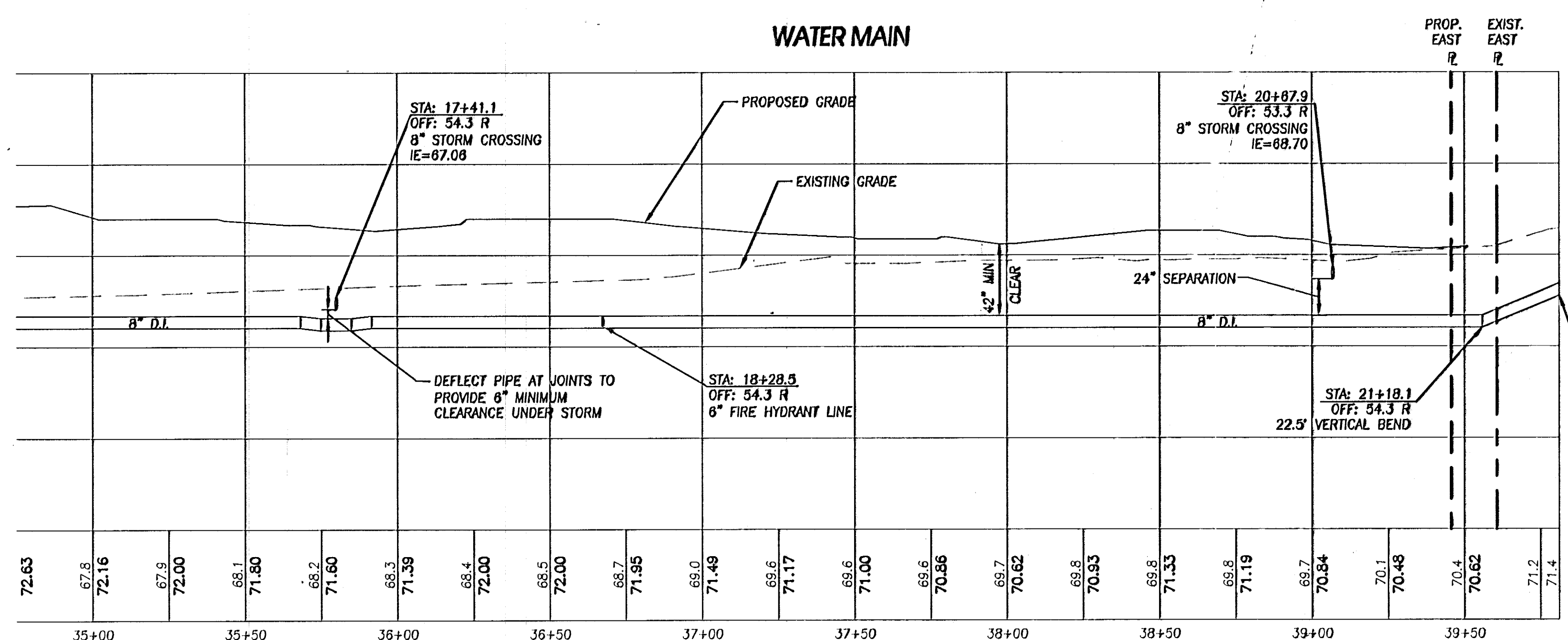
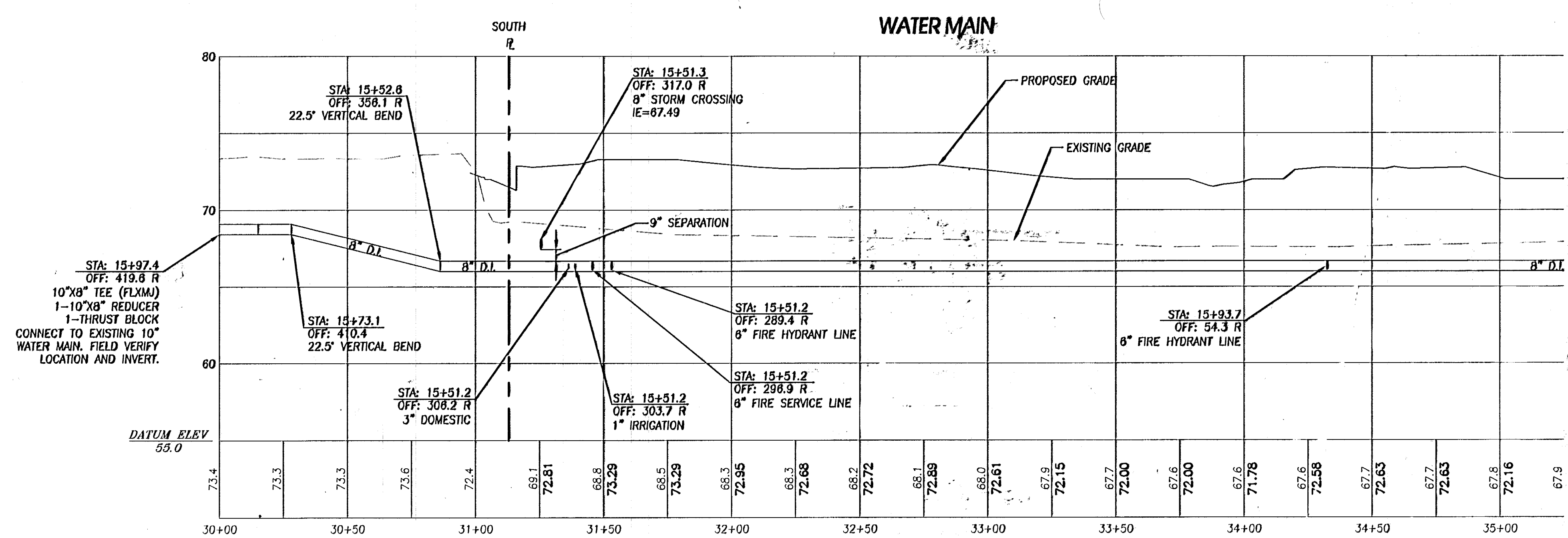
PROJECT: PUYALLUP 7TH DAY
ADVENTIST SCHOOL
WATER MAIN & PROFILE

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12 40 12
C5.14b

PERMIT SET



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